

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /

File: FetsAndCrosses.sch

Title: Fets and Crosses

Size: A3 | Date: 2021-05-23

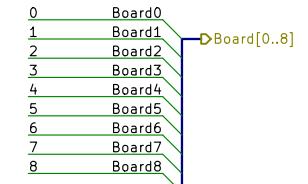
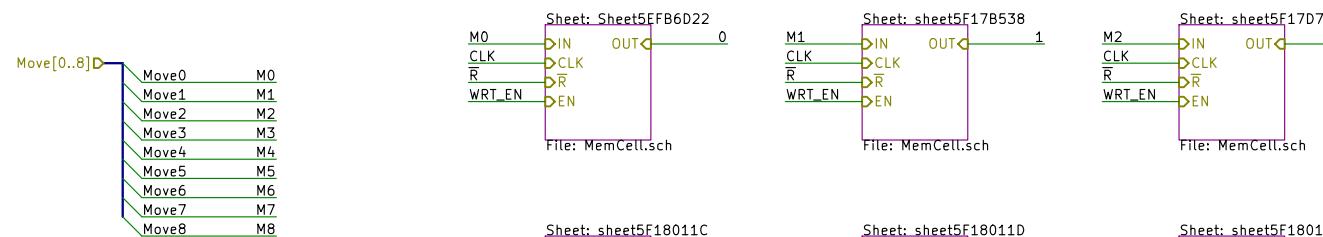
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

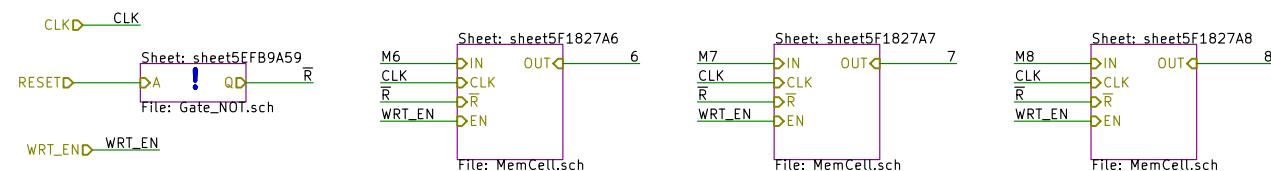
Id: 1/362

1 2 3 4 5 6

A



B



C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
Philipp Schilk  
Sheet: /PlayerMem\_1/  
File: PlayerMem.sch

Title: Fets and Crosses

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 2/362

1 2 3 4 5 6

A

B

C

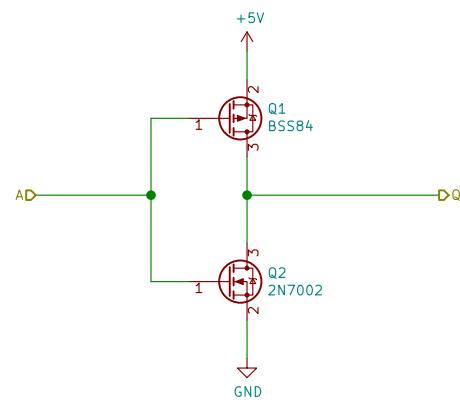
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5EFB9A59/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

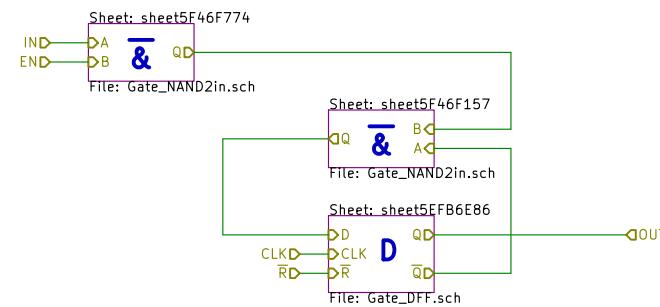
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 3/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

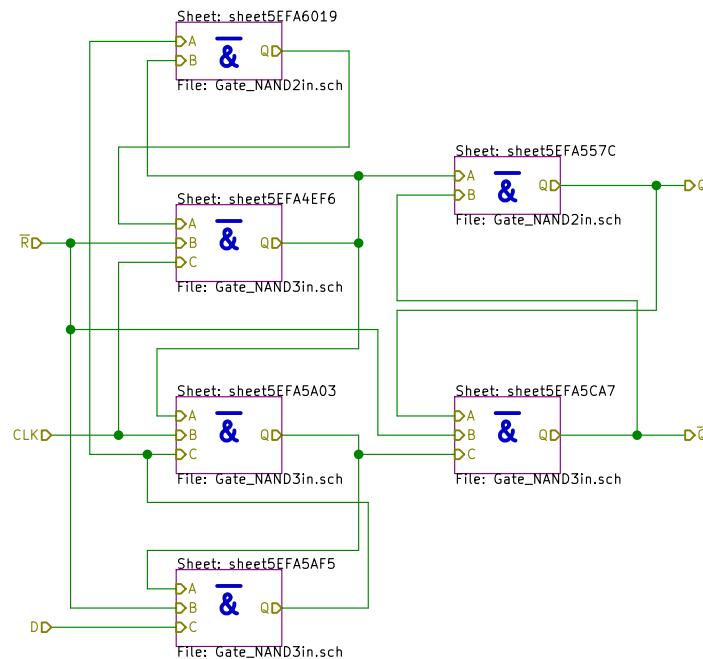
Sheet: /PlayerMem\_1/Sheet5FB6D22/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|           |
|-----------|
| Rev: v1.0 |
| Id: 4/362 |

A



B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

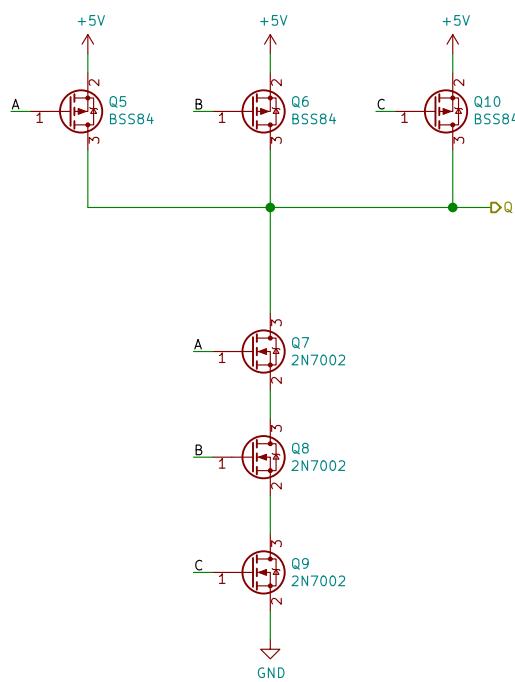
Sheet: /PlayerMem\_1/Sheet5EFB6D22/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|           |
|-----------|
| Rev: v1.0 |
| Id: 5/362 |

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_1/Sheet5EFB6D22/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

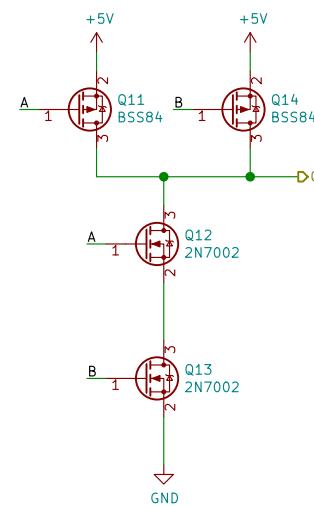
Id: 6/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**Sheet: /PlayerMem\_1/Sheet5EFA557C/sheet5EFA557C/  
File: Gate\_NAND2in.sch**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 7/362

A

A

B

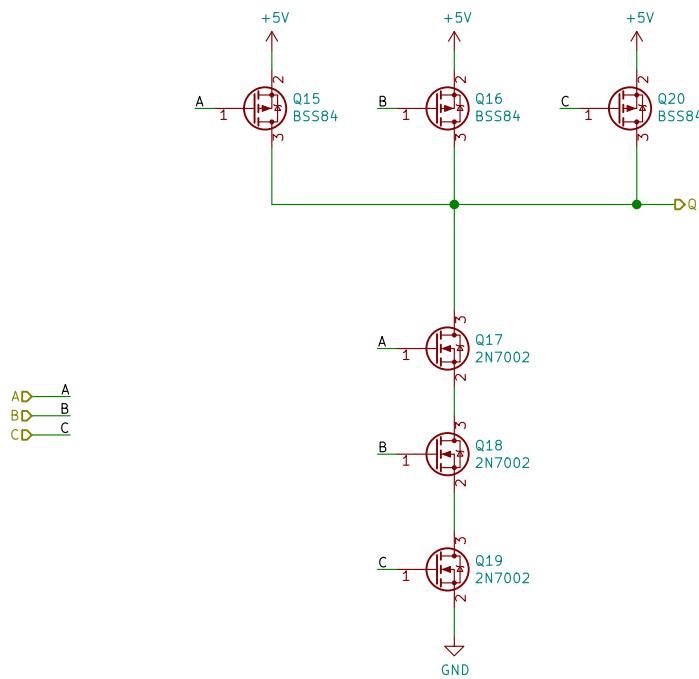
B

C

C

D

D



AD  
BD  
CD

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_1/Sheet5EFB6D22/sheet5EFB6E86/sheet5EFA5A03/  
File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 8/362

A

B

C

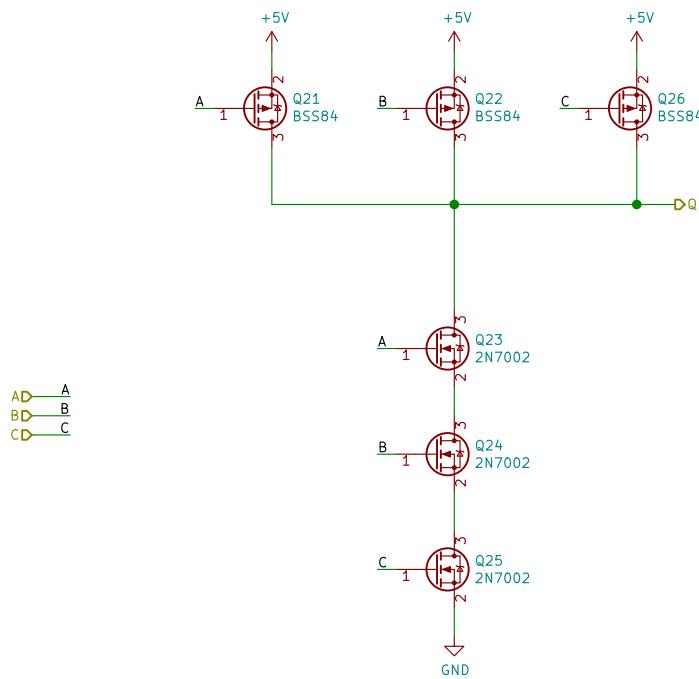
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_1/Sheet5EFB6D22/sheet5EFB6E86/sheet5EFA5AF5/  
File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

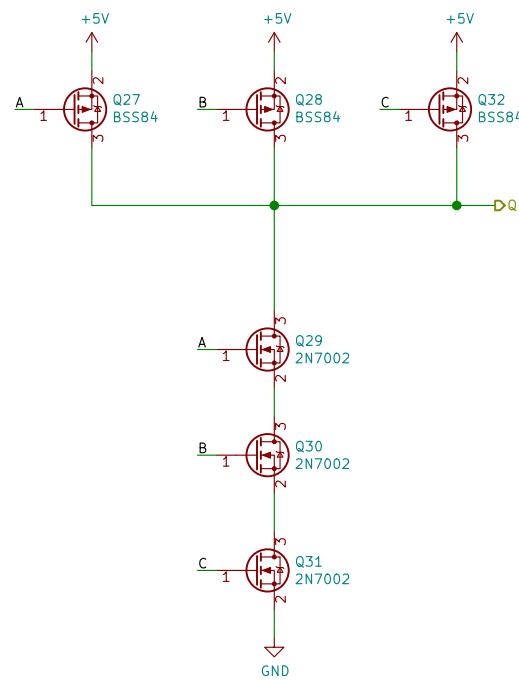
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 9/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_1/Sheet5EFB6D22/sheet5EFB6E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

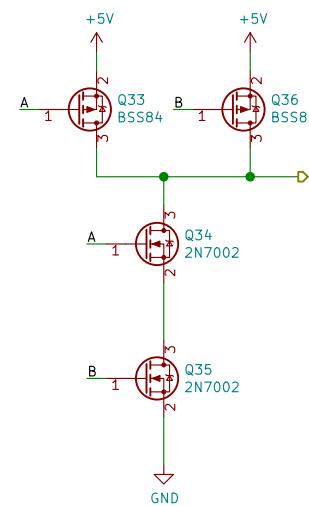
Id: 10/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**Sheet: /PlayerMem\_1/Sheet5EFB6D22/sheet5EFB6E86/sheet5EFA6019/  
File: Gate\_NAND2in.sch**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

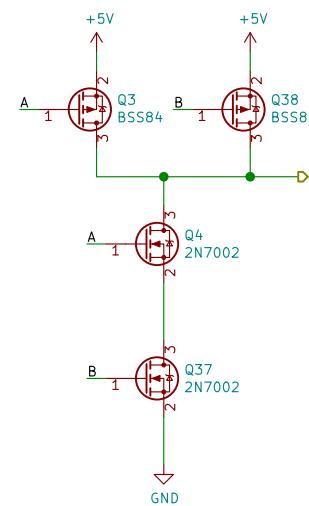
Id: 11/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/Sheet5EFB6D22/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

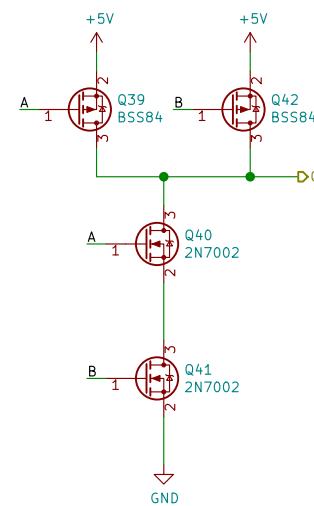
Id: 12/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/Sheet5EFB6D22/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 13/362

A

A

B

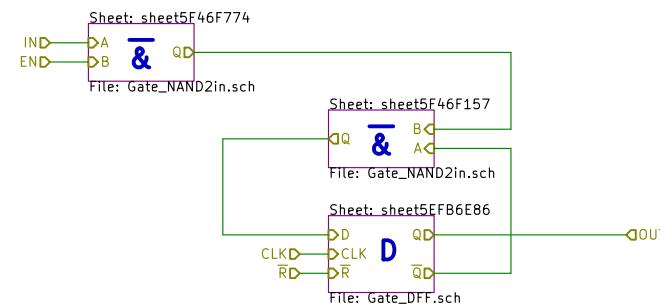
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

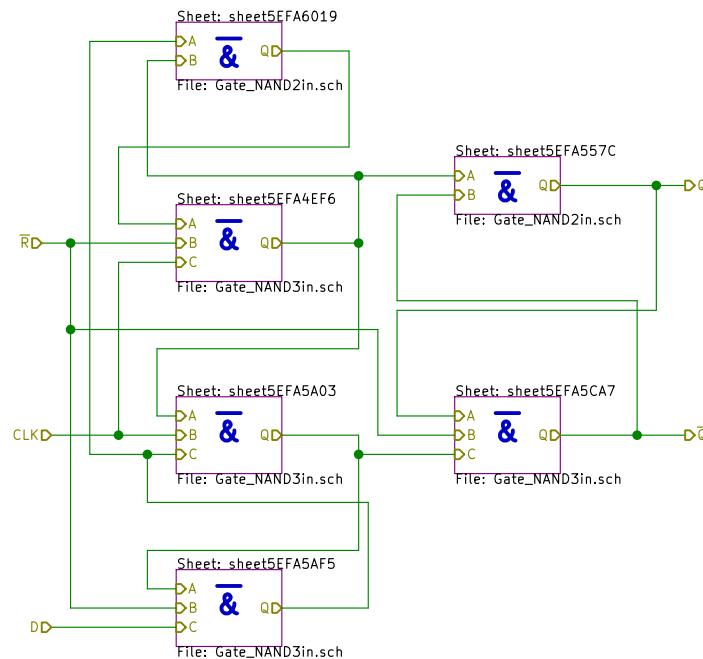
Sheet: /PlayerMem\_1/sheet5F17B538/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|            |
|------------|
| Rev: v1.0  |
| Id: 14/362 |

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_1/sheet5F17B538/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 15/362

A

A

B

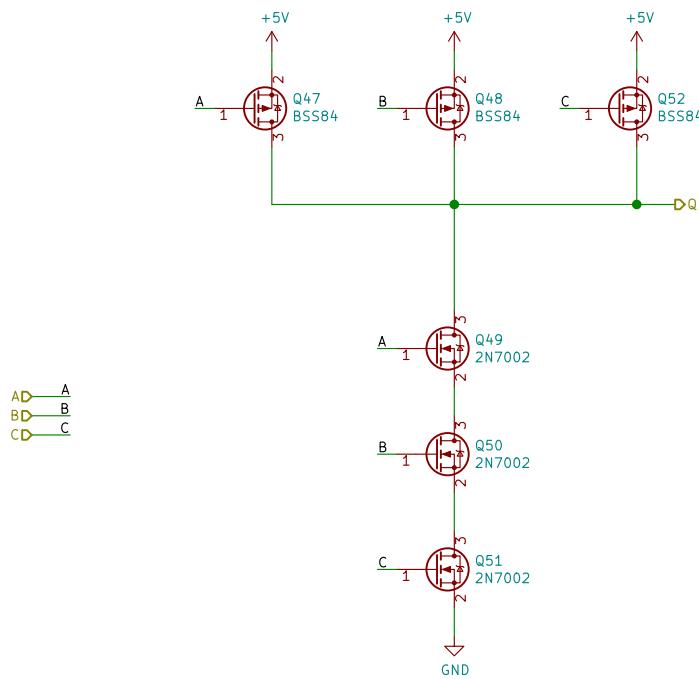
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_1/sheet5F17B538/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

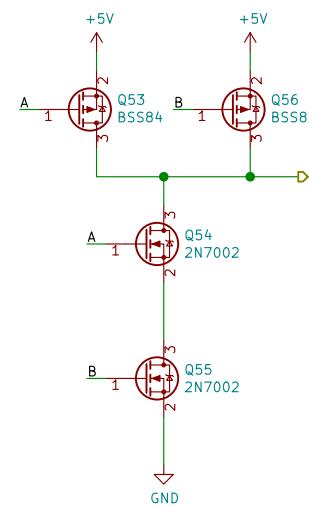
Id: 16/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17B538/sheet5EFB6E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

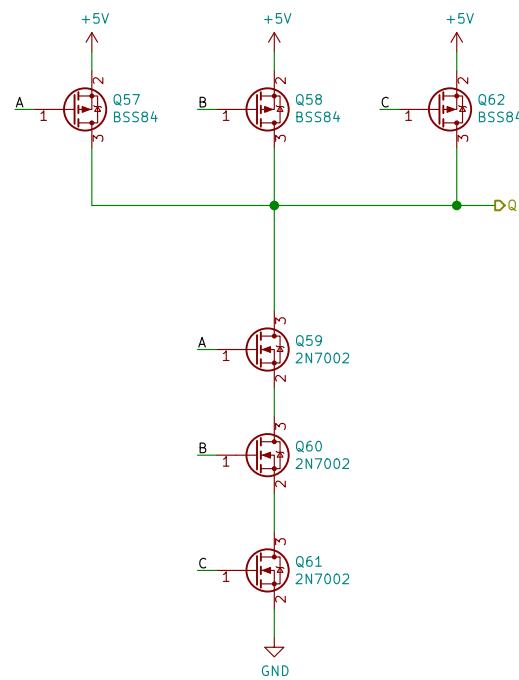
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 17/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17B538/sheet5EFB6E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

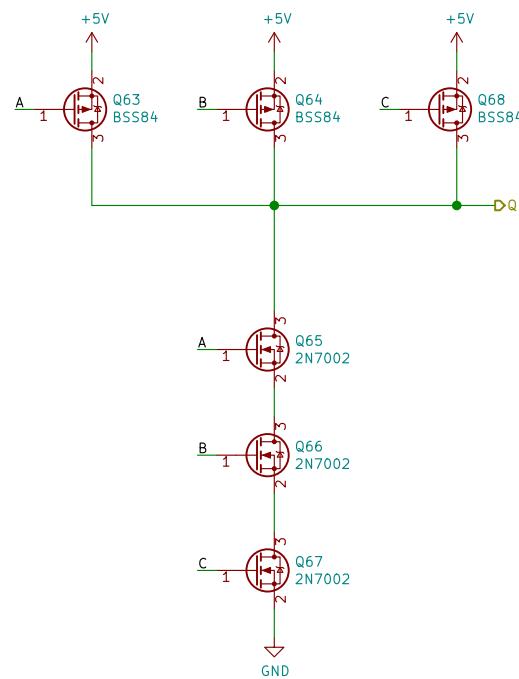
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 18/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17B538/sheet5EFB6E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 19/362

A

B

C

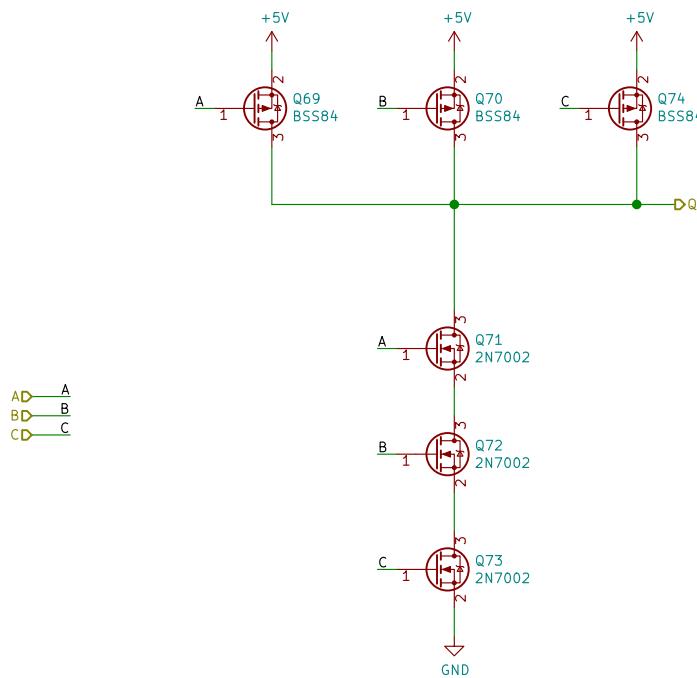
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17B538/sheet5EFB6E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

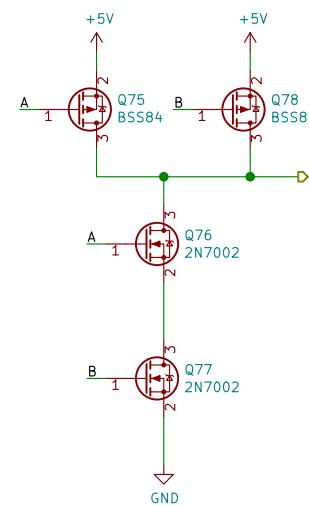
Id: 20/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17B538/sheet5EFB6E86/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

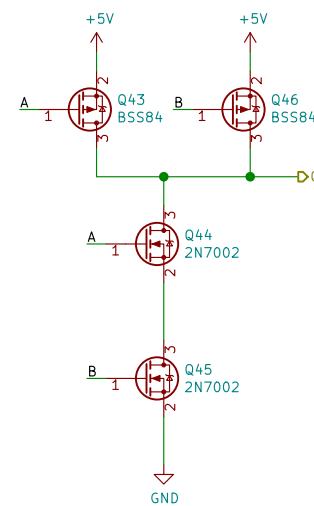
Id: 21/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMem\_1/sheet5F17B538/sheet5F46F157/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

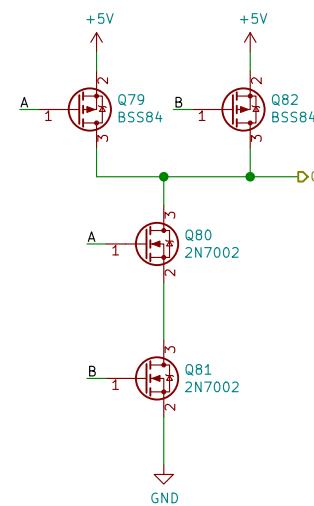
Id: 22/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17B538/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 23/362

A

A

B

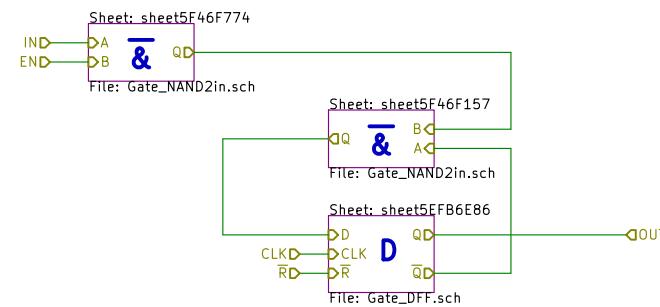
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

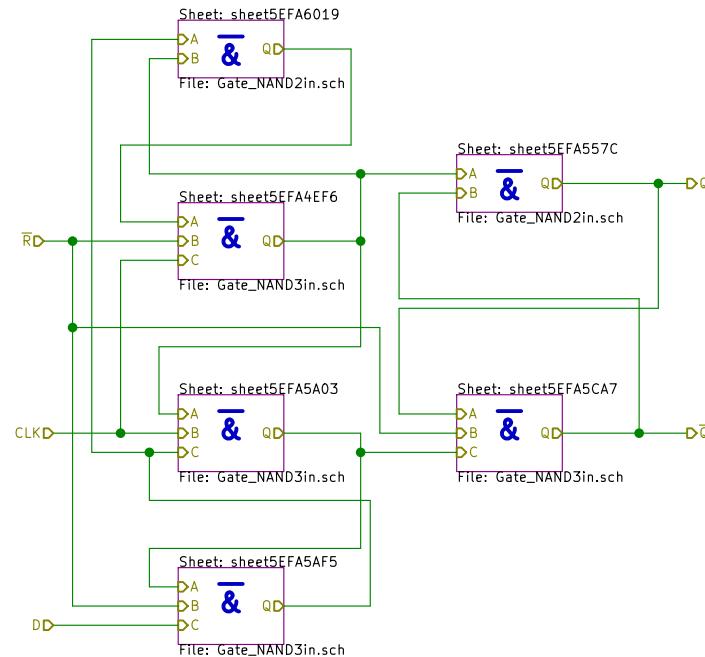
Sheet: /PlayerMem\_1/sheet5F17D798/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|            |
|------------|
| Rev: v1.0  |
| Id: 24/362 |

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

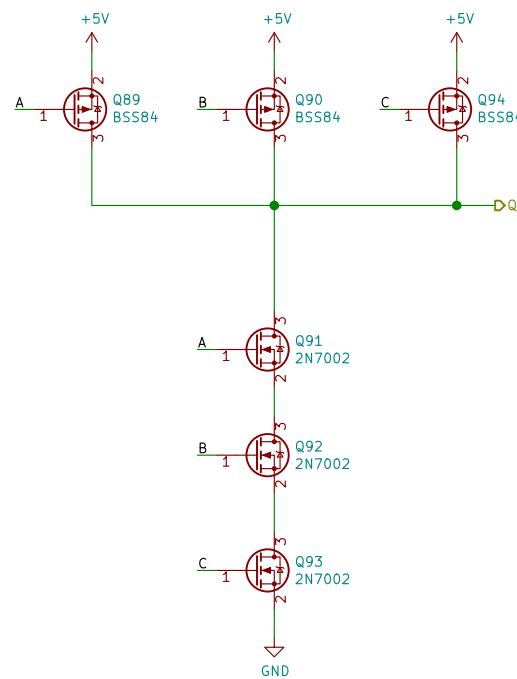
Sheet: /PlayerMem\_1/sheet5F17D798/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|            |
|------------|
| Rev: v1.0  |
| Id: 25/362 |

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17D798/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

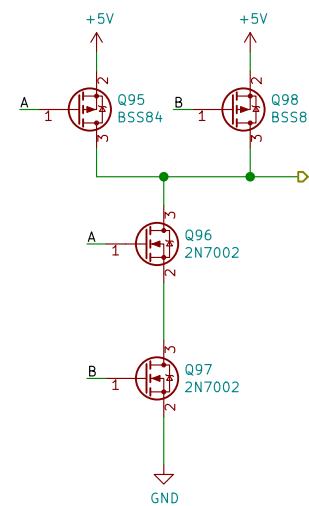
Id: 26/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17D798/sheet5EFB6E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 27/362

A

B

C

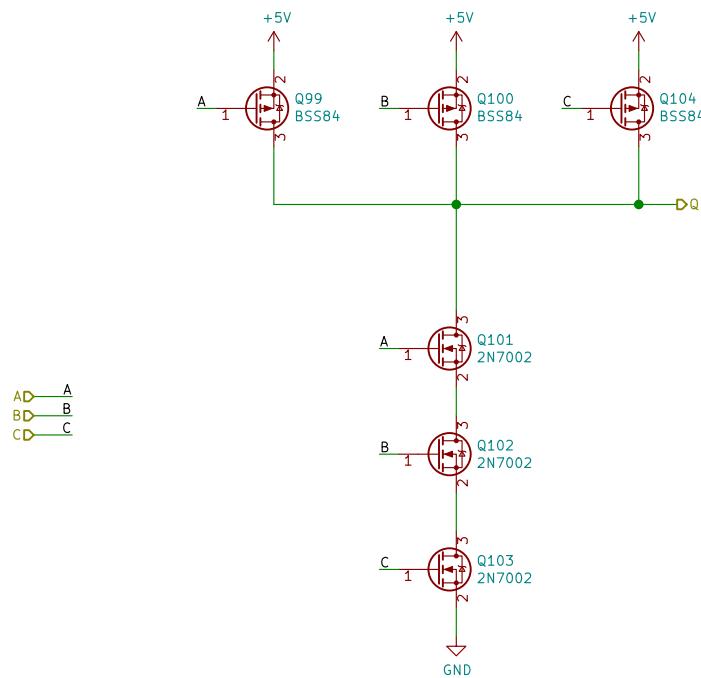
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_1/sheet5F17D798/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 28/362

A

A

B

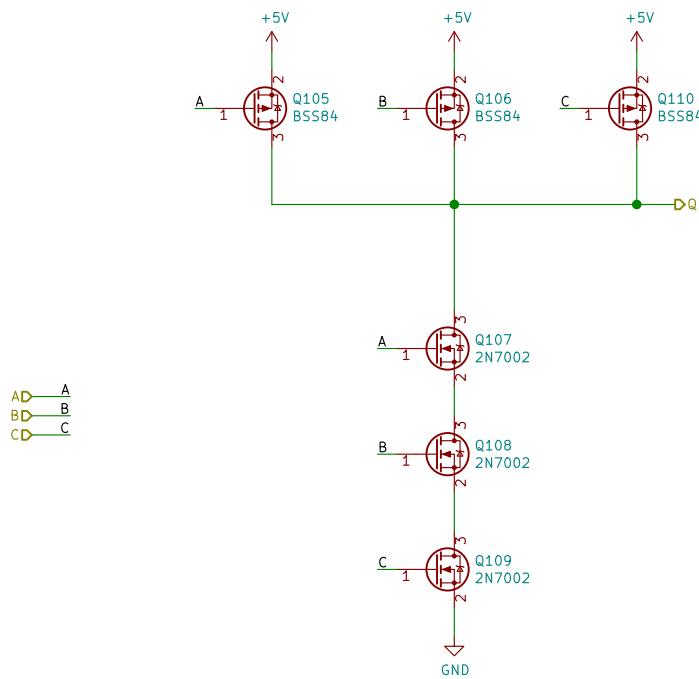
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17D798/sheet5E86E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

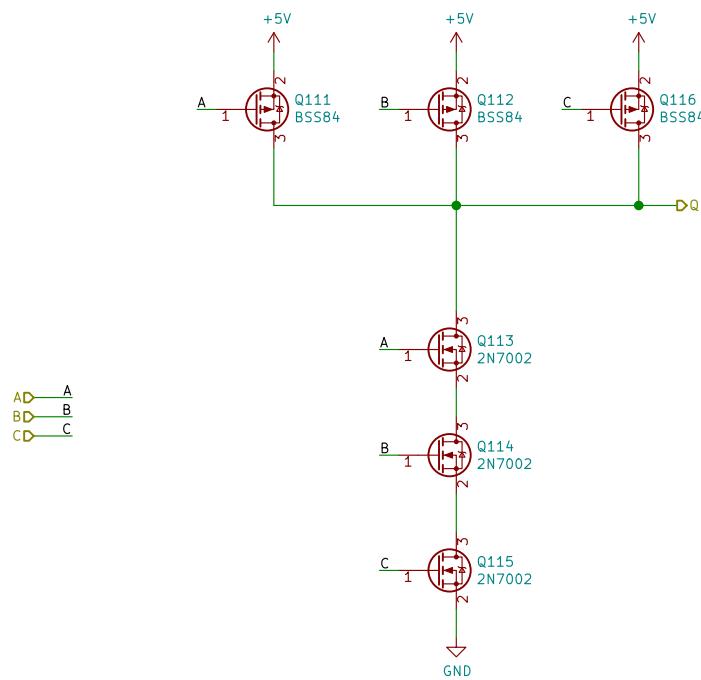
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 29/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17D798/sheet5E86E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

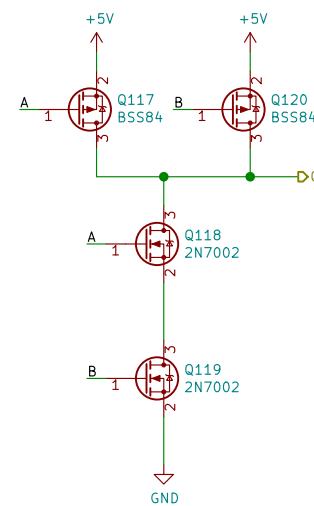
Id: 30/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17D798/sheet5EFB6E86/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

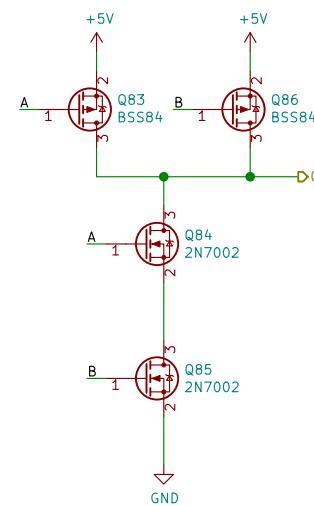
Id: 31/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMem\_1/sheet5F17D798/sheet5F46F157/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

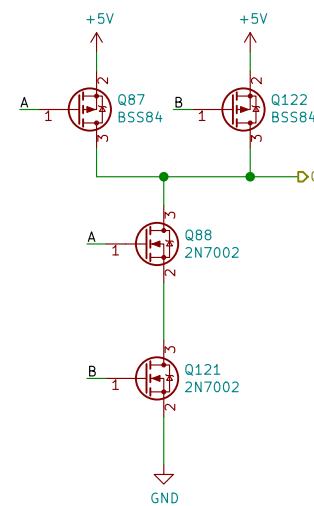
|            |
|------------|
| Rev: v1.0  |
| Id: 32/362 |

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F17D798/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 33/362

A

A

B

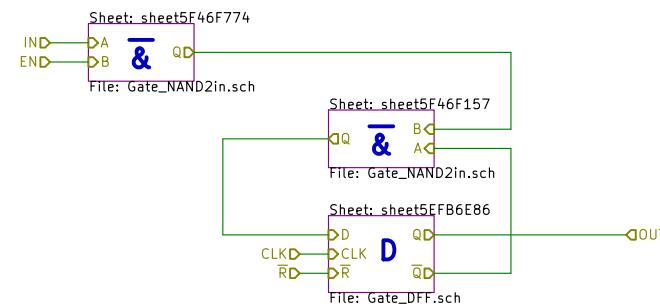
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

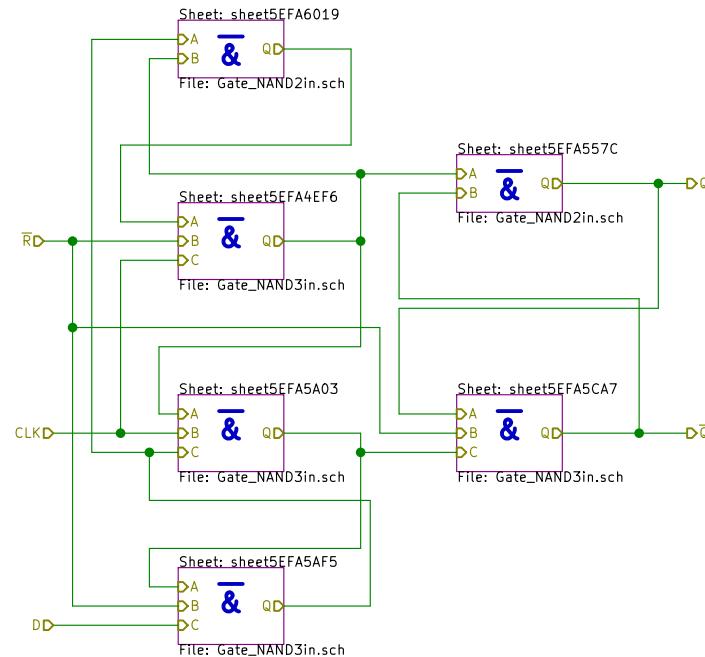
Sheet: /PlayerMem\_1/sheet5F18011C/  
File: MemCell.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 34/362

A



B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_1/sheet5F18011C/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|            |
|------------|
| Rev: v1.0  |
| Id: 35/362 |

A

B

C

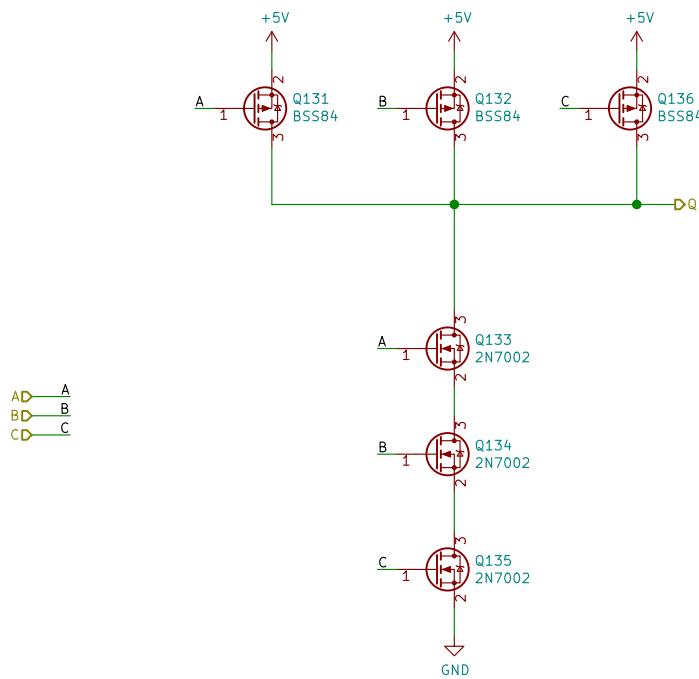
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011C/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

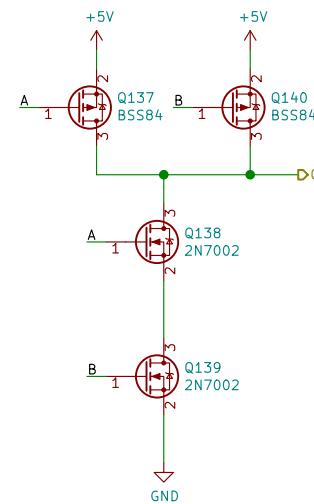
Id: 36/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011C/sheet5E86E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 37/362

A

A

B

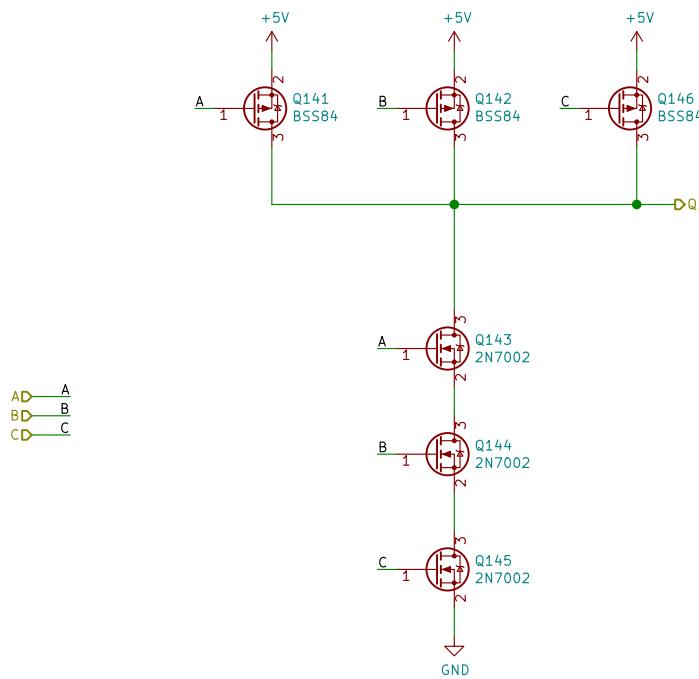
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011C/sheet5E8FB6E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 38/362

A

A

B

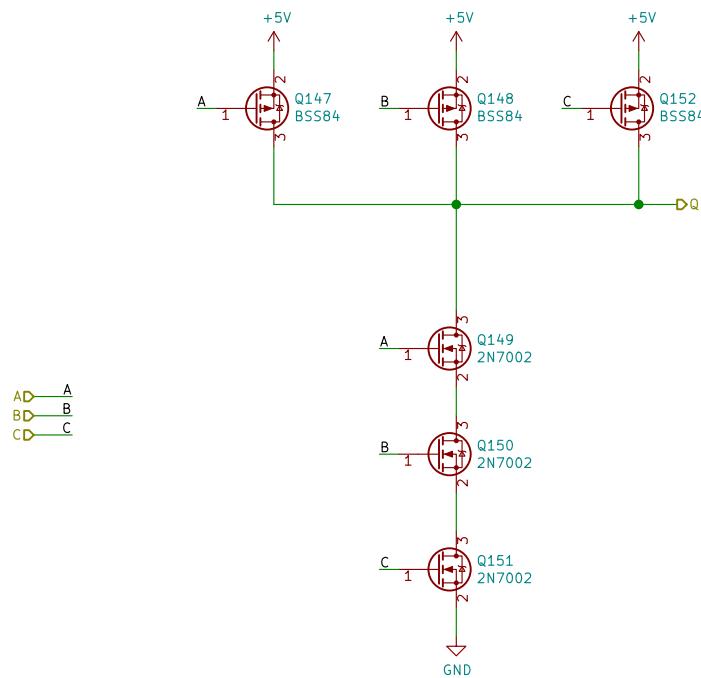
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011C/sheet5E86E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 39/362

A

B

C

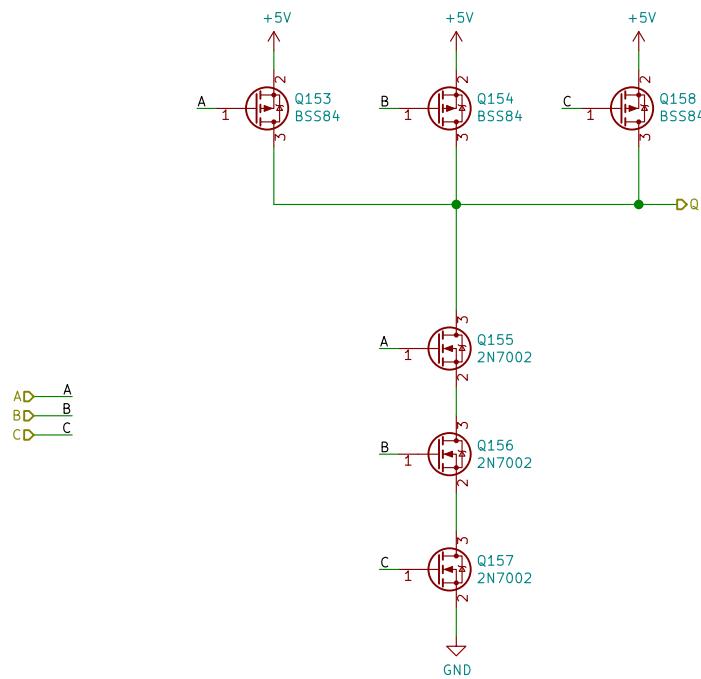
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011C/sheet5E86E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

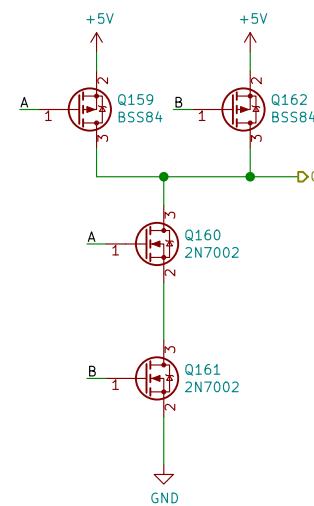
Id: 40/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**Sheet: /PlayerMem\_1/sheet5F18011C/sheet5EFA6019/sheet5EFA6019/  
File: Gate\_NAND2in.sch**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

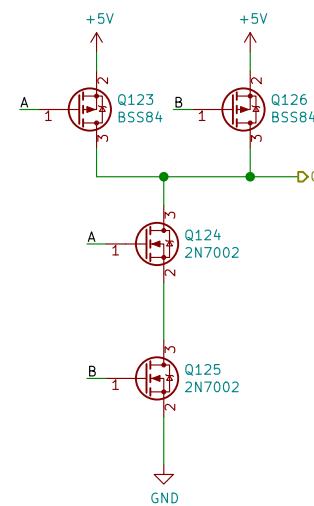
Id: 41/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011C/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

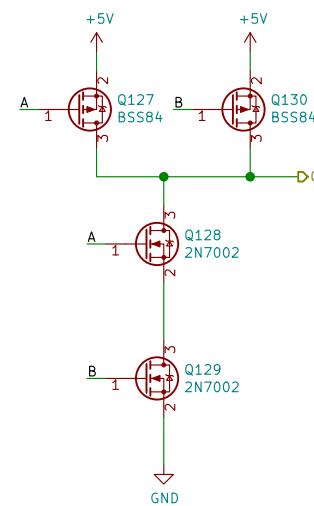
Id: 42/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011C/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

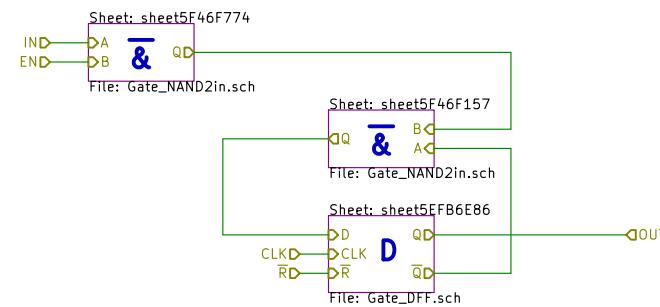
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 43/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

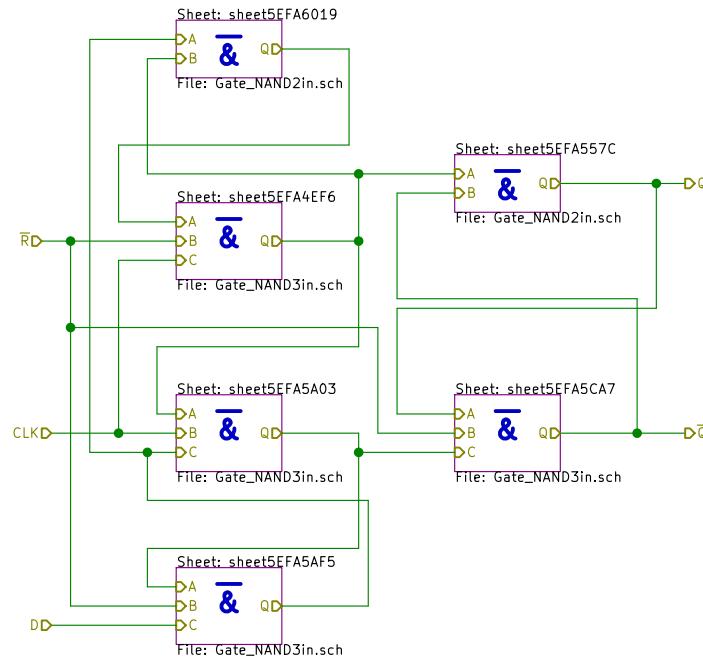
Sheet: /PlayerMem\_1/sheet5F18011D/  
File: MemCell.sch

**Title: Fets and Crosses**

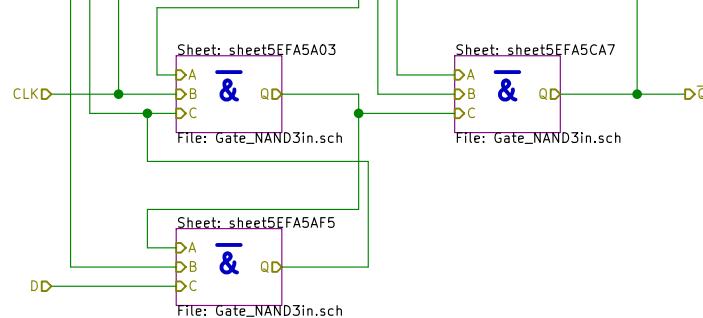
|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|            |
|------------|
| Rev: v1.0  |
| Id: 44/362 |

A



B



C



D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011D/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 45/362

A

A

B

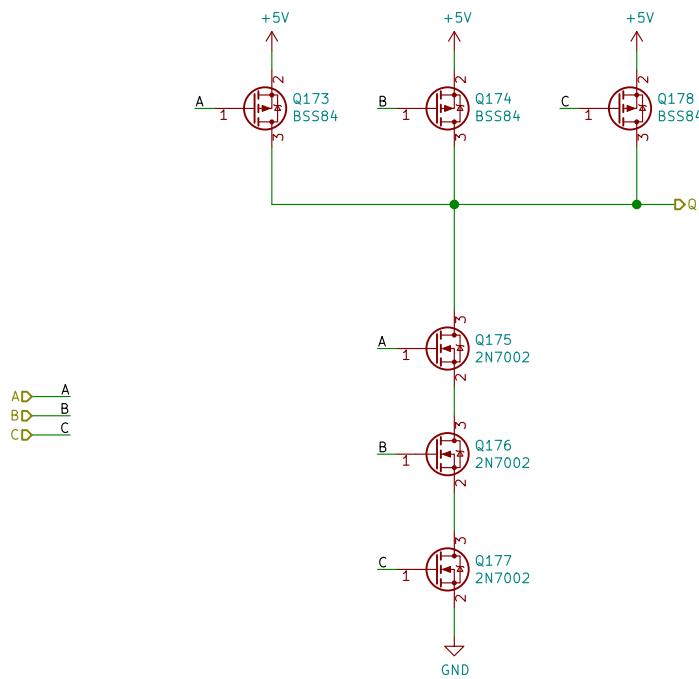
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011D/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

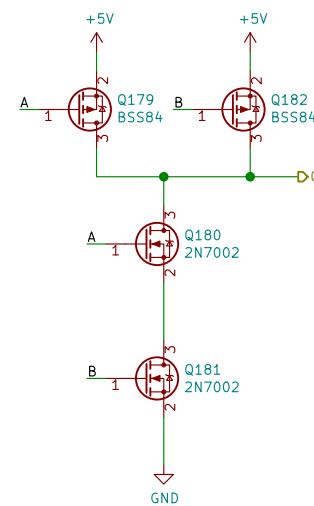
Id: 46/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011D/sheet5E86E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

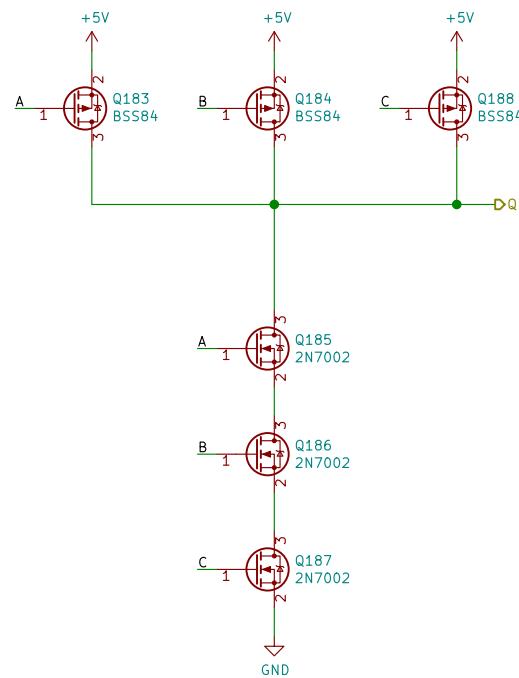
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 47/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011D/sheet5EFB6E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 48/362

