

MAX 2A CONTINUOUS OUTPUT

All resistors low tolerance
All capacitors low ESR

Sheet:
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Title:

Size: A4
KiCad E.D.A. kicad (7.0.0)

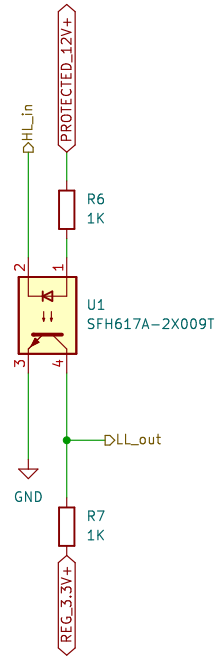
Date:

Rev:
Id: 2/30

SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
 $I_f = (12V - 1.35V) / 1K = 10.65mA$
 $I_c = 3.3 / 1K = 3.3mA$
 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

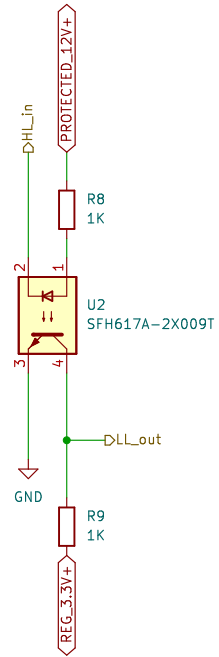


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File: Opto_ActLo.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 3/30

SFH617A-2X009T
CTR 63-125%
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Circuit CTR:
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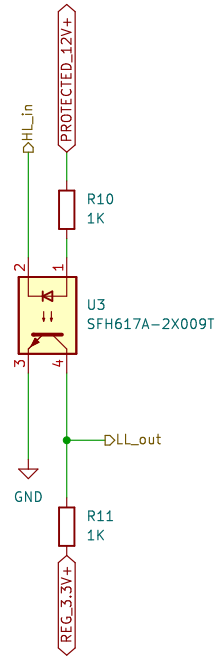


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SFH617A-2X009T
CTR 63-125%
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Circuit CTR:
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 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

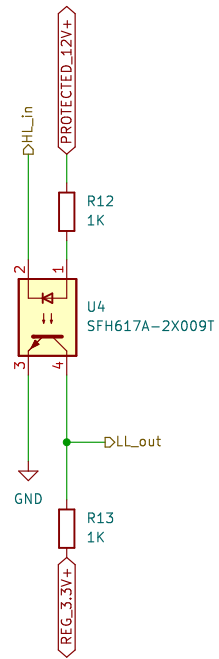


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Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 5/30

SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
 $I_f = (12V - 1.35V) / 1K = 10.65mA$
 $I_c = 3.3 / 1K = 3.3mA$
 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

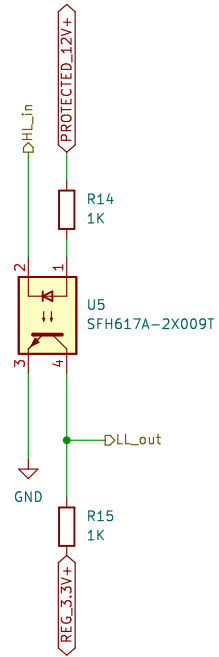


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Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 6/30

SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
 $I_f = (12V - 1.35V) / 1K = 10.65mA$
 $I_c = 3.3 / 1K = 3.3mA$
 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

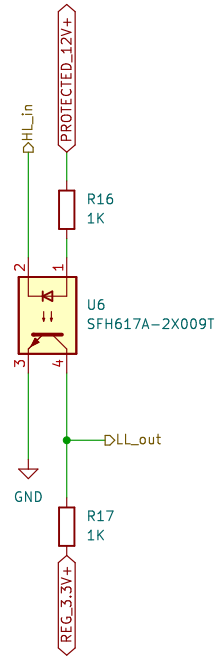


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Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 7/30

SFH617A-2X009T
CTR 63-125%
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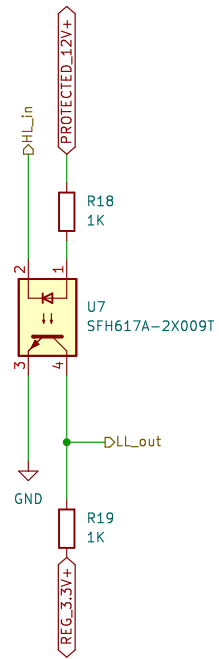