A

A

B

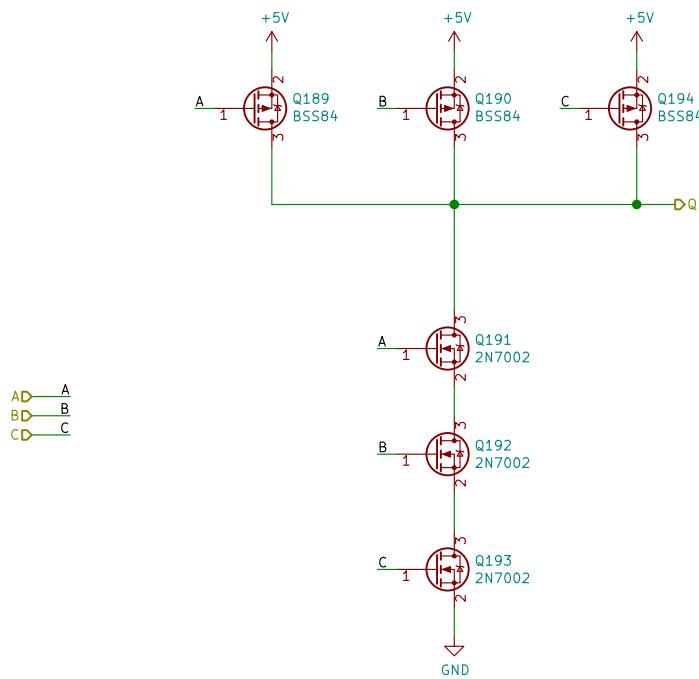
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011D/sheet5EFB6E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 49/362

A

A

B

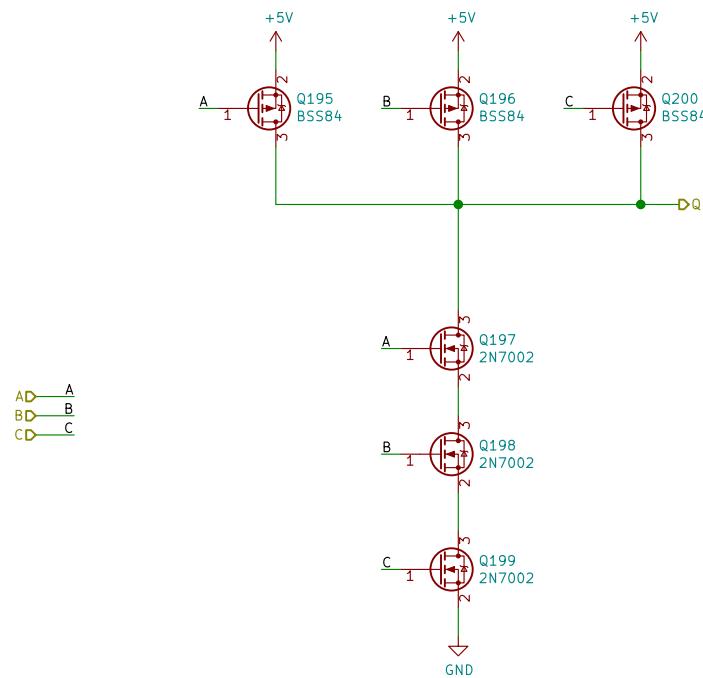
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011D/sheet5E86E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

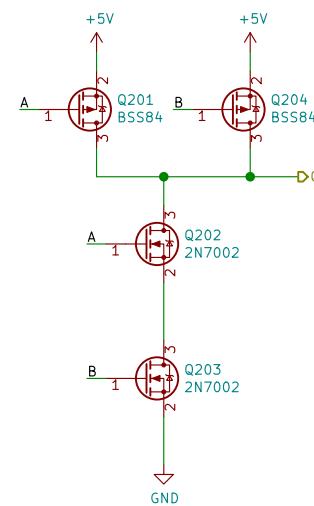
Id: 50/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011D/sheet5E86E86/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

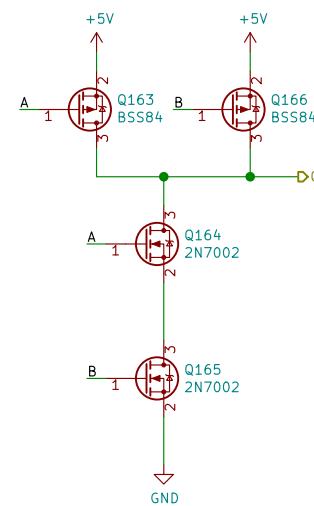
Id: 51/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011D/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

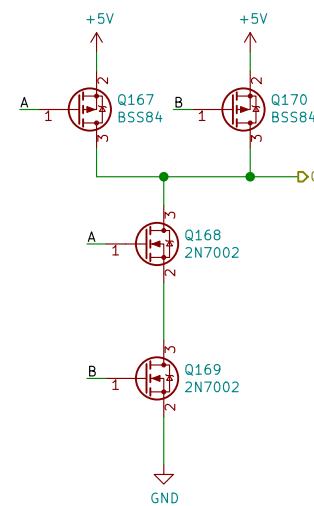
Id: 52/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011D/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

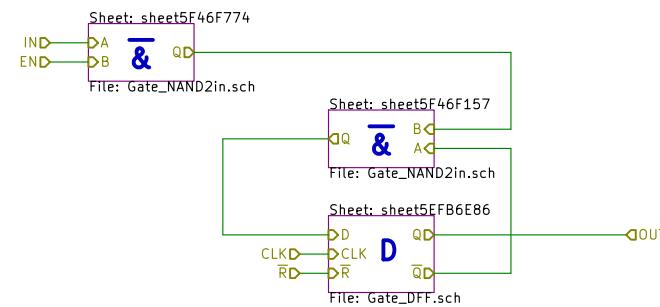
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 53/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

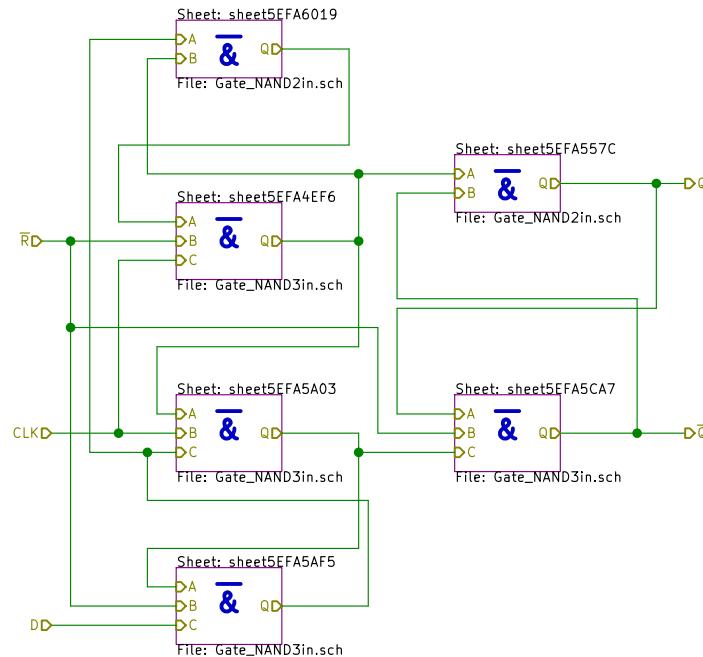
Sheet: /PlayerMem\_1/sheet5F18011E/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|            |
|------------|
| Rev: v1.0  |
| Id: 54/362 |

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

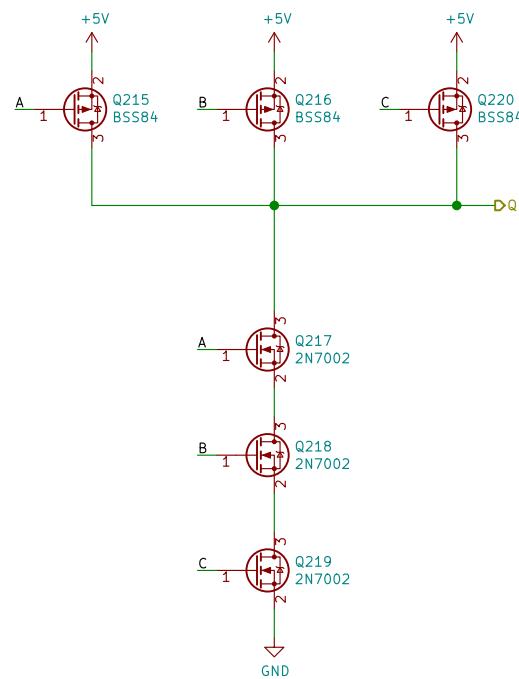
Sheet: /PlayerMem\_1/sheet5F18011E/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 55/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011E/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

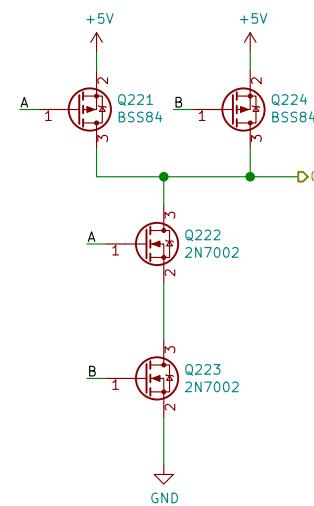
Id: 56/362

A

B

C

D

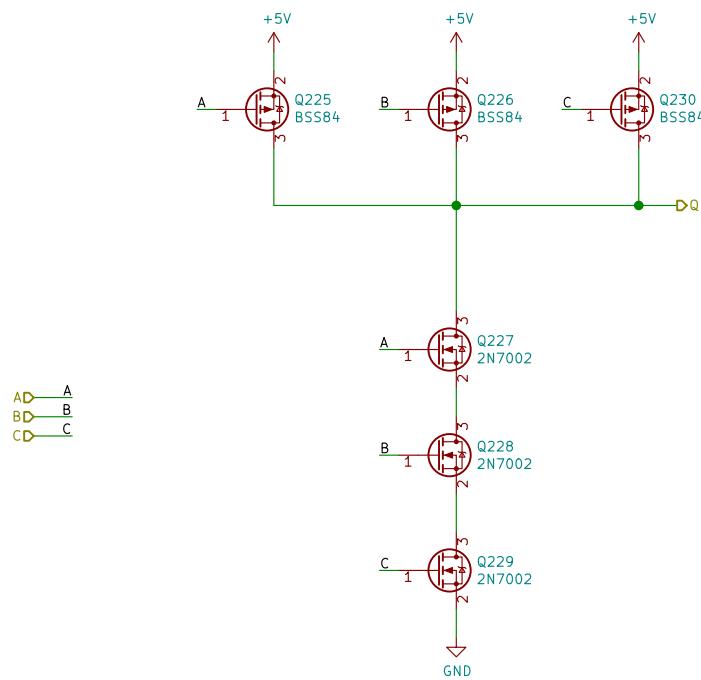
AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMem\_1/sheet5F18011E/sheet5EFB6E86/sheet5EFA557C/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|                              |                  |            |
|------------------------------|------------------|------------|
| Size: A4                     | Date: 2021-05-23 | Rev: v1.0  |
| KiCad E.D.A. kicad (5.1.9)-1 |                  | Id: 57/362 |

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011E/sheet5E8FB6E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

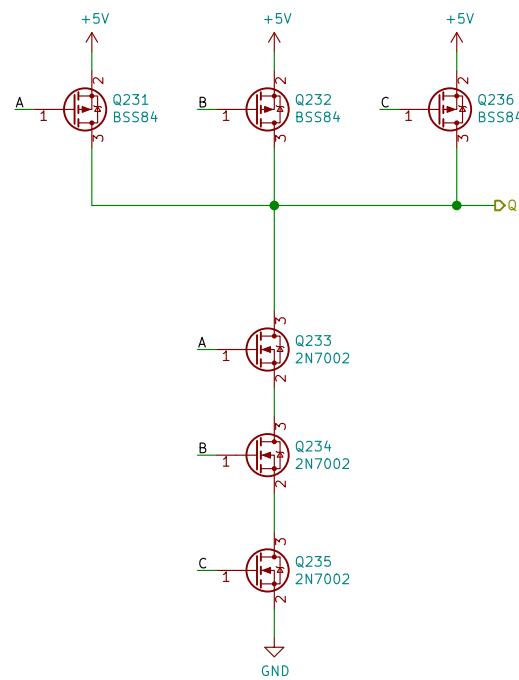
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 58/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011E/sheet5EFB6E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

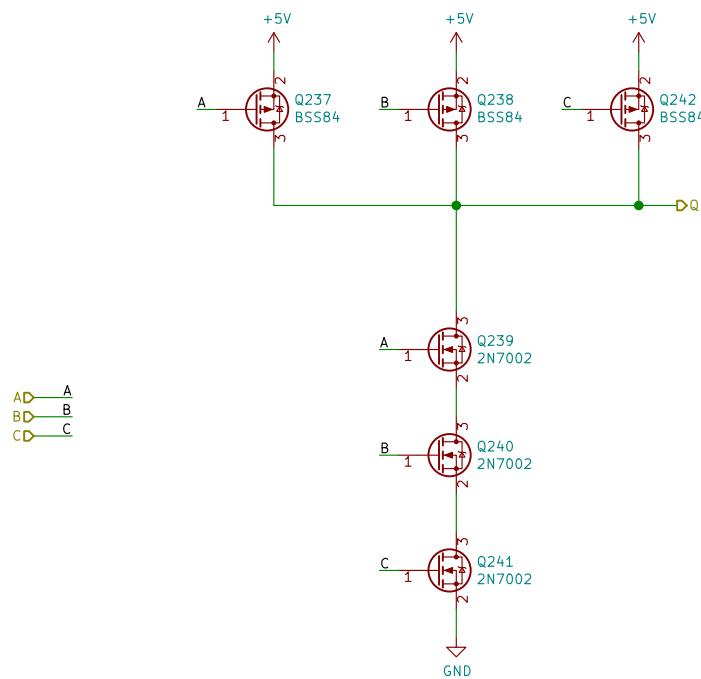
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 59/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011E/sheet5E8FB6E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

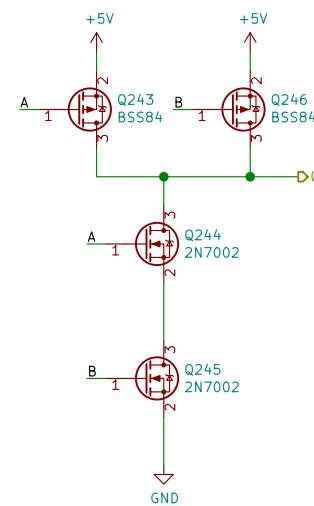
Id: 60/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011E/sheet5E86E86/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

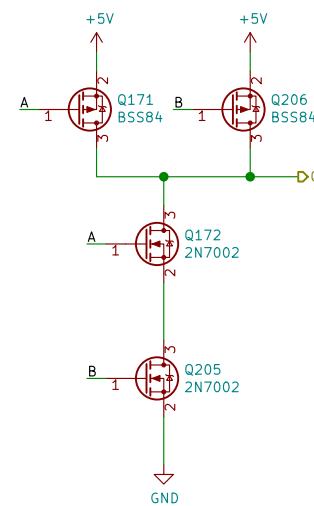
Id: 61/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMem\_1/sheet5F18011E/sheet5F46F157/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

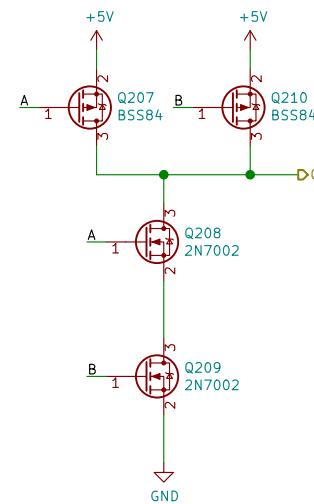
|            |
|------------|
| Rev: v1.0  |
| Id: 62/362 |

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F18011E/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

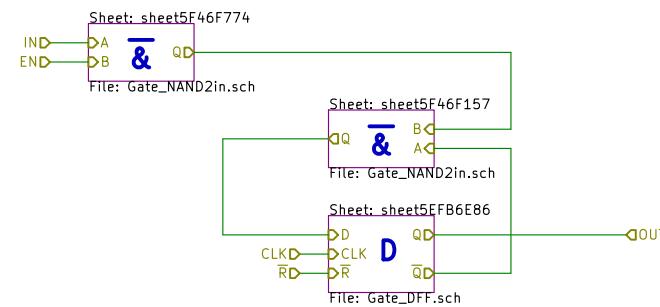
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 63/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A6/  
File: MemCell.sch

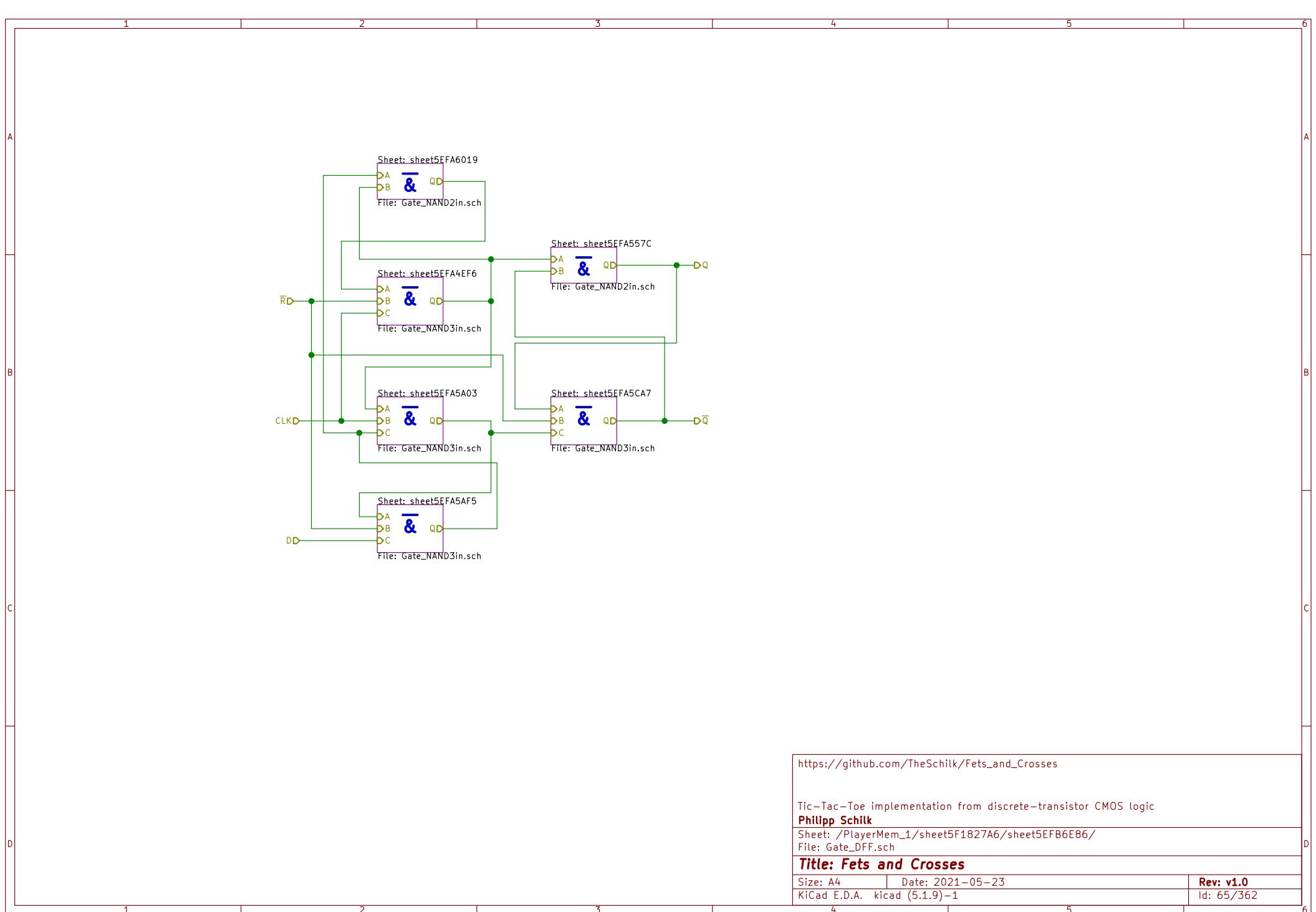
**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

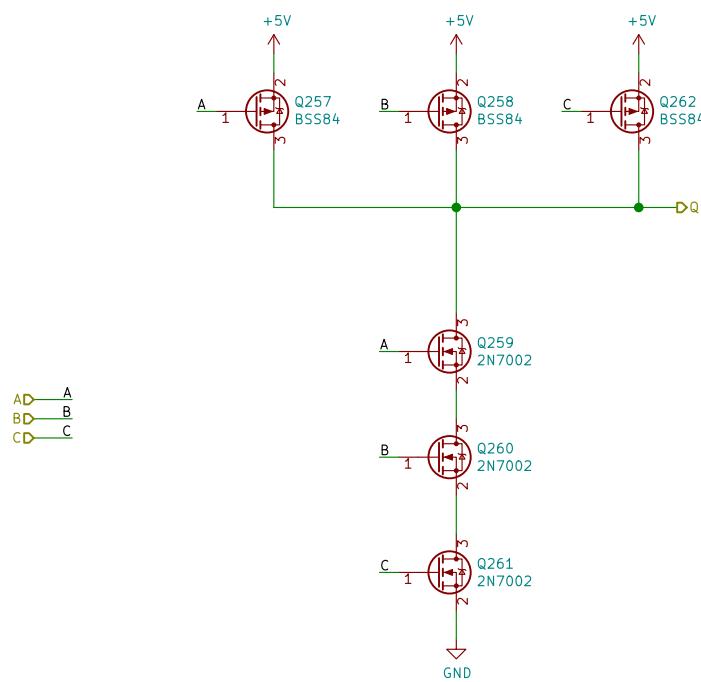
KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 64/362



A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A6/sheet5E86E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

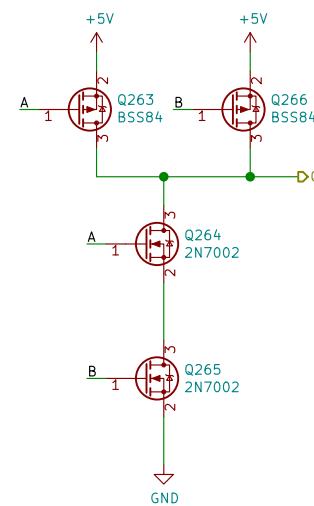
Id: 66/362

A

B

C

D

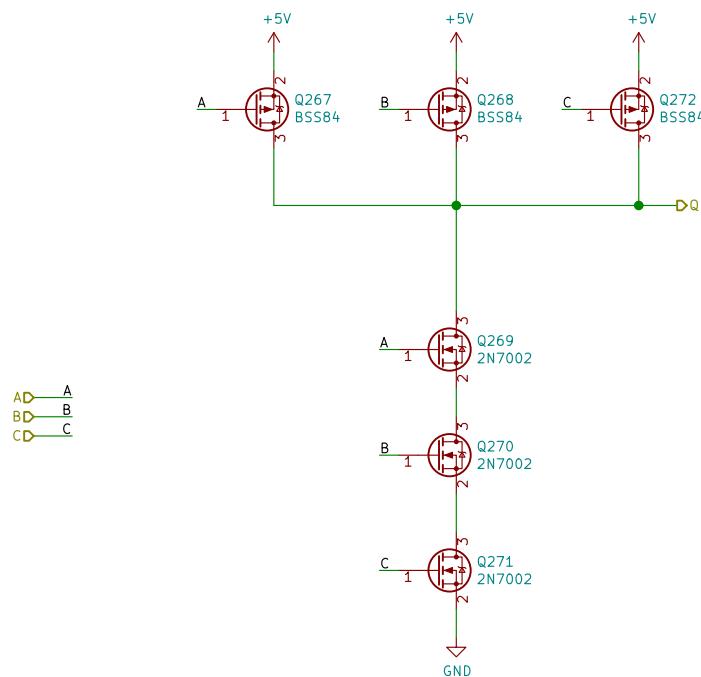
AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMem\_1/sheet5F1827A6/sheet5E86E86/sheet5EFA557C/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|                              |                  |            |
|------------------------------|------------------|------------|
| Size: A4                     | Date: 2021-05-23 | Rev: v1.0  |
| KiCad E.D.A. kicad (5.1.9)-1 |                  | Id: 67/362 |

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A6/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 68/362

A

B

C

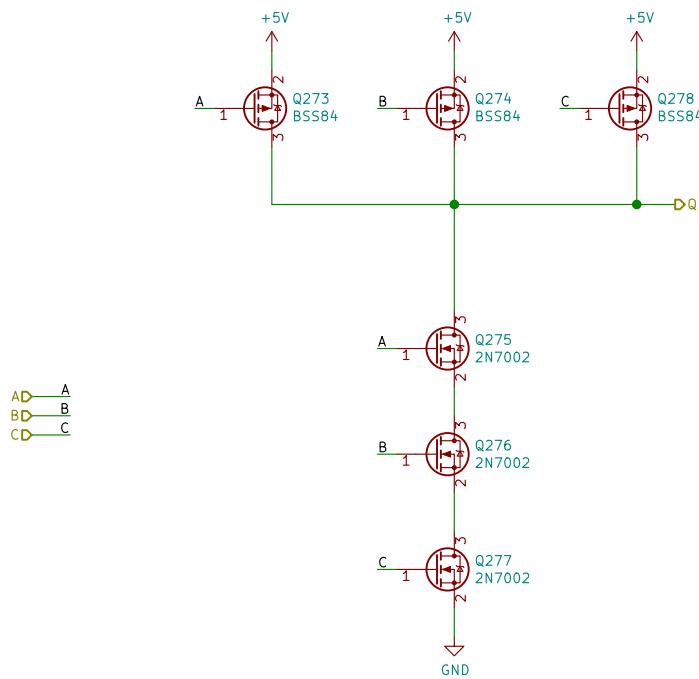
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A6/sheet5E86E86/sheet5EFA5AF5/  
File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

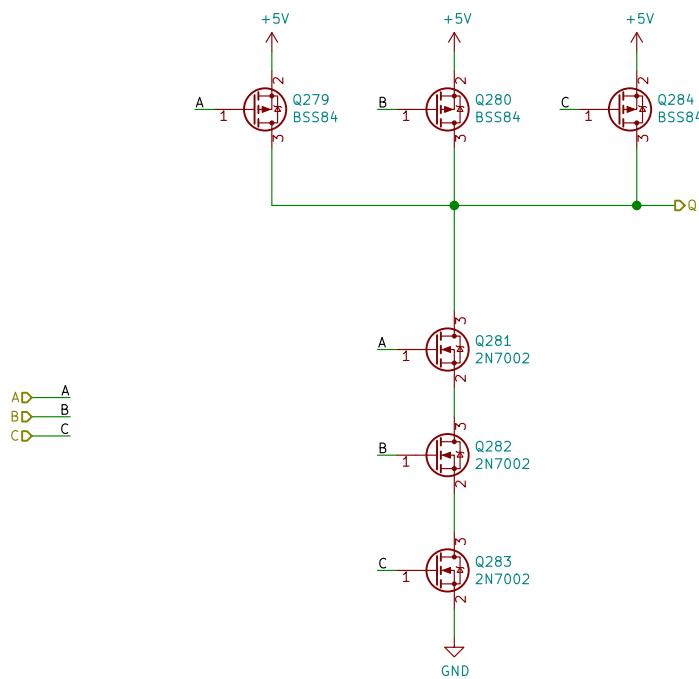
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 69/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A6/sheet5EFB6E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

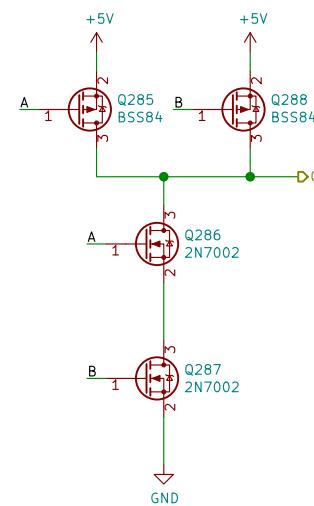
Id: 70/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A6/sheet5EFA6019/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

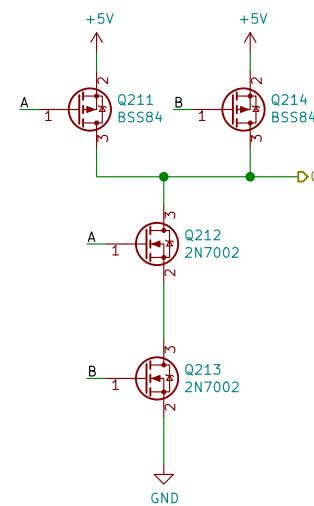
Id: 71/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A6/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

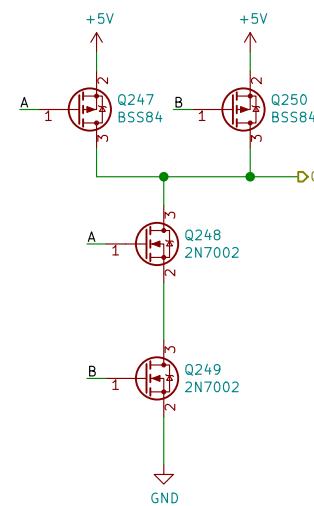
Id: 72/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A6/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

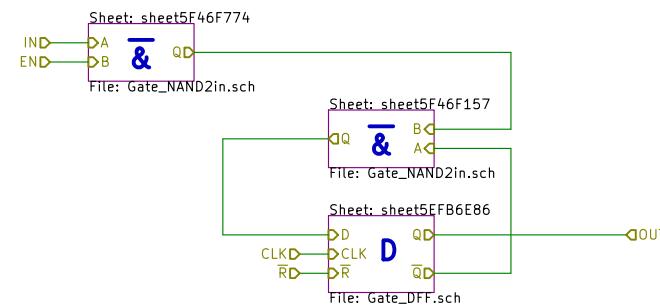
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 73/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

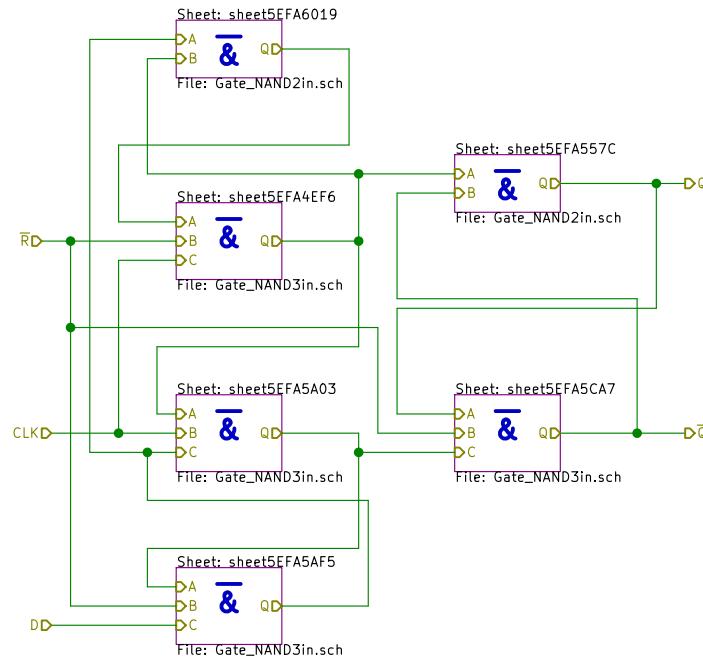
Sheet: /PlayerMem\_1/sheet5F1827A7/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|            |
|------------|
| Rev: v1.0  |
| Id: 74/362 |

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

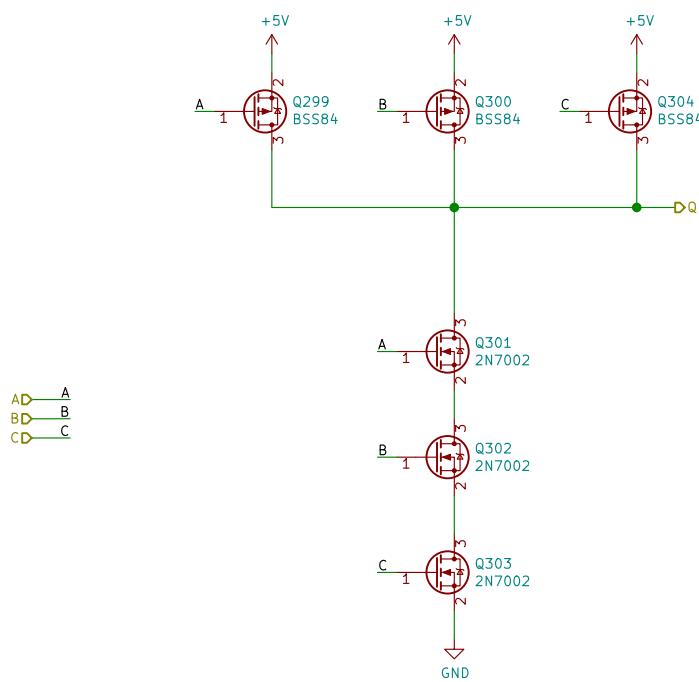
Sheet: /PlayerMem\_1/sheet5F1827A7/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 75/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A7/sheet5EFA4EF6/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

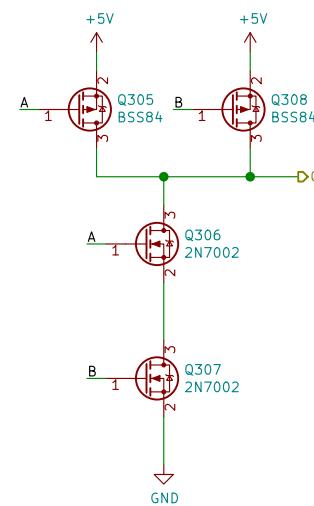
Id: 76/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMem\_1/sheet5F1827A7/sheet5E86E86/sheet5EFA557C/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |            |
|------------------------------|------------------|------------|
| Size: A4                     | Date: 2021-05-23 | Rev: v1.0  |
| KiCad E.D.A. kicad (5.1.9)-1 |                  | Id: 77/362 |

A

B

C

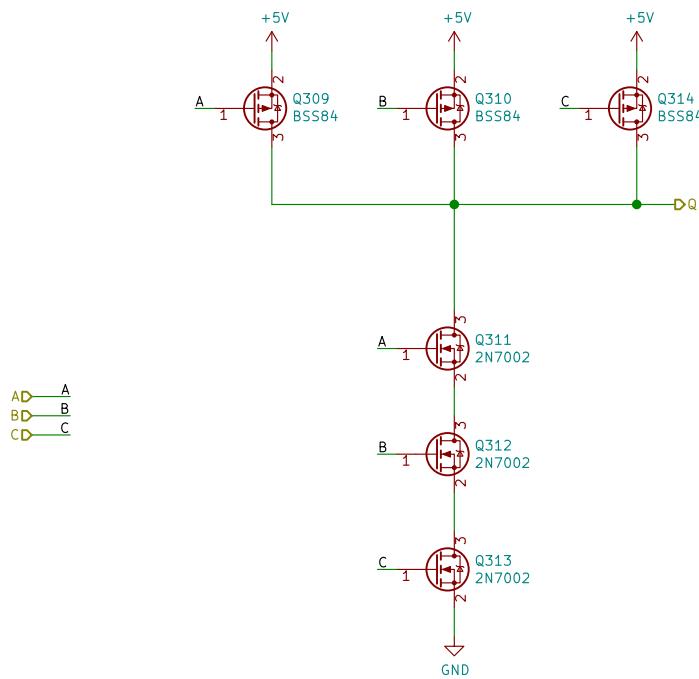
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A7/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

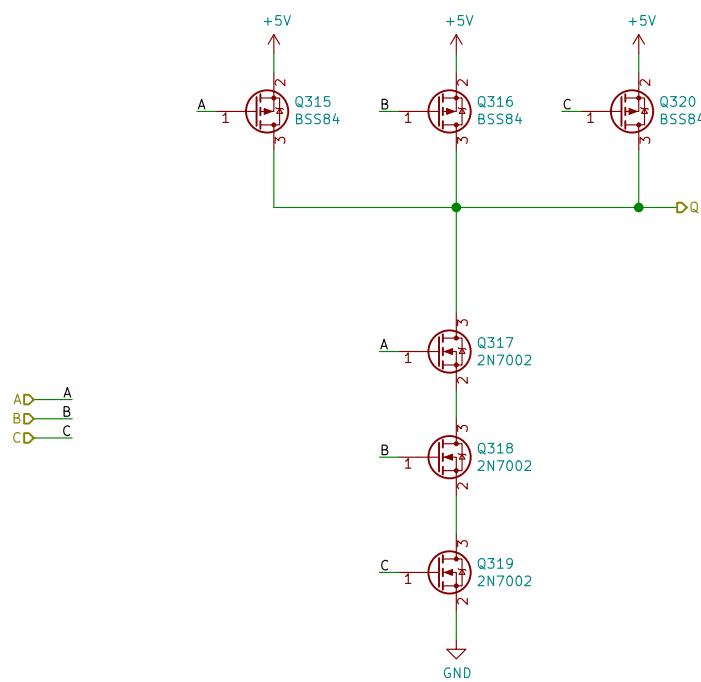
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 78/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A7/sheet5EFA5AF5/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

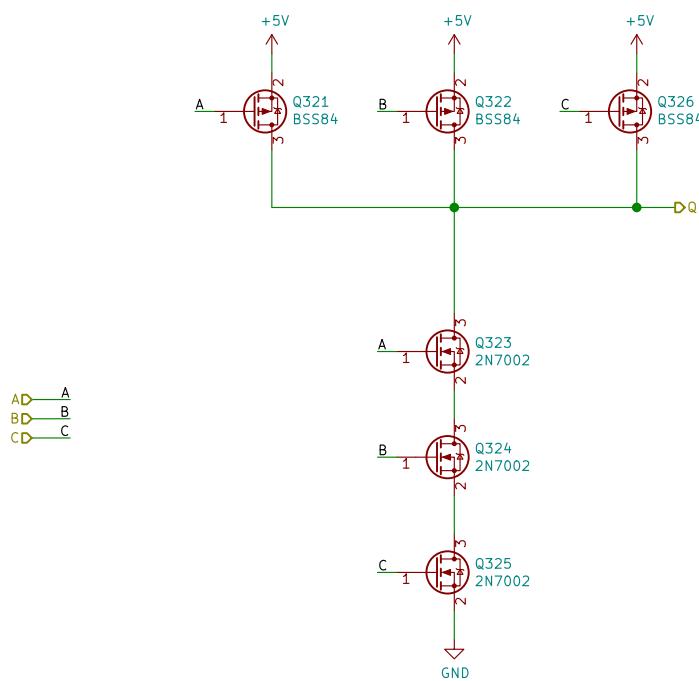
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 79/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A7/sheet5E86E86/sheet5EFA5CA7/  
File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

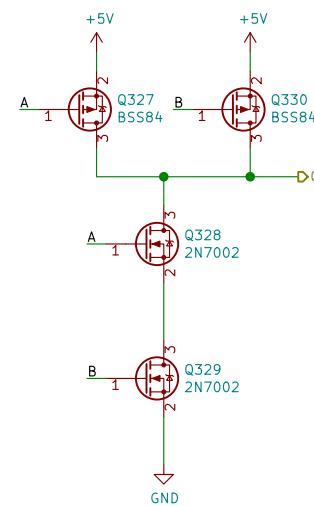
Id: 80/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A7/sheet5EFA6019/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

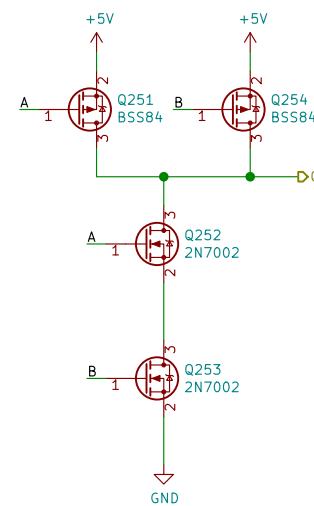
Id: 81/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A7/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

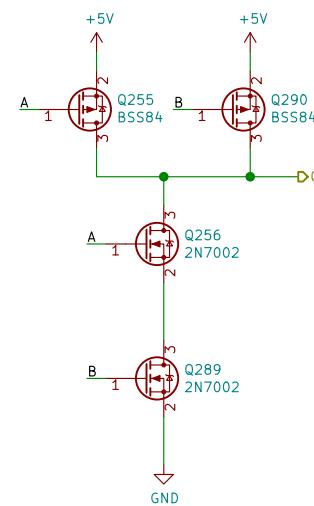
Id: 82/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

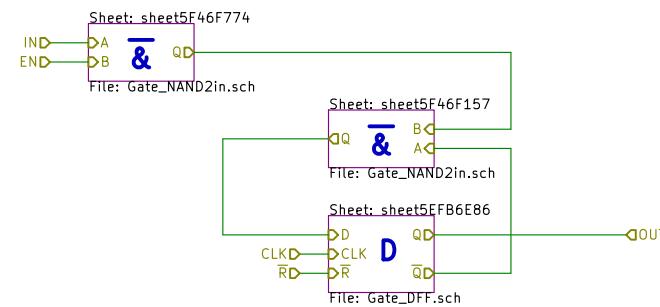
Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMem\_1/sheet5F1827A7/sheet5F46F774/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|            |
|------------|
| Rev: v1.0  |
| Id: 83/362 |

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

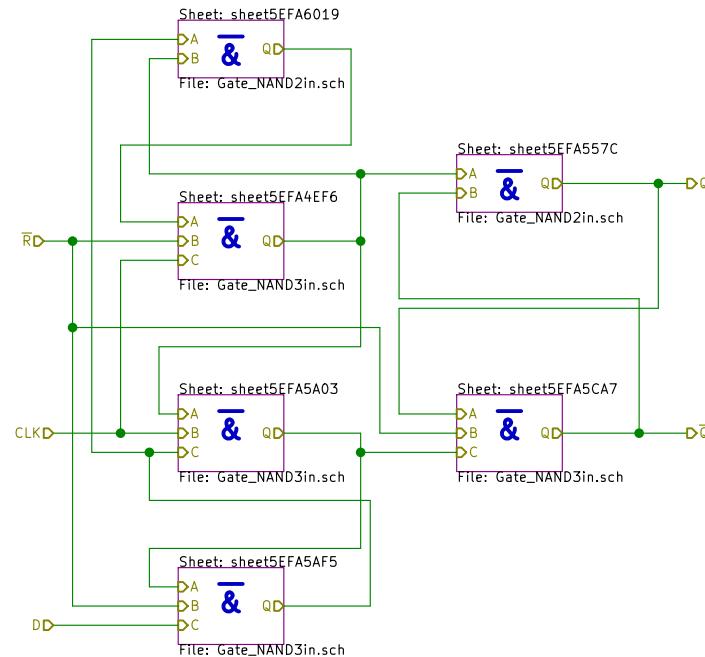
Sheet: /PlayerMem\_1/sheet5F1827A8/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|            |
|------------|
| Rev: v1.0  |
| Id: 84/362 |

A



B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

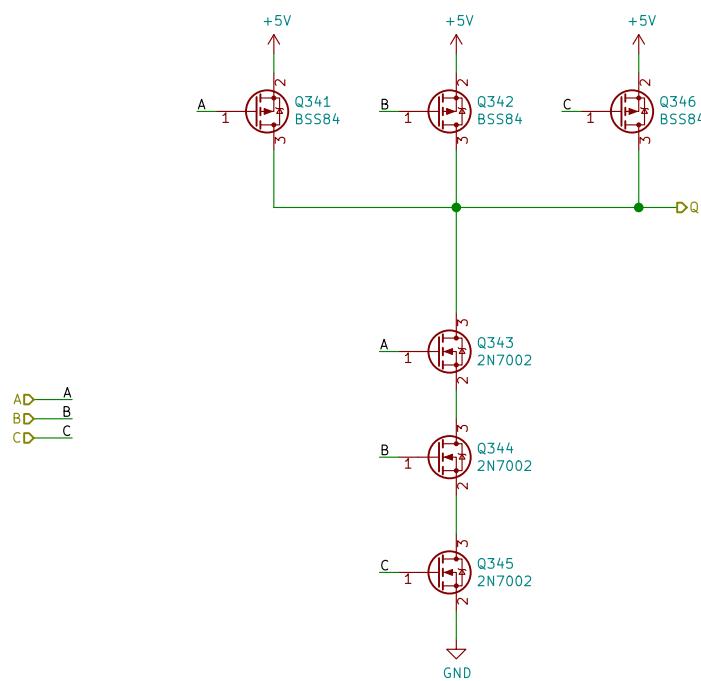
Sheet: /PlayerMem\_1/sheet5F1827A8/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 85/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A8/sheet5E86E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

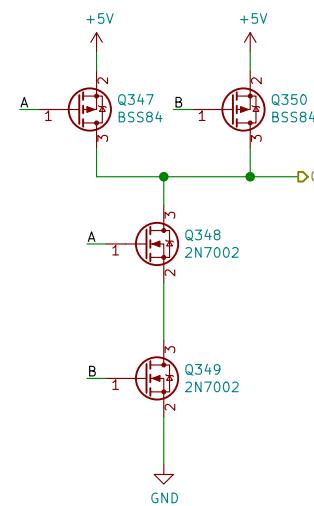
Id: 86/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A8/sheet5EFA557C/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

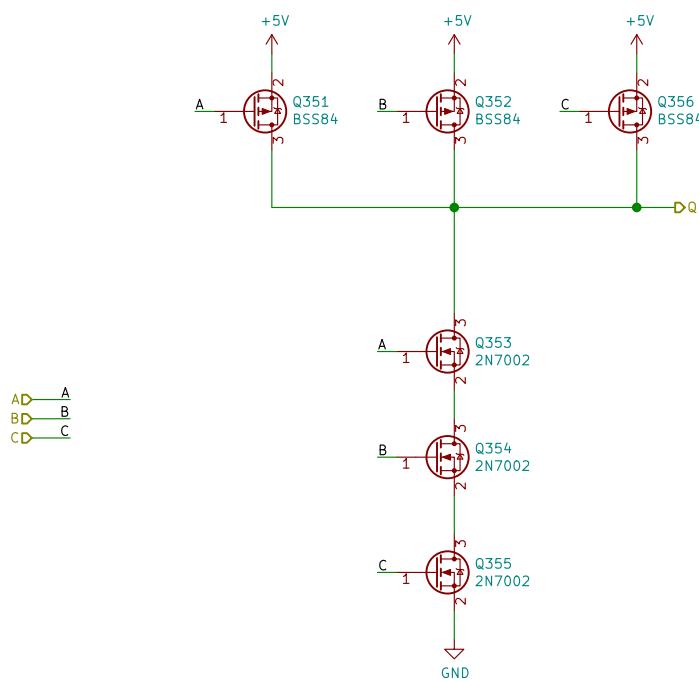
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 87/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A8/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

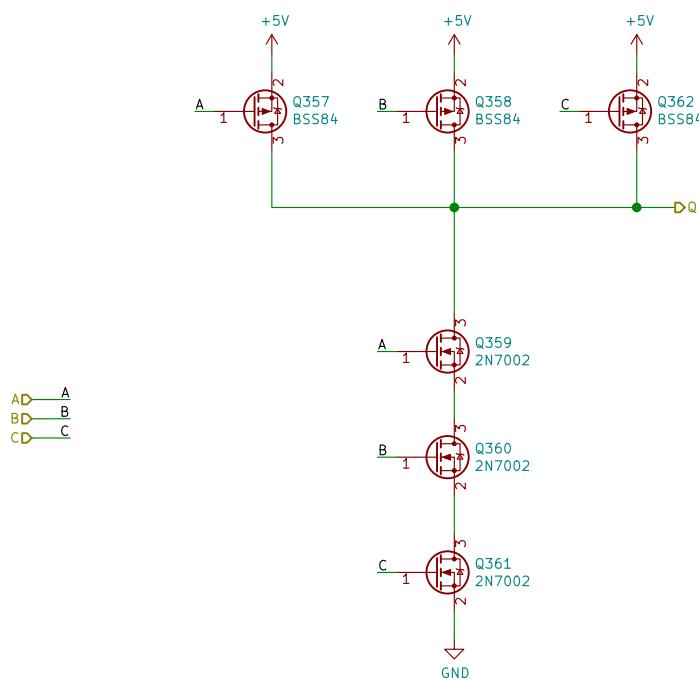
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 88/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A8/sheet5EFB6E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 89/362

A

B

C

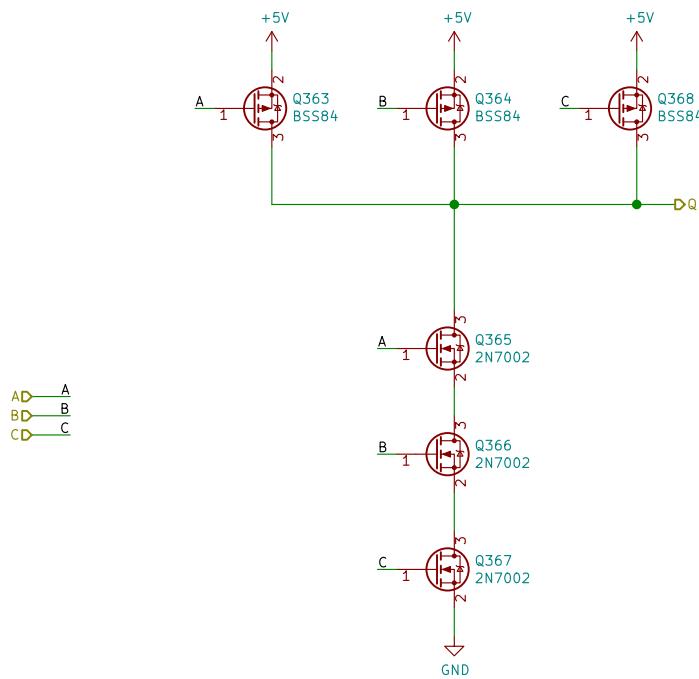
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A8/sheet5EFA5CA7/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

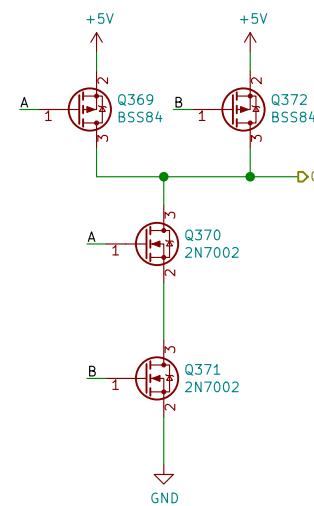
Id: 90/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A8/sheet5EFA6019/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

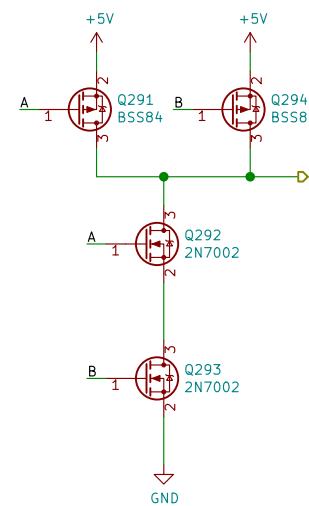
Id: 91/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A8/sheet5F46F157/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

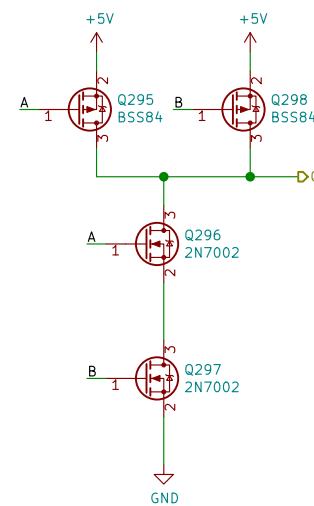
Id: 92/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_1/sheet5F1827A8/sheet5F46F774/

File: Gate\_NAND2in.sch

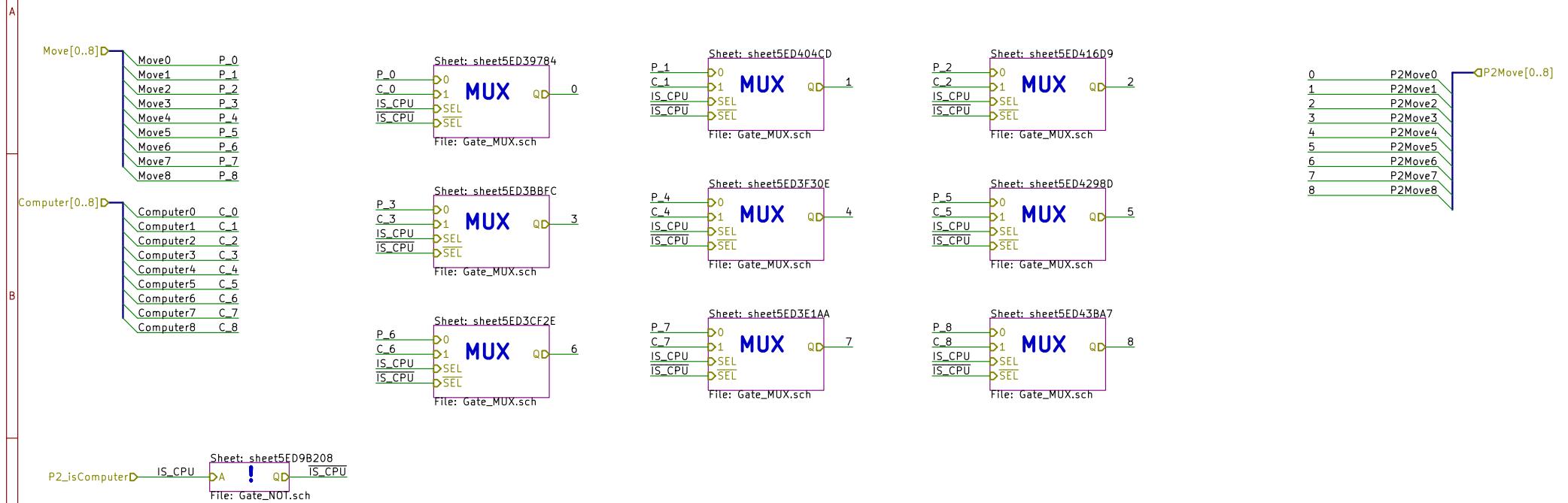
**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 93/362



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /P2\_Switch/

File: P2\_Switch.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 94/362

A

A

B

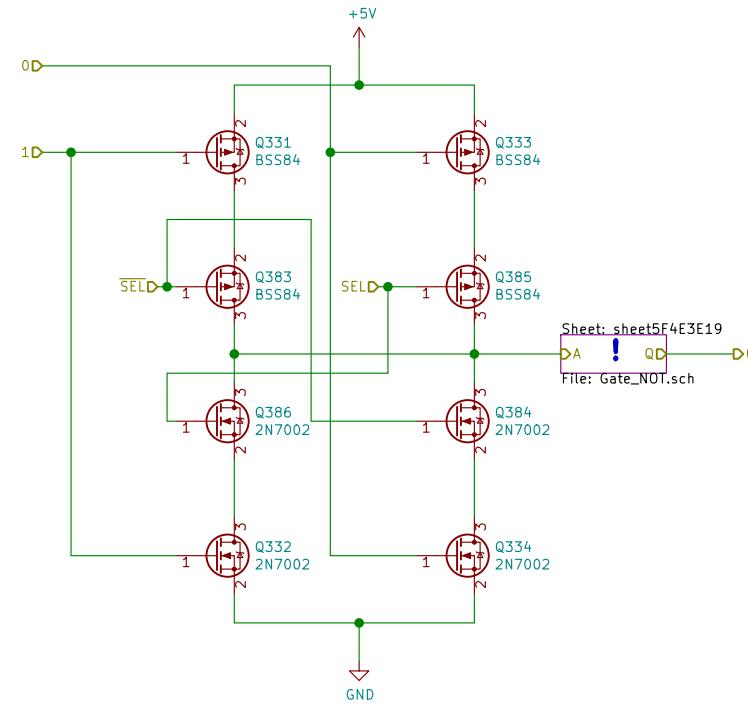
B

C

C

D

D



Sheet: sheet5F4E3E19

File: Gate\_NOT.sch

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED39784/

File: Gate\_MUX.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 95/362

A

A

B

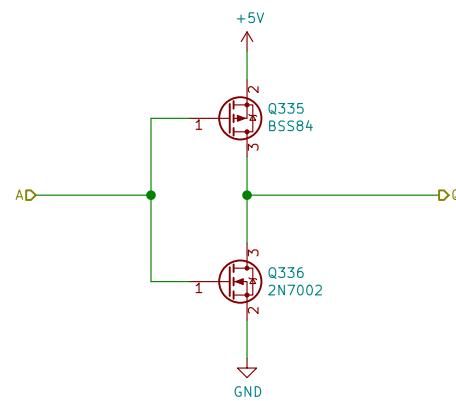
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED39784/sheet5F4E3E19/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 96/362

A

A

B

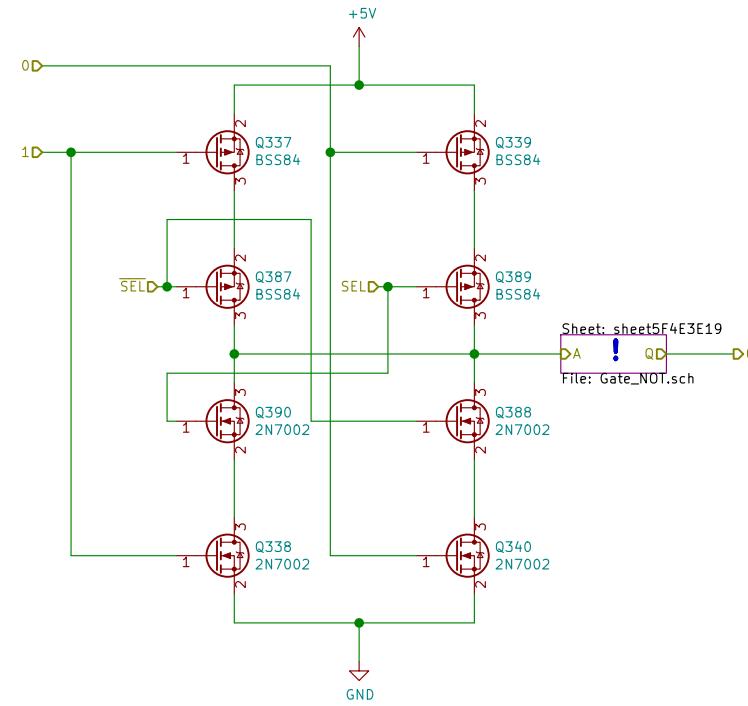
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /P2\_Switch/sheet5ED3BBFC/

File: Gate\_MUX.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 97/362

A

B

C

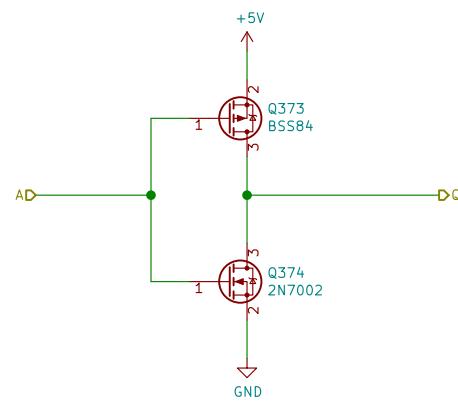
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED3BBFC/sheet5F4E3E19/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 98/362

A

A

B

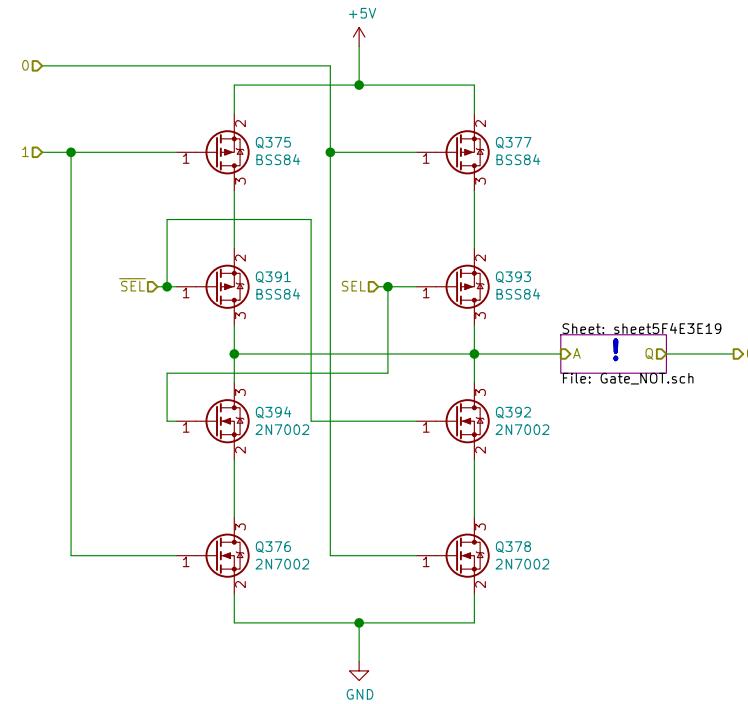
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /P2\_Switch/sheet5ED3CF2E/  
File: Gate\_MUX.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 99/362

A

B

C

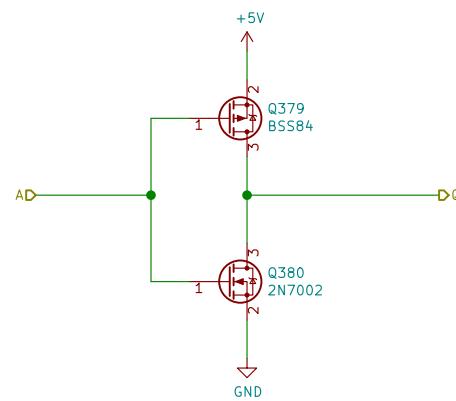
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED3CF2E/sheet5F4E3E19/

File: Gate\_NOT.sch

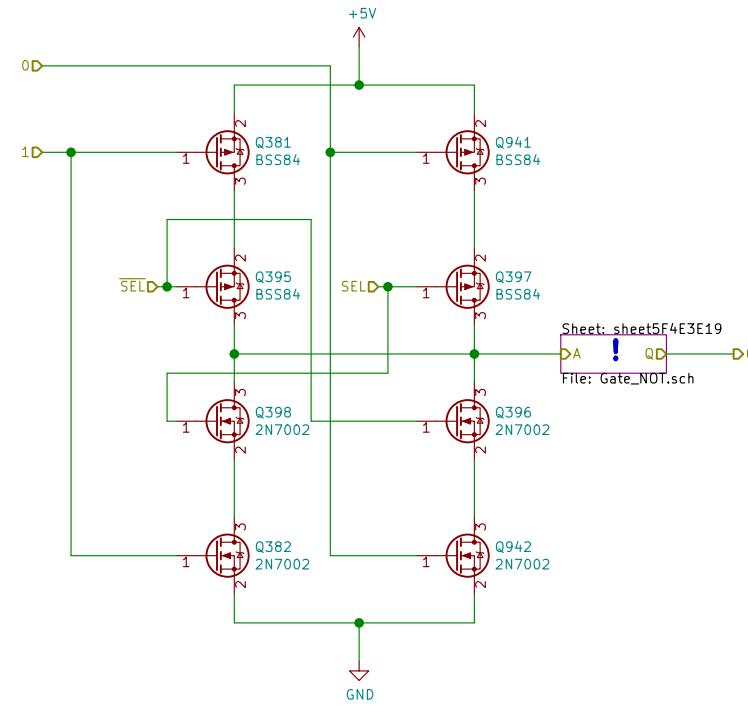
**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 100/362



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Sheet: /P2\_Switch/sheet5ED3E1AA/  
File: Gate\_MUX.sch

## Title: Fets and Crosses

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
|d: 101/362

A

B

C

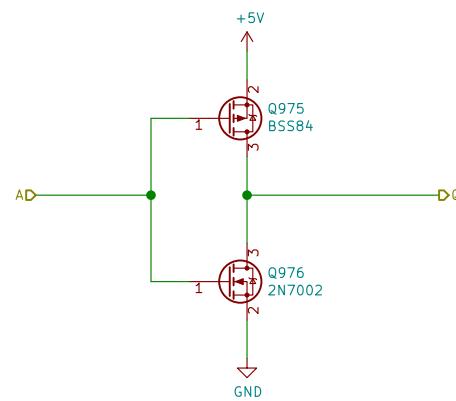
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED3E1AA/sheet5F4E3E19/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 102/362

A

A

B

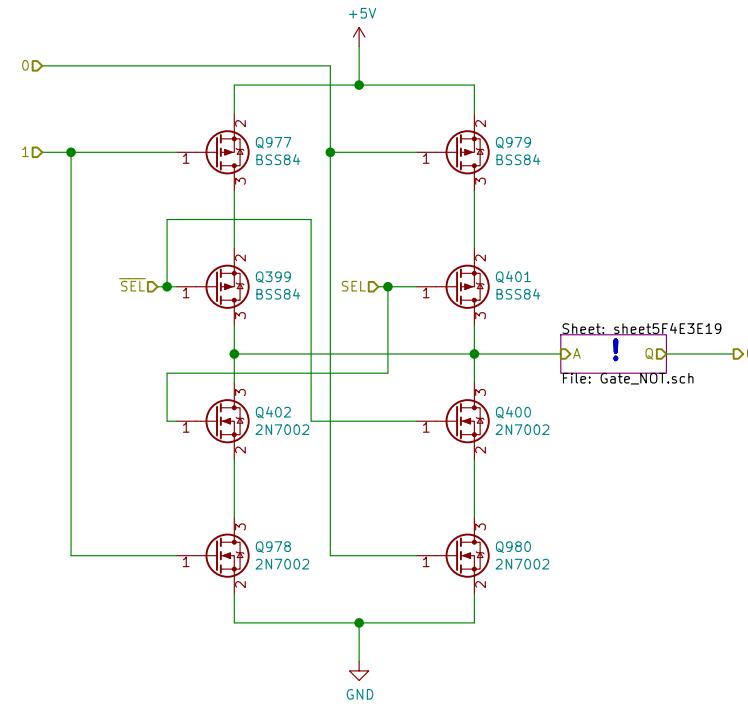
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /P2\_Switch/sheet5ED3F30E/  
File: Gate\_MUX.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 103/362

A

B

C

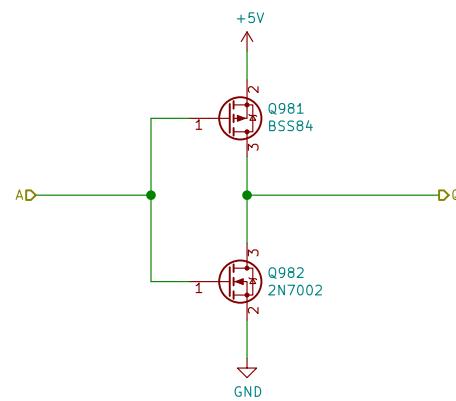
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED3F30E/sheet5F4E3E19/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 104/362

A

A

B

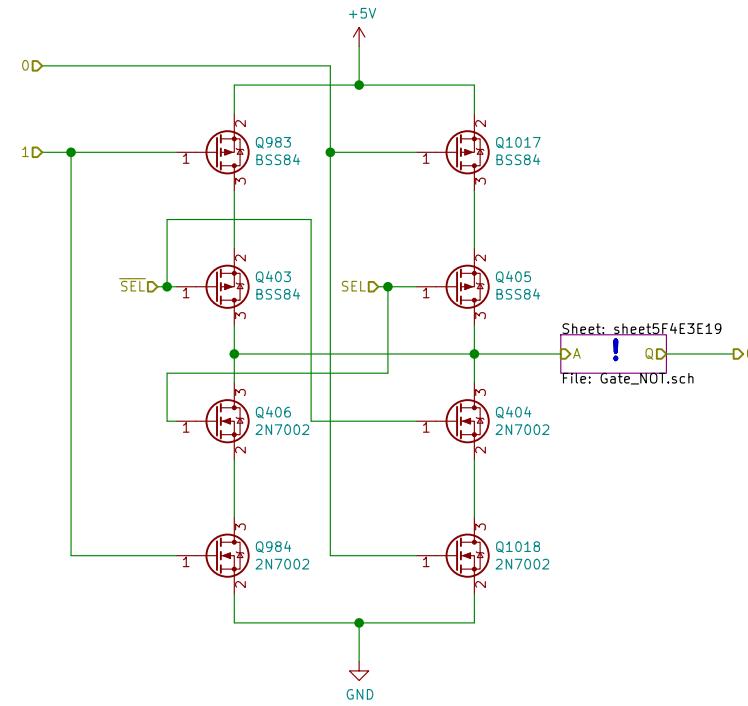
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /P2\_Switch/sheet5ED404CD/

File: Gate\_MUX.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 105/362

A

B

C

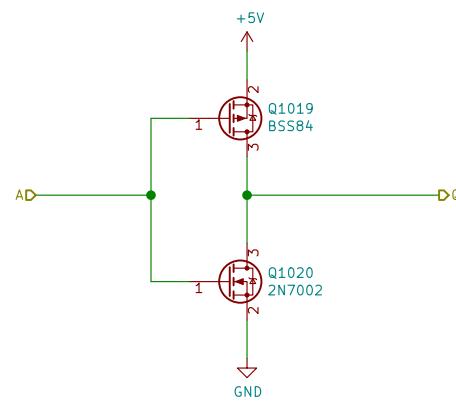
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED404CD/sheet5F4E3E19/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 106/362

A

A

B

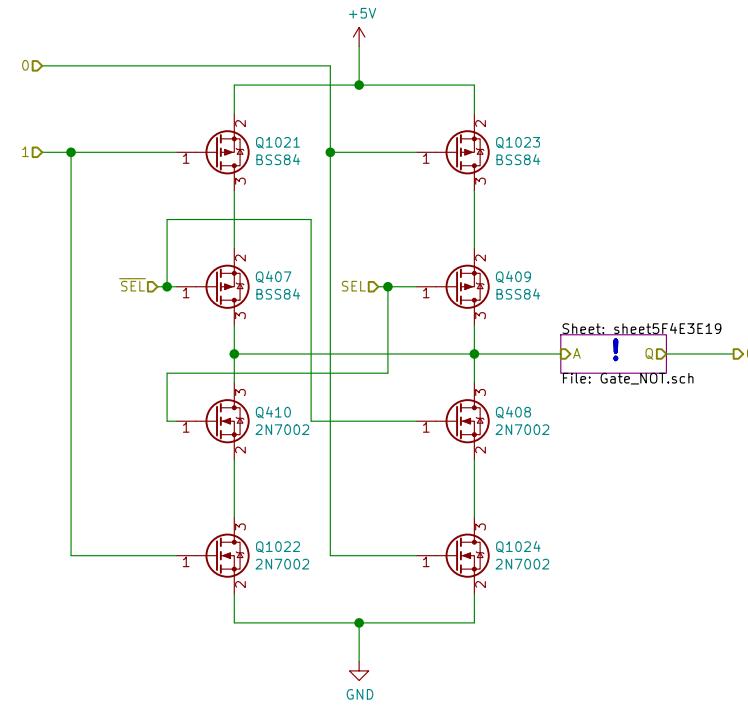
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /P2\_Switch/sheet5ED416D9/

File: Gate\_MUX.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 107/362

A

B

C

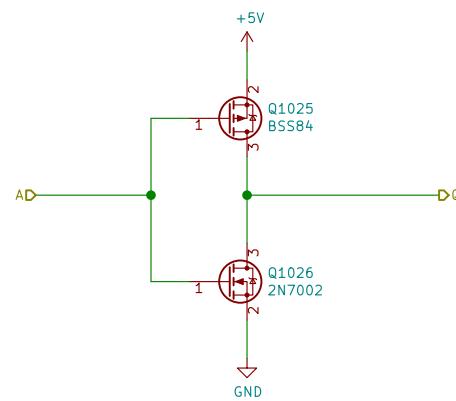
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED416D9/sheet5F4E3E19/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 108/362

A

A

B

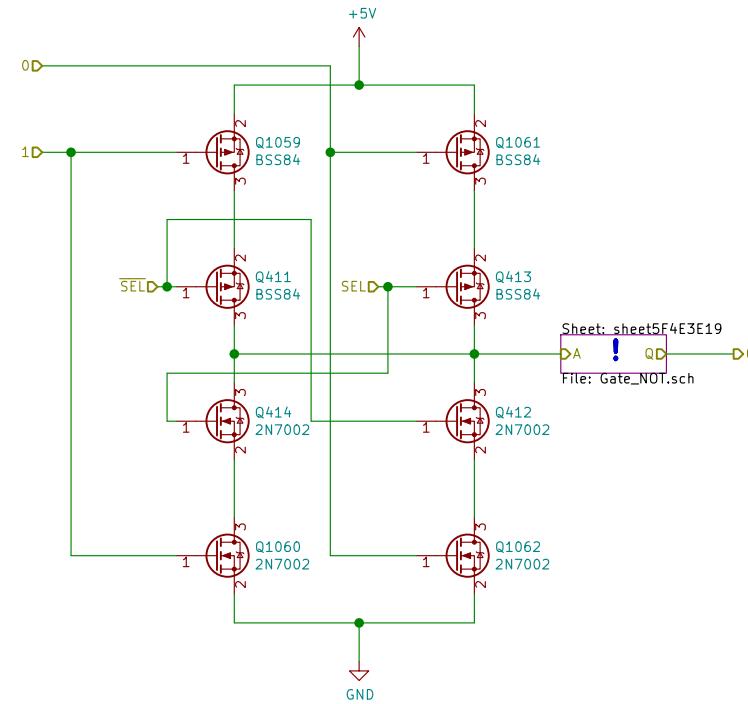
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /P2\_Switch/sheet5ED4298D/  
File: Gate\_MUX.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 109/362

A

B

C

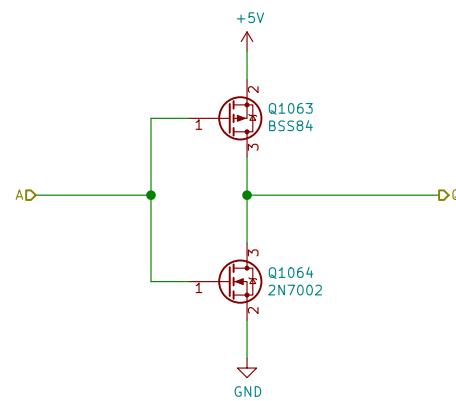
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED4298D/sheet5F4E3E19/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 110/362

A

A

B

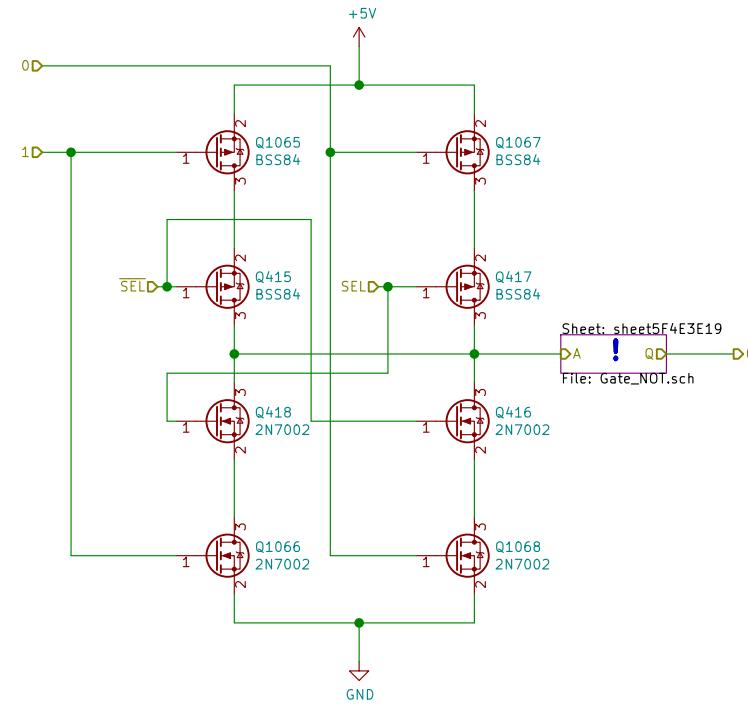
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /P2\_Switch/sheet5ED43BA7/

File: Gate\_MUX.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 111/362

A

A

B

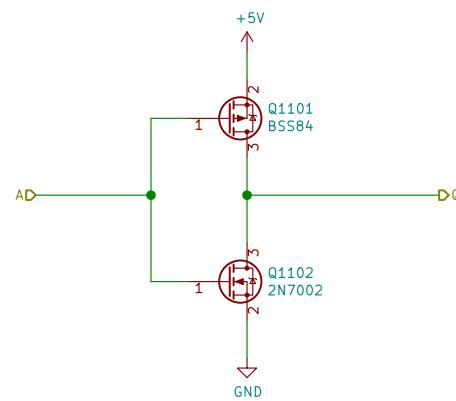
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /P2\_Switch/sheet5ED43BA7/sheet5F4E3E19/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 112/362

A

B

C

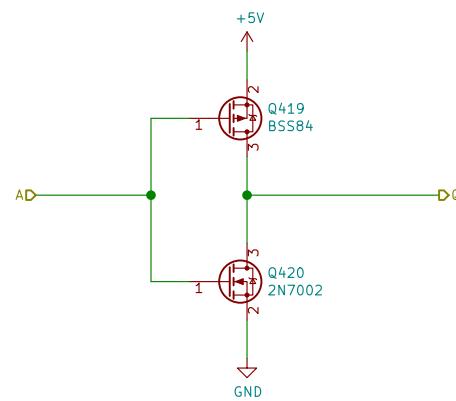
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /P2\_Switch/sheet5ED9B208/

File: Gate\_NOT.sch

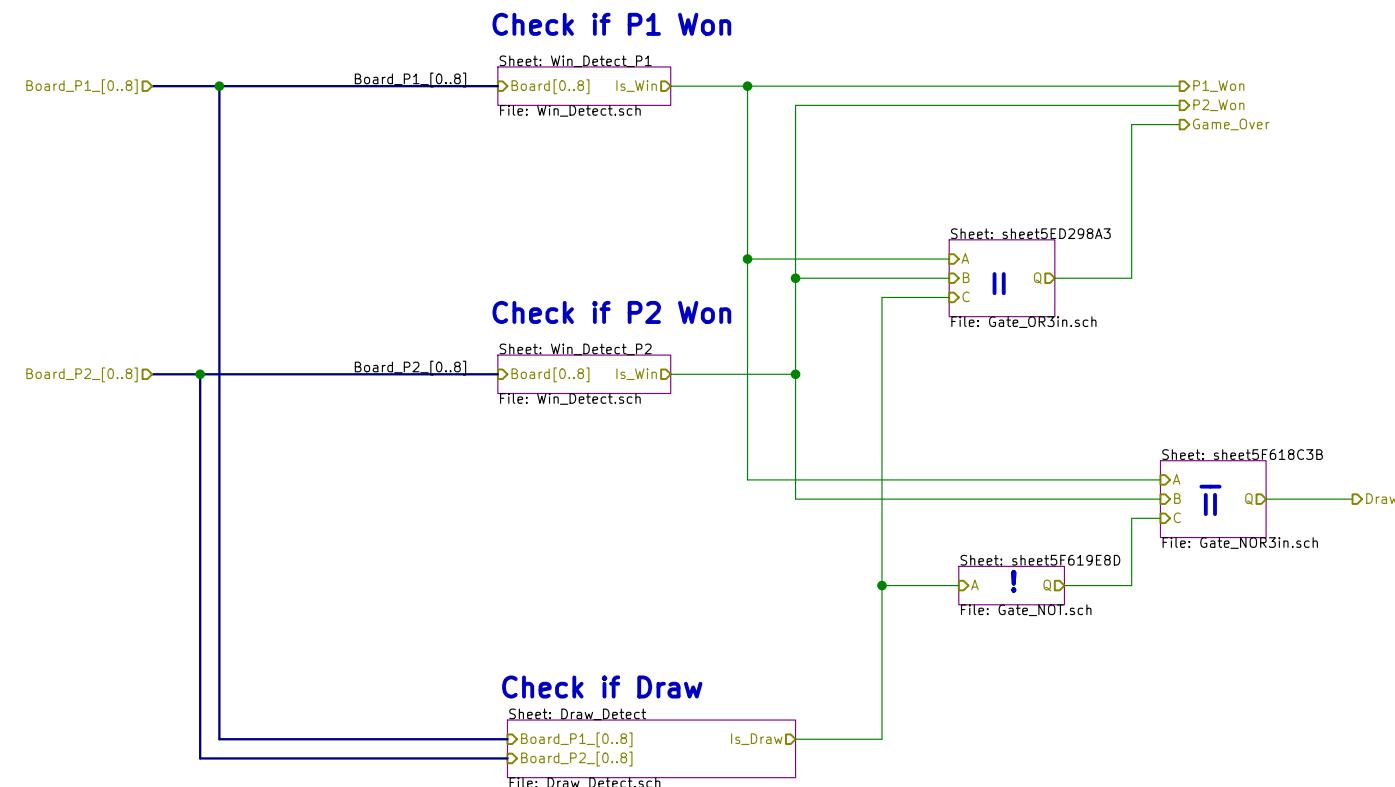
**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 113/362



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

Sheet: /EndState\_Detect/  
File: EndState\_Detect.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 114/362 |

A

A

B

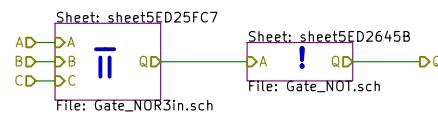
B

C

C

D

D

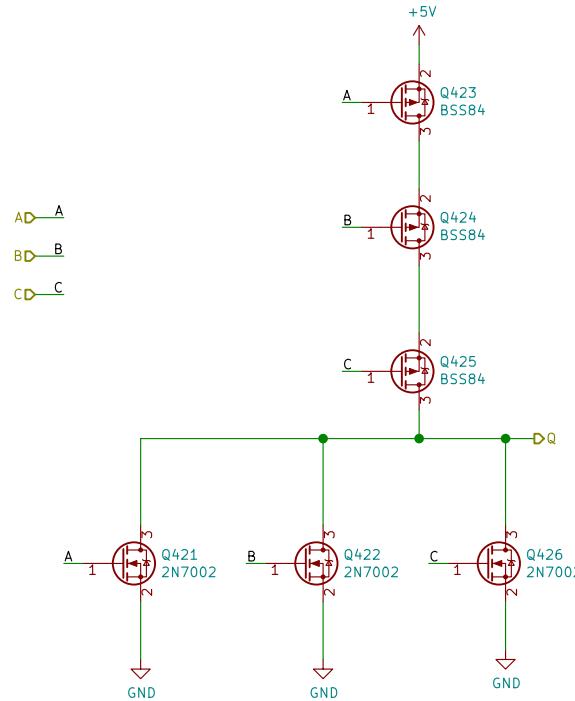
[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
Philipp Schilk  
Sheet: /EndState\_Detect/sheet5ED298A3/  
File: Gate\_OR3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 115/362



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/sheet5ED298A3/sheet5ED25FC7/

File: Gate\_NOR3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 116/362

A

B

C

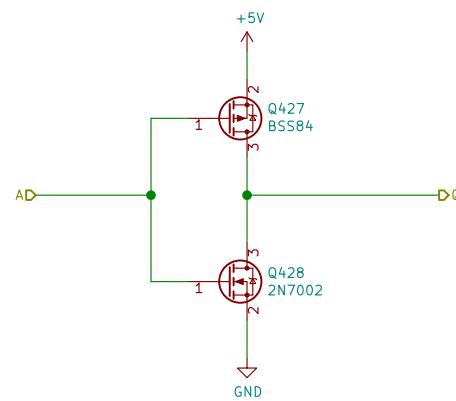
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /EndState\_Detect/sheet5ED298A3/sheet5ED2645B/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

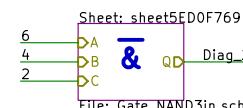
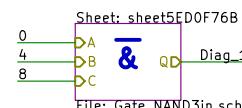
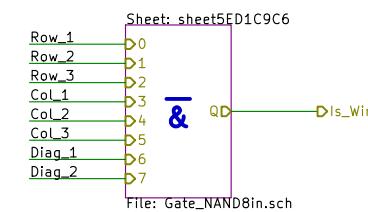
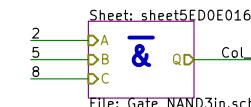
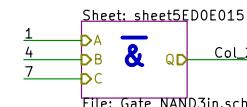
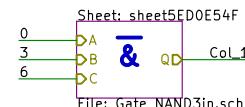
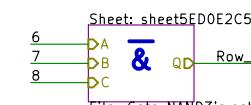
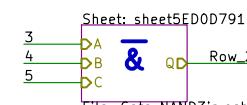
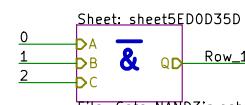
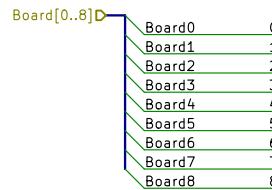
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 117/362

Checks if a Player has won by AND-ing all Rows, Cols, and Diags individually



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

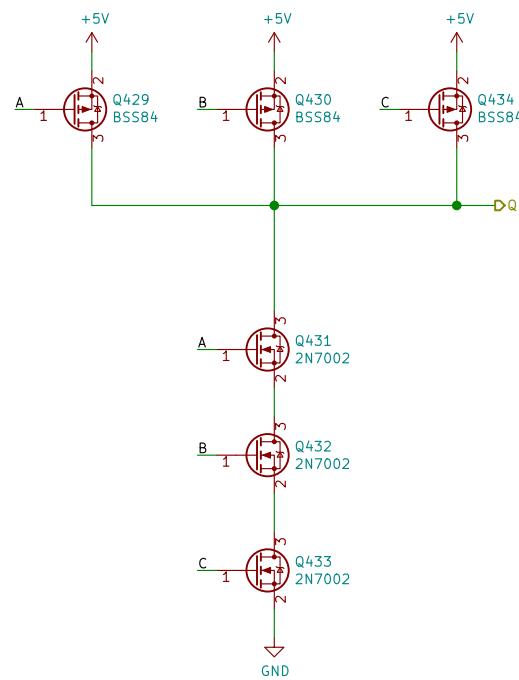
Sheet: /EndState\_Detect/Win\_Detect\_P1/  
File: Win\_Detect.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 118/362

A



B

AD—A  
BD—B  
CD—C

A—1  
B—1  
C—1  
DQ

GND

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P1/sheet5ED0D35D/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

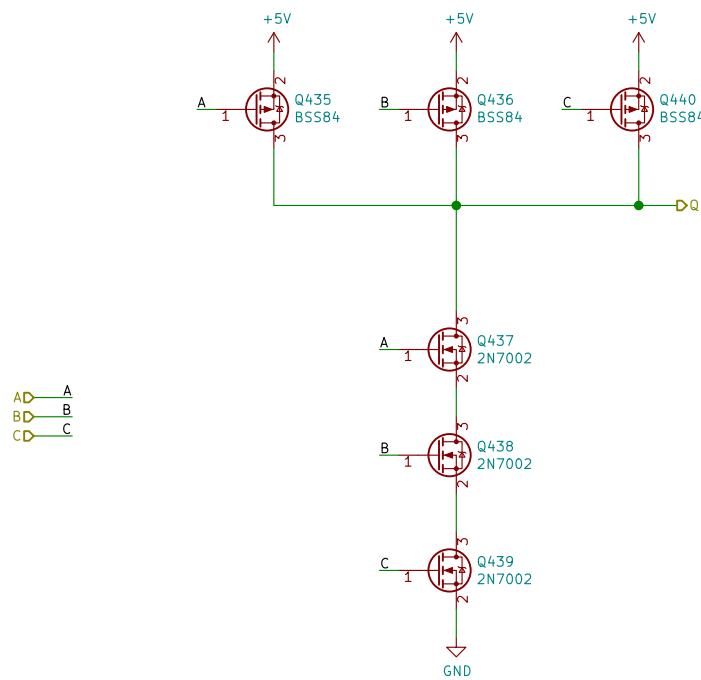
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 119/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P1/sheet5ED0D791/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 120/362

A

A

B

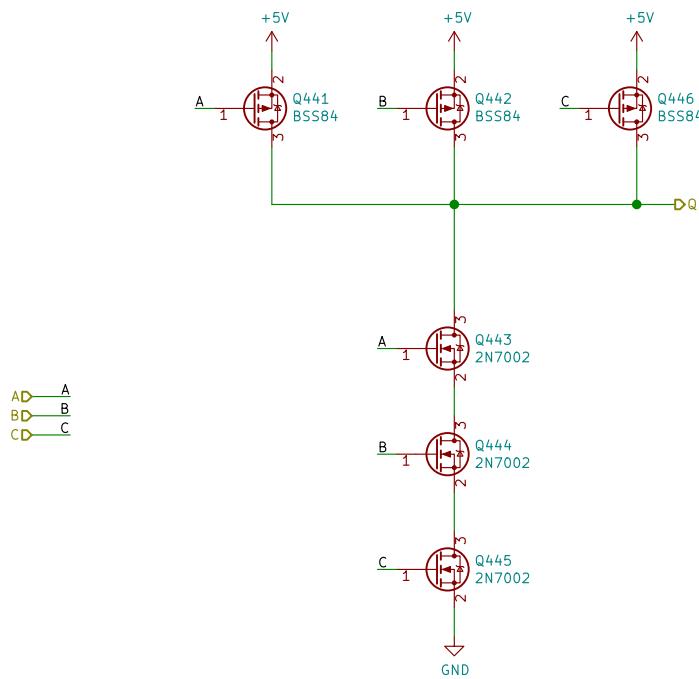
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P1/sheet5ED0E015/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 121/362

A

A

B

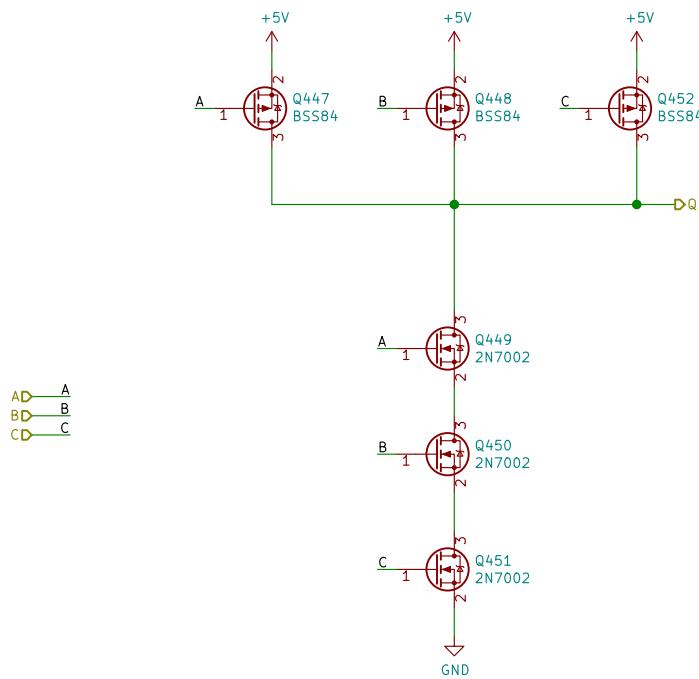
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P1/sheet5ED0E016/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

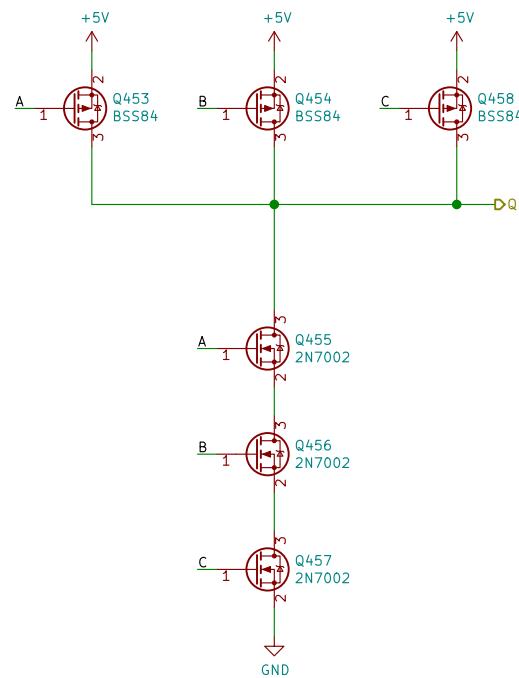
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 122/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /EndState\_Detect/Win\_Detect\_P1/sheet5ED0E2C5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 123/362

A

B

C

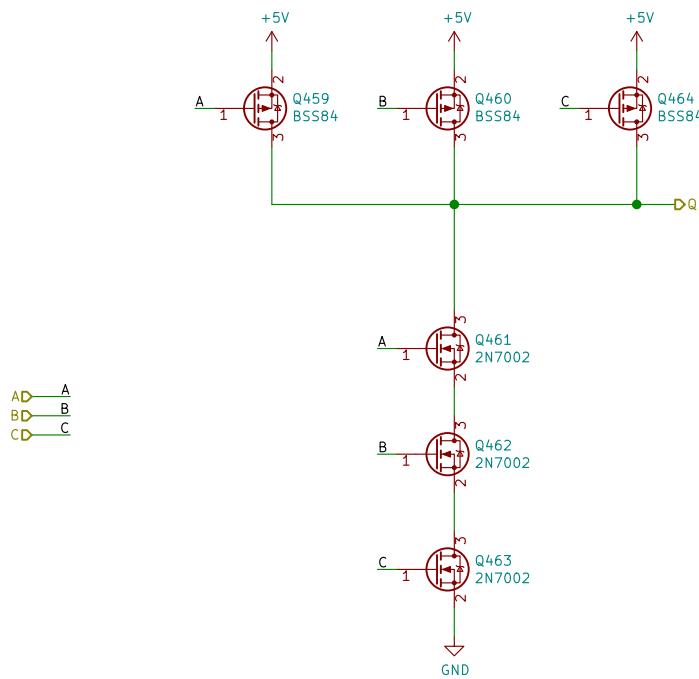
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P1/sheet5ED0E54F/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

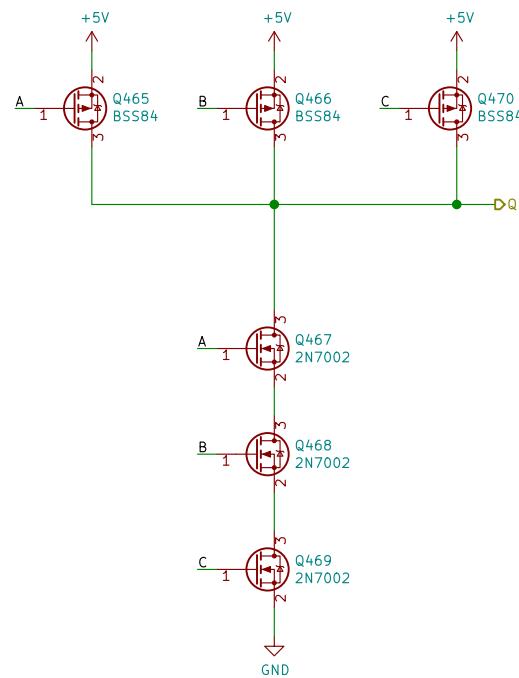
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 124/362

A



B

AD  
BD  
CD

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P1/sheet5ED0F769/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 125/362

A

B

C

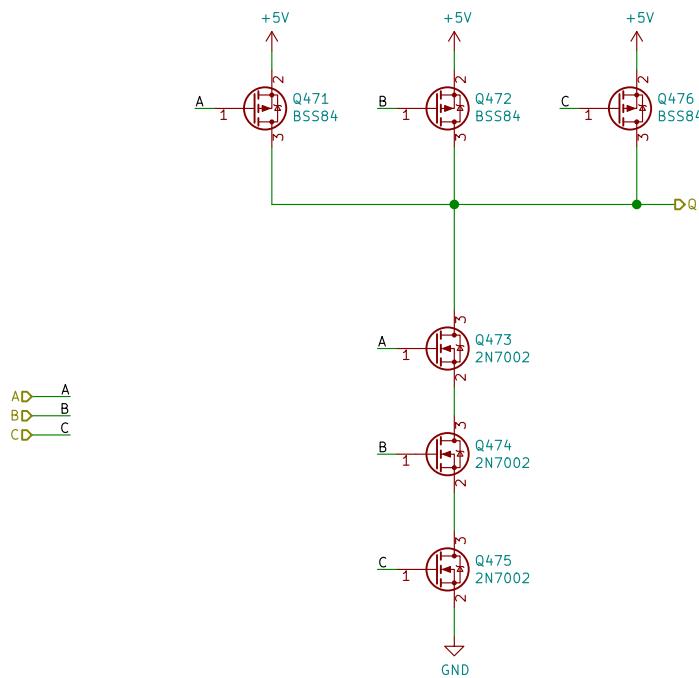
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P1/sheet5ED0F76B/

File: Gate\_NAND3in.sch

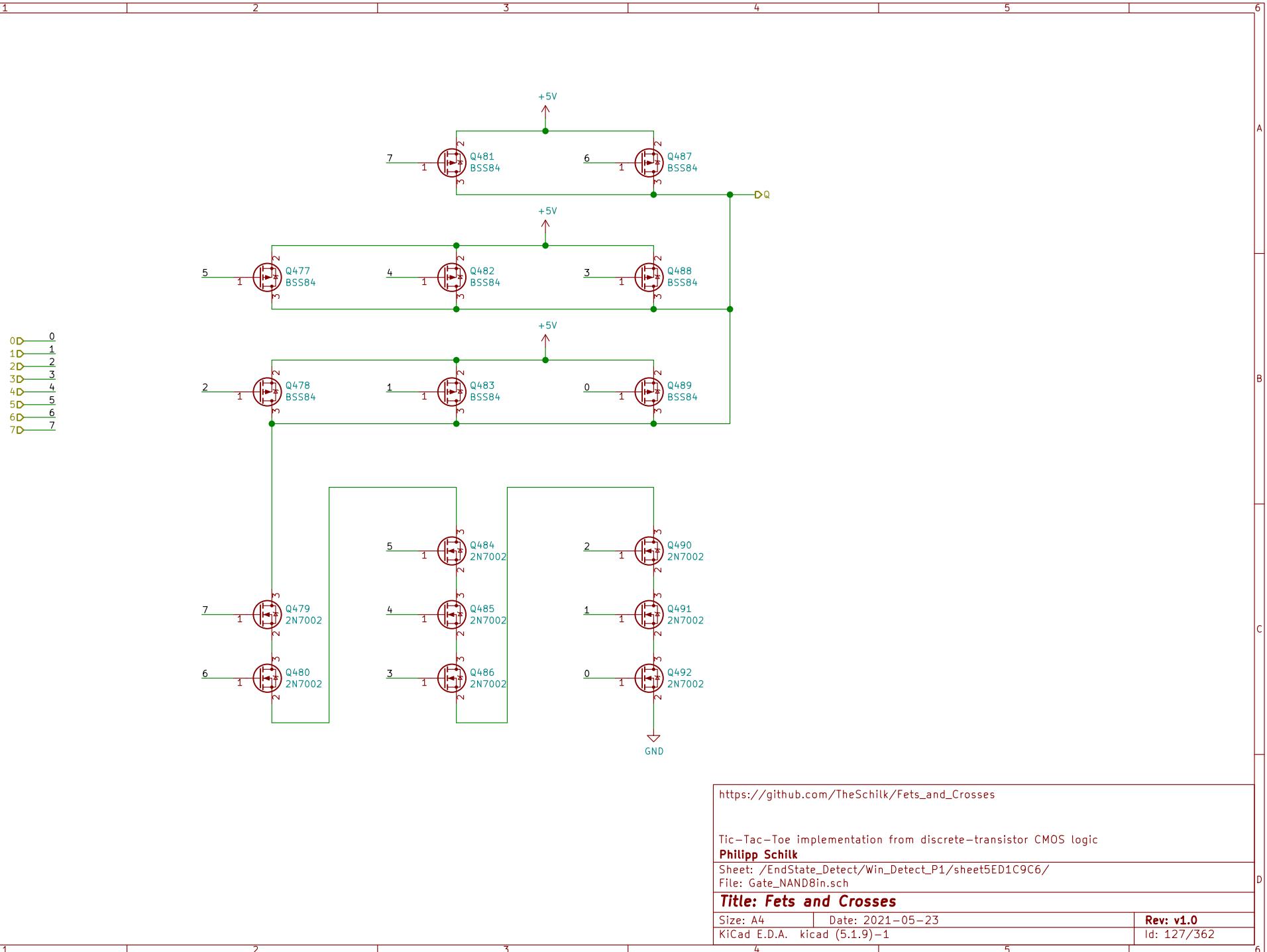
**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

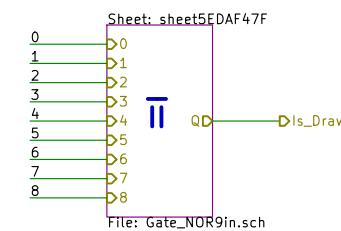
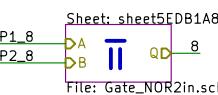
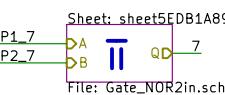
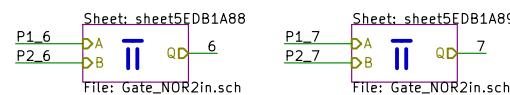
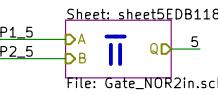
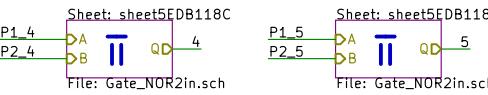
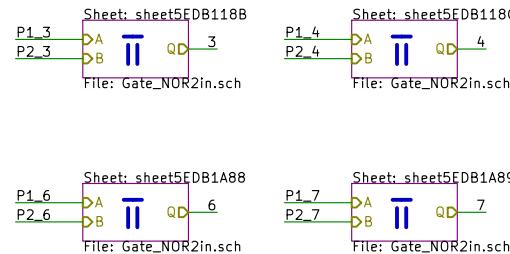
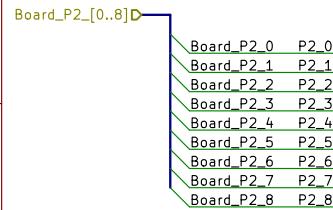
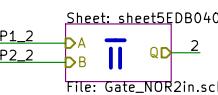
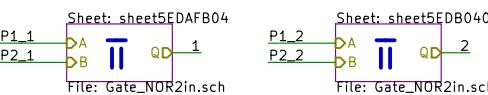
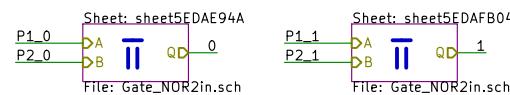
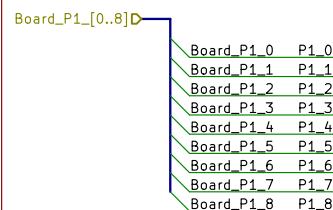
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 126/362



1 2 3 4 5 6



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/

File: Draw\_Detect.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 128/362

1 2 3 4 5 6

A

A

B

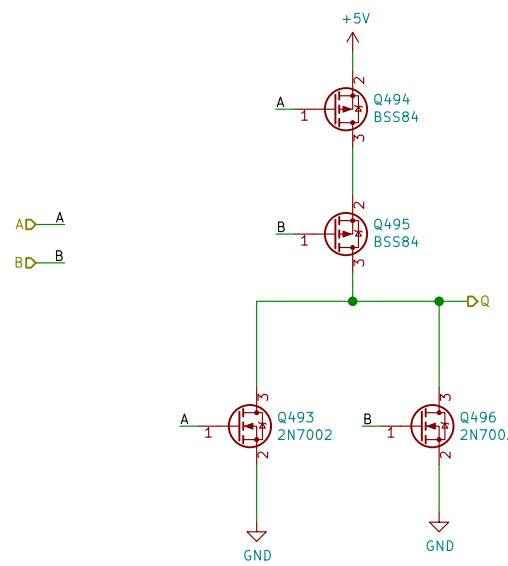
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDAE94A/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