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Size: A4	Date:	Rev:
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SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

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Opto is always in saturation

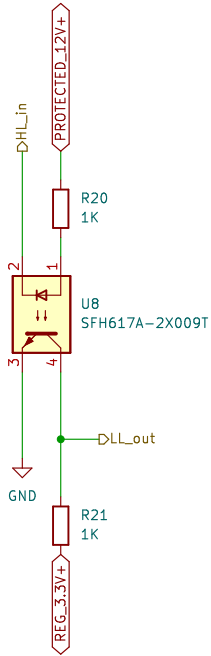


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Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 9/30

SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
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 $I_c = 3.3 / 1K = 3.3mA$
 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

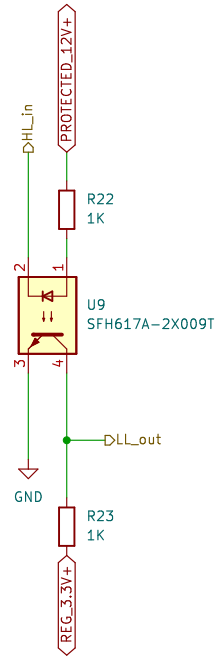


Sheet:		
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Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 10/30

SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
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 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

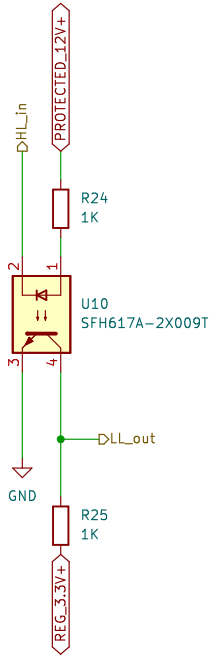


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Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 11/30

SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
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 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

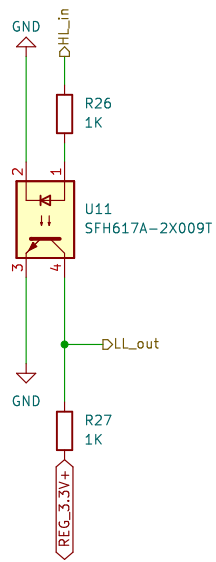


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SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
 $I_f = (12V - 1.35V) / 1K = 10.65mA$
 $I_c = 3.3 / 1K = 3.3mA$
 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

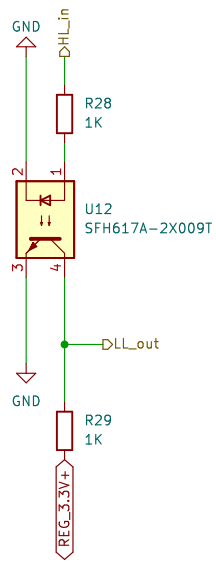


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Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 13/30

SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
 $I_f = (12V - 1.35V) / 1K = 10.65mA$
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 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

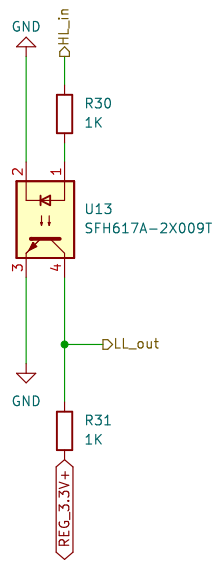


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File: Opto_ActHi.kicad_sch		
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Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 14/30

SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
 $I_f = (12V - 1.35V) / 1K = 10.65mA$
 $I_c = 3.3 / 1K = 3.3mA$
 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

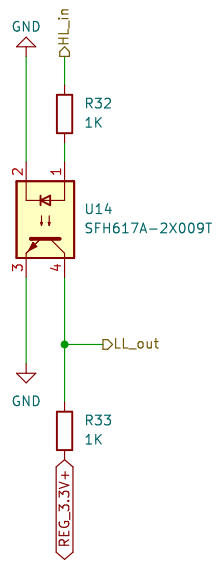


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File: Opto_ActHi.kicad_sch		
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Size: A4	Date:	Rev:
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SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
 $I_f = (12V - 1.35V) / 1K = 10.65mA$
 $I_c = 3.3 / 1K = 3.3mA$
 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation