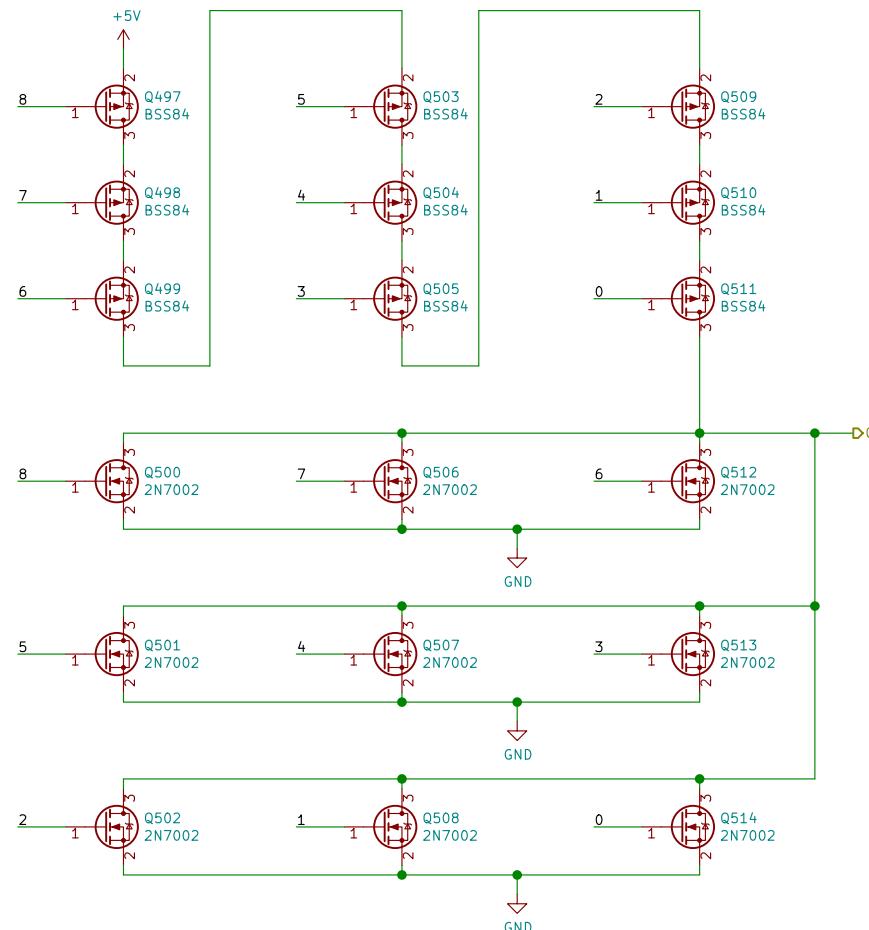
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 129/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDAF47F/

File: Gate\_NOR9in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 130/362

A

B

C

D

A

B

C

D

A

A

B

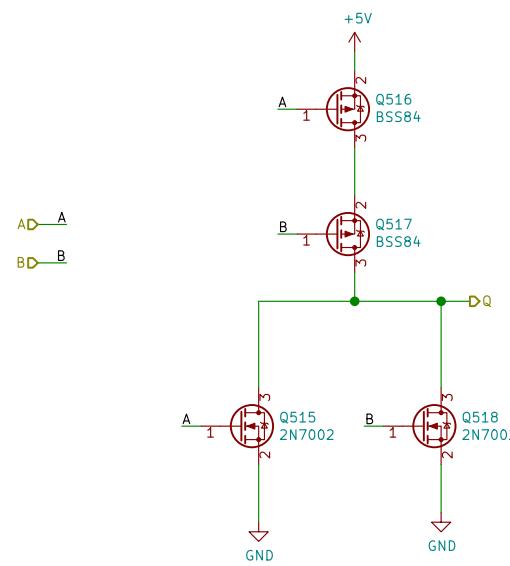
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDAFB04/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 131/362

A

A

B

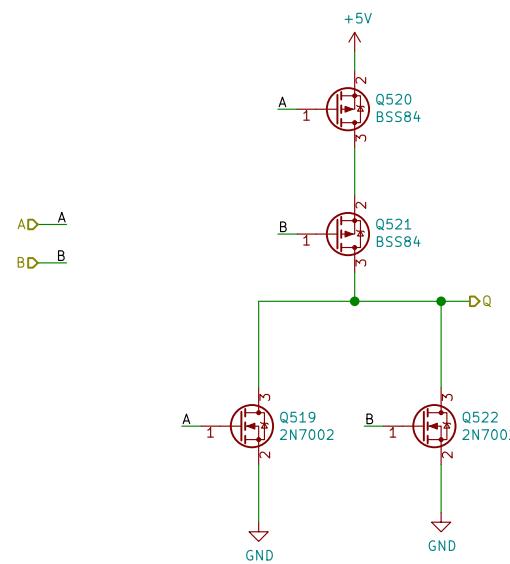
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDB118B/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 132/362

A

A

B

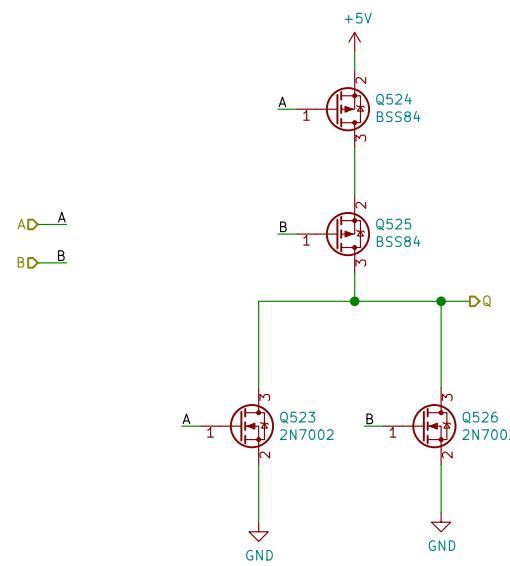
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDB118C/  
File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 133/362

A

A

B

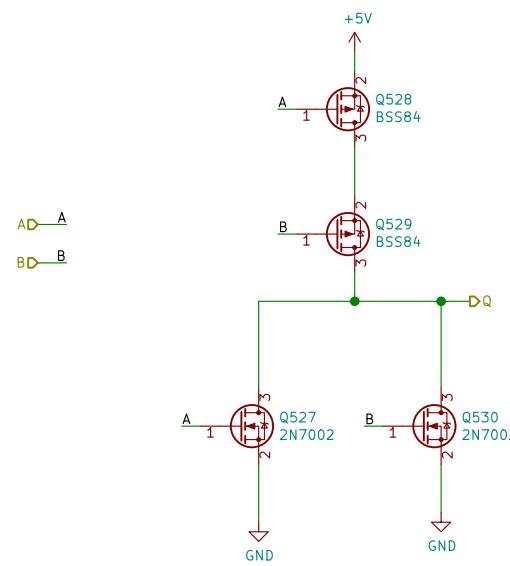
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDB118D/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 134/362

A

A

B

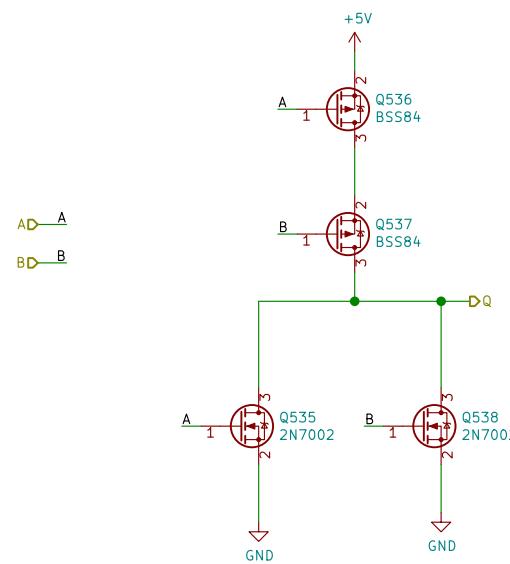
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDB1A89/  
File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 135/362

A

A

B

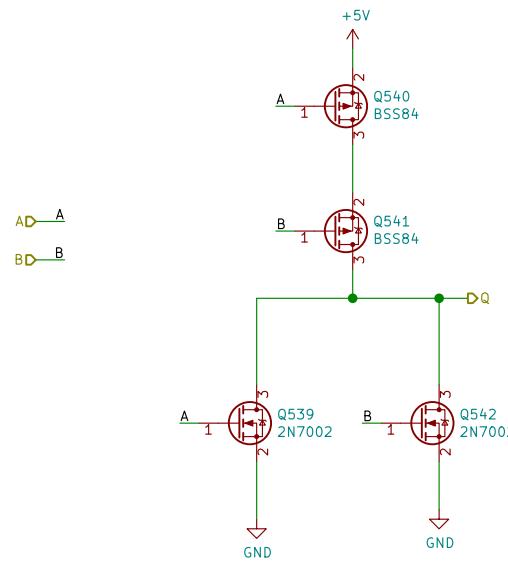
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDB1A8A/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 136/362

A

A

B

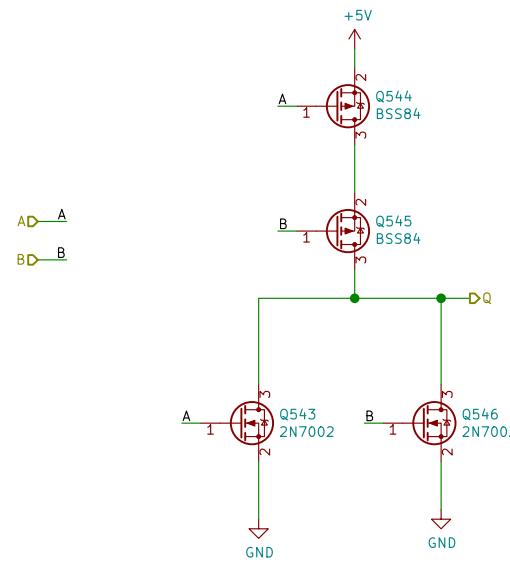
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDB040A/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 137/362

A

A

B

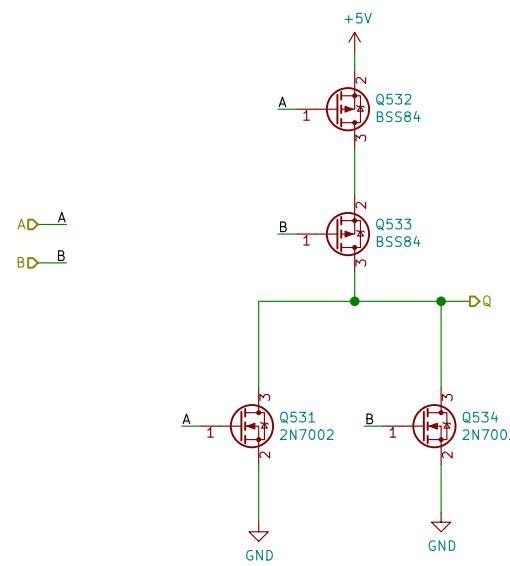
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Draw\_Detect/sheet5EDB1A88/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

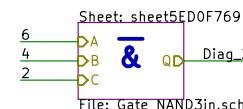
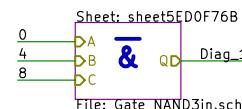
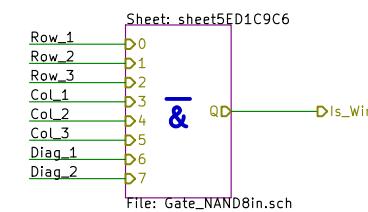
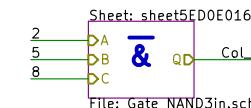
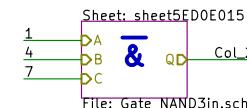
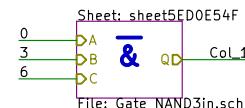
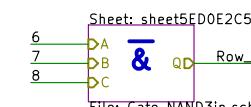
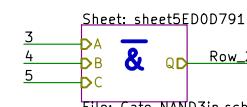
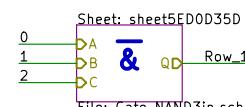
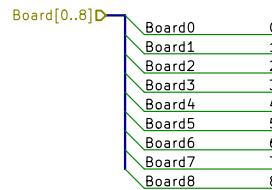
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 138/362

Checks if a Player has won by AND-ing all Rows, Cols, and Diags individually



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

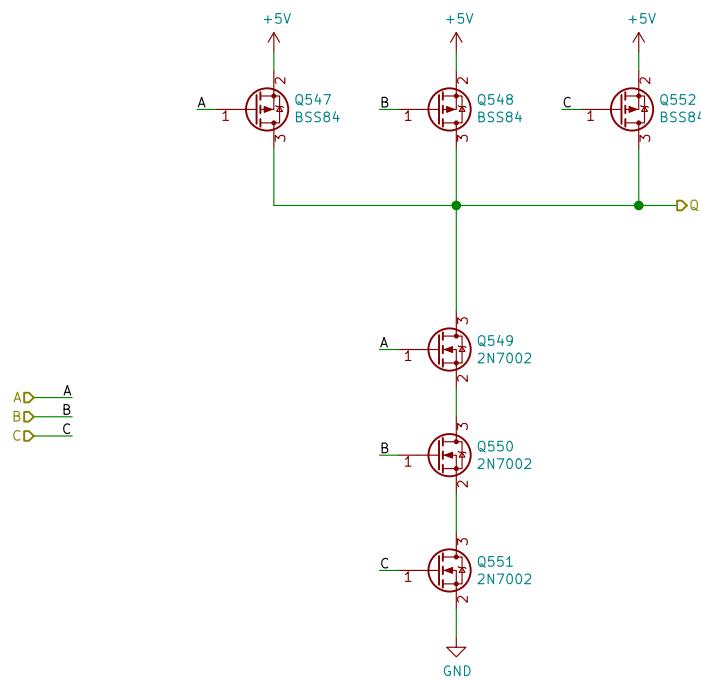
Sheet: /EndState\_Detect/Win\_Detect\_P2/  
File: Win\_Detect.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 139/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P2/sheet5ED0D35D/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

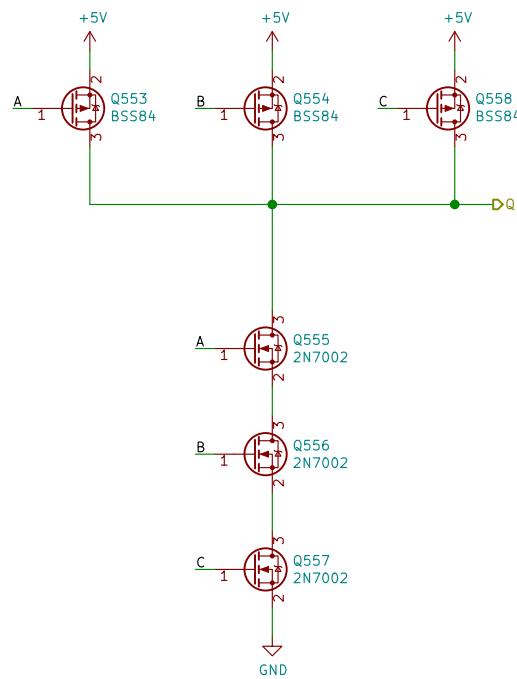
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 140/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P2/sheet5ED0D791/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

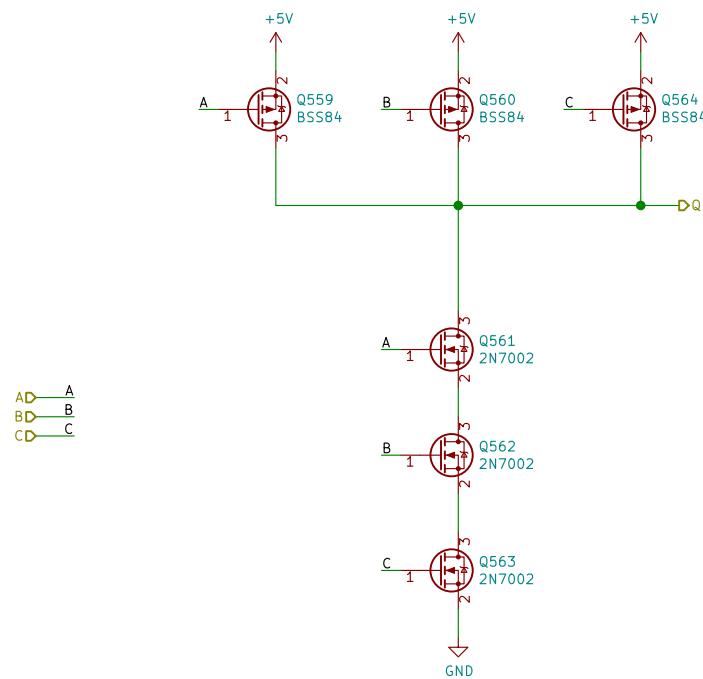
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 141/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /EndState\_Detect/Win\_Detect\_P2/sheet5ED0E015/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

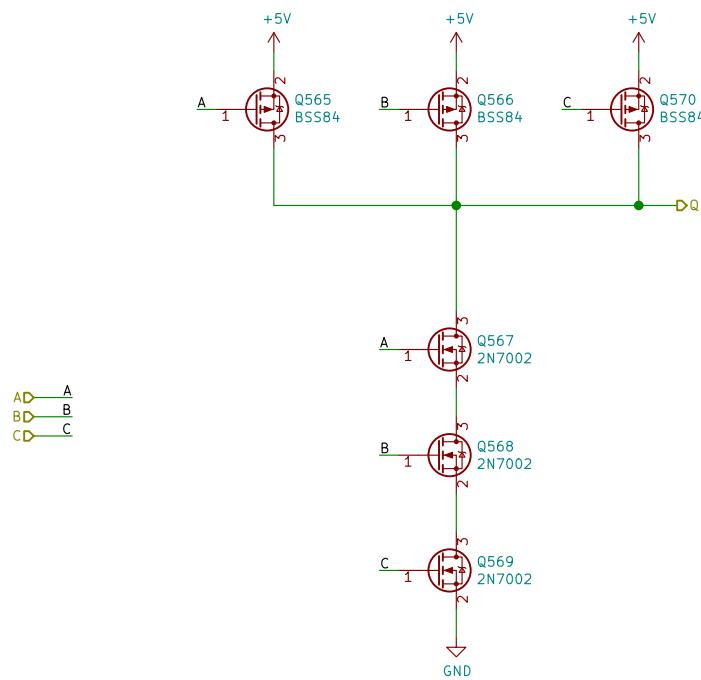
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 142/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P2/sheet5ED0E016/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

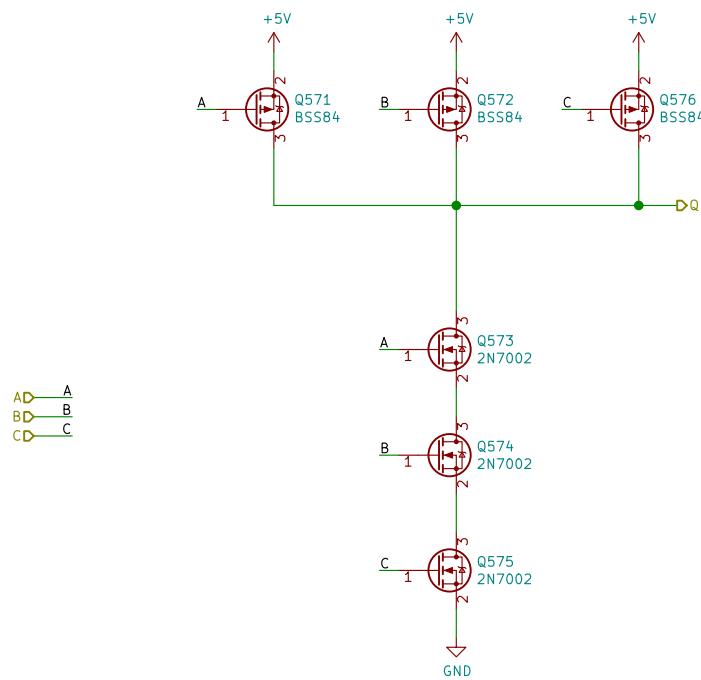
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 143/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P2/sheet5ED0E2C5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

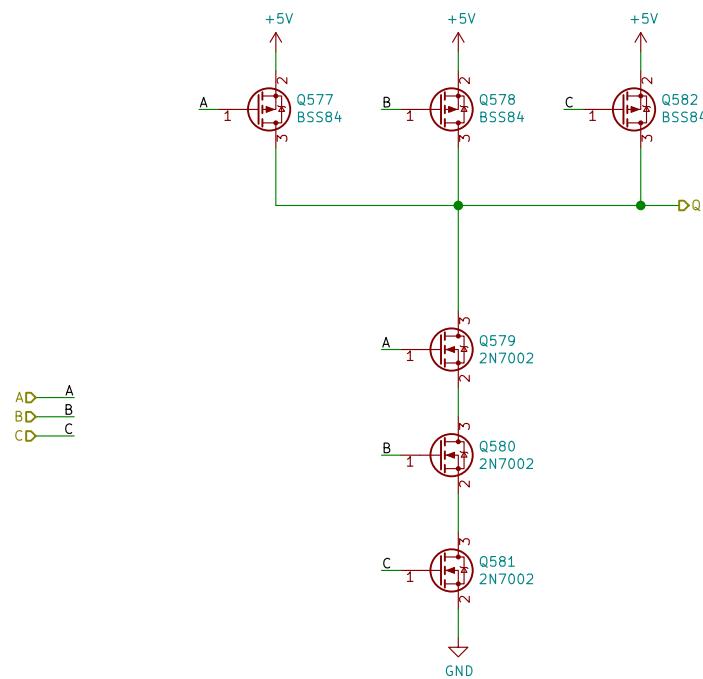
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 144/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P2/sheet5ED0E54F/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

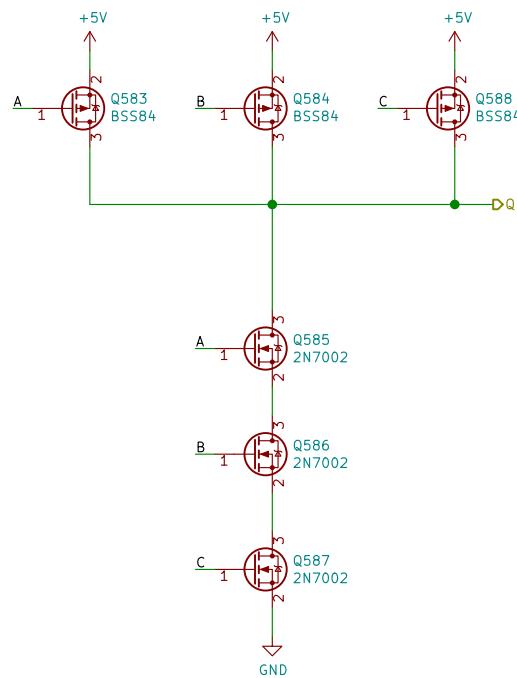
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 145/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/Win\_Detect\_P2/sheet5ED0F769/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

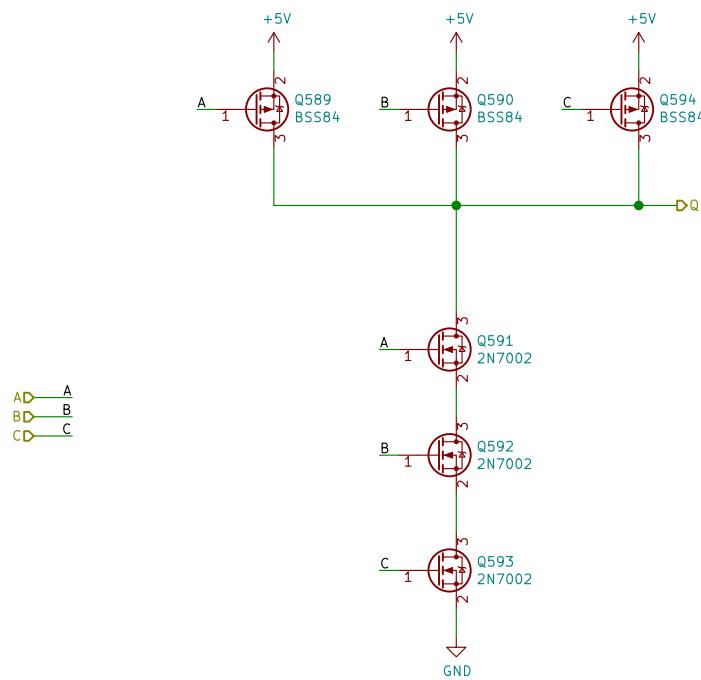
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 146/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /EndState\_Detect/Win\_Detect\_P2/sheet5ED0F76B/

File: Gate\_NAND3in.sch

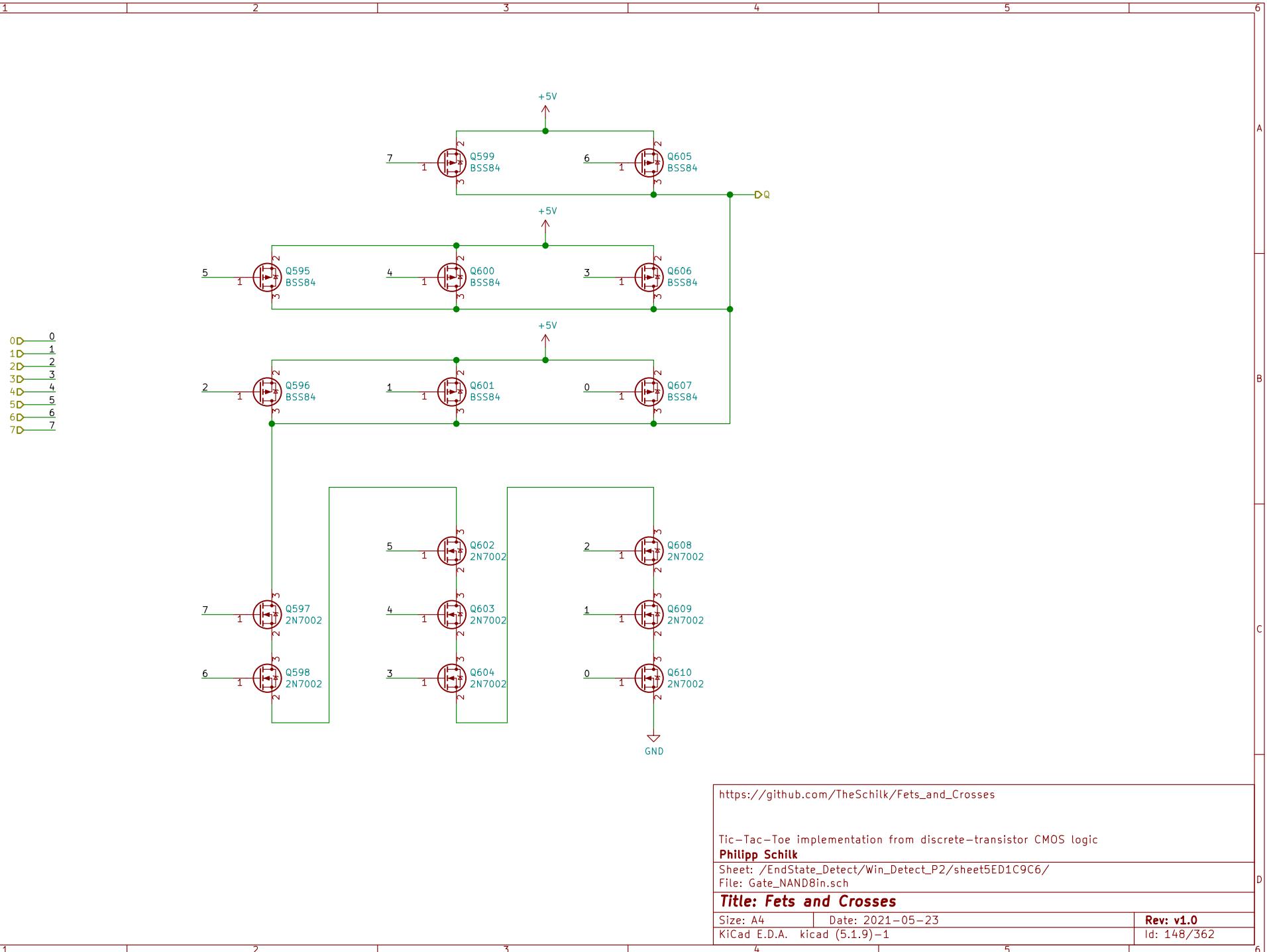
**Title: Fets and Crosses**

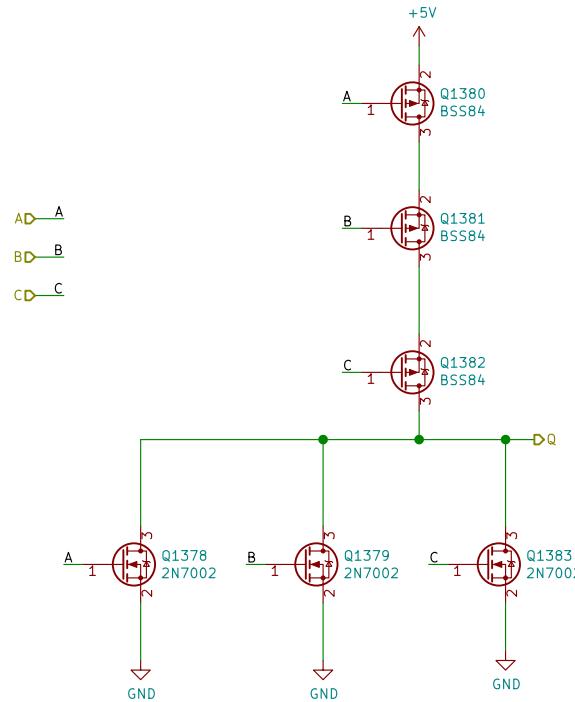
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 147/362





[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /EndState\_Detect/sheet5F618C3B/

File: Gate\_NOR3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 149/362

A

B

C

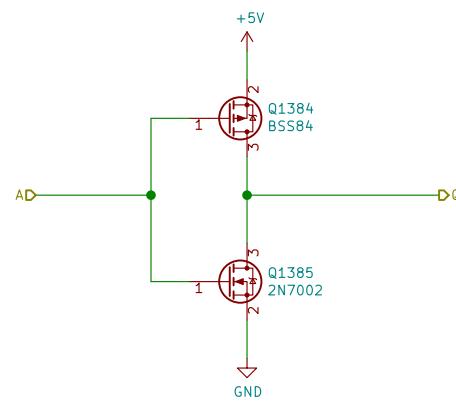
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /EndState\_Detect/sheet5F619E8D/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

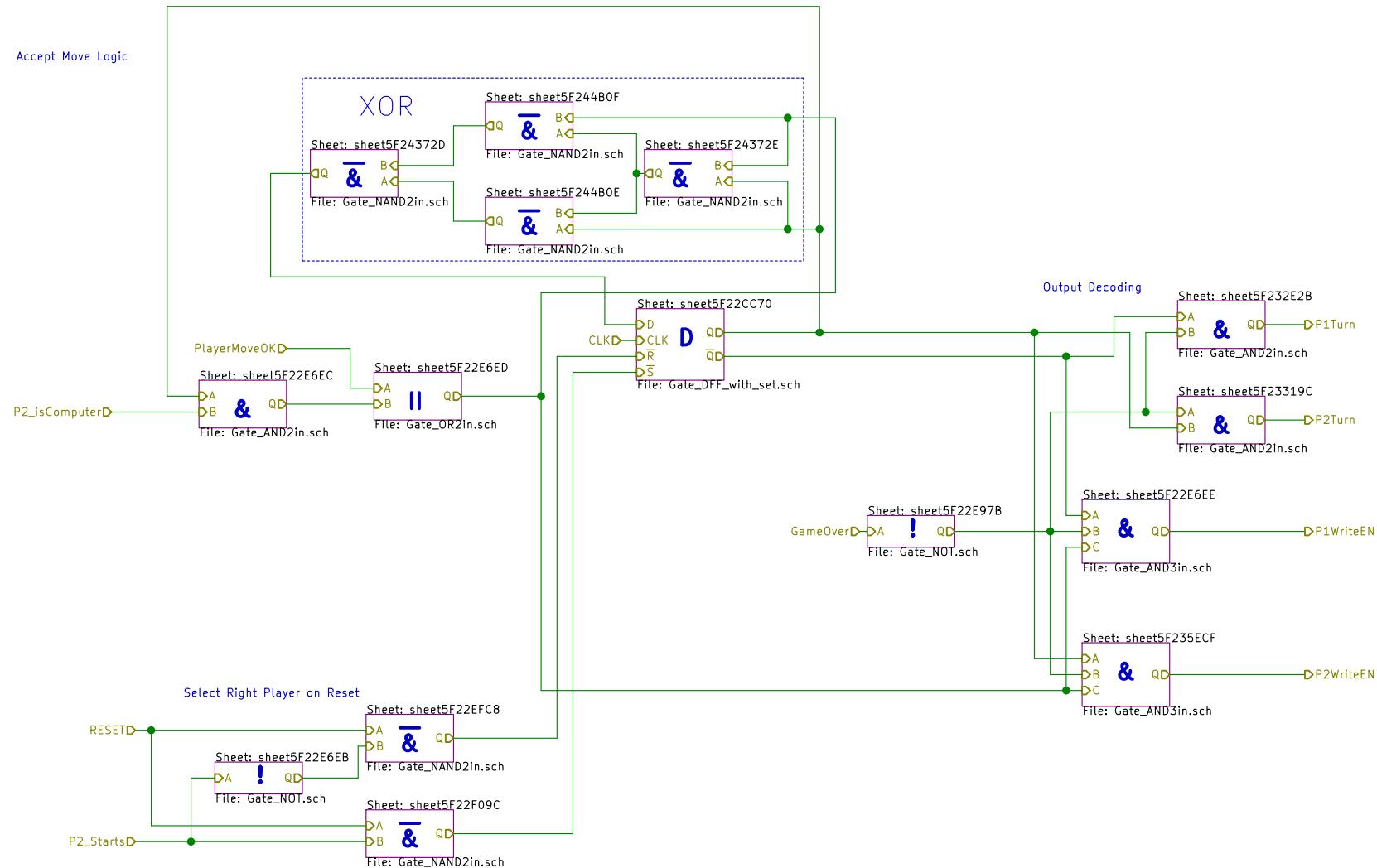
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 150/362

## Accept Move Logic



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
Philipp Schilk  
Sheet: /StateMaschine/  
File: StateMaschine.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 | Rev: v1.0        |

|             |
|-------------|
| Id: 151/362 |
|-------------|

A

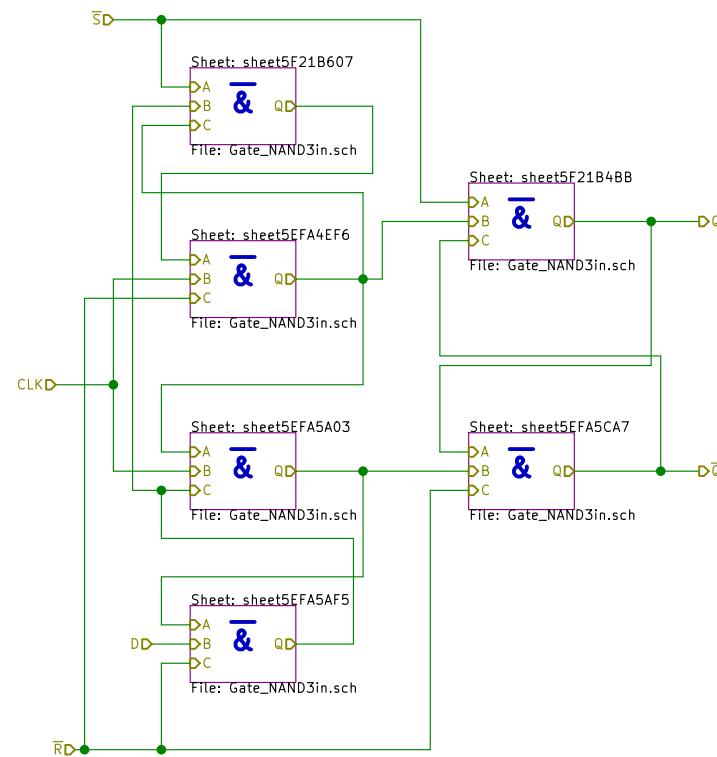
A

B

B

C

C



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

Sheet: /StateMaschine/sheet5F22CC70/  
File: Gate\_DFF\_with\_set.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 152/362

A

A

B

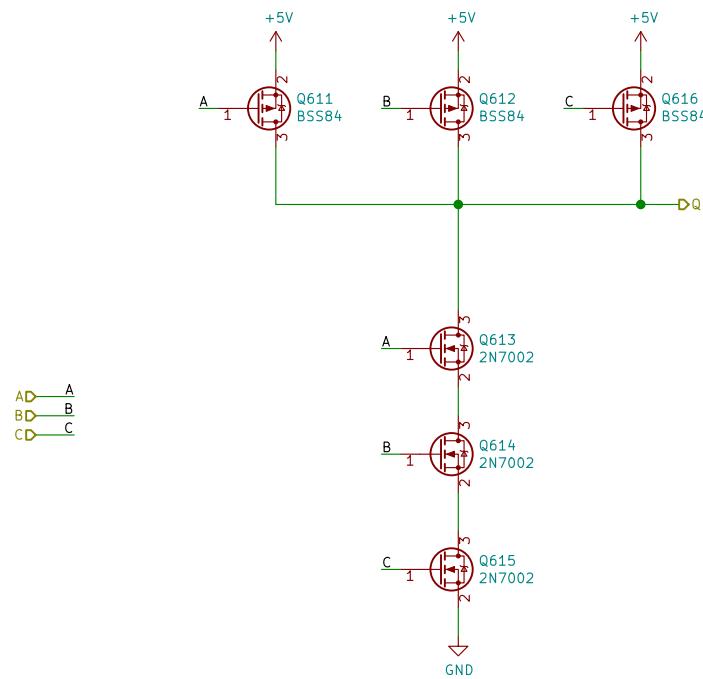
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F22CC70/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 153/362

A

A

B

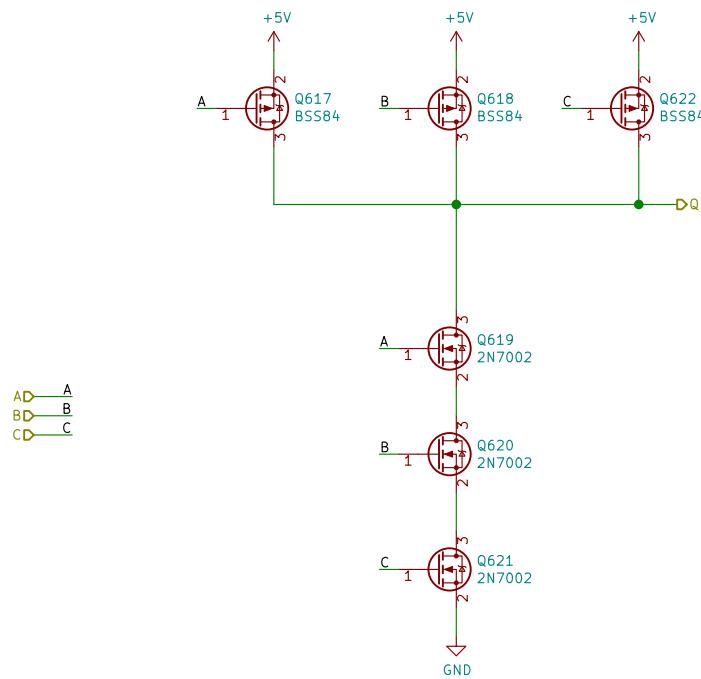
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F22CC70/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 154/362

A

A

B

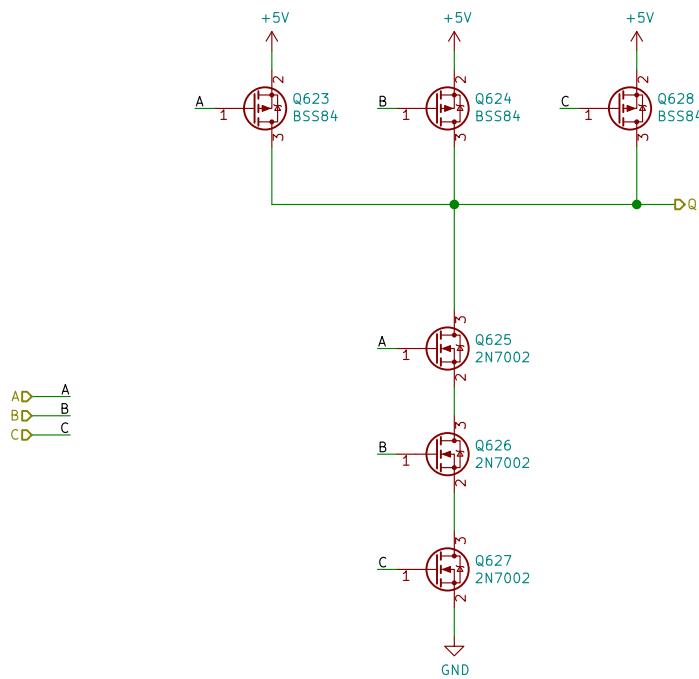
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F22CC70/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

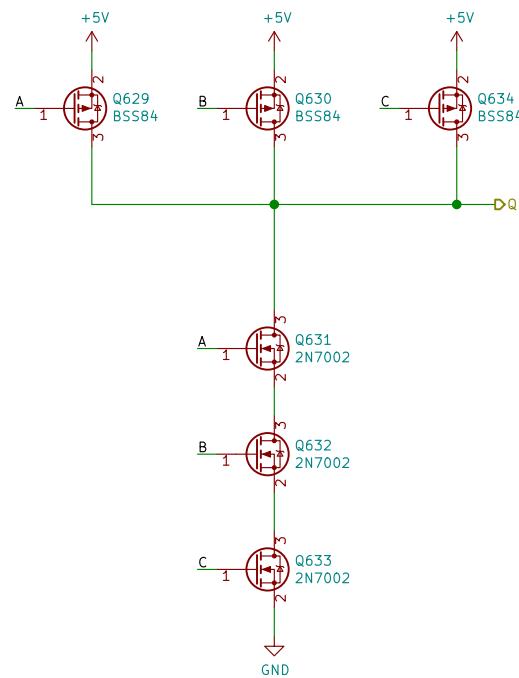
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 155/362

A



B

A  
B  
C

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F22CC70/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

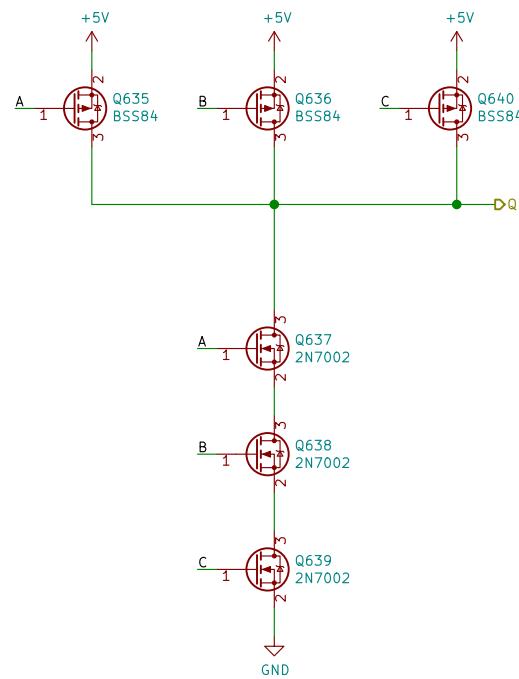
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 156/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F22CC70/sheet5F21B4BB/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 157/362

A

A

B

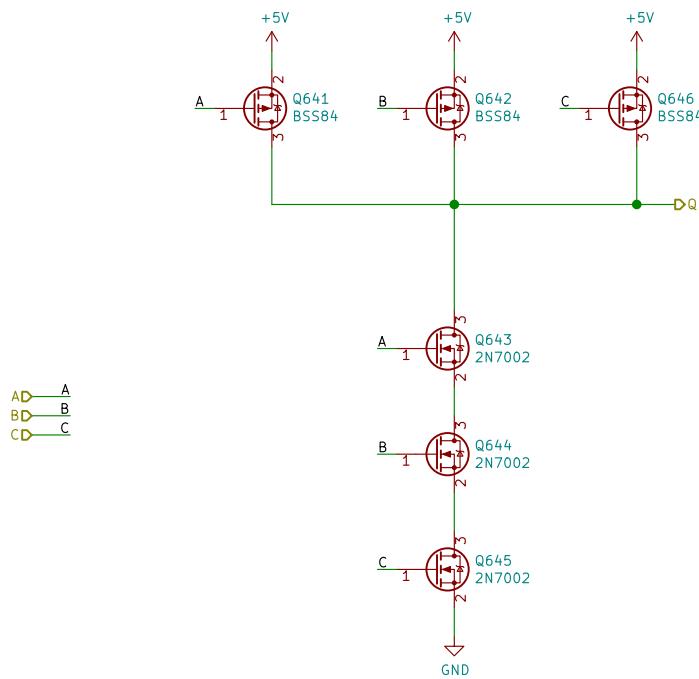
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F22CC70/sheet5F21B607/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 158/362

A

B

C

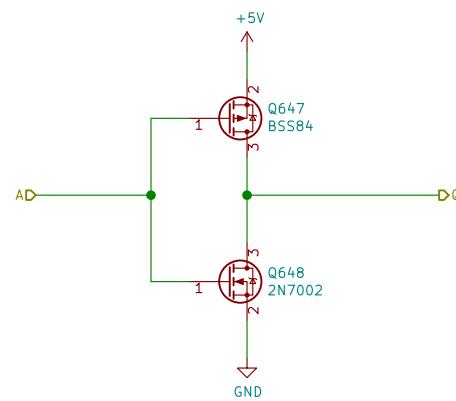
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F22E6EB/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 159/362

A

A

B

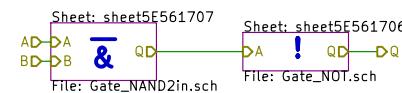
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
Philipp Schilk  
Sheet: /StateMaschine/sheet5F22E6EC/  
File: Gate\_AND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 160/362

A

B

C

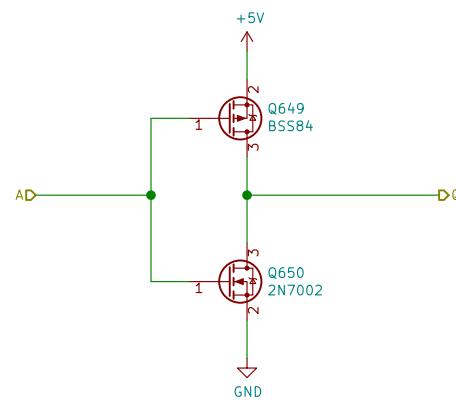
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F22E6EC/sheet5E561706/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

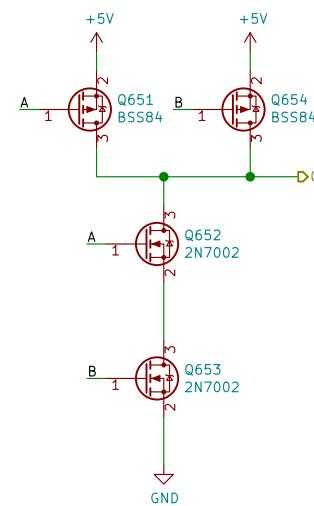
Id: 161/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F22E6EC/sheet5E561707/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 162/362

A

A

B

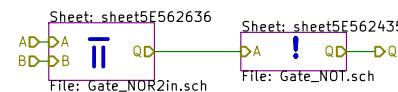
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /StateMaschine/sheet5F22E6ED/  
File: Gate\_OR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 163/362

A

B

C

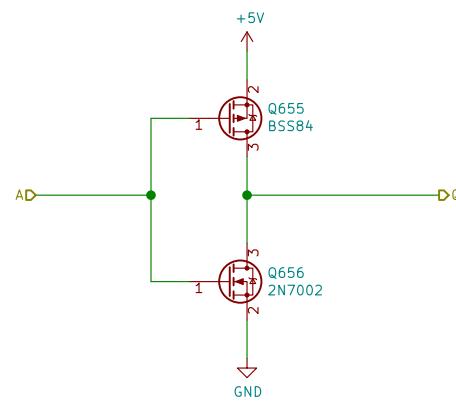
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F22E6ED/sheet5E562435/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 164/362

A

A

B

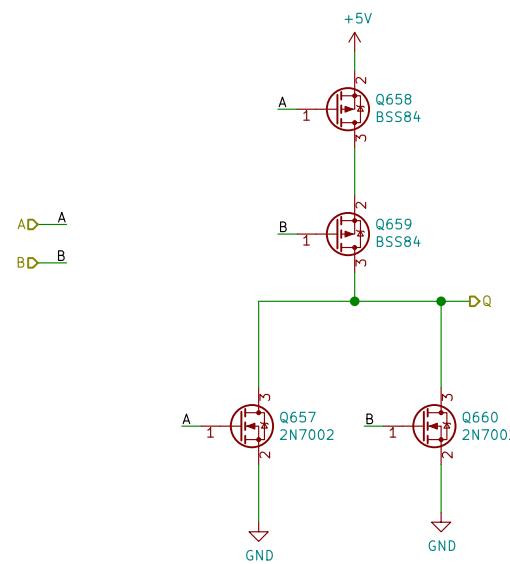
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F22E6ED/sheet5E562636/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 165/362

A

B

C

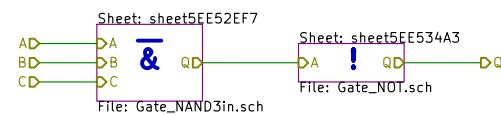
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F22E6EE/

File: Gate\_AND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 166/362

A

A

B

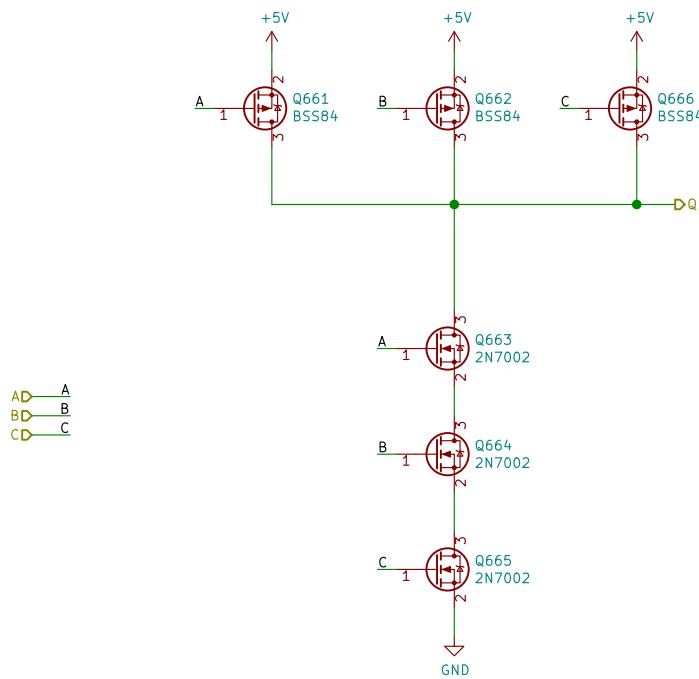
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F22E6EE/sheet5EE52EF7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 167/362

A

B

C

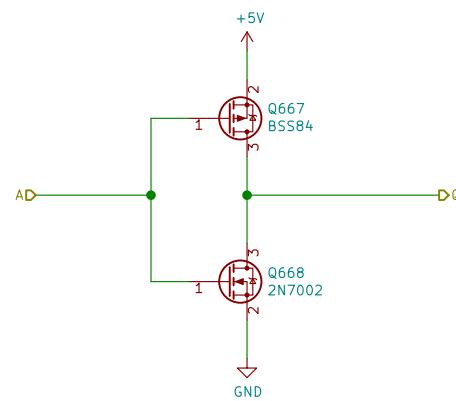
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F22E6EE/sheet5EE534A3/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 168/362

A

B

C

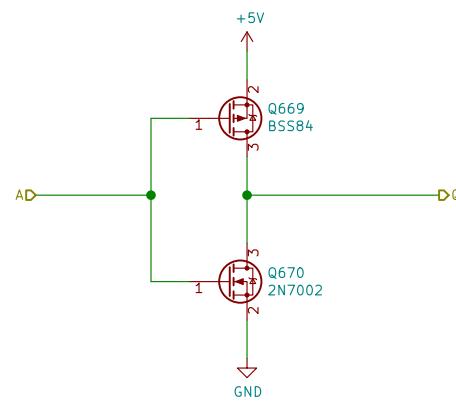
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F22E97B/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

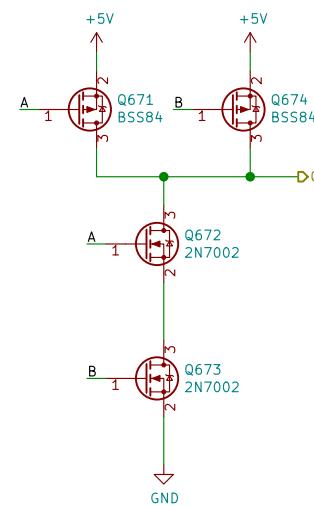
Id: 169/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /StateMaschine/sheet5F22EFC8/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

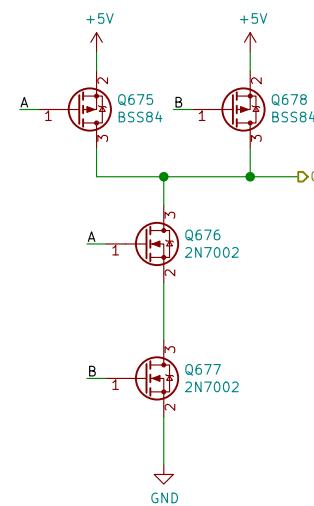
|             |
|-------------|
| Rev: v1.0   |
| Id: 170/362 |