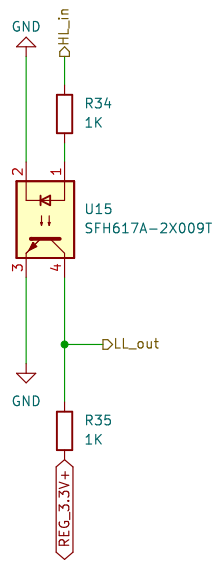


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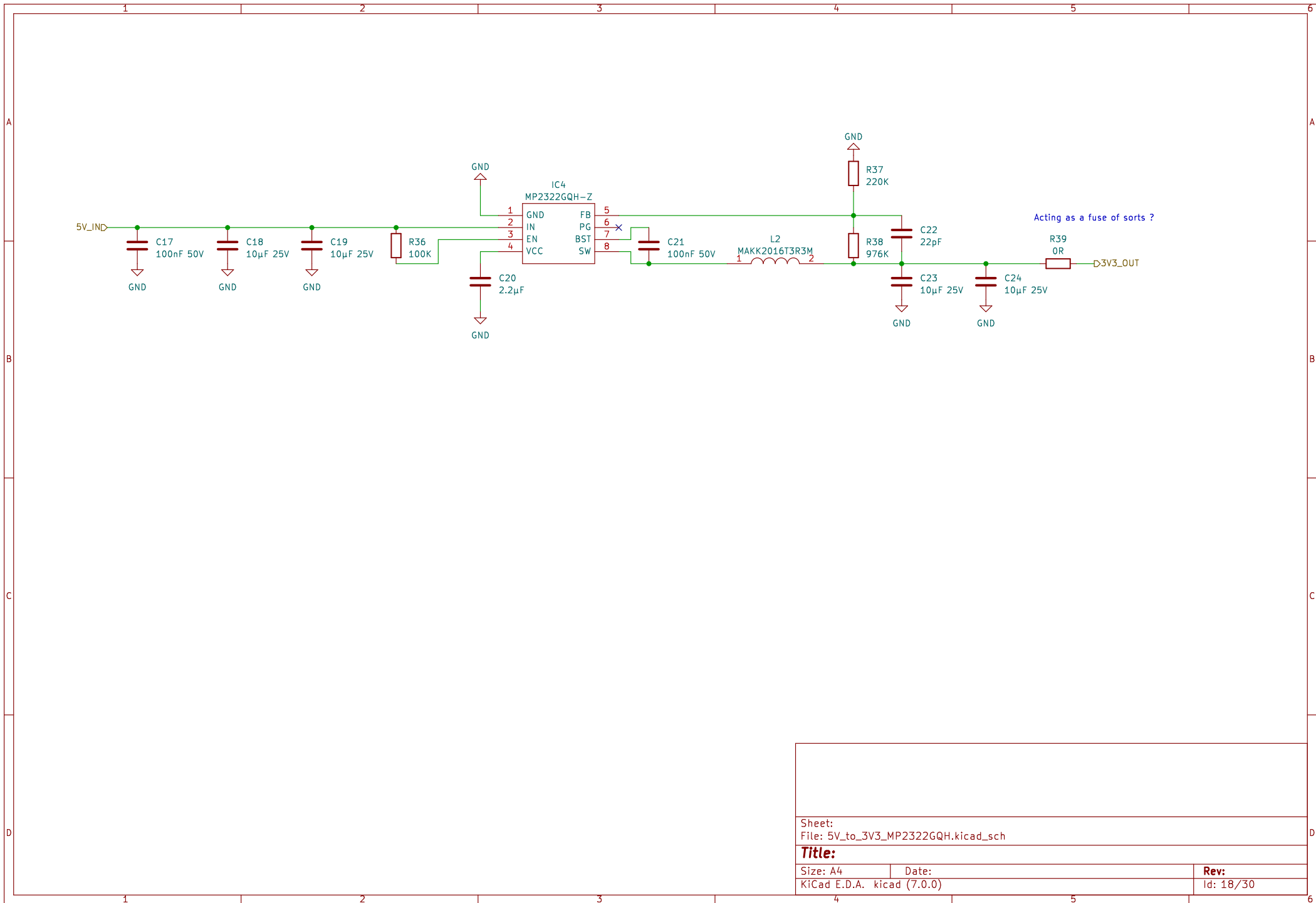
SFH617A-2X009T
CTR 63-125%
Vf = 1.35V