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F22F09C/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 171/362

A

A

B

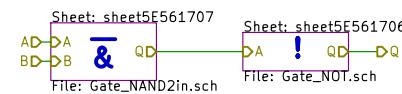
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
Philipp Schilk  
Sheet: /StateMaschine/sheet5F232E2B/  
File: Gate\_AND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 172/362

A

B

C

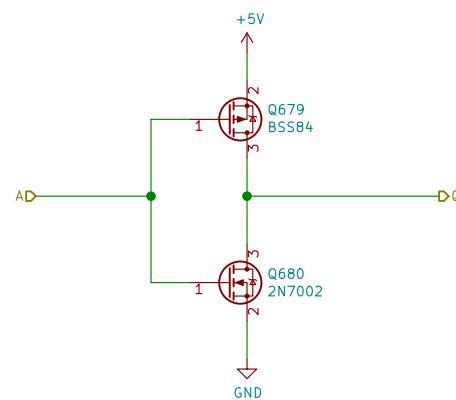
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F232E2B/sheet5E561706/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

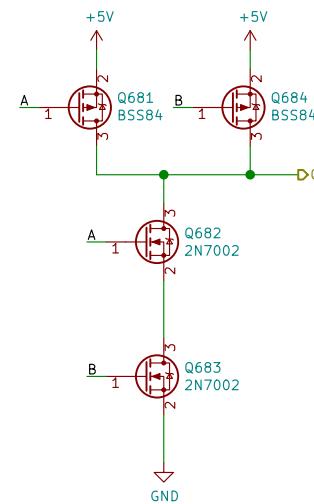
Id: 173/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F232E2B/sheet5E561707/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 174/362

A

A

B

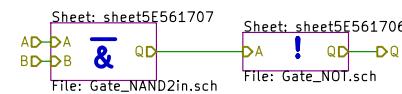
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F23319C/

File: Gate\_AND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 175/362

A

B

C

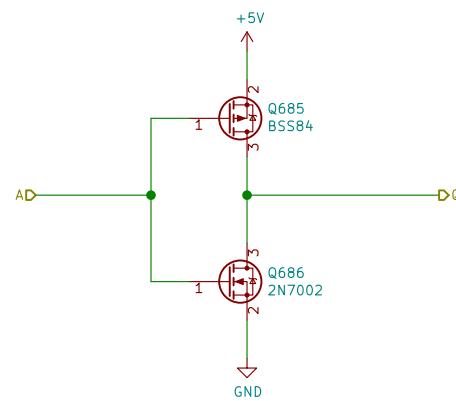
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F23319C/sheet5E561706/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

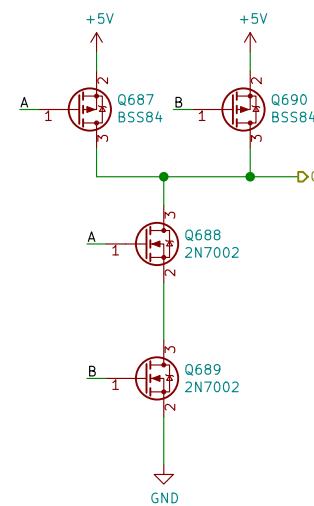
Id: 176/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F23319C/sheet5E561707/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 177/362

A

B

C

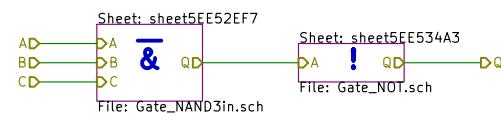
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /StateMaschine/sheet5F235ECF/  
 File: Gate\_AND3in.sch

### Title: Fets and Crosses

|                              |                  |             |
|------------------------------|------------------|-------------|
| Size: A4                     | Date: 2021-05-23 | Rev: v1.0   |
| KiCad E.D.A. kicad (5.1.9)-1 |                  | Id: 178/362 |

A

A

B

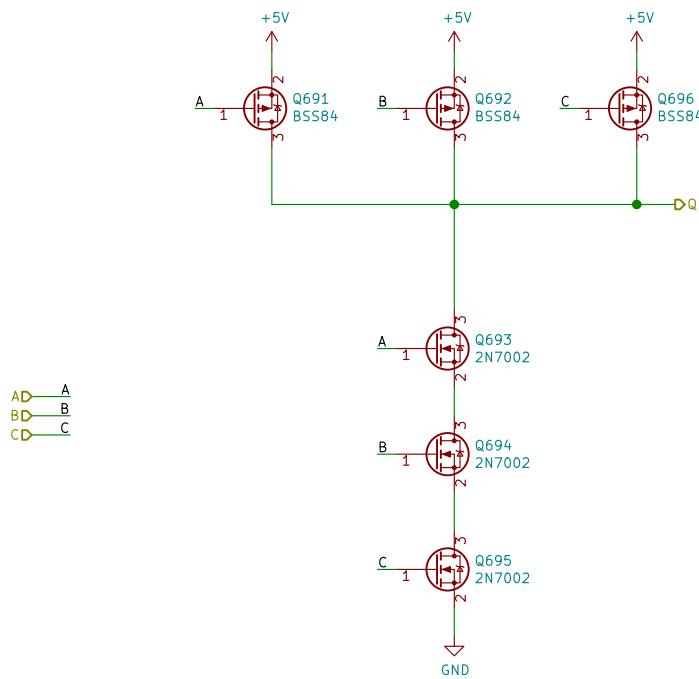
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /StateMaschine/sheet5F235ECF/sheet5EE52EF7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 179/362

A

B

C

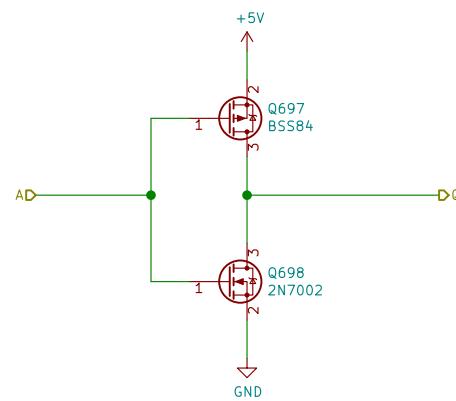
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /StateMaschine/sheet5F235ECF/sheet5EE534A3/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

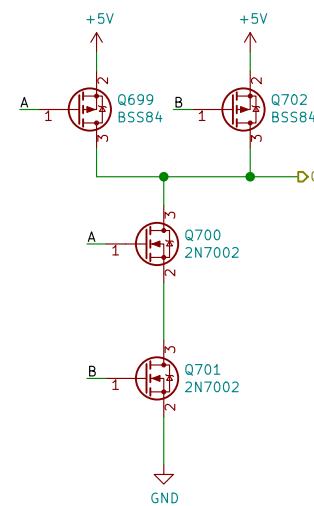
Id: 180/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /StateMaschine/sheet5F24372D/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

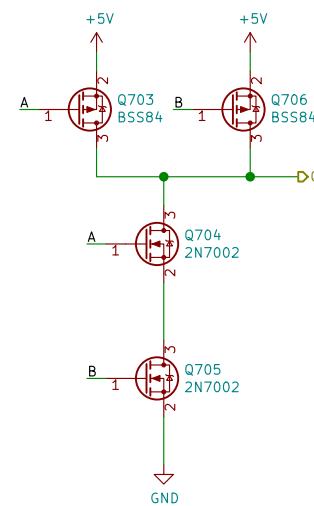
|             |
|-------------|
| Rev: v1.0   |
| Id: 181/362 |

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /StateMaschine/sheet5F24372E/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

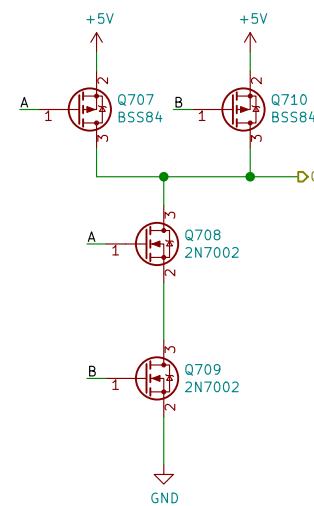
|             |
|-------------|
| Rev: v1.0   |
| Id: 182/362 |

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /StateMaschine/sheet5F244B0E/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

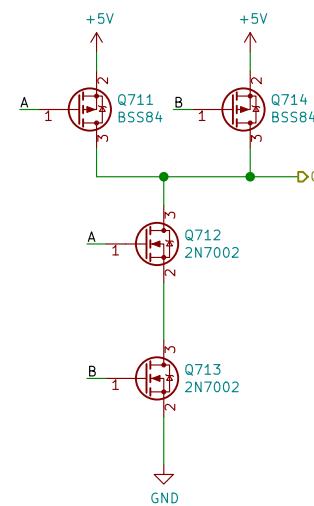
|             |
|-------------|
| Rev: v1.0   |
| Id: 183/362 |

A

B

C

D

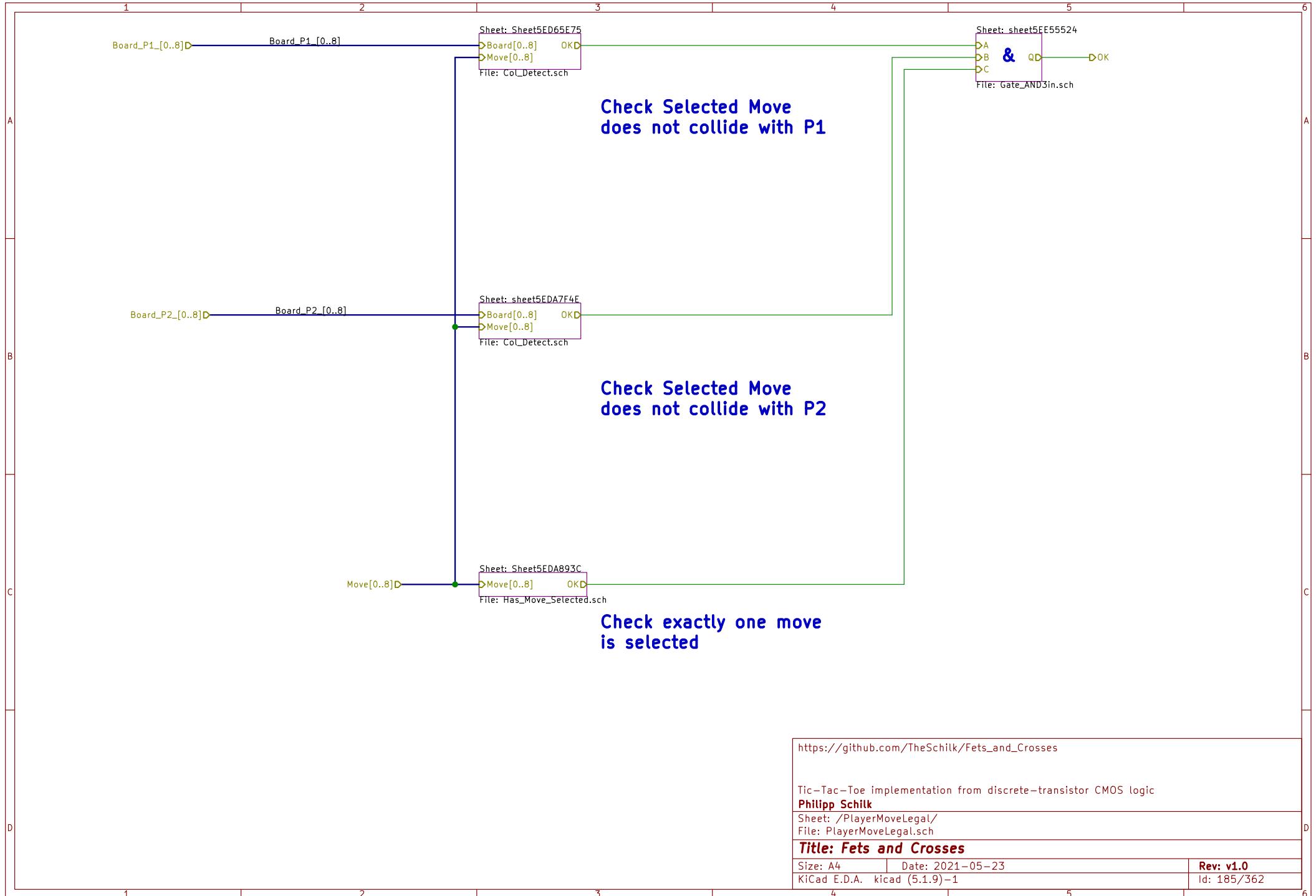
AD—A  
BD—B

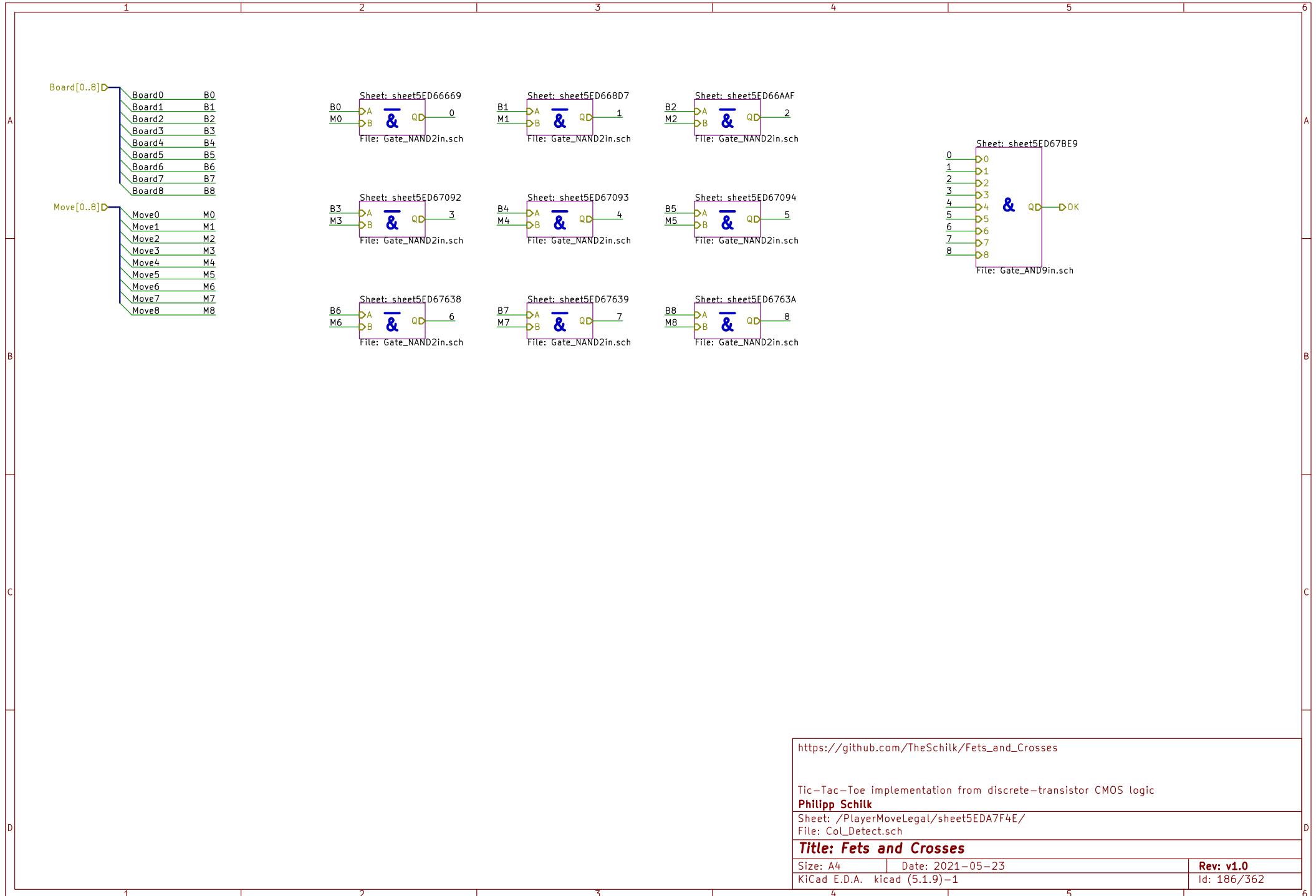
[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /StateMaschine/sheet5F244B0F/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 | Rev: v1.0        |
| Id: 184/362                  |                  |



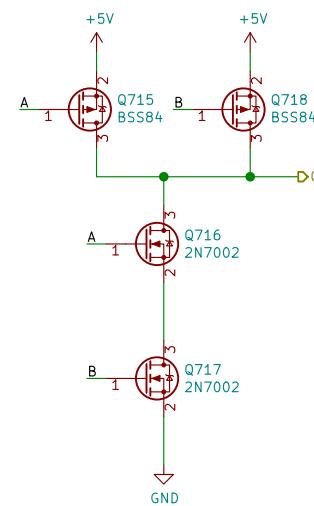


A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED66669/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

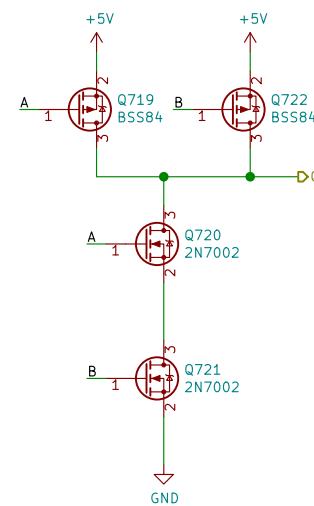
Id: 187/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED66AAF/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

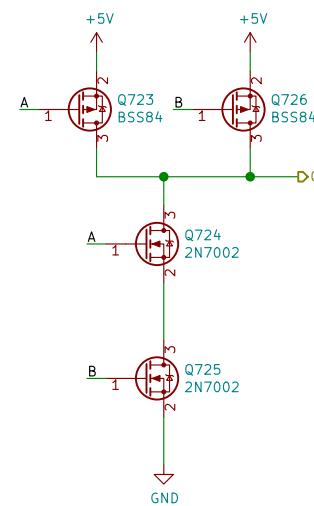
|             |
|-------------|
| Rev: v1.0   |
| Id: 188/362 |

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED67092/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

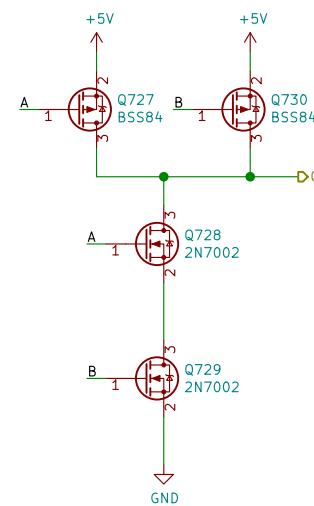
|             |
|-------------|
| Rev: v1.0   |
| Id: 189/362 |

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED67093/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

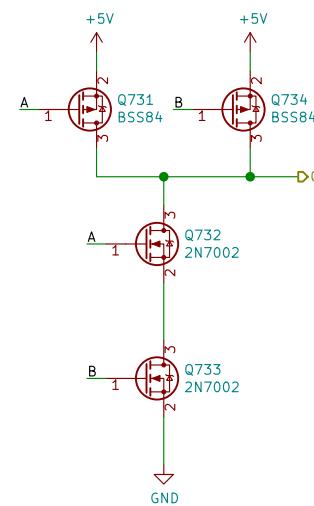
Id: 190/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED67094/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

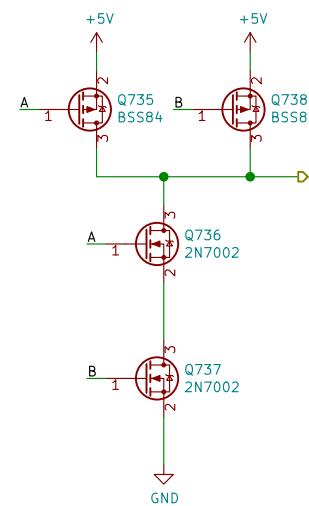
|             |
|-------------|
| Rev: v1.0   |
| Id: 191/362 |

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED67638/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

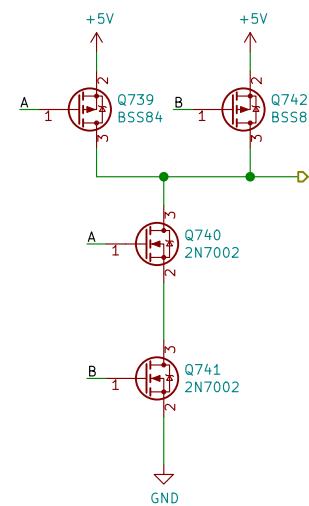
|             |
|-------------|
| Rev: v1.0   |
| Id: 192/362 |

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED67639/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

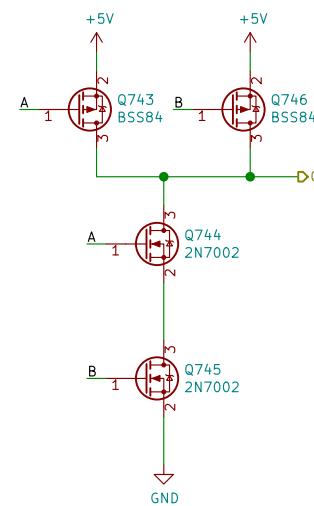
|             |
|-------------|
| Rev: v1.0   |
| Id: 193/362 |

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED6763A/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 194/362 |

A

A

B

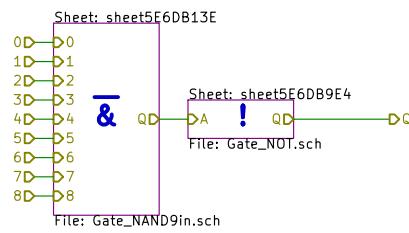
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED67BE9/  
 File: Gate\_AND9in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 195/362

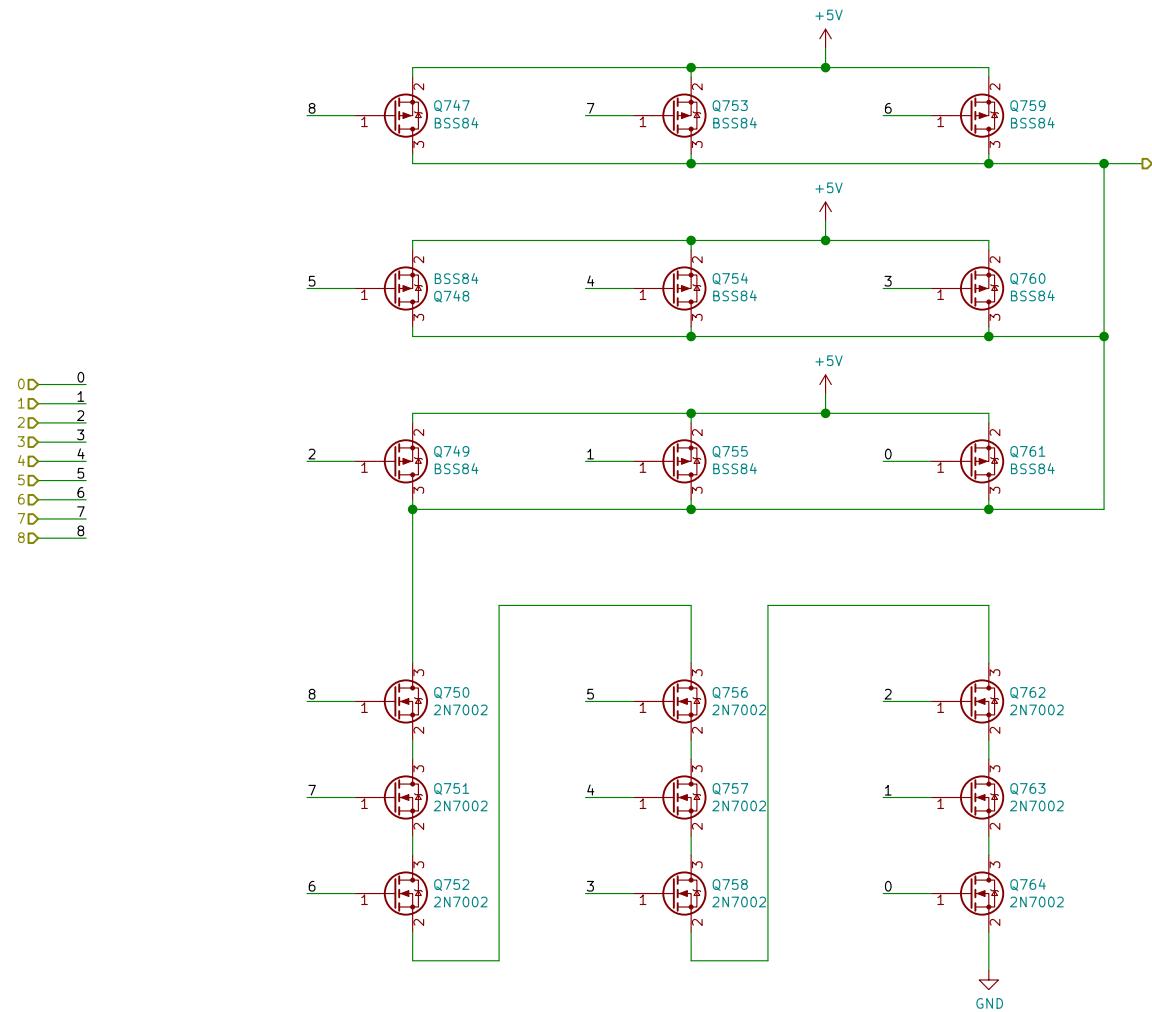
1 2 3 4 5 6

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED67BE9/sheet5E6DB13E/

File: Gate\_NAND9in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 196/362

1 2 3 4 5 6

A

B

C

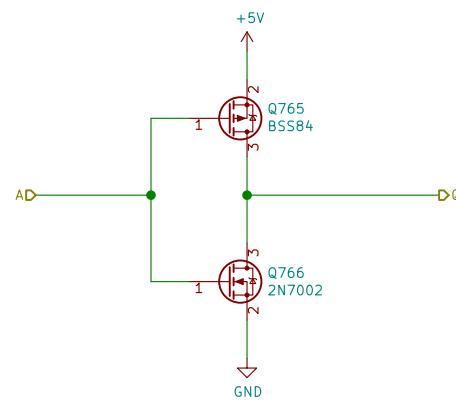
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED67BE9/sheet5E6DB9E4/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

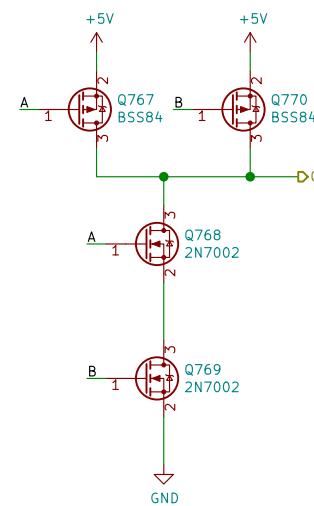
Id: 197/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/sheet5EDA7F4E/sheet5ED668D7/

File: Gate\_NAND2in.sch

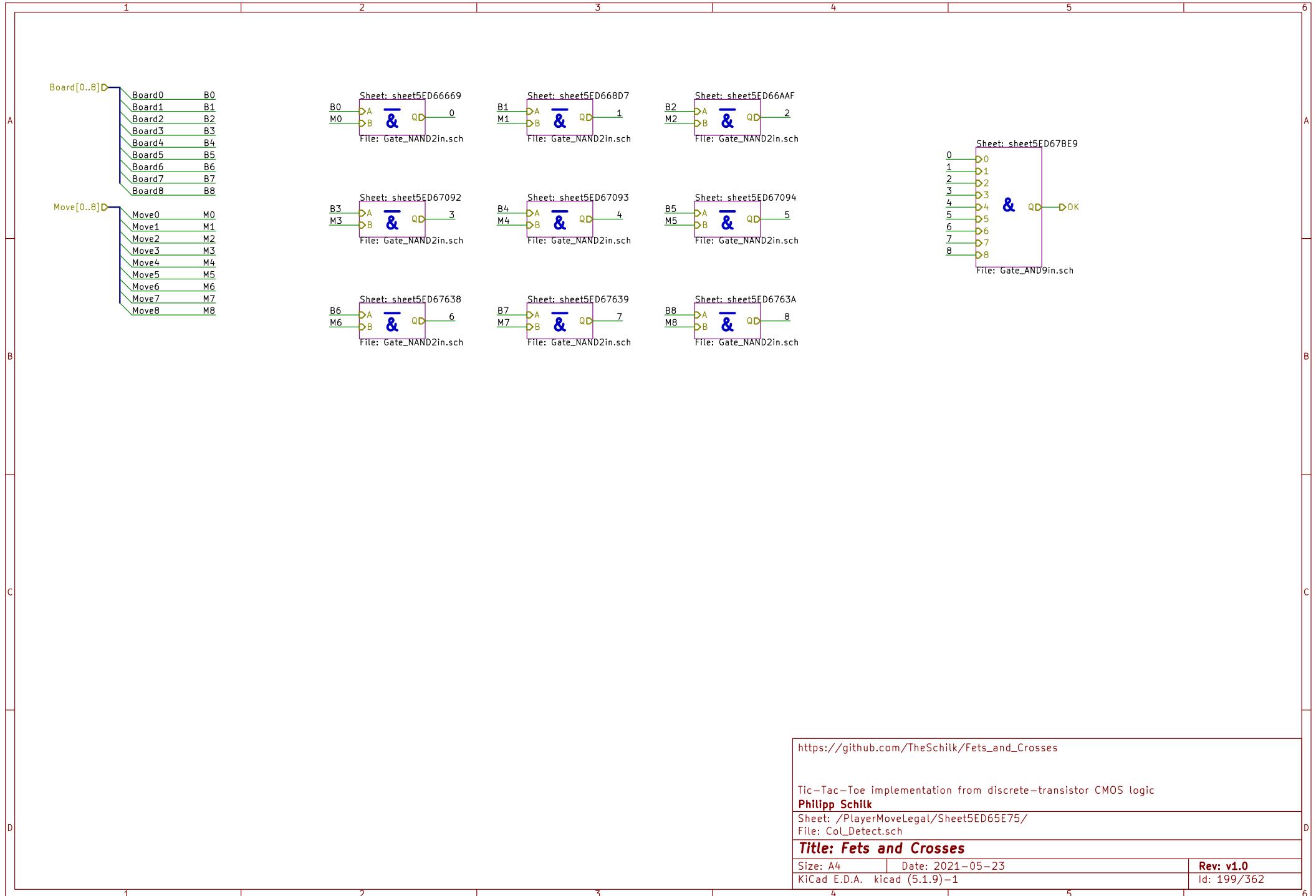
**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 198/362

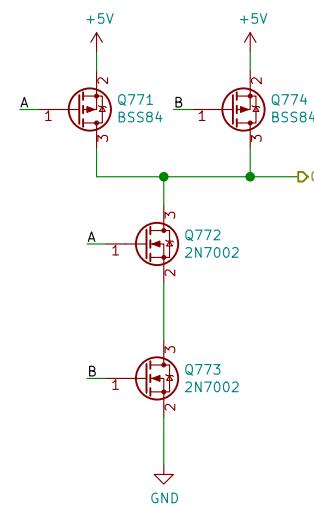


A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED66669/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 | Rev: v1.0        |

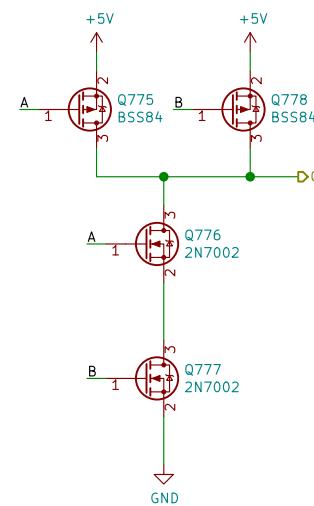
|             |
|-------------|
| Id: 200/362 |
|-------------|

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED66AAF/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 | Rev: v1.0        |

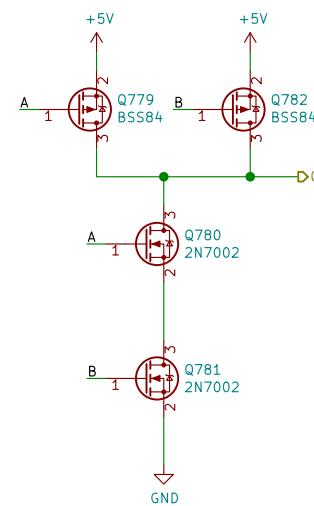
|             |
|-------------|
| Id: 201/362 |
|-------------|

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED67092/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
 KiCad E.D.A. kicad (5.1.9)-1

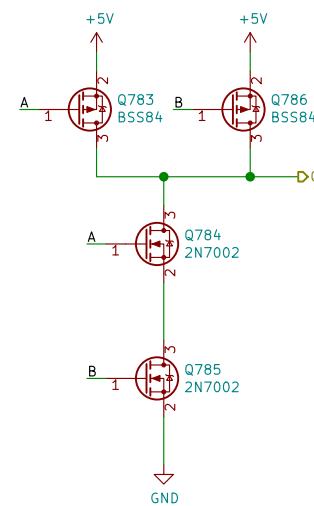
Rev: v1.0  
 Id: 202/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED67093/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

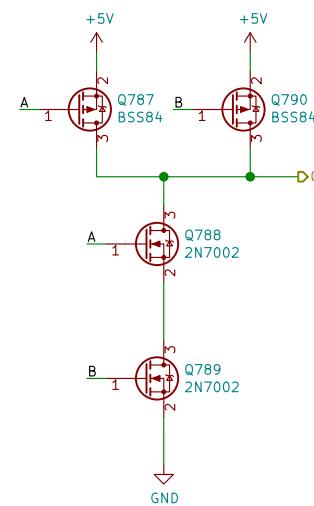
|             |
|-------------|
| Rev: v1.0   |
| Id: 203/362 |

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED67094/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

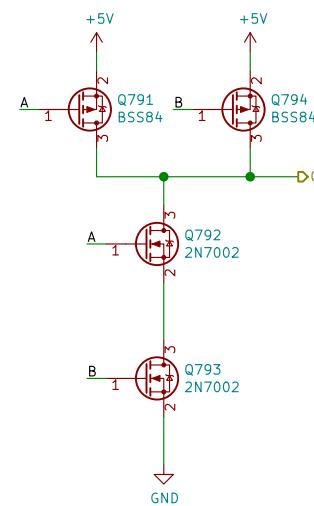
|             |
|-------------|
| Rev: v1.0   |
| Id: 204/362 |

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED67638/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 | Rev: v1.0        |

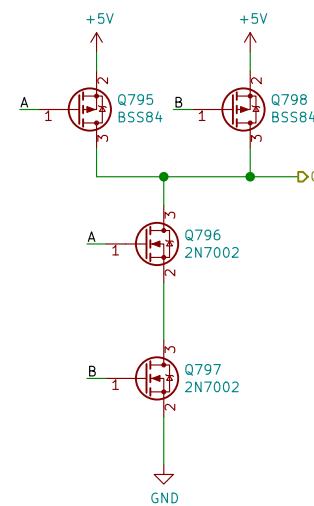
|             |
|-------------|
| Id: 205/362 |
|-------------|

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED67639/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

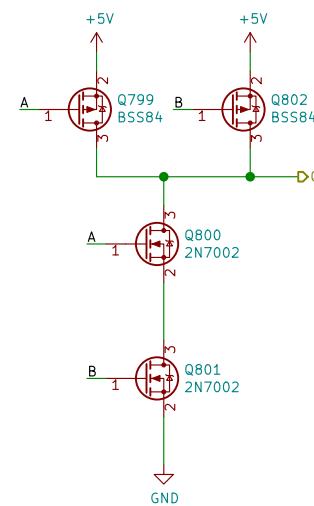
|             |
|-------------|
| Rev: v1.0   |
| Id: 206/362 |

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED6763A/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 207/362 |

A

A

B

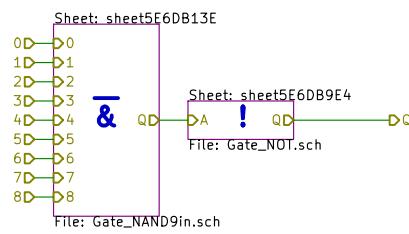
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED67BE9/  
 File: Gate\_AND9in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 208/362

A

B

C

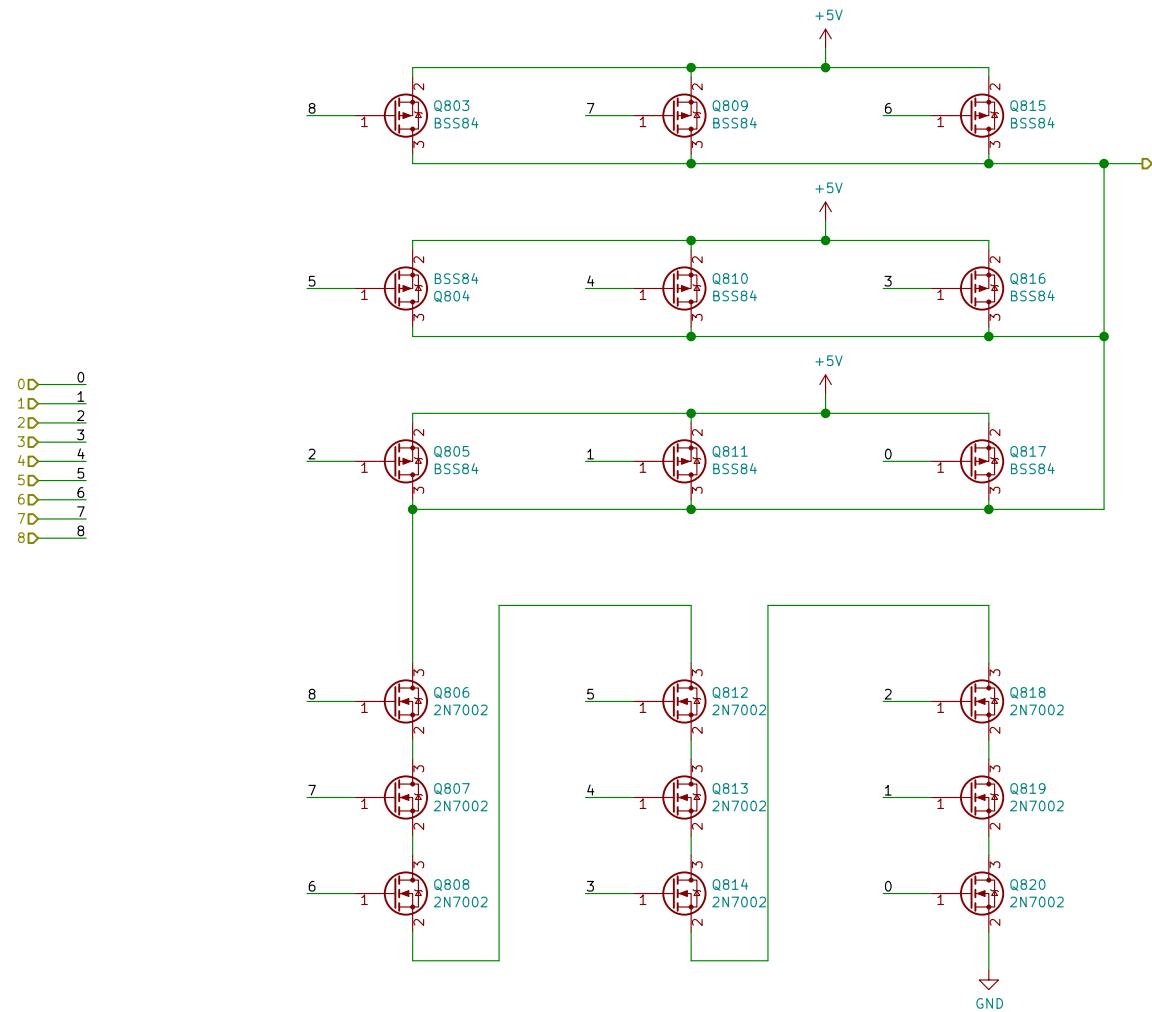
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED67BE9/sheet5E6DB13E/

File: Gate\_NAND9in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 209/362

A

B

C

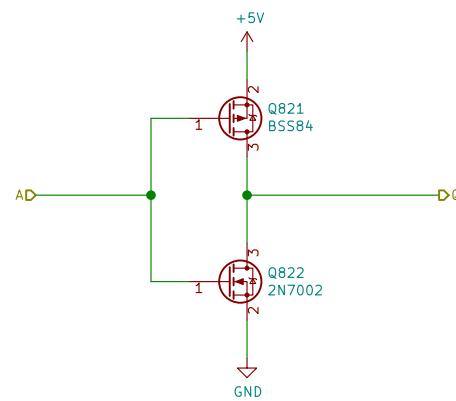
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED67BE9/sheet5E6DB9E4/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

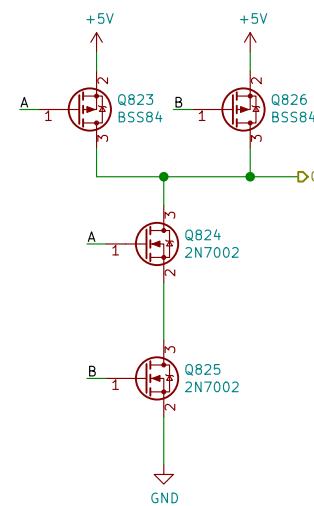
Id: 210/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5ED65E75/sheet5ED668D7/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 211/362 |

A

B

C

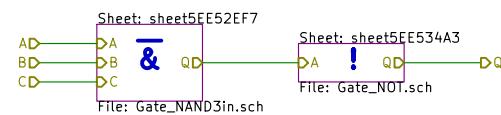
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/sheet5EE55524/  
File: Gate\_AND3in.sch

**Title: Fets and Crosses**

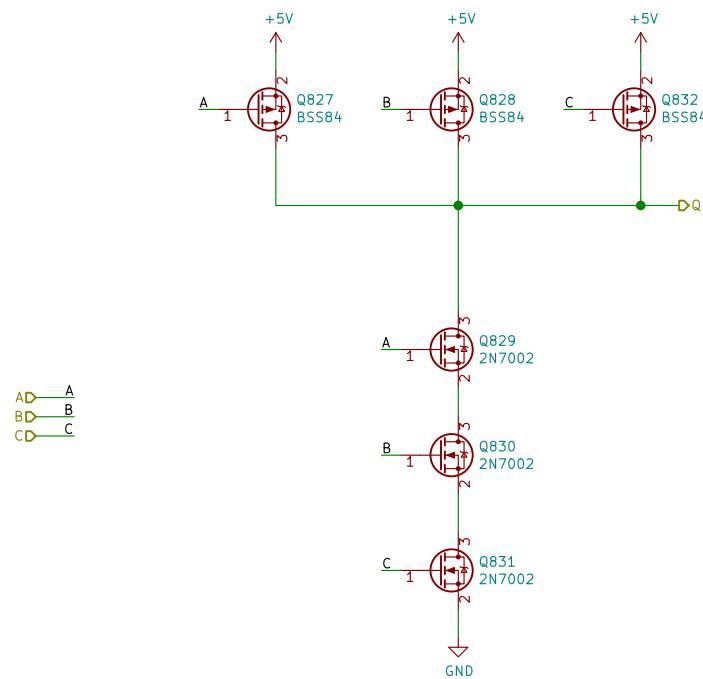
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 212/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/sheet5EE55524/sheet5EE52EF7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 213/362

A

B

C

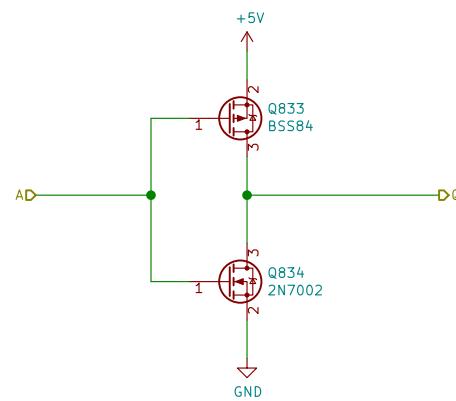
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/sheet5EE55524/sheet5EE534A3/

File: Gate\_NOT.sch

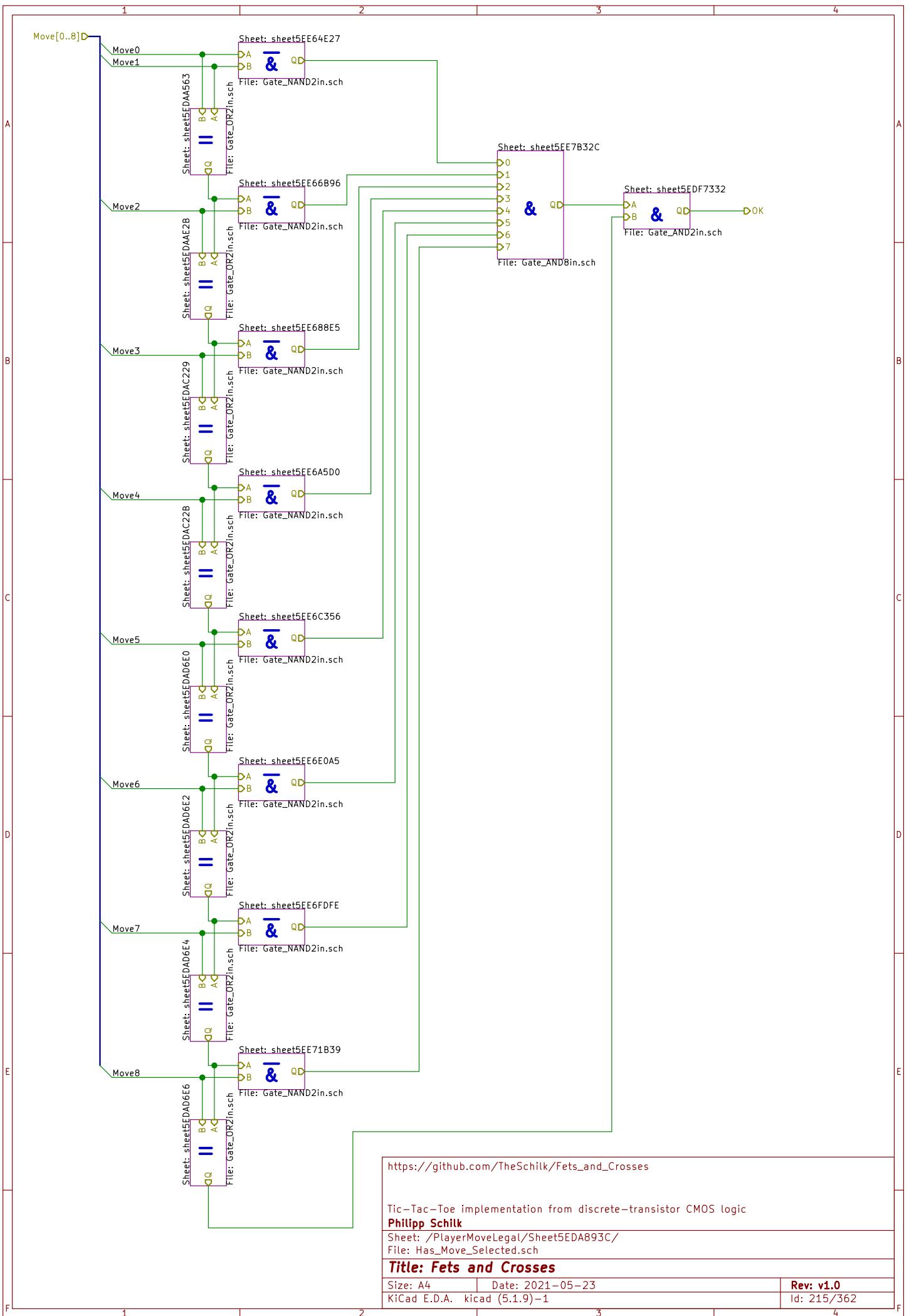
**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 214/362



A

A

B

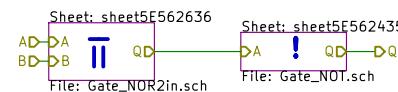
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAAE2B/  
File: Gate\_OR2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 216/362 |

A

B

C

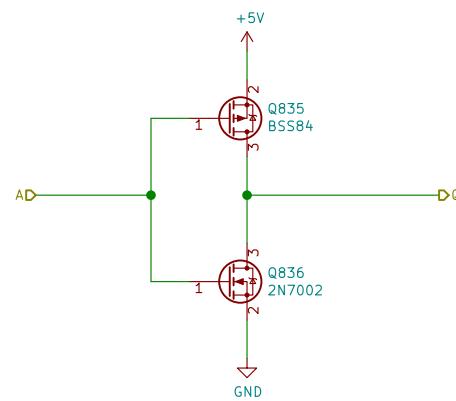
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAAE2B/sheet5E562435/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 217/362

A

A

B

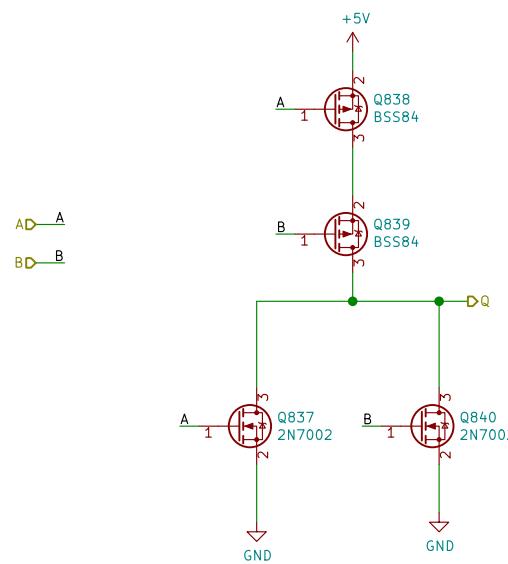
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAAE2B/sheet5E562636/  
File: Gate\_NOR2in.sch**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 218/362

A

A

B

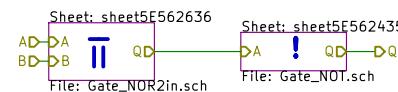
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAC229/  
File: Gate\_OR2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|                  |
|------------------|
| <b>Rev: v1.0</b> |
| Id: 219/362      |

A

B

C

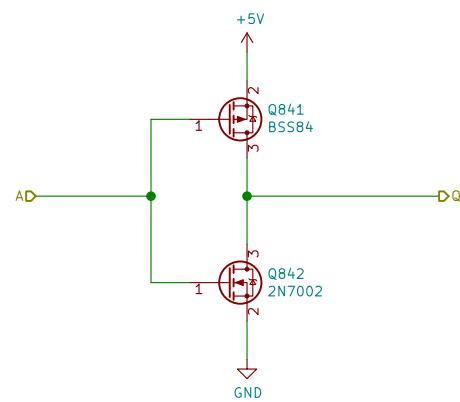
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAC229/sheet5E562435/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 220/362

A

A

B

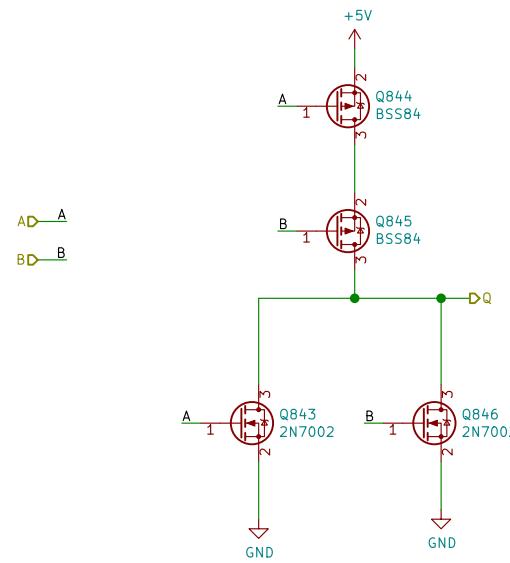
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAC229/sheet5E562636/  
File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 221/362

A

A

B

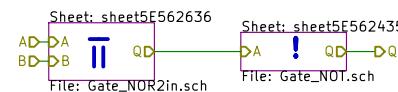
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAC22B/  
File: Gate\_OR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 222/362

A

B

C

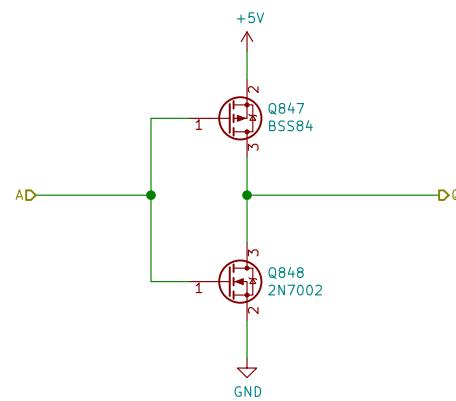
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAC22B/sheet5E562435/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 223/362

A

A

B

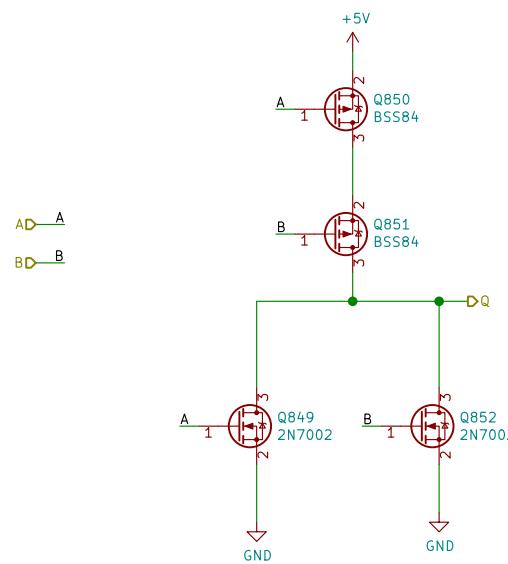
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAC22B/sheet5E562636/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 224/362

A

A

B

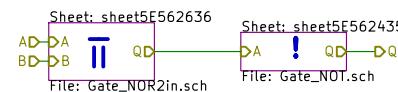
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E0/  
File: Gate\_OR2in.sch**Title: Fets and Crosses**Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1Rev: v1.0  
Id: 225/362

A

B

C

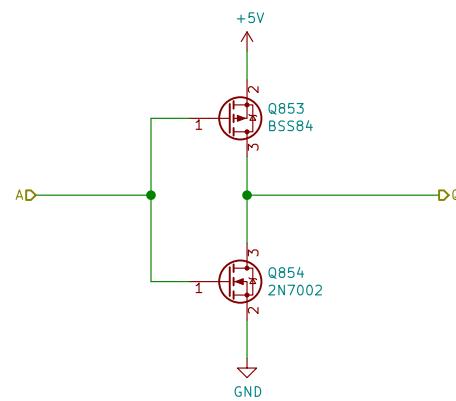
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E0/sheet5E562435/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 226/362

A

A

B

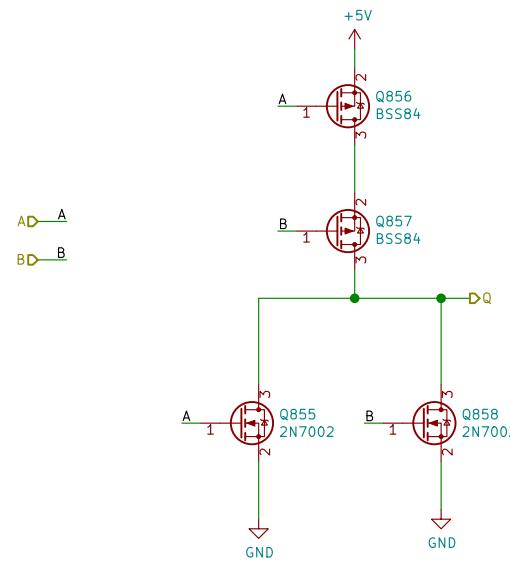
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E0/sheet5E562636/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 227/362

A

A

B

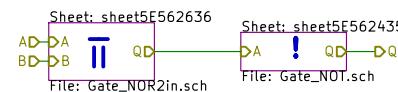
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E2/  
File: Gate\_OR2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 228/362 |

A

B

C

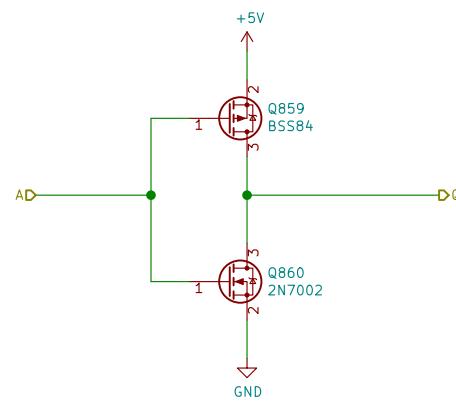
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E2/sheet5E562435/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 229/362

A

A

B

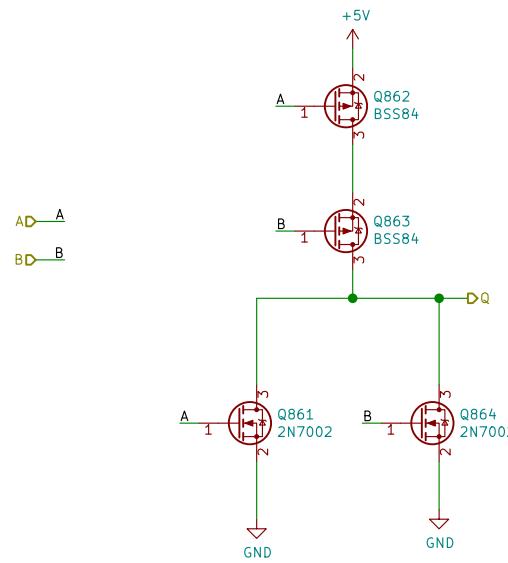
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E2/sheet5E562636/  
File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 230/362

A

A

B

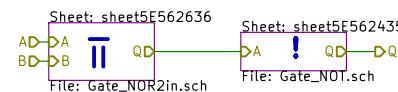
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E4/  
File: Gate\_OR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 231/362

A

B

C

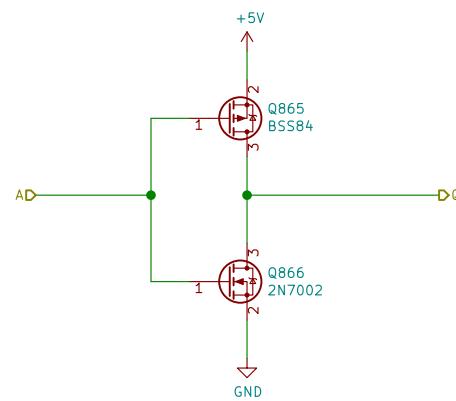
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E4/sheet5E562435/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 232/362

A

A

B

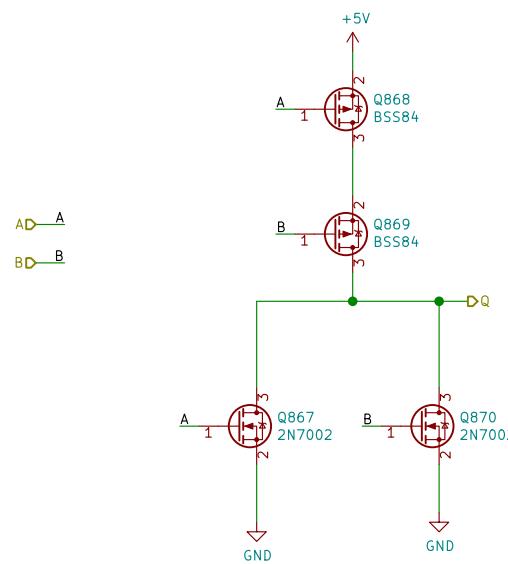
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E4/sheet5E562636/  
File: Gate\_NOR2in.sch**Title: Fets and Crosses**Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1Rev: v1.0  
Id: 233/362

A

A

B

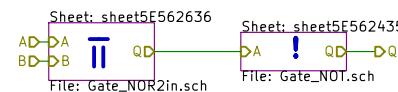
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E6/  
File: Gate\_OR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 234/362

A

B

C

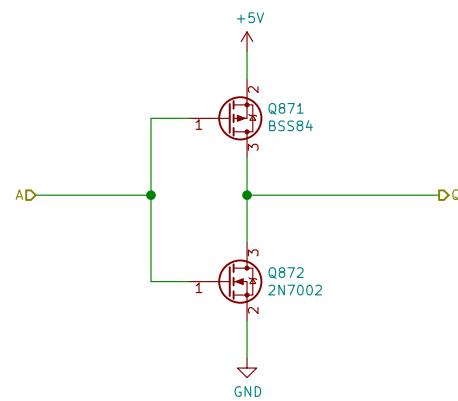
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E6/sheet5E562435/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 235/362

A

A

B

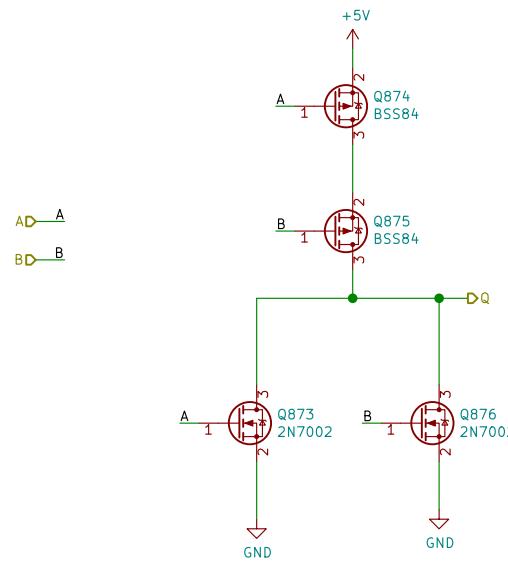
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAD6E6/sheet5E562636/

File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 236/362

A

A

B

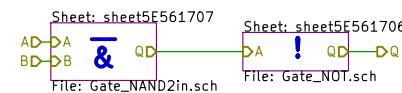
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDF7332/  
File: Gate\_AND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 237/362

A

B

C

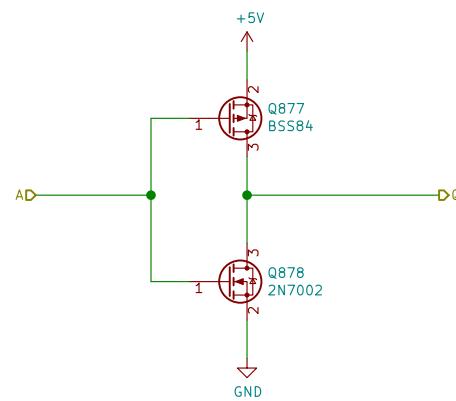
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDF7332/sheet5E561706/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

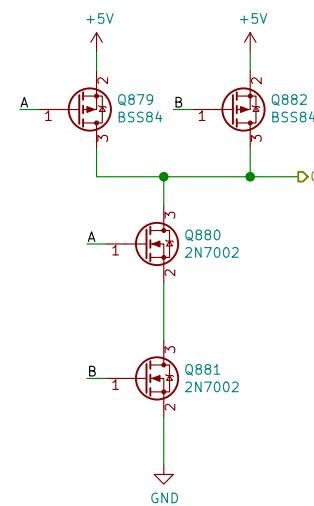
Id: 238/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDF7332/sheet5E561707/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

Size: A4 Date: 2021-05-23  
 KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
 Id: 239/362

A

A

B

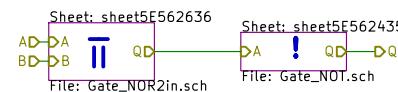
B

C

C

D

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAA563/  
File: Gate\_OR2in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 240/362 |

A

B

C

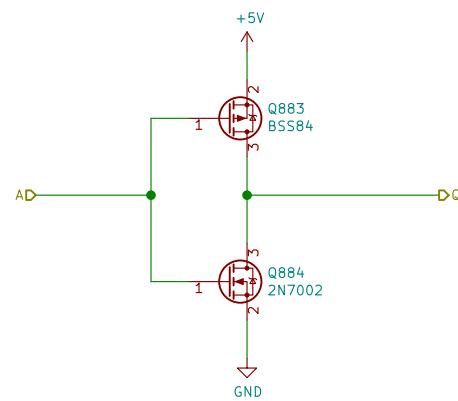
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAA563/sheet5E562435/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 241/362

A

A

B

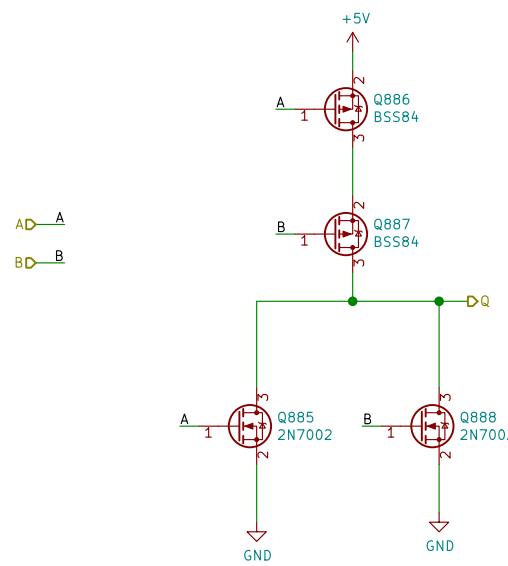
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EDAA563/sheet5E562636/  
File: Gate\_NOR2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

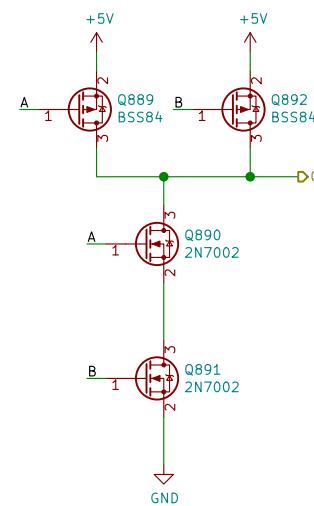
Id: 242/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE64E27/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

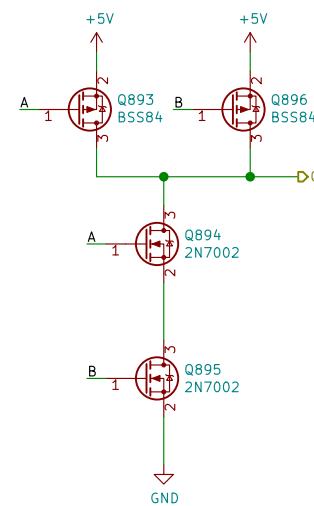
Id: 243/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE66B96/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

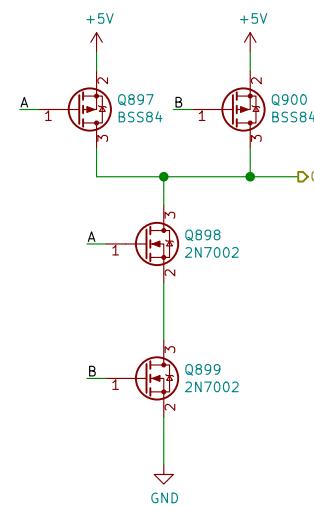
Id: 244/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE688E5/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

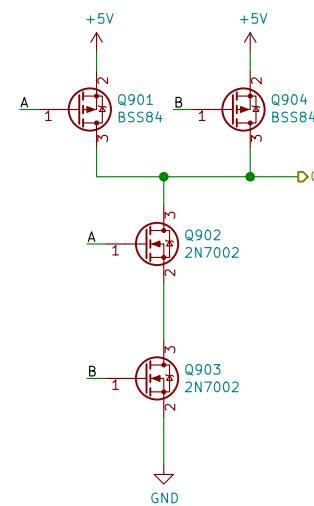
Id: 245/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE6A5D0/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

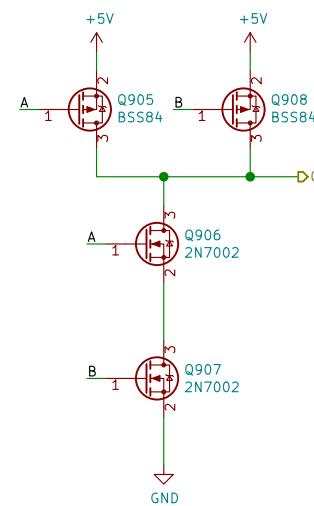
Id: 246/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE6C356/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

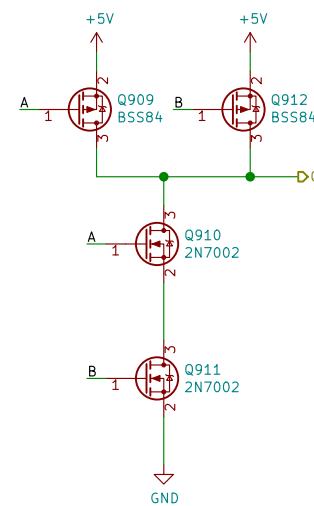
Id: 247/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE6E0A5/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

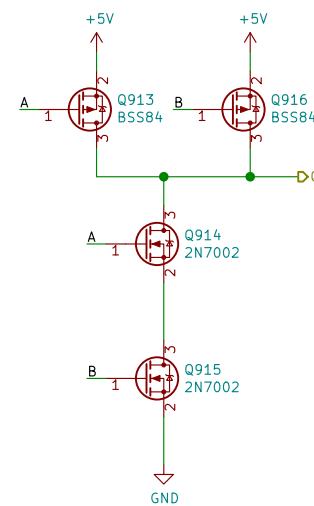
Id: 248/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE6FDDE/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

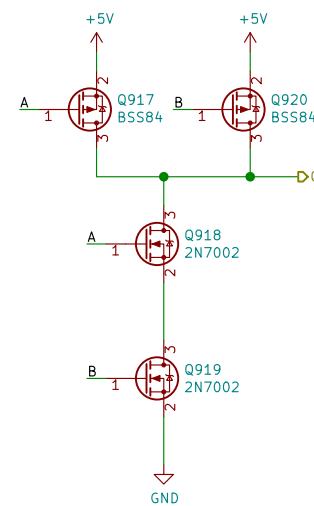
|             |
|-------------|
| Rev: v1.0   |
| Id: 249/362 |

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE71B39/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 250/362

A

A

B

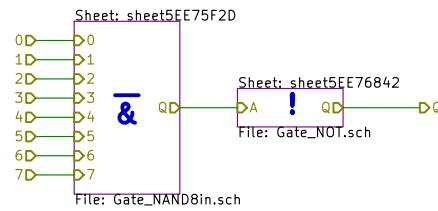
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

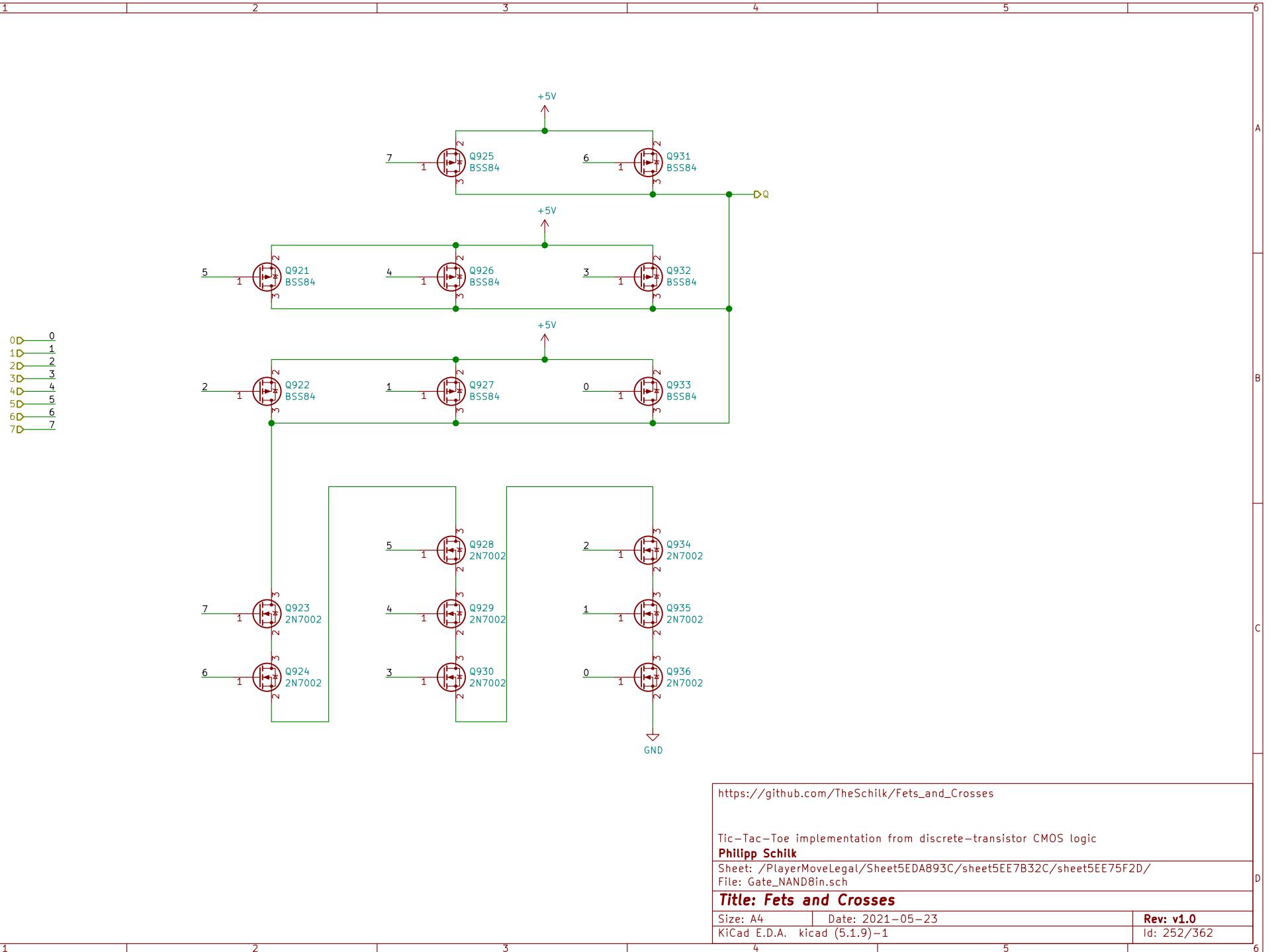
Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE7B32C/  
File: Gate\_AND8in.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|                  |
|------------------|
| <b>Rev: v1.0</b> |
| Id: 251/362      |



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE7B32C/sheet5EE75F2D/  
File: Gate\_NAND8in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 252/362

A

B

C

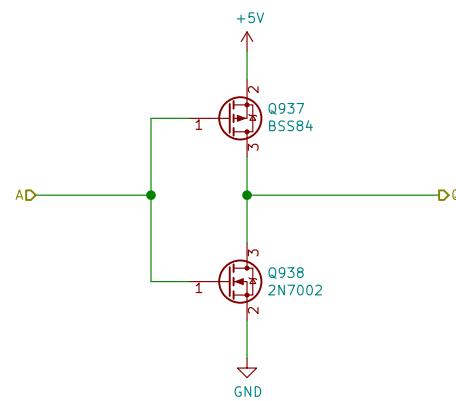
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMoveLegal/Sheet5EDA893C/sheet5EE7B32C/sheet5EE76842/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

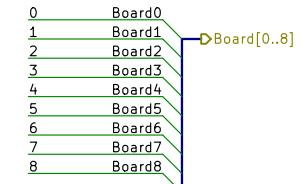
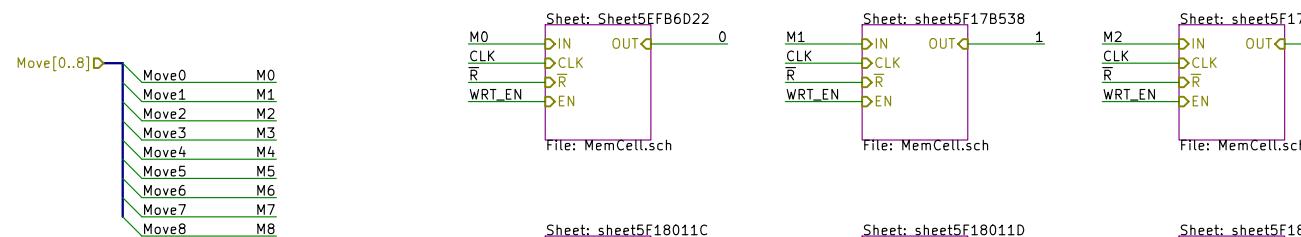
KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

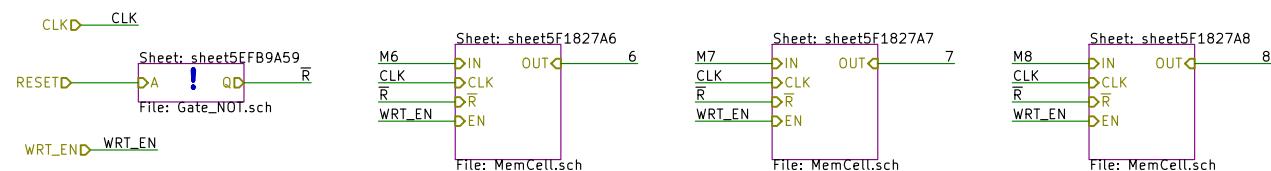
Id: 253/362

1 2 3 4 5 6

A



B



C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

Sheet: /PlayerMem\_2/  
File: PlayerMem.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 254/362

1 2 3 4 5 6

A

B

C

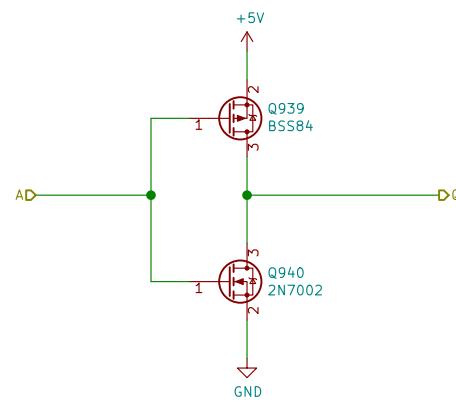
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5EFB9A59/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 255/362

A

A

B

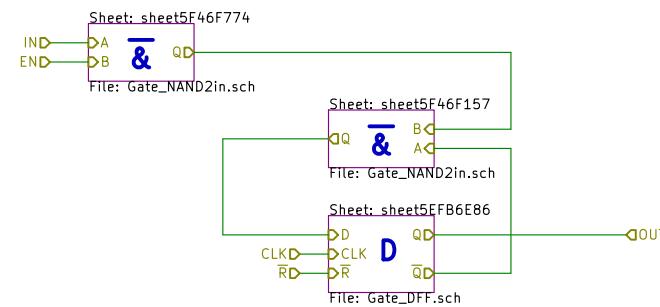
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

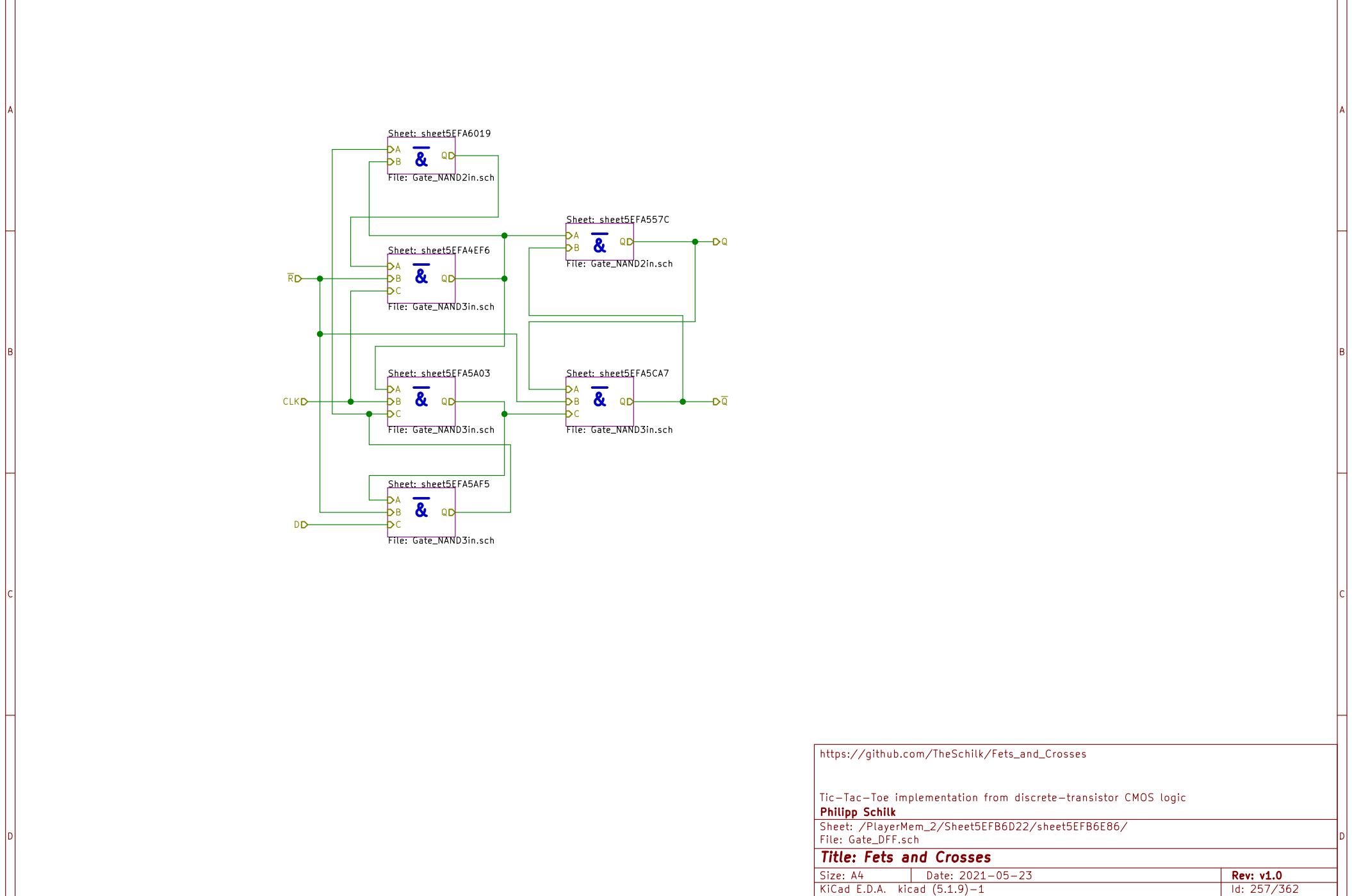
**Philipp Schilk**

Sheet: /PlayerMem\_2/Sheet5EFB6D22/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 256/362 |



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

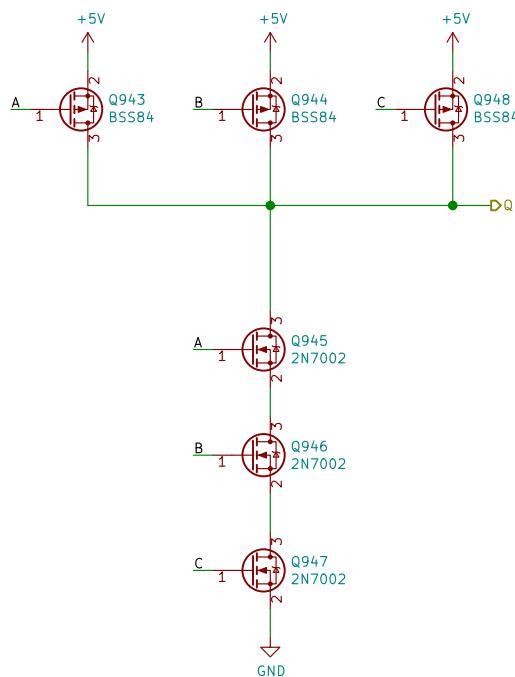
Sheet: /PlayerMem\_2/Sheet5EFB6D22/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 257/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/Sheet5EFB6D22/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

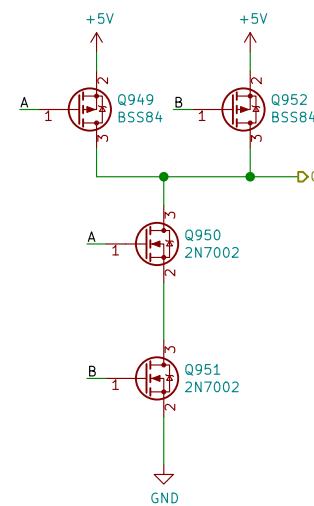
Id: 258/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**Sheet: /PlayerMem\_2/Sheet5EFA557C/sheet5EFA557C/  
File: Gate\_NAND2in.sch**Title: Fets and Crosses**

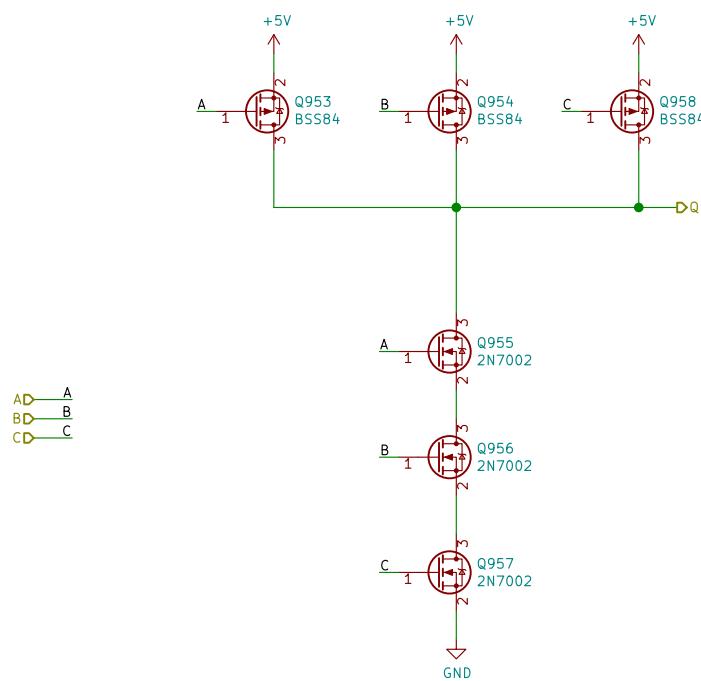
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 259/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/Sheet5EFB6D22/sheet5EFB6E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

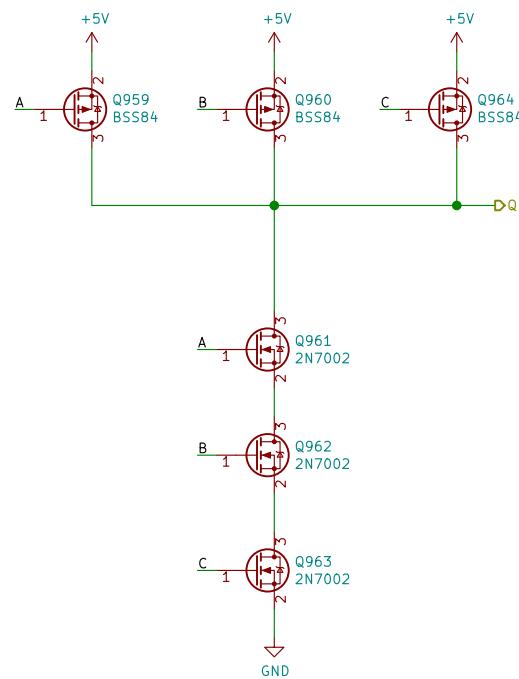
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 260/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/Sheet5EFA6D22/sheet5EFA6E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 261/362

A

B

C

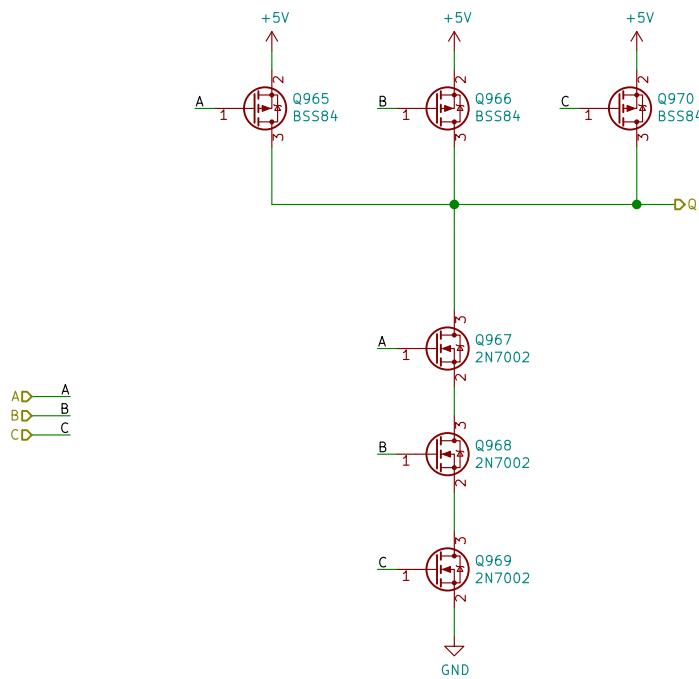
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/Sheet5EFA5CA7/sheet5EFA5CA7/sheet5EFA5CA7/  
File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

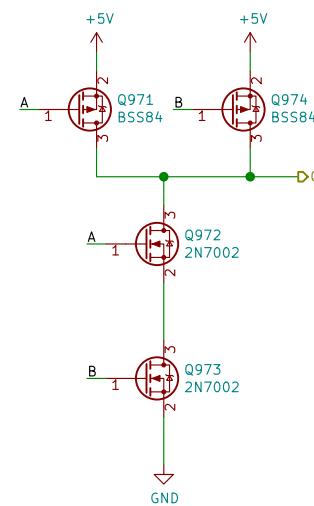
Id: 262/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**Sheet: /PlayerMem\_2/Sheet5EFA6019/sheet5EFA6019/sheet5EFA6019/  
File: Gate\_NAND2in.sch**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

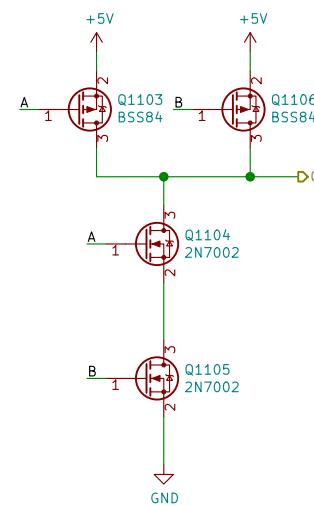
Id: 263/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/Sheet5EFB6D22/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

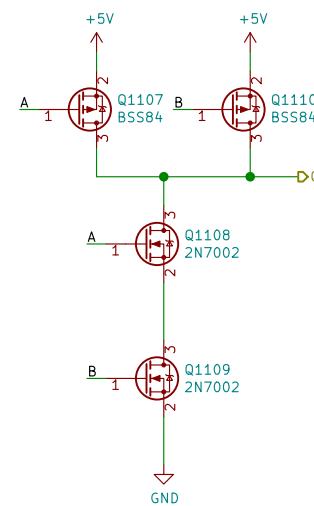
Id: 264/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

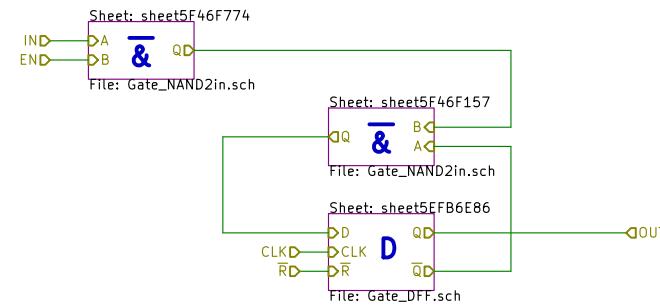
Sheet: /PlayerMem\_2/Sheet5EFB6D22/sheet5F46F774/  
File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|              |                  |
|--------------|------------------|
| Size: A4     | Date: 2021-05-23 |
| KiCad E.D.A. | kicad (5.1.9)-1  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 265/362 |

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

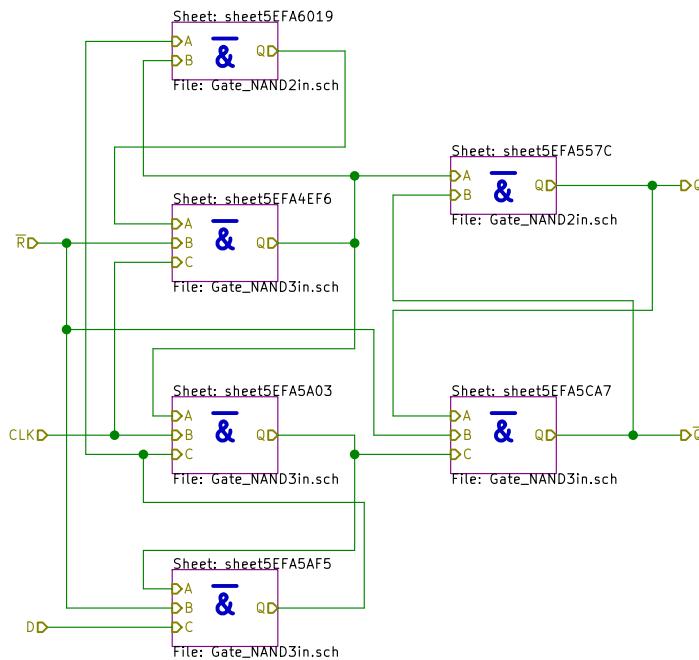
**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17B538/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 266/362 |



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk  
Sheet: /PlayerMem\_2/sheet5F17B538/sheet5EFB6E86/  
File: Gate.DEE.sch

## **Title: Pets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
|d: 267/362

A

B

C

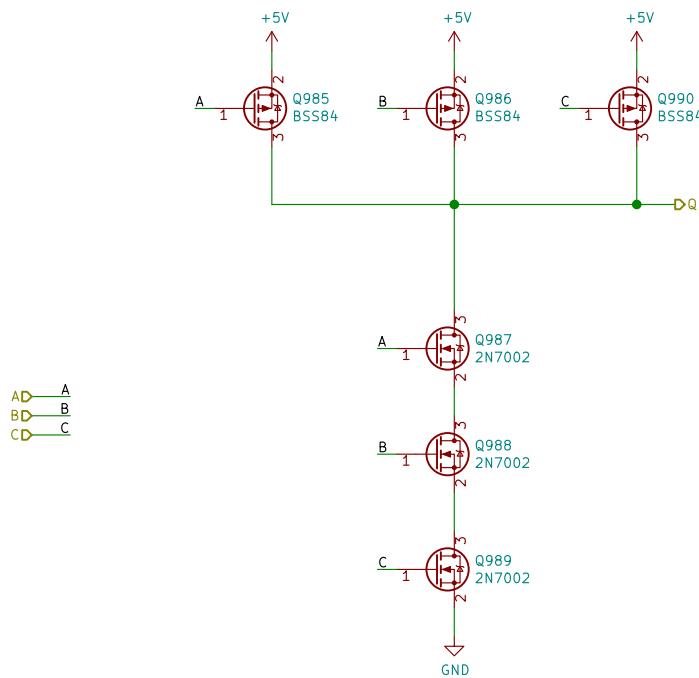
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/sheet5F17B538/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

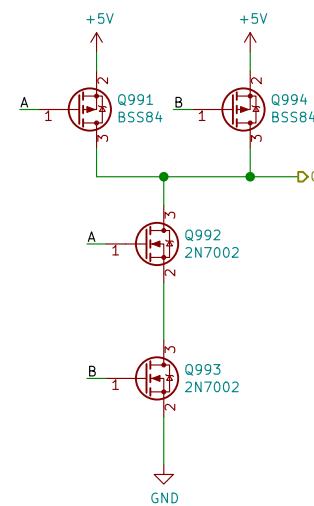
Id: 268/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17B538/sheet5EFB6E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 269/362

A

B

C

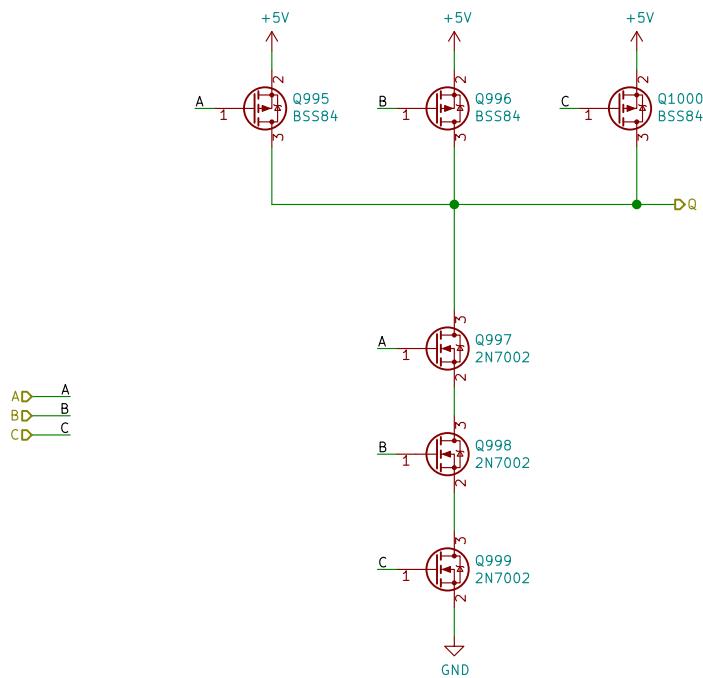
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/sheet5F17B538/sheet5EFB6E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 270/362

A

B

C

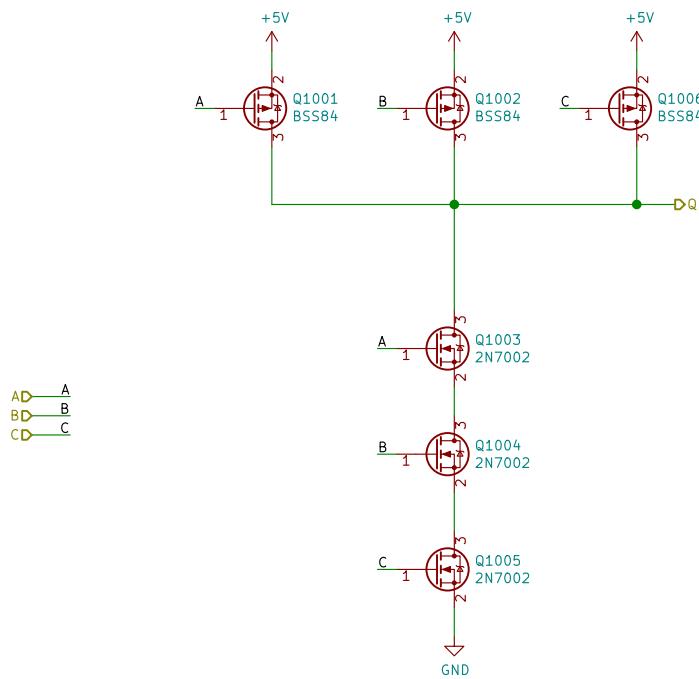
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17B538/sheet5EFB6E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 271/362

A

B

C

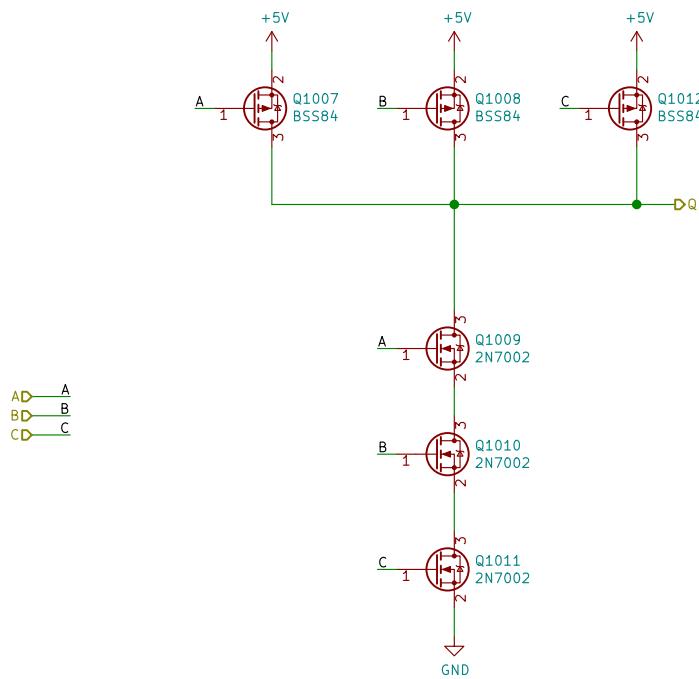
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17B538/sheet5EFB6E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

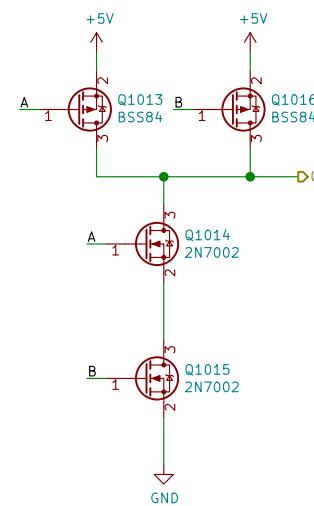
Id: 272/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17B538/sheet5EFB6E86/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

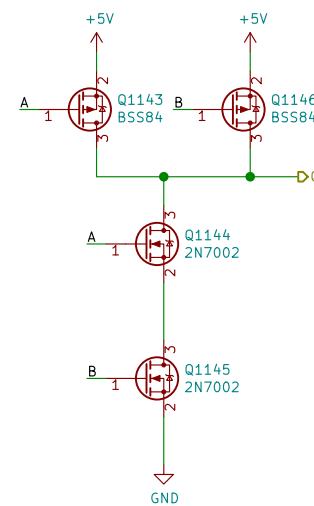
Id: 273/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17B538/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

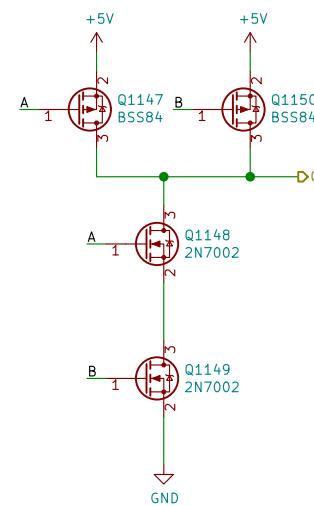
Id: 274/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17B538/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

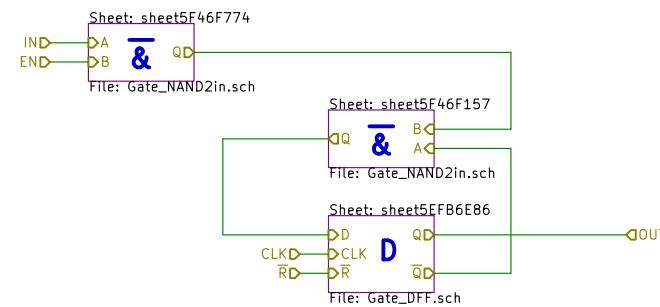
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 275/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

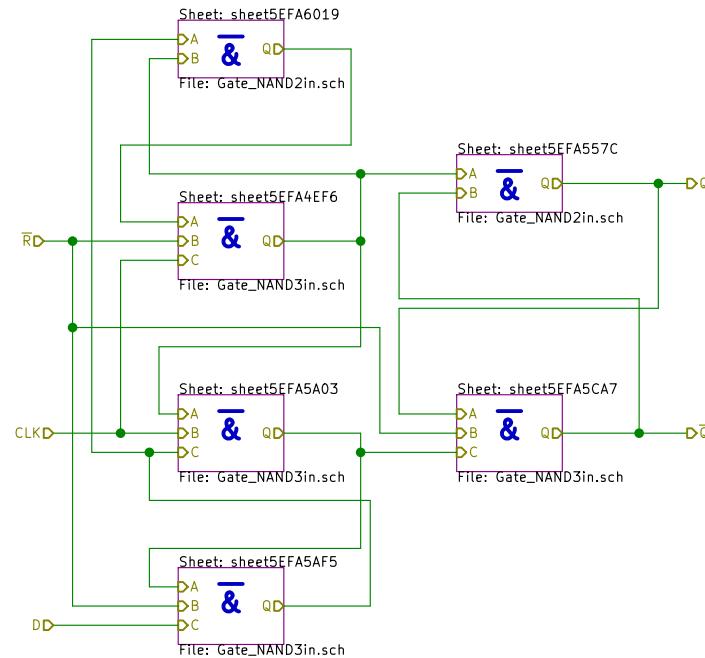
Sheet: /PlayerMem\_2/sheet5F17D798/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 276/362 |

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17D798/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

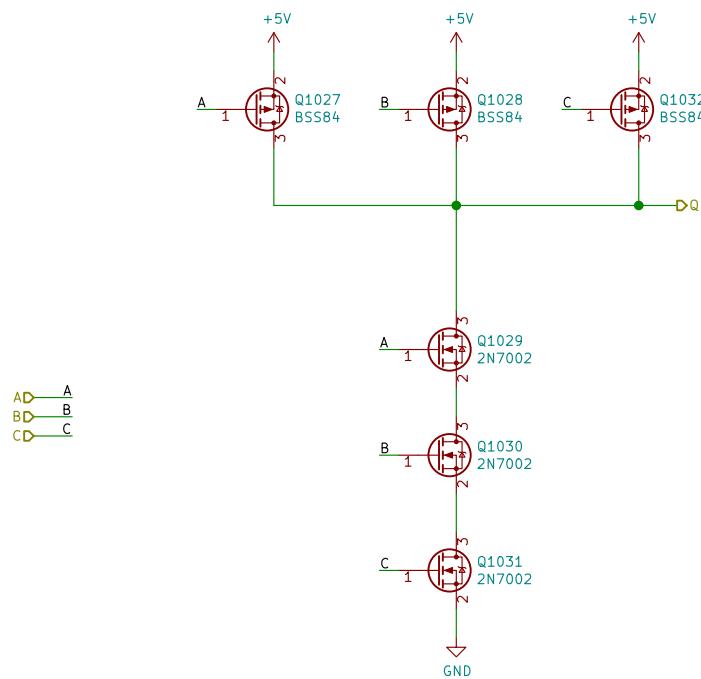
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 277/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17D798/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

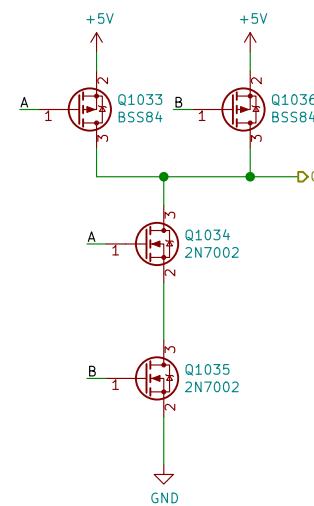
Id: 278/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17D798/sheet5EFB6E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 279/362

A

B

C

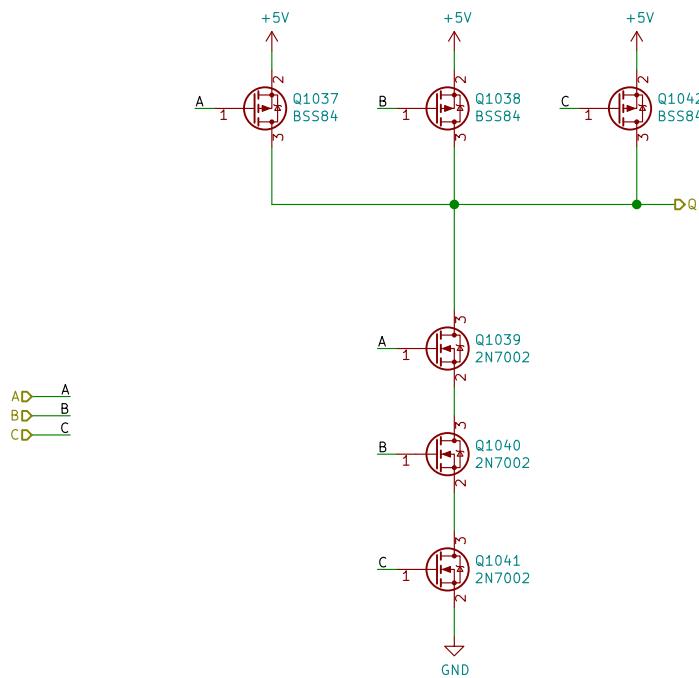
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17D798/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 280/362

A

A

B

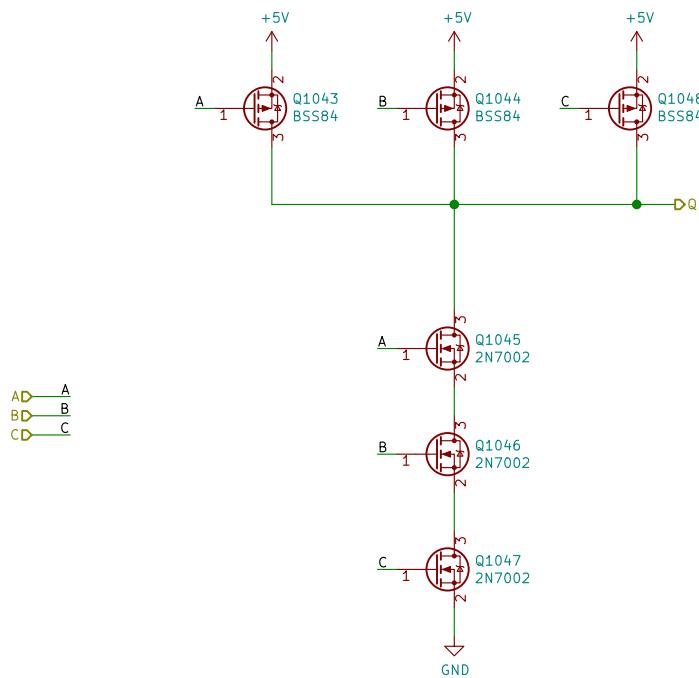
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17D798/sheet5E86E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 281/362

A

B

C

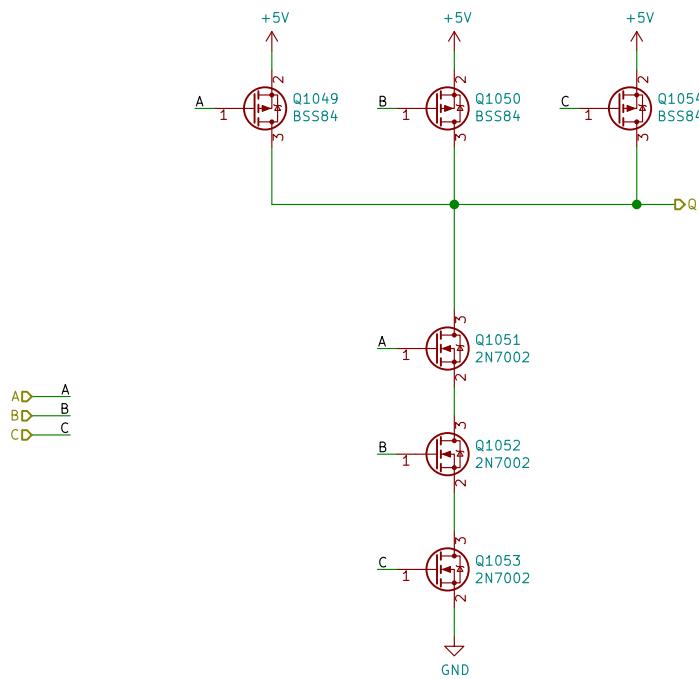
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17D798/sheet5EFB6E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

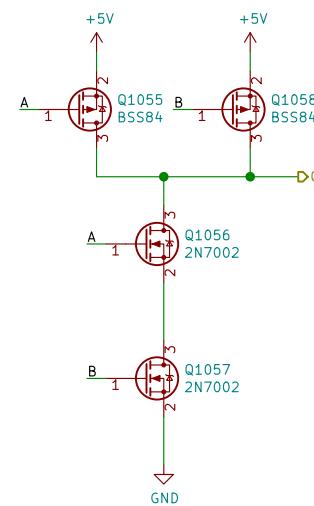
Id: 282/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17D798/sheet5EFB6E86/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

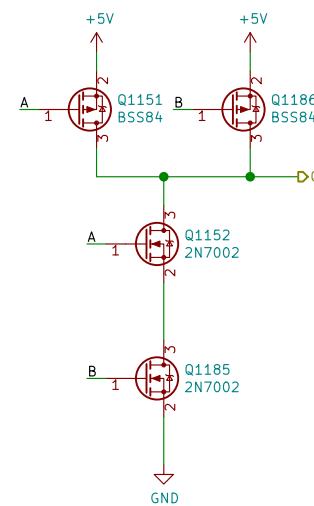
Id: 283/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17D798/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

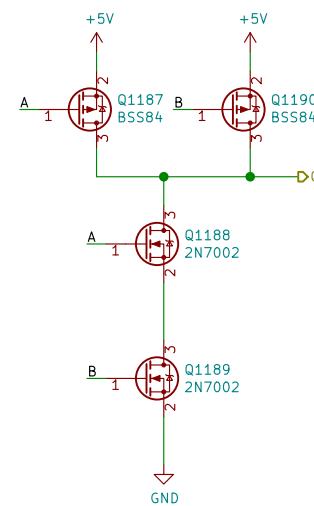
Id: 284/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F17D798/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 285/362

A

A

B

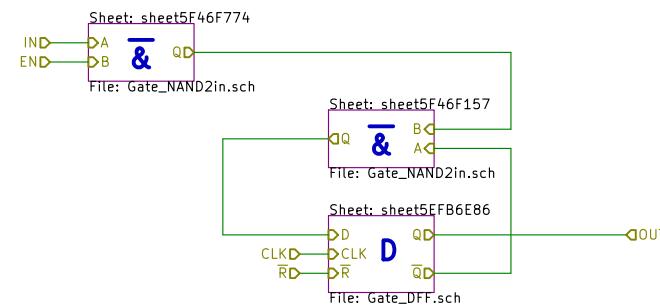
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

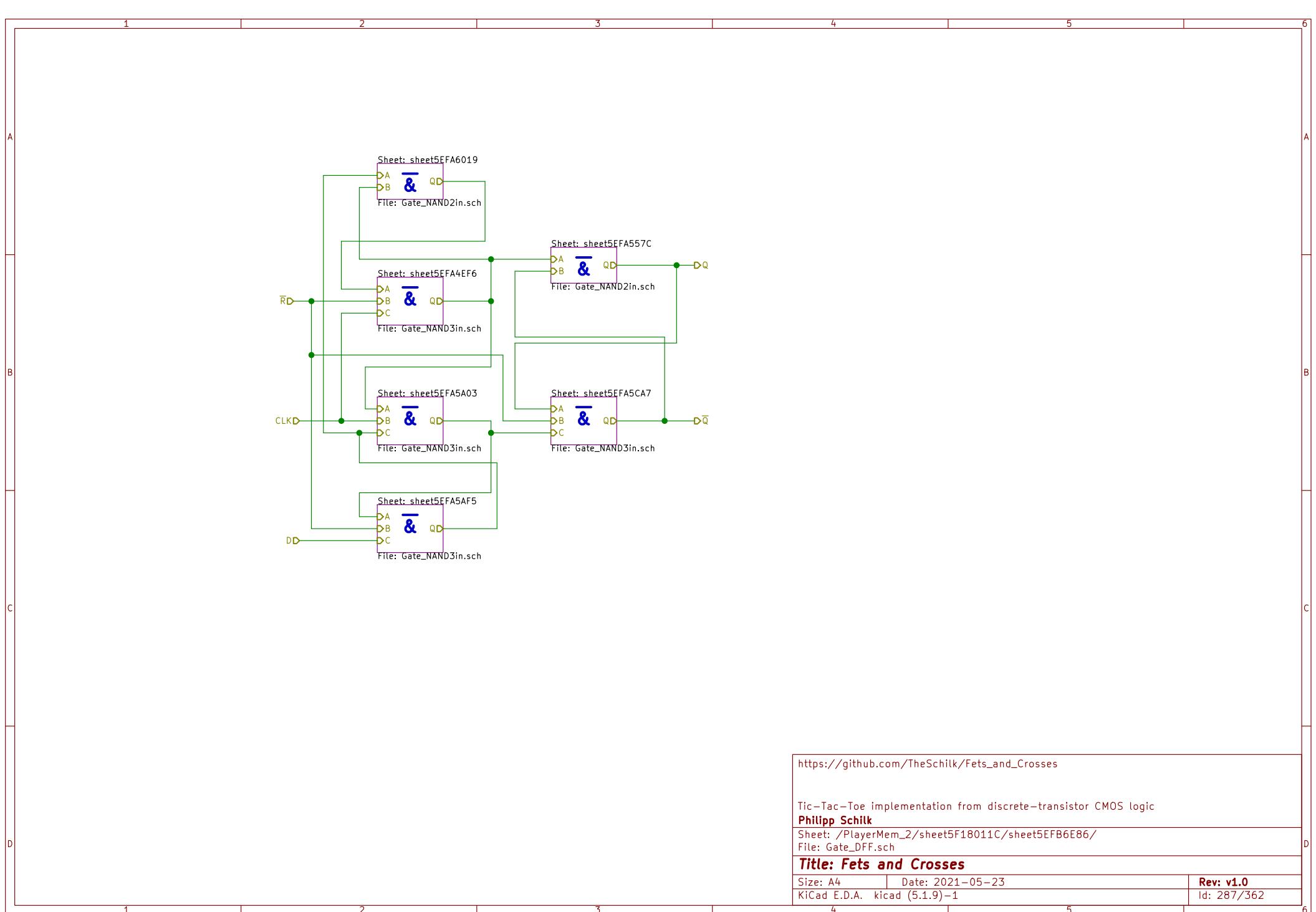
**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011C/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 286/362 |



A

B

C

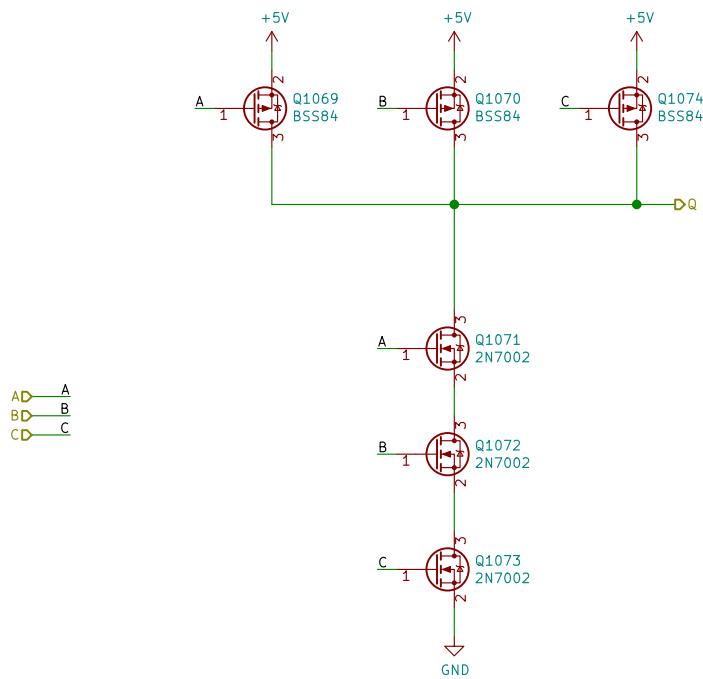
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/sheet5F18011C/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

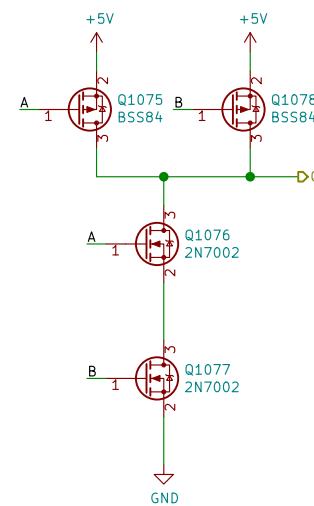
Id: 288/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011C/sheet5E86E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 289/362

A

B

C

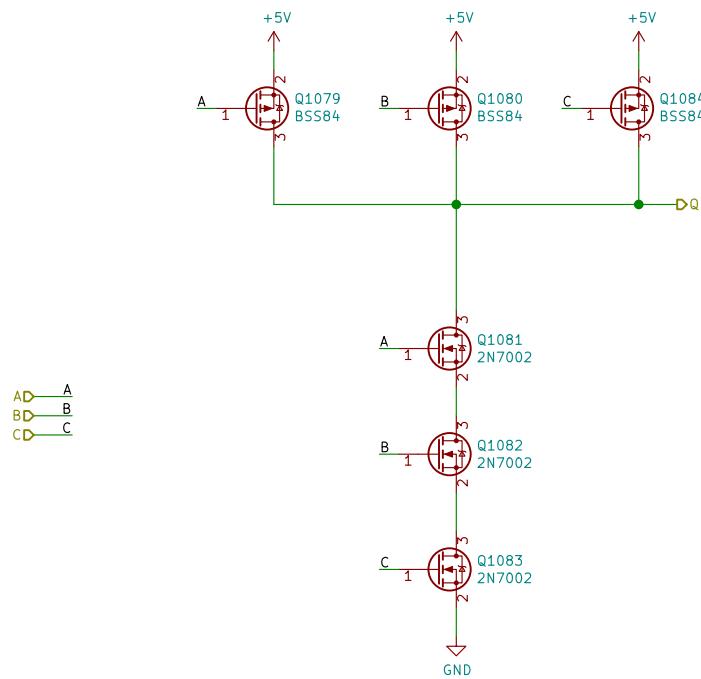
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011C/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 290/362

A

B

C

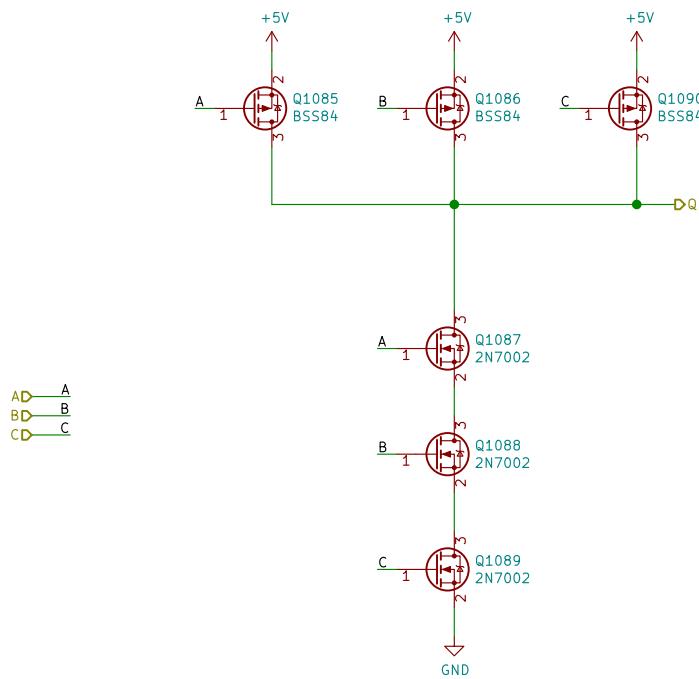
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011C/sheet5E86E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 291/362

A

B

C

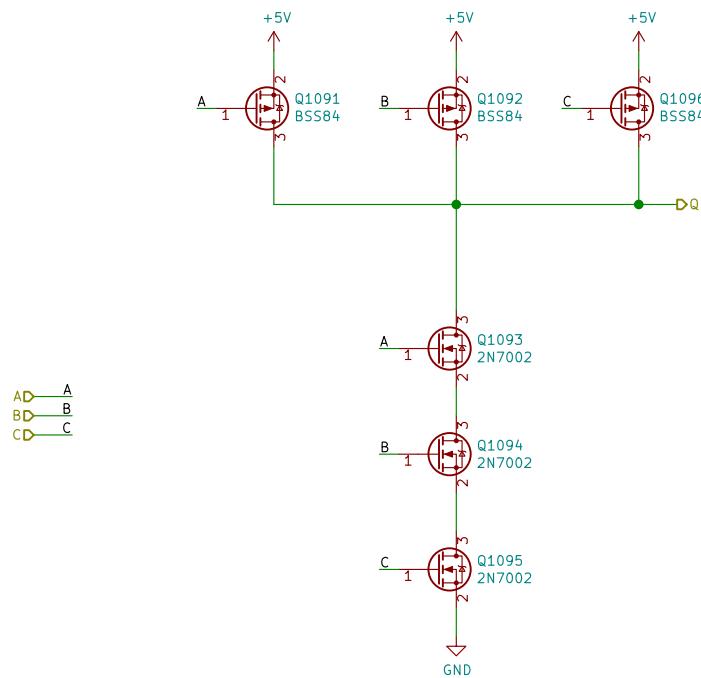
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011C/sheet5E86E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

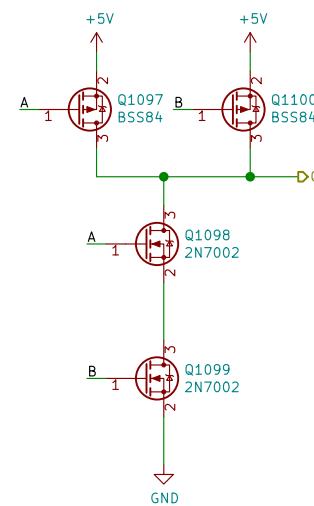
Id: 292/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011C/sheet5E86E86/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

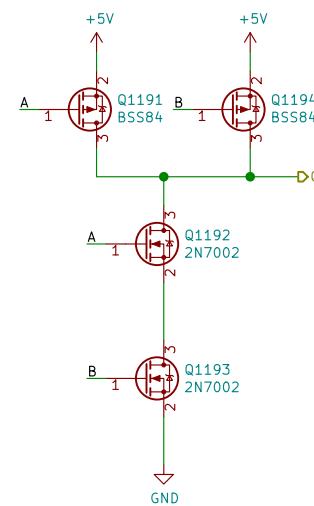
Id: 293/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011C/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

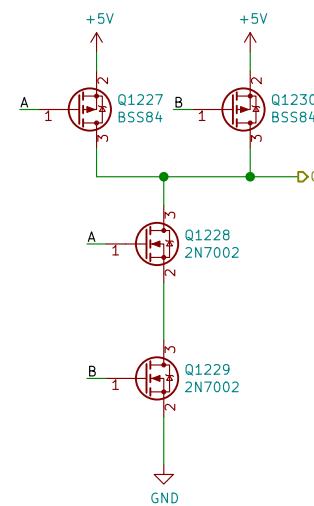
Id: 294/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011C/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 295/362

A

A

B

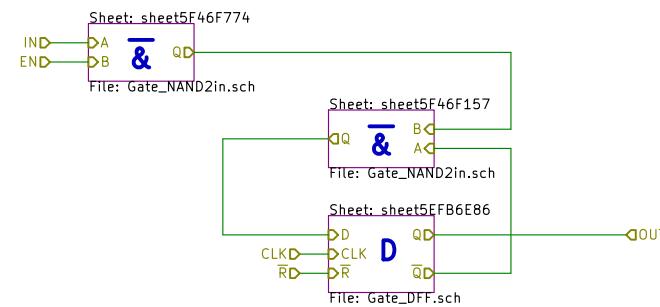
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

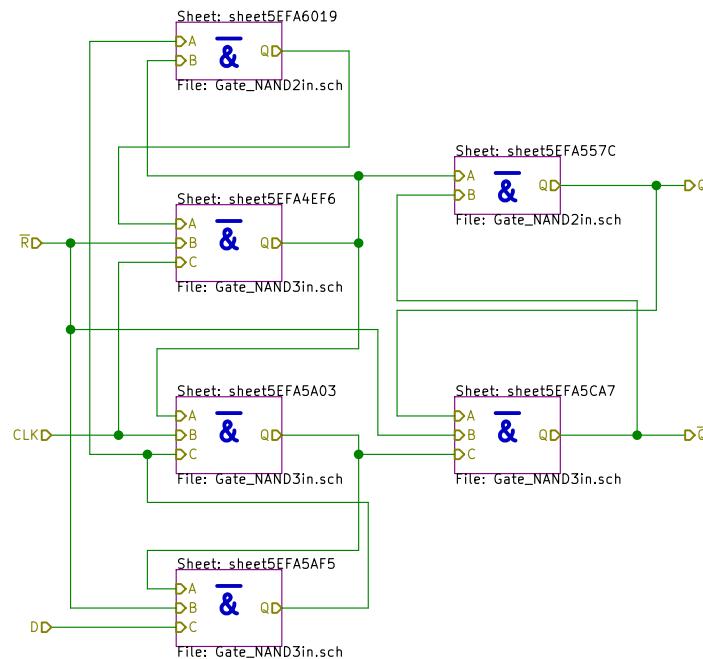
Sheet: /PlayerMem\_2/sheet5F18011D/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 296/362 |

A



B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/sheet5F18011D/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 297/362 |

A

B

C

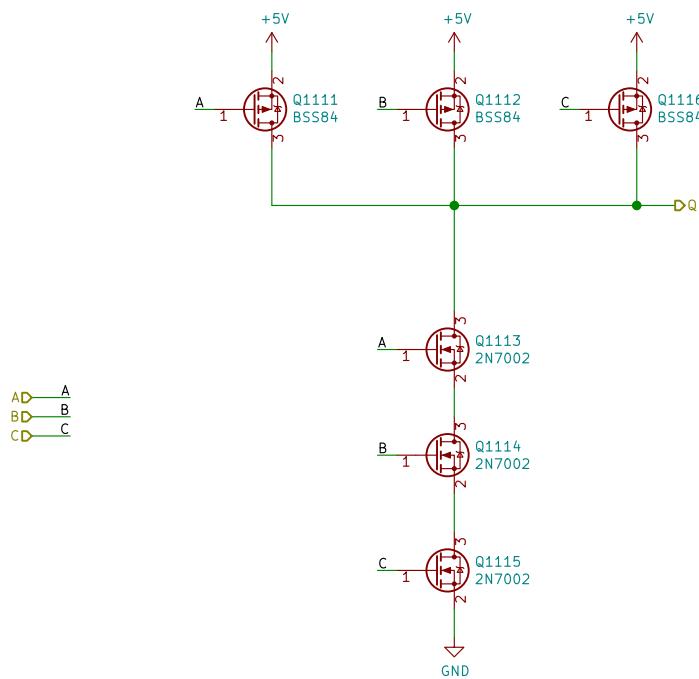
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011D/sheet5EFB6E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

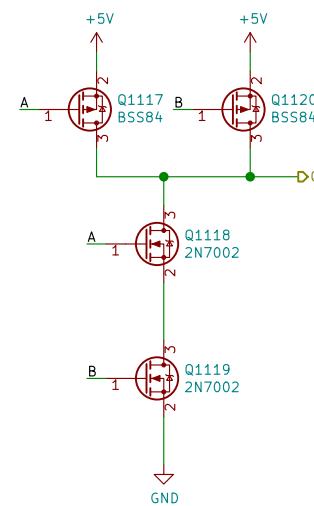
Id: 298/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011D/sheet5E86E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 299/362

A

B

C

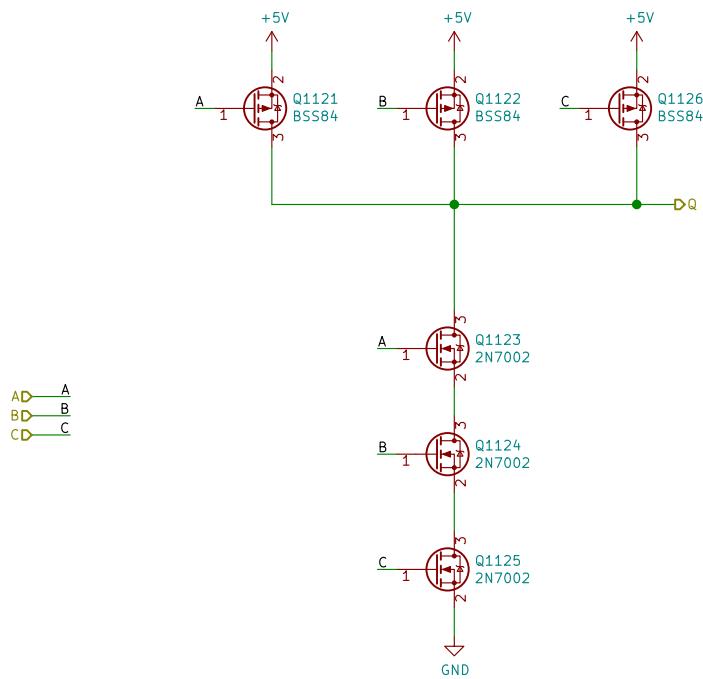
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011D/sheet5EFB6E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 300/362

A

B

C

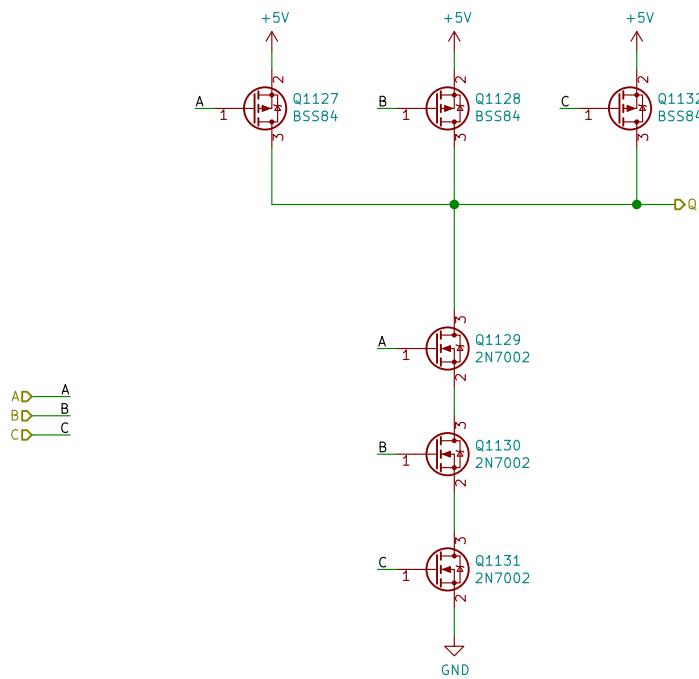
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011D/sheet5E86E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

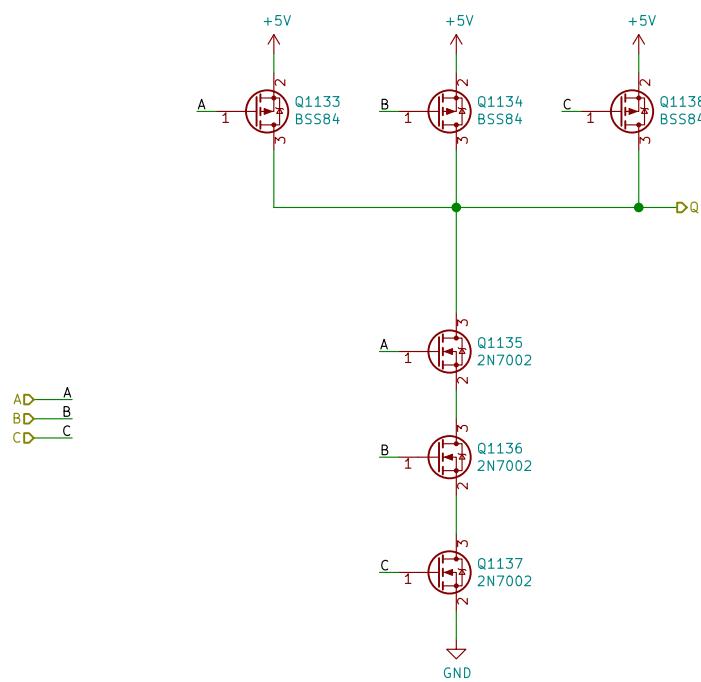
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 301/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/sheet5F18011D/sheet5EFB6E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

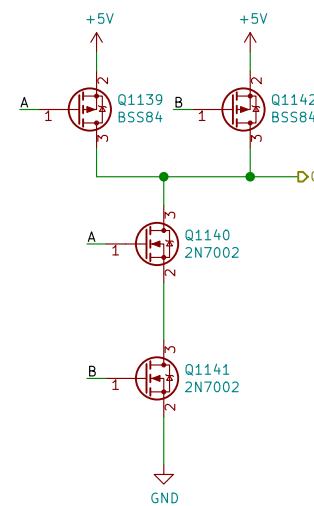
Id: 302/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011D/sheet5E86E86/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

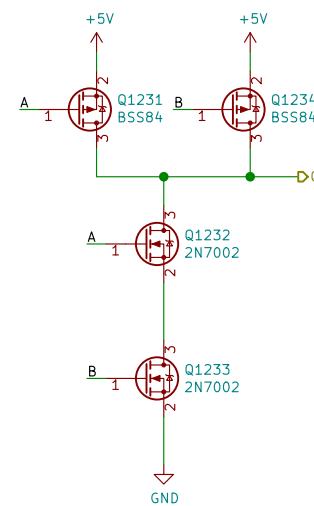
Id: 303/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011D/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

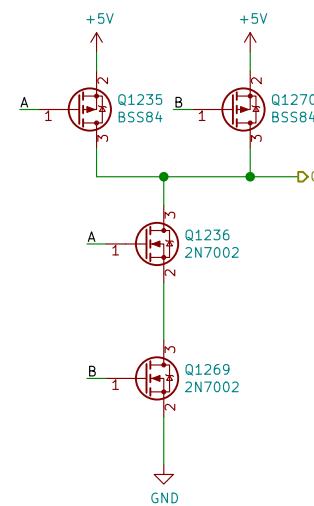
Id: 304/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011D/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 305/362

A

A

B

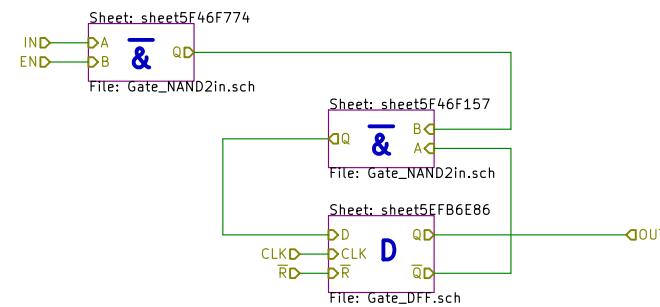
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011E/

File: MemCell.sch

**Title: Fets and Crosses**

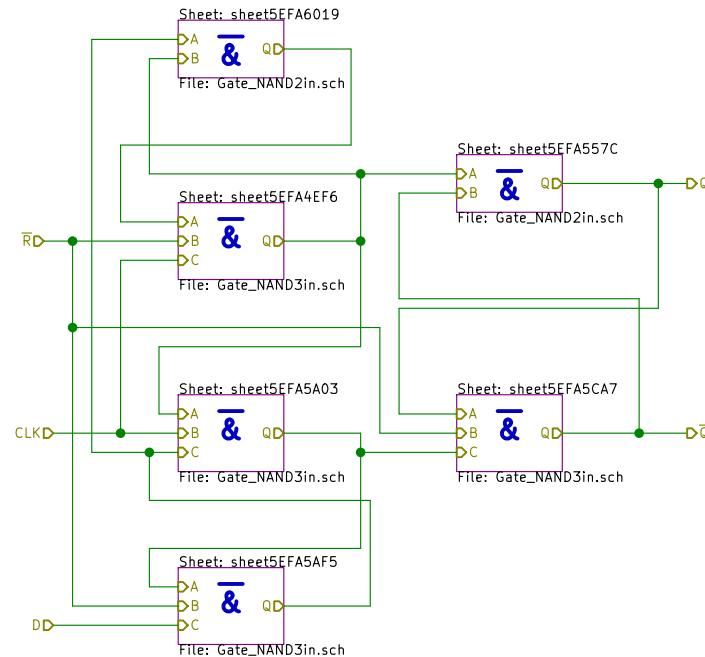
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 306/362

A



B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/sheet5F18011E/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 307/362 |

A

A

B

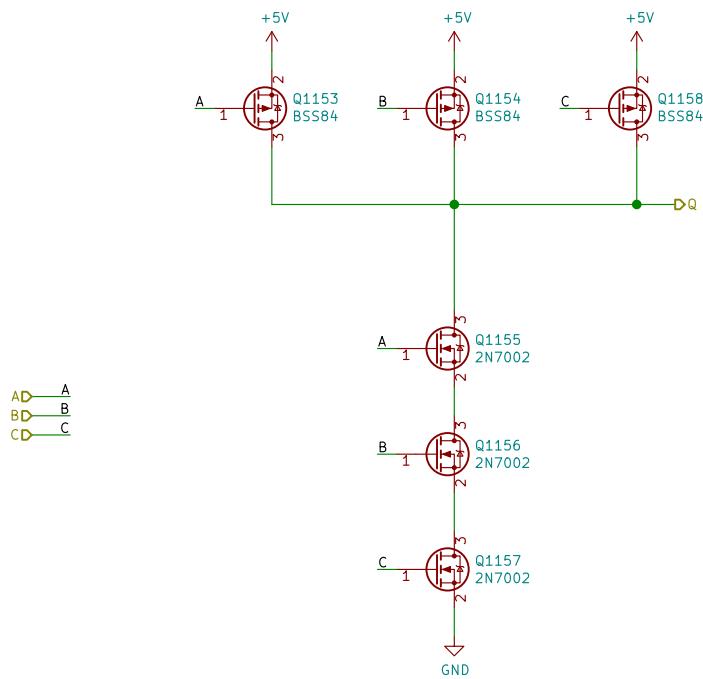
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F18011E/sheet5EFB6E86/sheet5EFA4EF6/  
File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

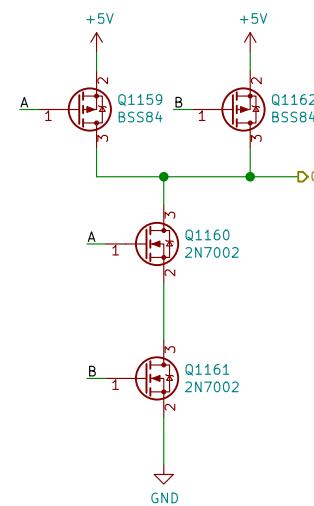
Id: 308/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011E/sheet5E86E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

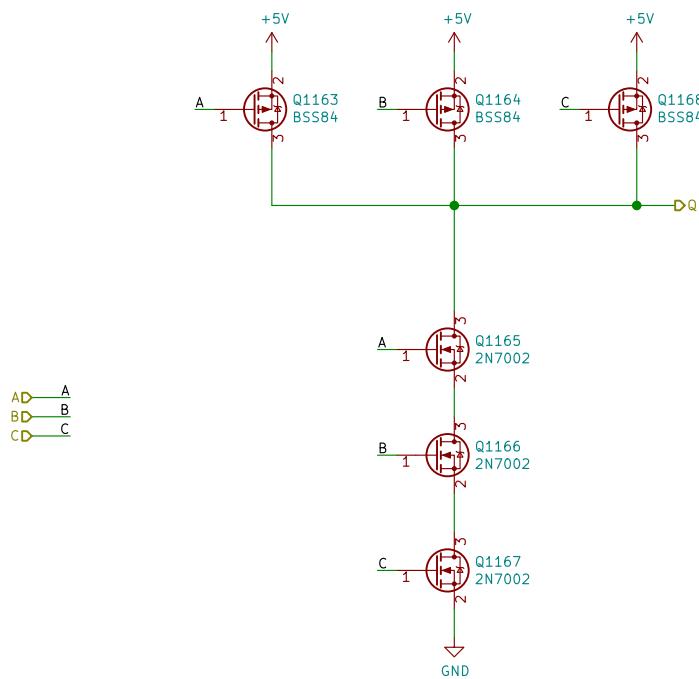
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 309/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011E/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

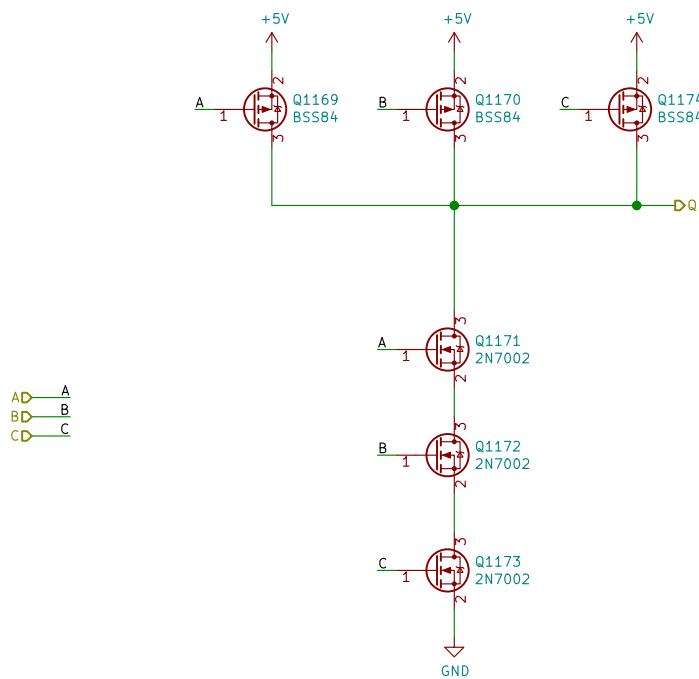
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 310/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F18011E/sheet5E8FB6E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

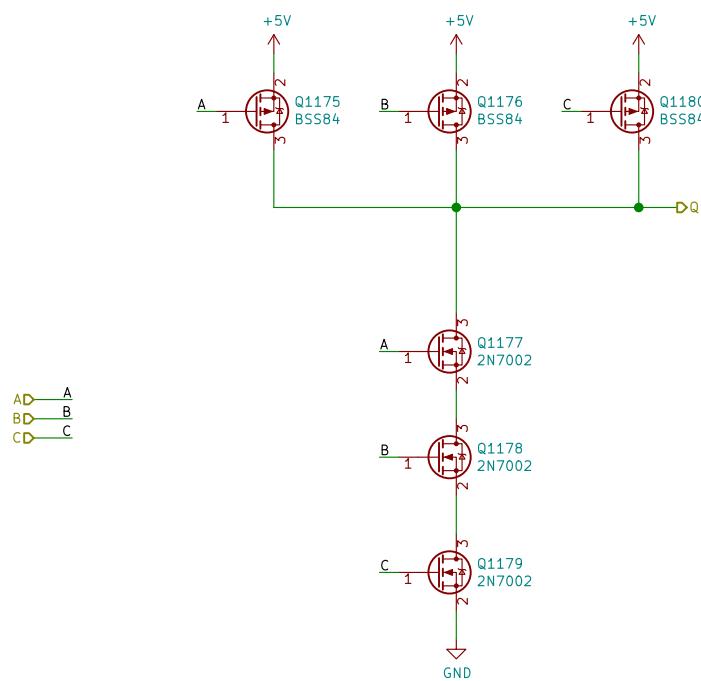
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 311/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011E/sheet5E8FB6E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

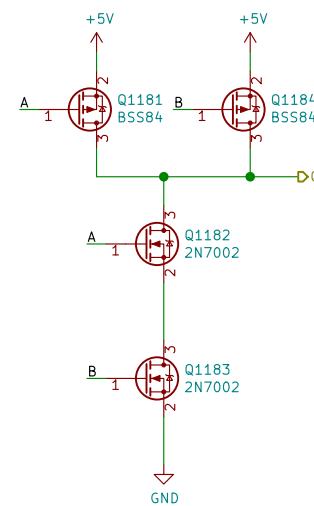
Id: 312/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011E/sheet5E86E86/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

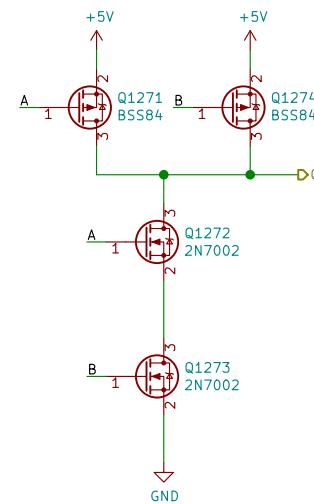
Id: 313/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F18011E/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

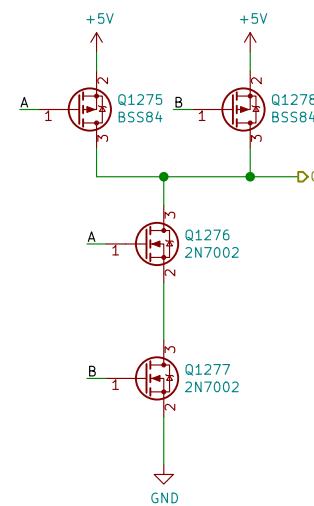
Id: 314/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F18011E/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 315/362

A

A

B

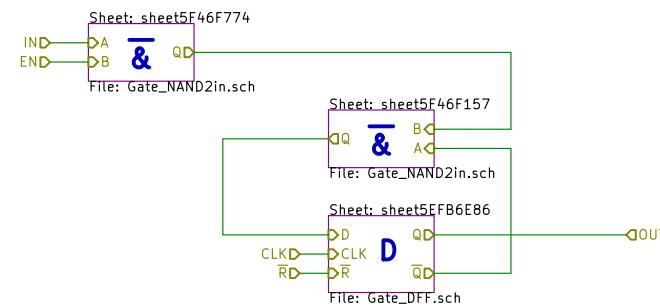
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F1827A6/

File: MemCell.sch

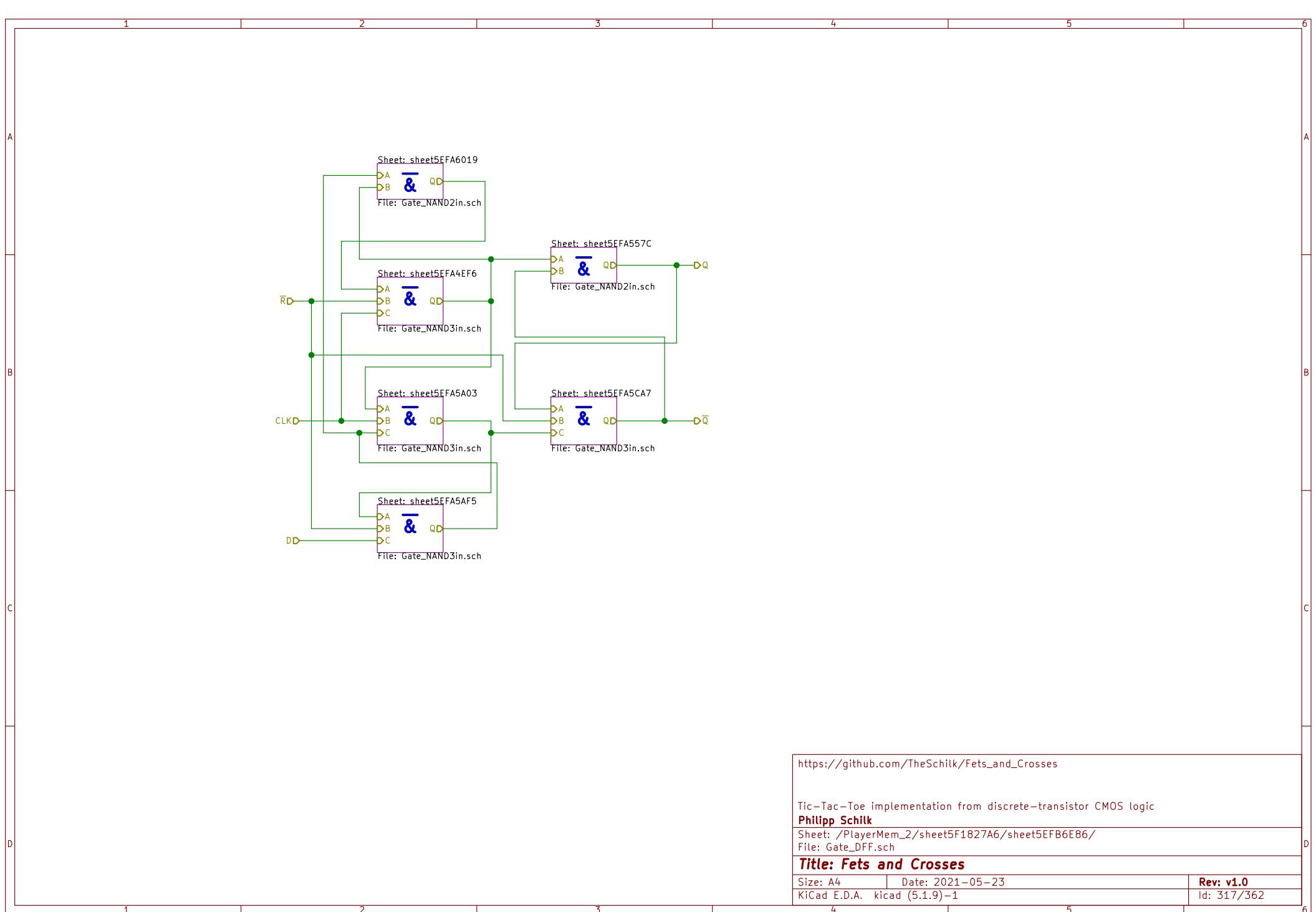
**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 316/362



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

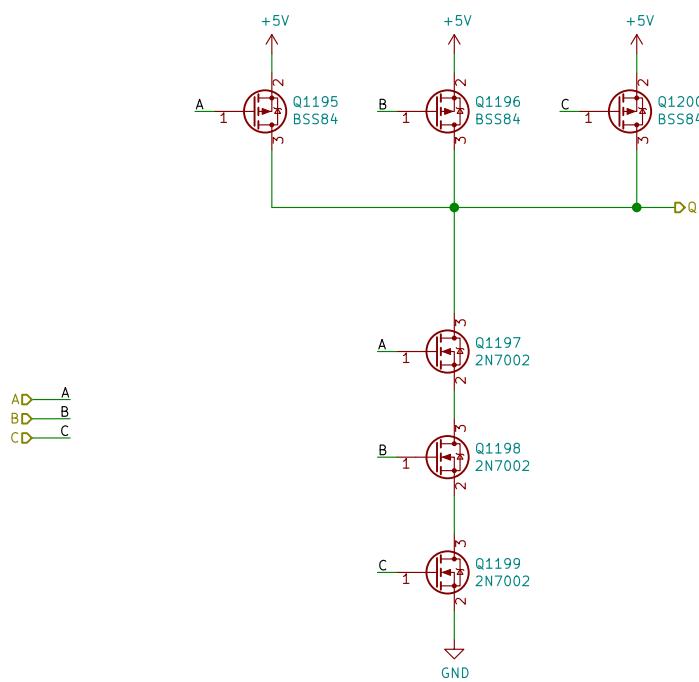
Sheet: /PlayerMem\_2/sheet5F1827A6/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 317/362 |

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A6/sheet5E86E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

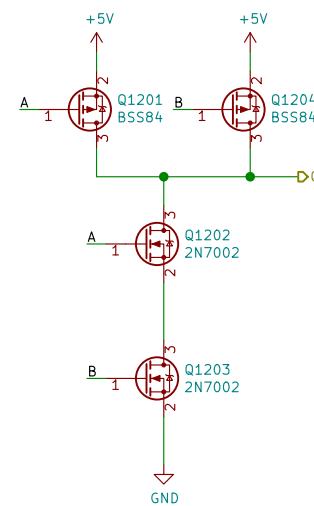
Id: 318/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A6/sheet5E86E86/sheet5EFA557C/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

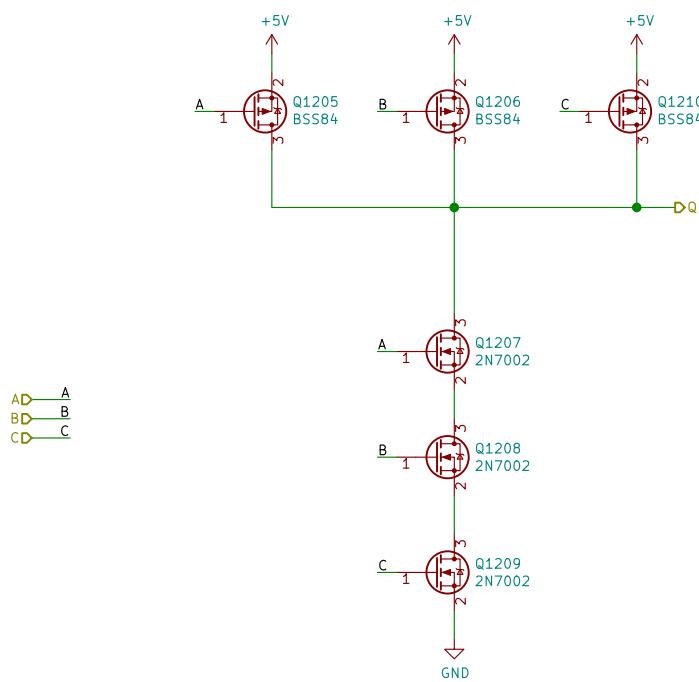
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 319/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A6/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

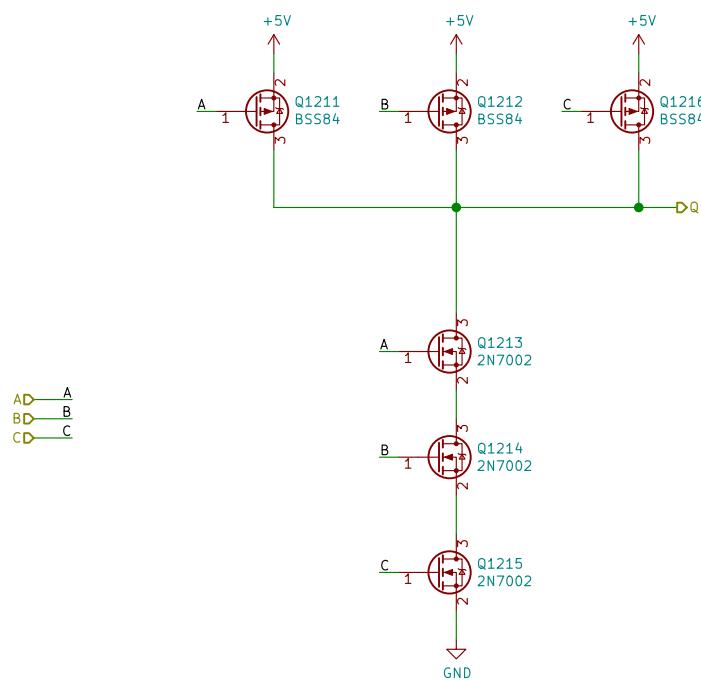
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 320/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A6/sheet5E86E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 321/362

A

B

C

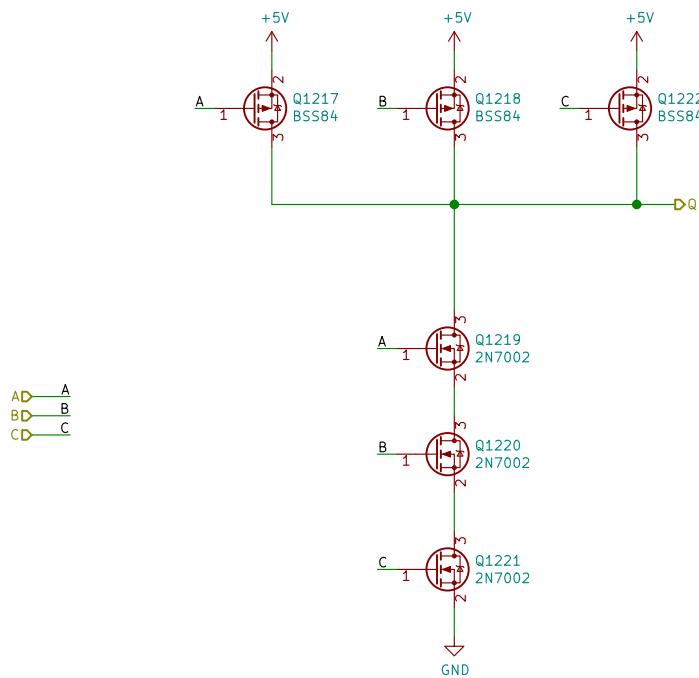
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A6/sheet5E86E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

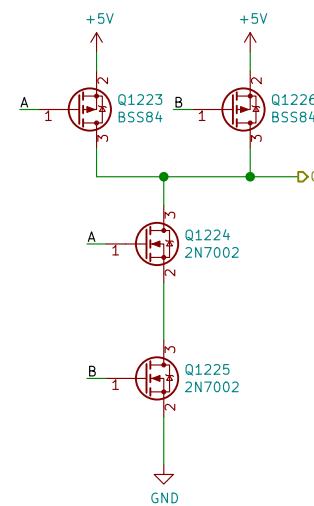
Id: 322/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F1827A6/sheet5EFA6019/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

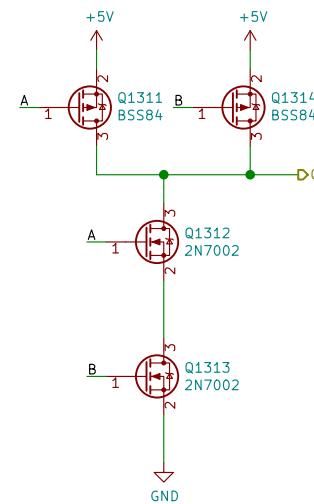
Id: 323/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F1827A6/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

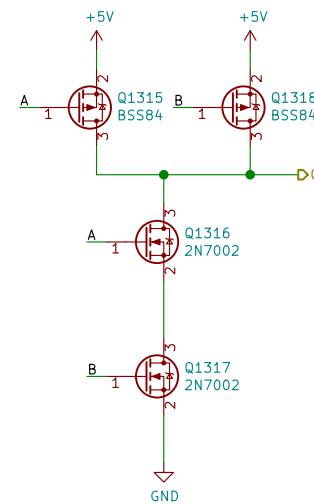
Id: 324/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A6/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 325/362

A

A

B

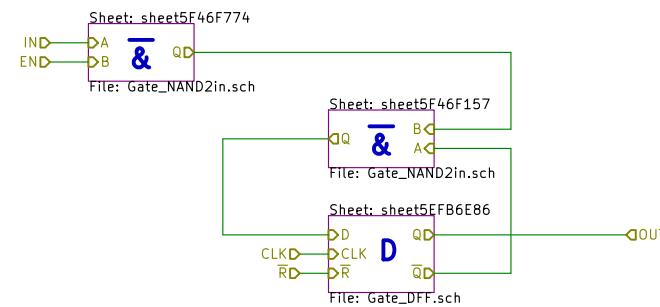
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

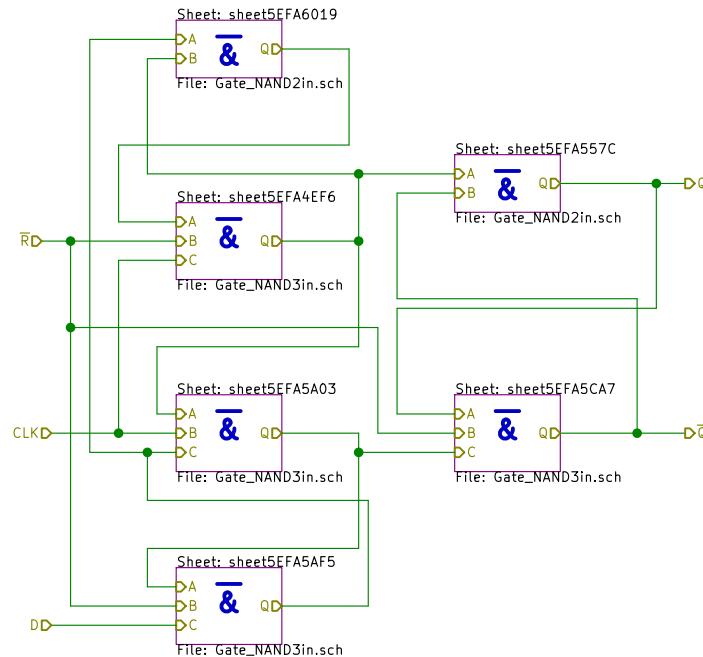
Sheet: /PlayerMem\_2/sheet5F1827A7/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 326/362 |

A



B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/sheet5F1827A7/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

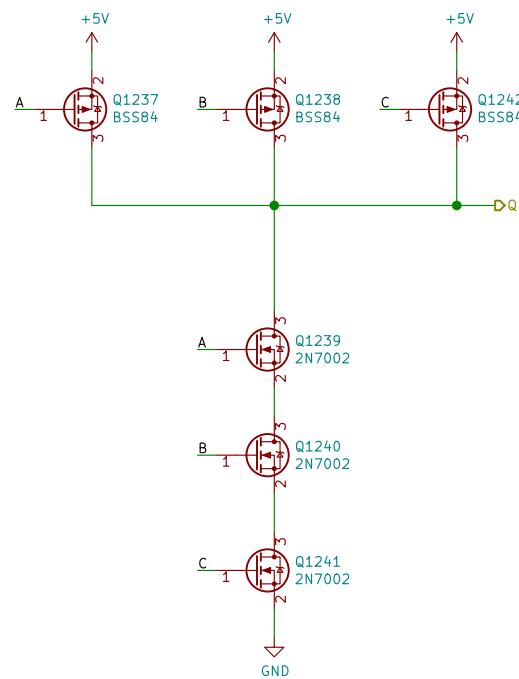
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 327/362

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A7/sheet5EFA4EF6/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

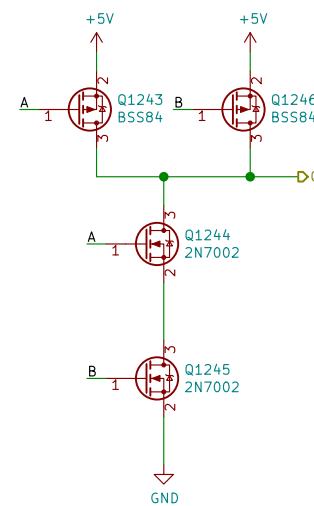
Id: 328/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMem\_2/sheet5F1827A7/sheet5EFA557C/  
 File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

|          |                  |           |
|----------|------------------|-----------|
| Size: A4 | Date: 2021-05-23 | Rev: v1.0 |
|----------|------------------|-----------|

|                              |             |
|------------------------------|-------------|
| KiCad E.D.A. kicad (5.1.9)-1 | Id: 329/362 |
|------------------------------|-------------|

A

B

C

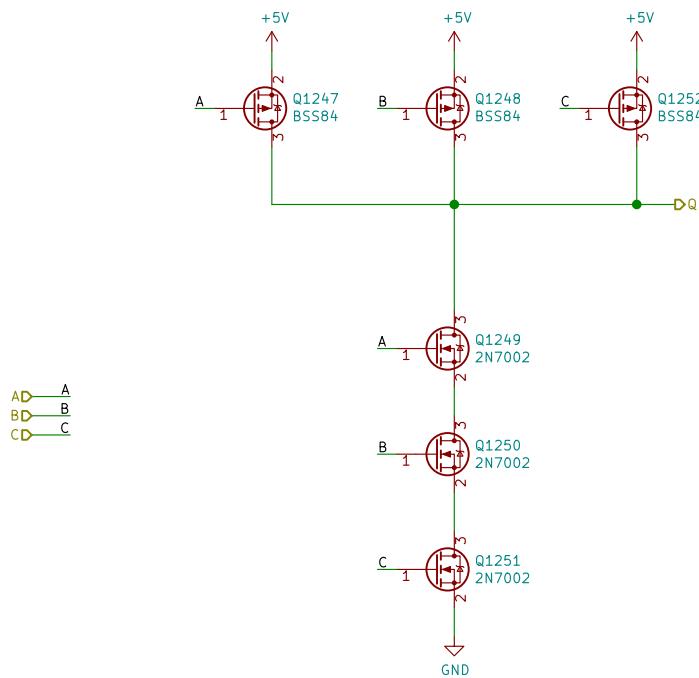
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A7/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

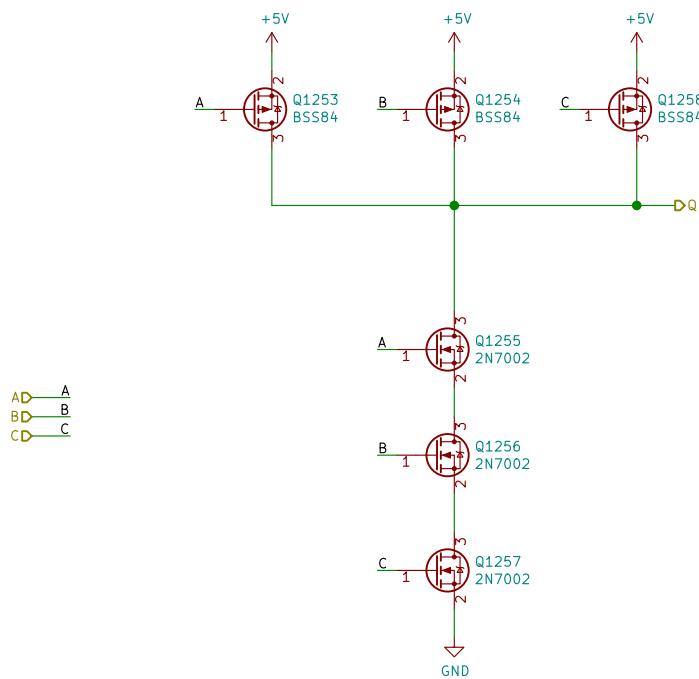
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 330/362

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A7/sheet5E86E86/sheet5EFA5AF5/  
File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 331/362

A

B

C

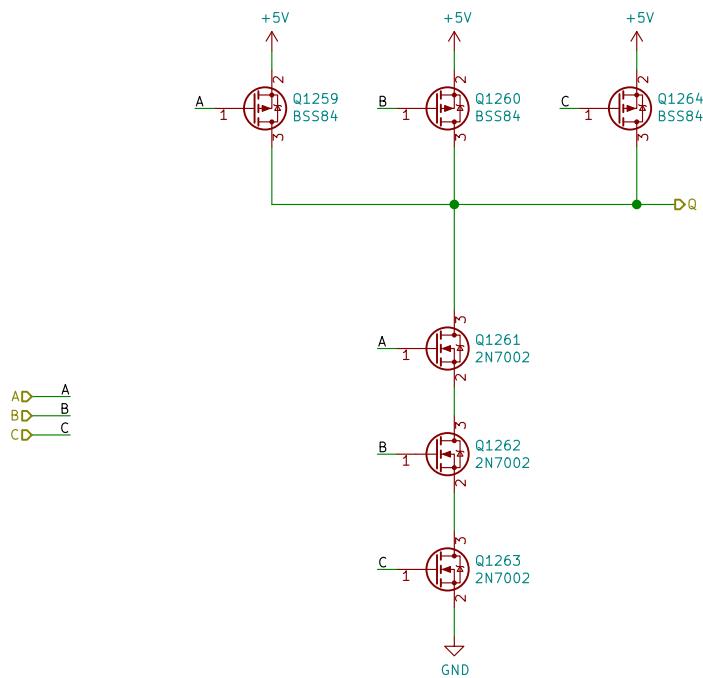
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A7/sheet5E86E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

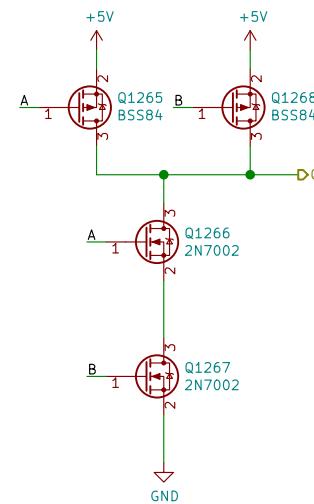
Id: 332/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A7/sheet5EFA6019/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

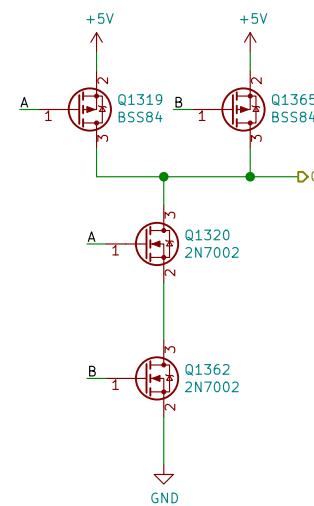
Id: 333/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F1827A7/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

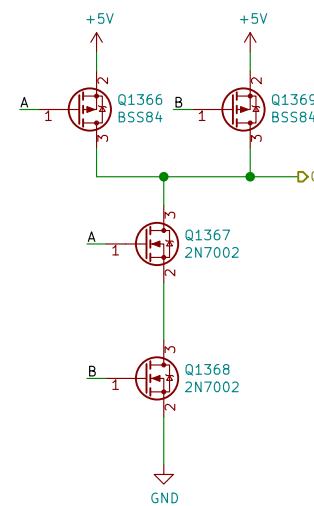
Id: 334/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A7/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 335/362

A

A

B

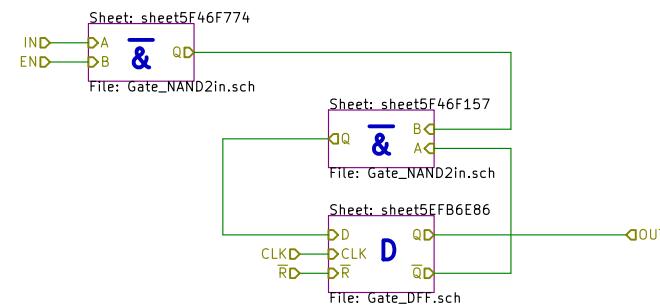
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

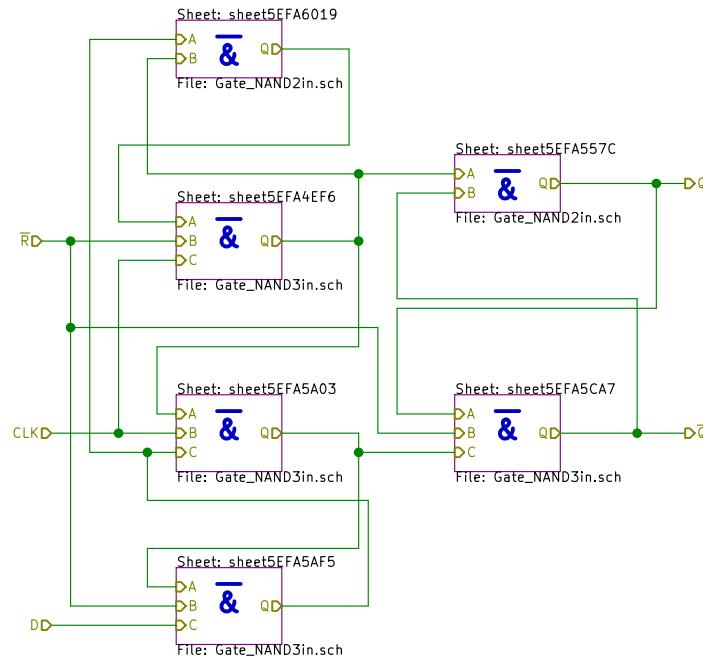
Sheet: /PlayerMem\_2/sheet5F1827A8/  
File: MemCell.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 336/362 |

A



B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /PlayerMem\_2/sheet5F1827A8/sheet5EFB6E86/  
File: Gate\_DFF.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 337/362 |

A

B

C

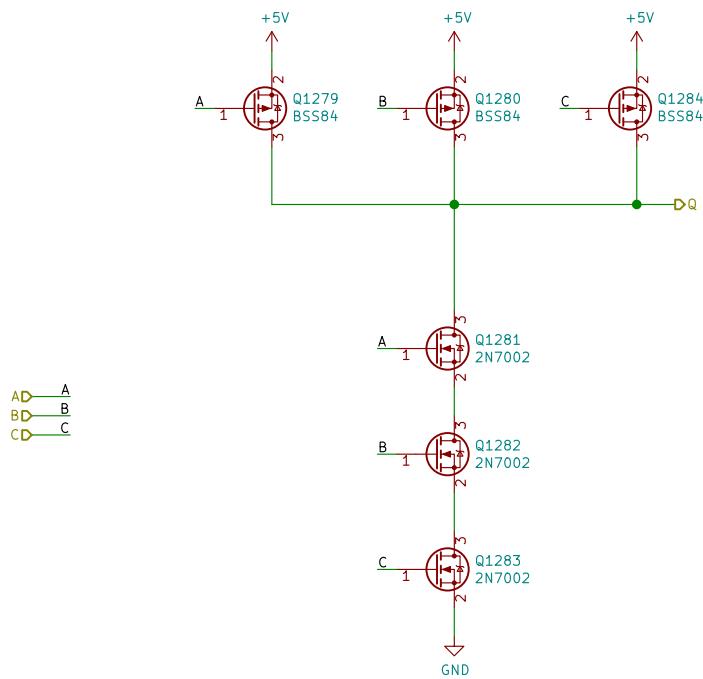
D

A

B

C

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A8/sheet5E86E86/sheet5EFA4EF6/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

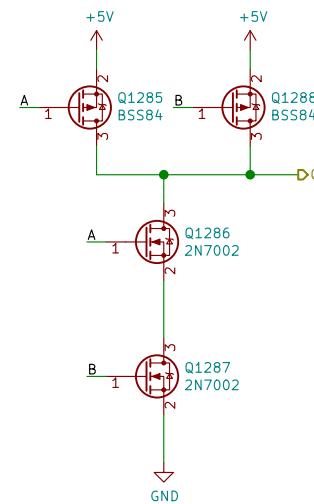
Id: 338/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

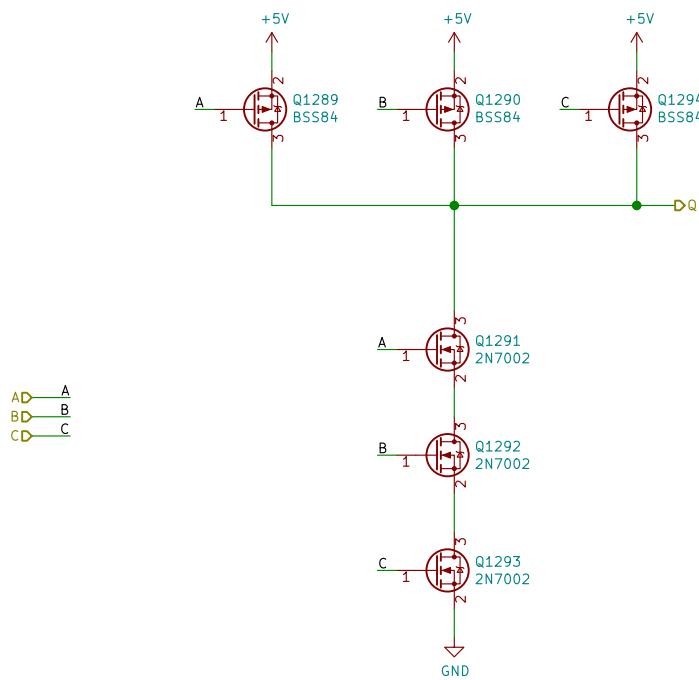
Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**  
 Sheet: /PlayerMem\_2/sheet5F1827A8/sheet5E86E86/sheet5EFA557C/  
 File: Gate\_NAND2in.sch

### Title: Fets and Crosses

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 339/362 |

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A8/sheet5E86E86/sheet5EFA5A03/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

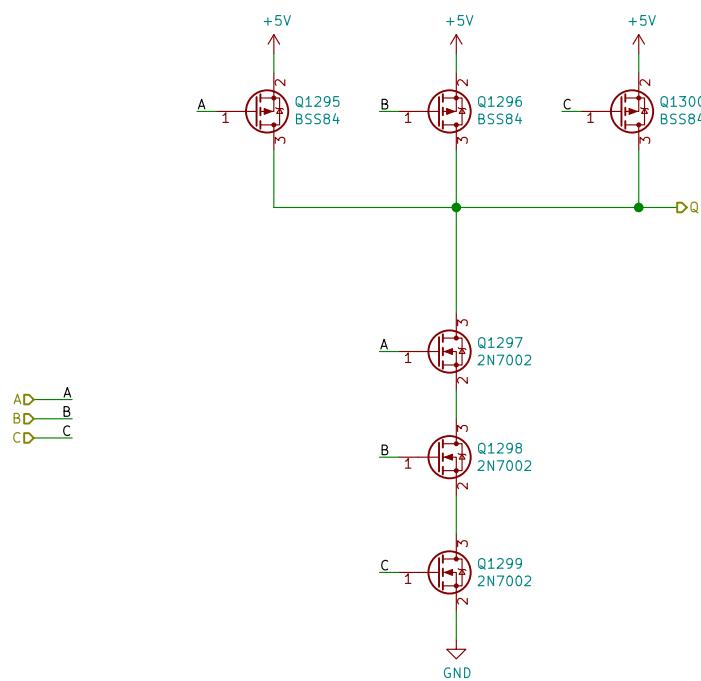
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 340/362

A



B

AD—A  
BD—B  
CD—C

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A8/sheet5E86E86/sheet5EFA5AF5/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

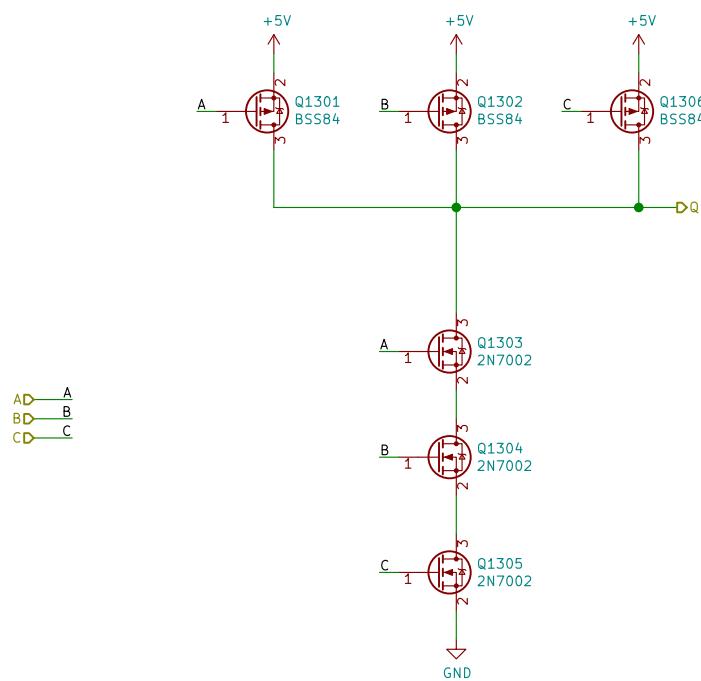
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 341/362

A



B

AD  
BD  
CD

A  
B  
C

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A8/sheet5E86E86/sheet5EFA5CA7/

File: Gate\_NAND3in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

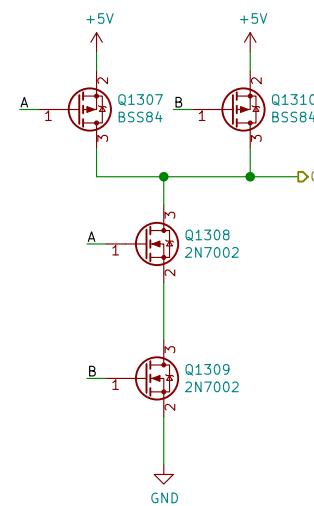
Id: 342/362

A

B

C

D

AD—A  
BD—B

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

[Philipp Schilk](#)

Sheet: /PlayerMem\_2/sheet5F1827A8/sheet5EFA6019/sheet5EFA6019/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

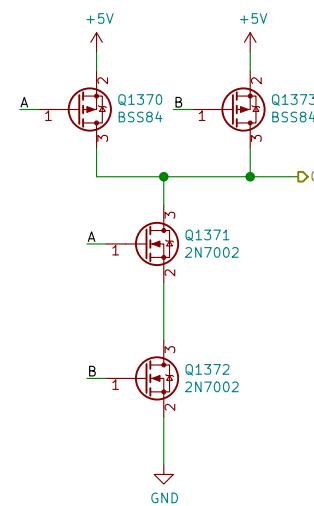
Id: 343/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F1827A8/sheet5F46F157/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

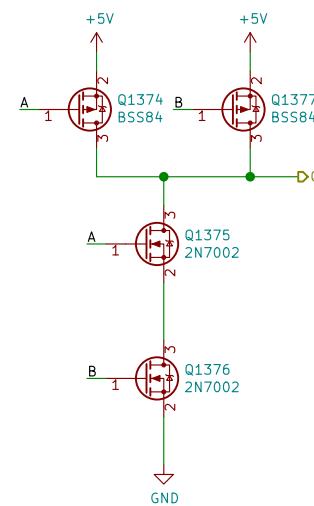
Id: 344/362

A

B

C

D

AD—A  
BD—B[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /PlayerMem\_2/sheet5F1827A8/sheet5F46F774/

File: Gate\_NAND2in.sch

**Title: Fets and Crosses**

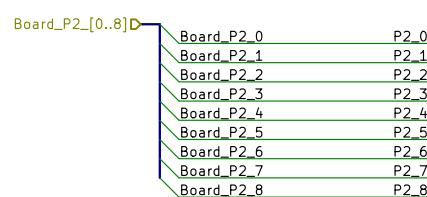
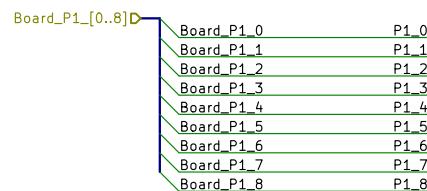
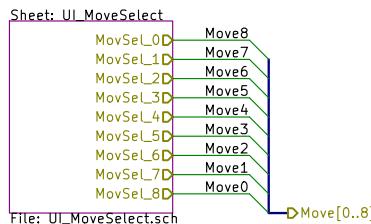
Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

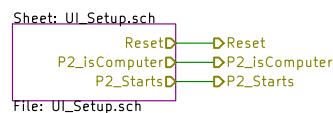
**Rev: v1.0**

Id: 345/362

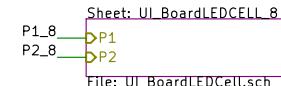
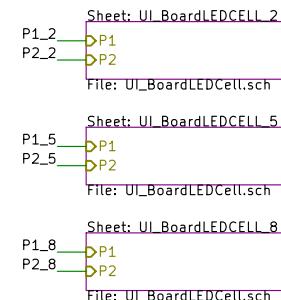
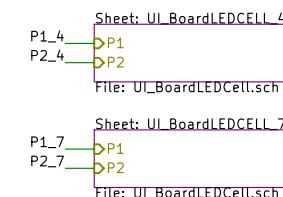
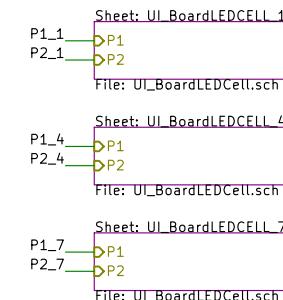
## Player Move Selection



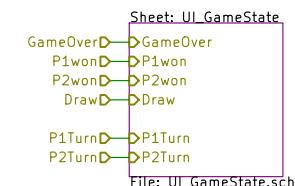
## Setup



## Board Display



## GameState Display



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: `/UI.sch/`

File: `UI.sch`

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 346/362

A

A

B

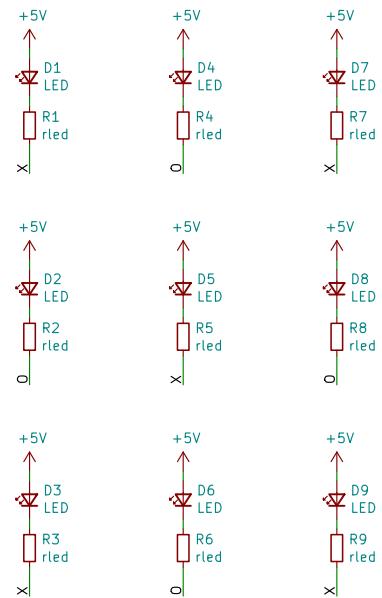
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /UI.sch/UI\_BoardLEDCELL\_0/

File: UI\_BoardLEDCell.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 347/362

A

A

B

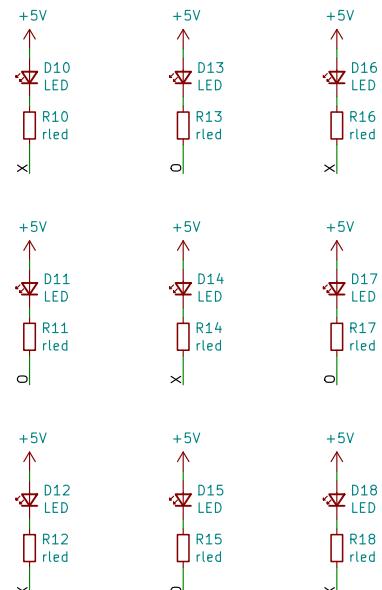
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /UI.sch/UI\_BoardLEDCELL\_1/

File: UI\_BoardLEDCell.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 348/362

A

A

B

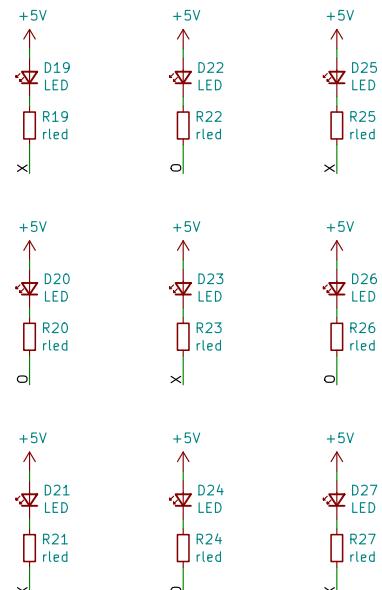
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /UI.sch/UI\_BoardLEDCELL\_2/

File: UI\_BoardLEDCell.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 349/362

A

A

B

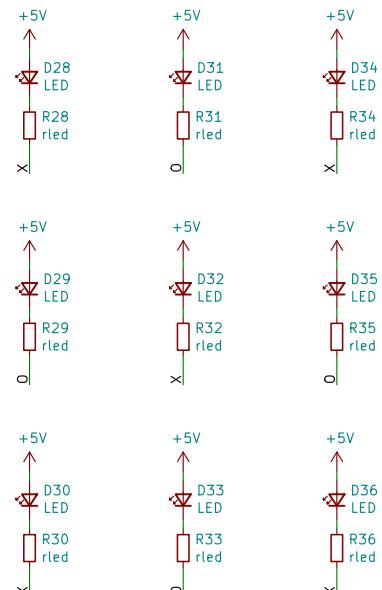
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /UI.sch/UI\_BoardLEDCELL\_3/  
File: UI\_BoardLEDCell.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**  
Id: 350/362

A

A

B

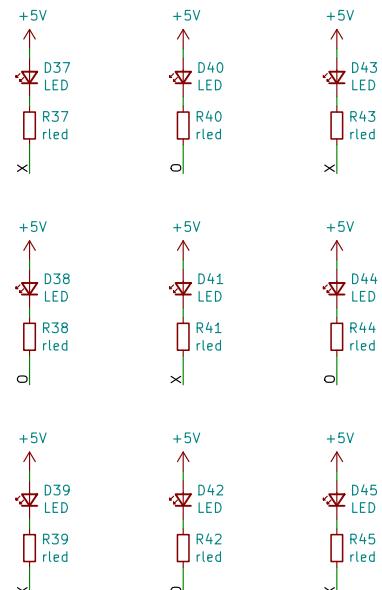
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /UI.sch/UI\_BoardLEDCELL\_4/

File: UI\_BoardLEDCell.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 351/362

A

A

B

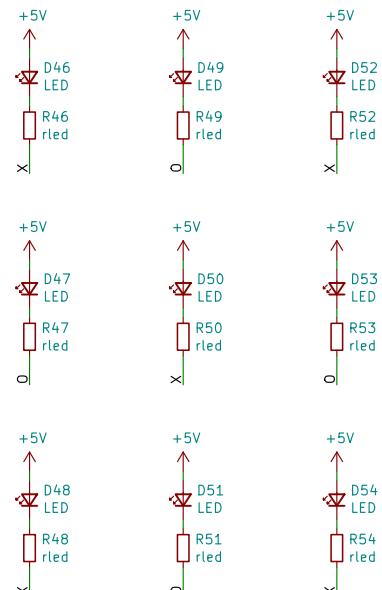
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /UI.sch/UI\_BoardLEDCELL\_5/  
File: UI\_BoardLEDCell.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 352/362

A

A

B

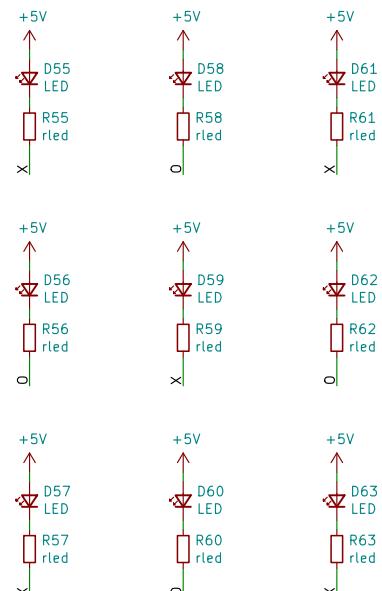
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /UI.sch/UI\_BoardLEDCELL\_6/  
File: UI\_BoardLEDCell.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 353/362

A

A

B

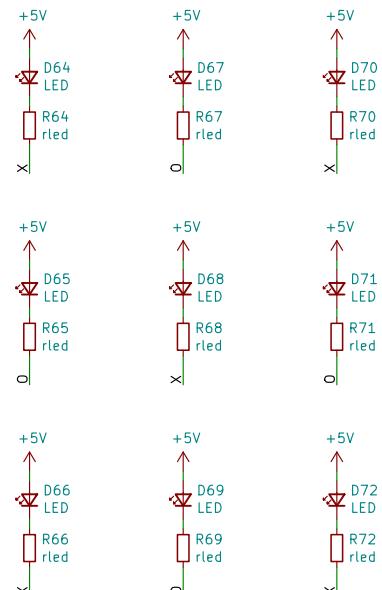
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /UI.sch/UI\_BoardLEDCELL\_7/  
File: UI\_BoardLEDCell.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**  
Id: 354/362

A

A

B

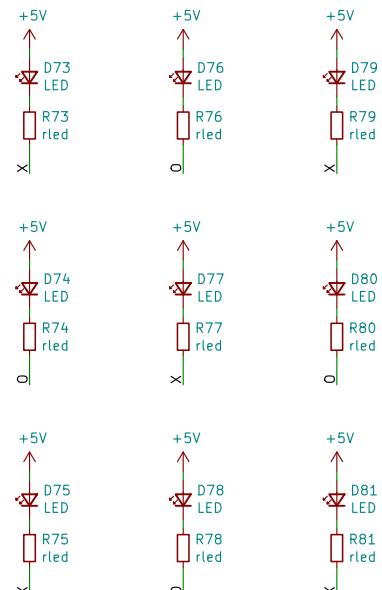
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /UI.sch/UI\_BoardLEDCELL\_8/  
File: UI\_BoardLEDCell.sch

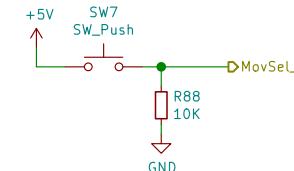
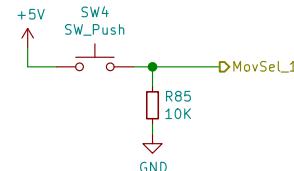
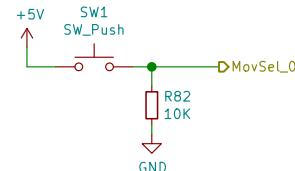
**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

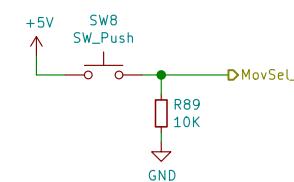
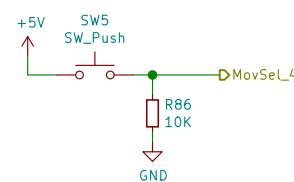
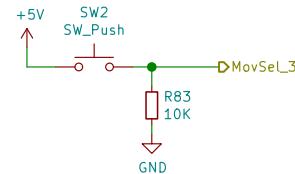
|             |
|-------------|
| Rev: v1.0   |
| Id: 355/362 |

1 2 3 4 5 6

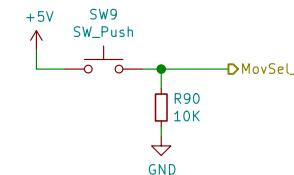
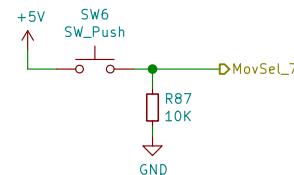
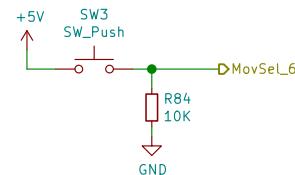
A



B



C



D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

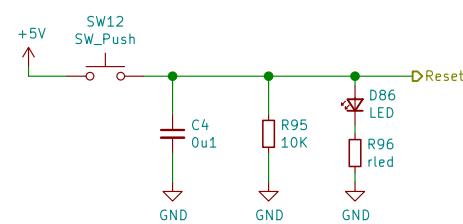
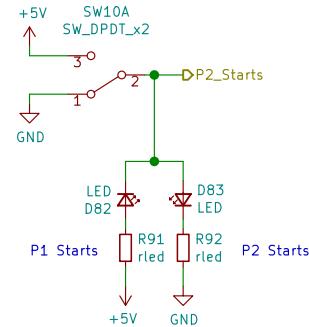
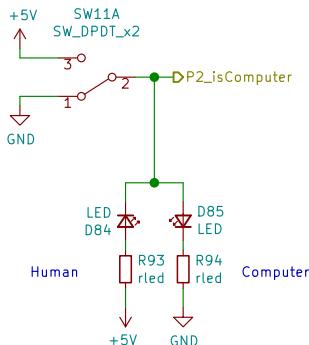
Sheet: /UI.sch/UI\_MoveSelect/  
File: UI\_MoveSelect.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 356/362

1 2 3 4 5 6

**Reset****P2 or P1 starts****P2: Computer vs. Human Select**

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /UI.sch/UI\_Setup.sch/

File: UI\_Setup.sch

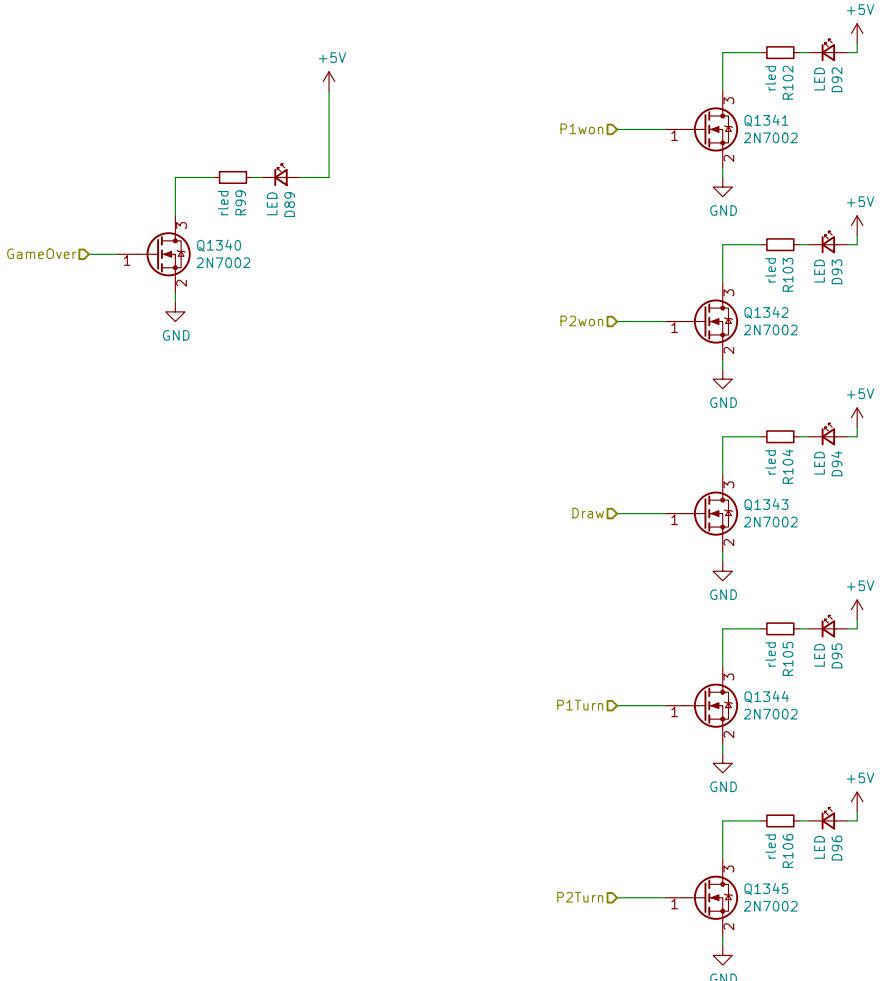
**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 357/362



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic  
**Philipp Schilk**

Sheet: /UI.sch/UI\_GameState/  
File: UI\_GameState.sch

**Title: Fets and Crosses**

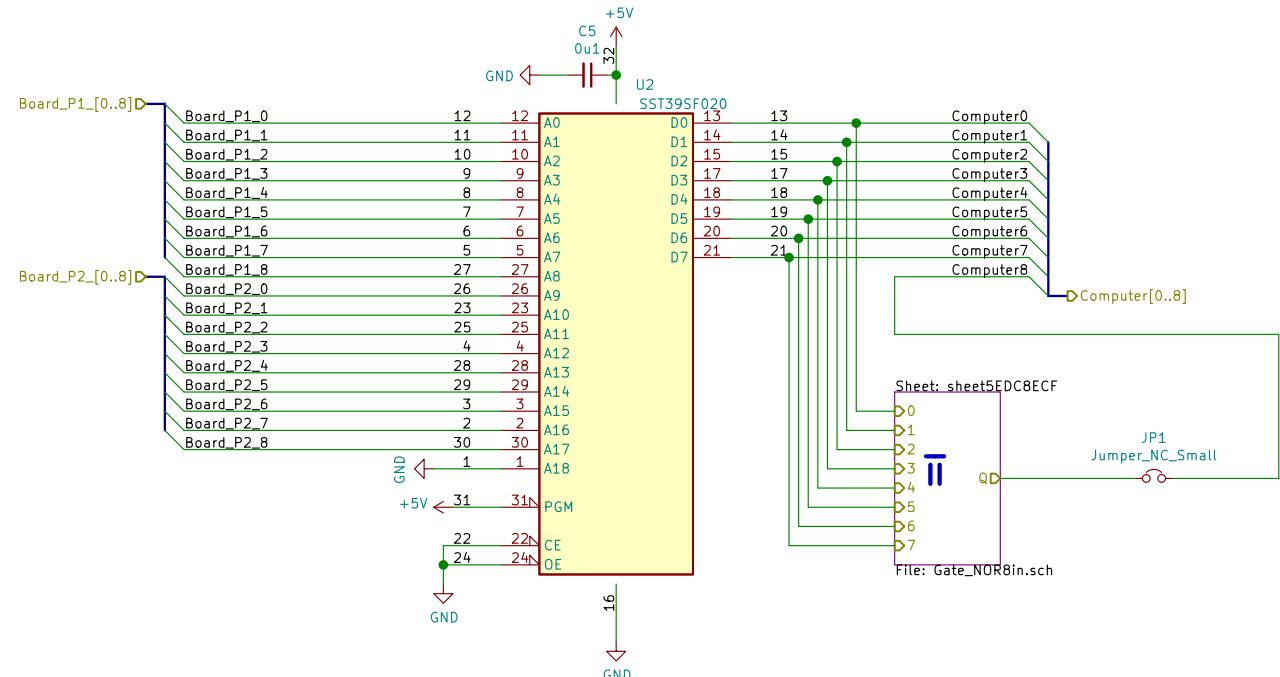
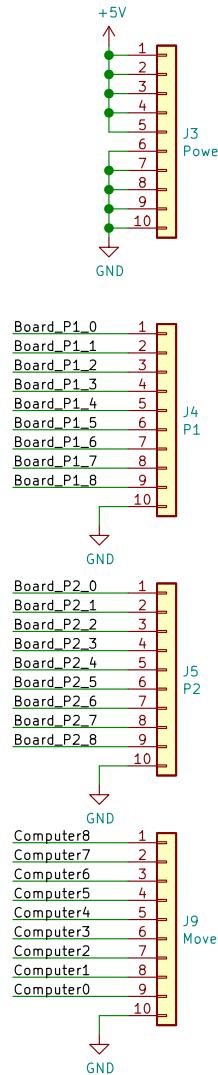
Size: A4 Date: 2021-05-23  
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0  
Id: 358/362

1 2 3 4 5 6

A

A



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /Computer/

File: Computer.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

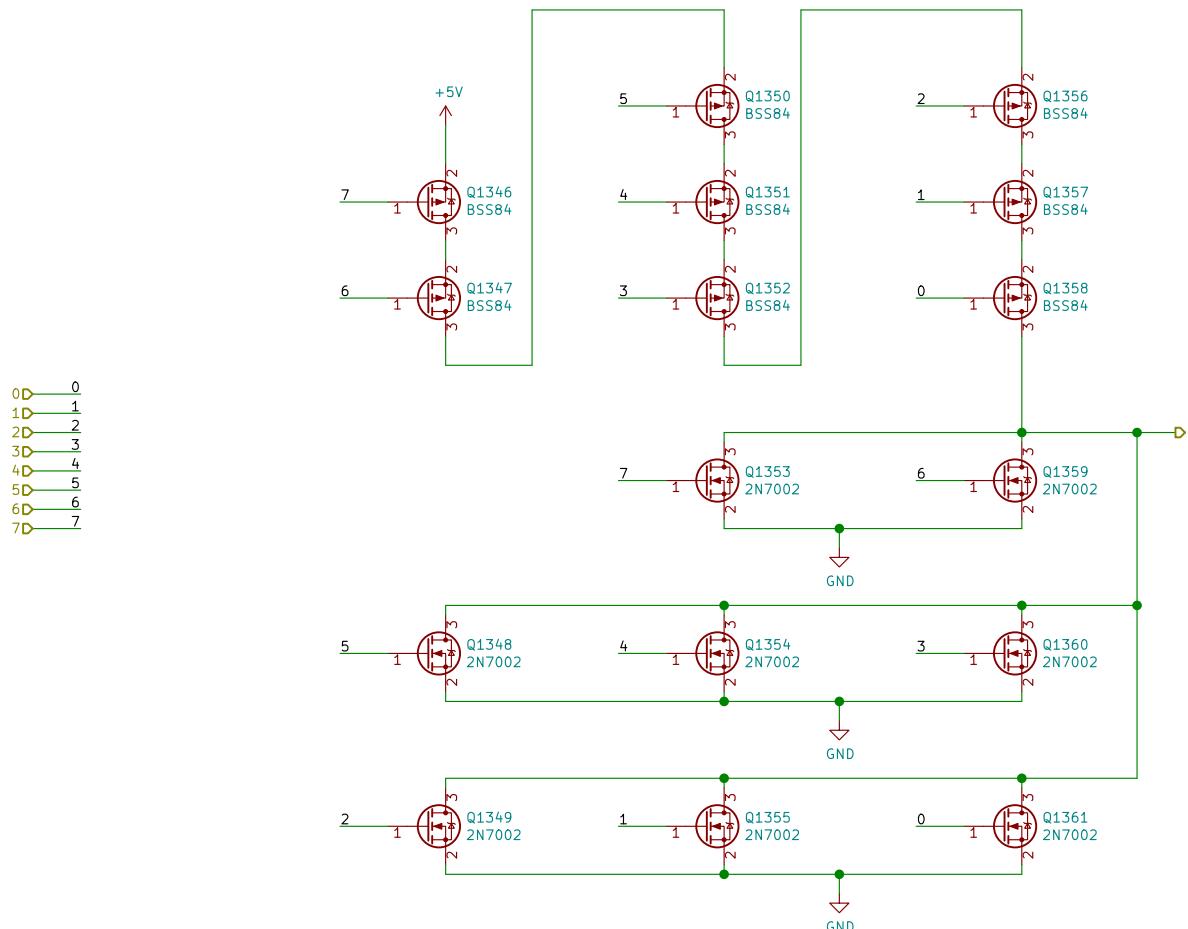
KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 359/362

1 2 3 4 5 6

A



B

C

D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

Philipp Schilk

Sheet: /Computer/sheet5EDC8ECF/

File: Gate\_NOR8in.sch

Title: Fets and Crosses

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

Rev: v1.0

Id: 360/362

A

A

B

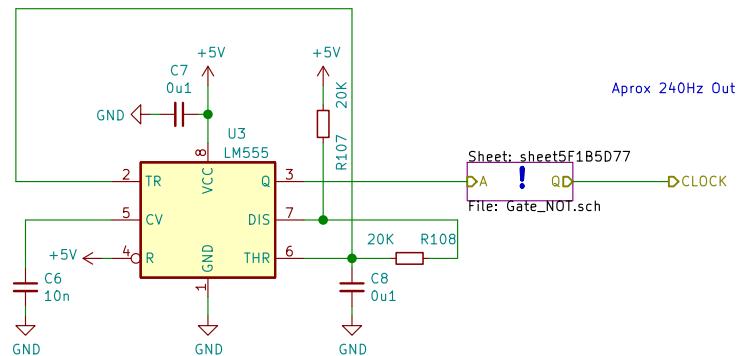
B

C

C

D

D



[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /Clock/  
File: Clock.sch

**Title: Fets and Crosses**

|                              |                  |
|------------------------------|------------------|
| Size: A4                     | Date: 2021-05-23 |
| KiCad E.D.A. kicad (5.1.9)-1 |                  |

|             |
|-------------|
| Rev: v1.0   |
| Id: 361/362 |

A

B

C

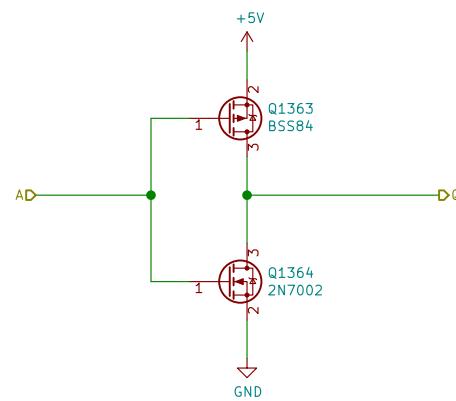
D

A

B

C

D

[https://github.com/TheSchilk/Fets\\_and\\_Crosses](https://github.com/TheSchilk/Fets_and_Crosses)

Tic-Tac-Toe implementation from discrete-transistor CMOS logic

**Philipp Schilk**

Sheet: /Clock/sheet5F1B5D77/

File: Gate\_NOT.sch

**Title: Fets and Crosses**

Size: A4 Date: 2021-05-23

KiCad E.D.A. kicad (5.1.9)-1

**Rev: v1.0**

Id: 362/362