Circuit CTR:
 $I_f = (12V - 1.35V) / 1K = 10.65mA$
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 $CTR_c = 3.3 / 10.65 = 30.9\%$

Opto is always in saturation



Sheet:		
File: Opto_ActHi.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 17/30



Sheet:
File: 5V_to_3V3_MP2322GQH.kicad_sch

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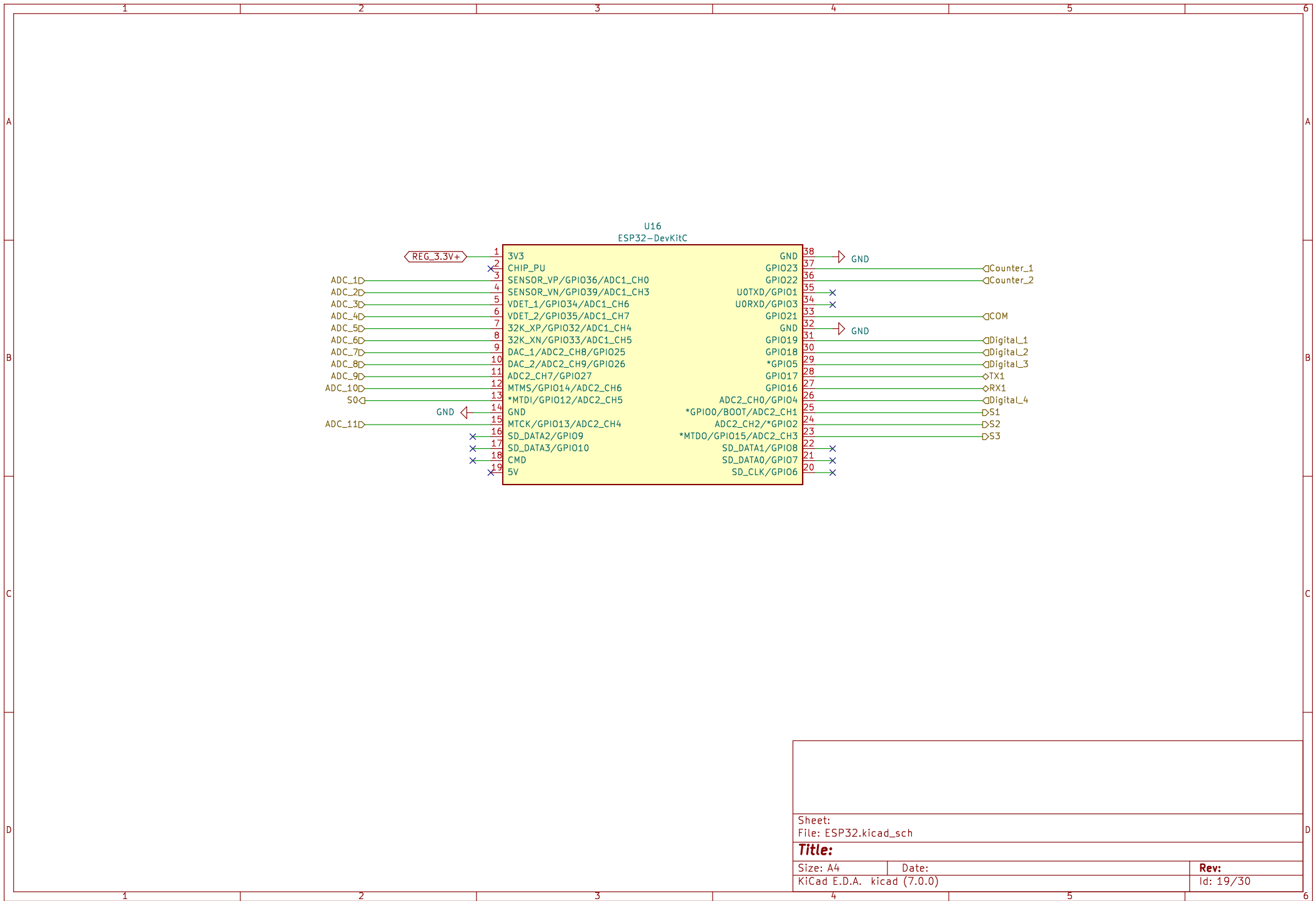
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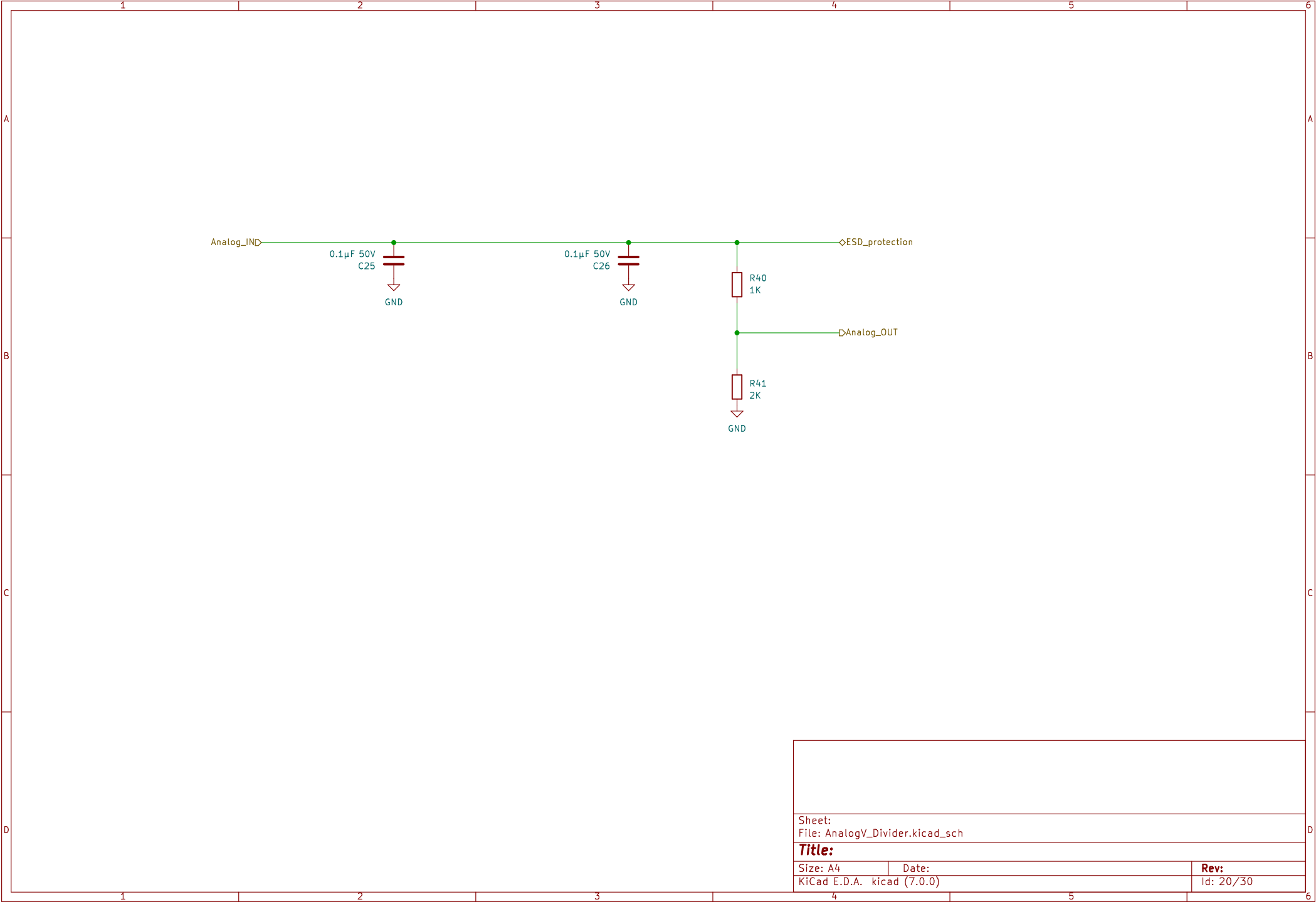
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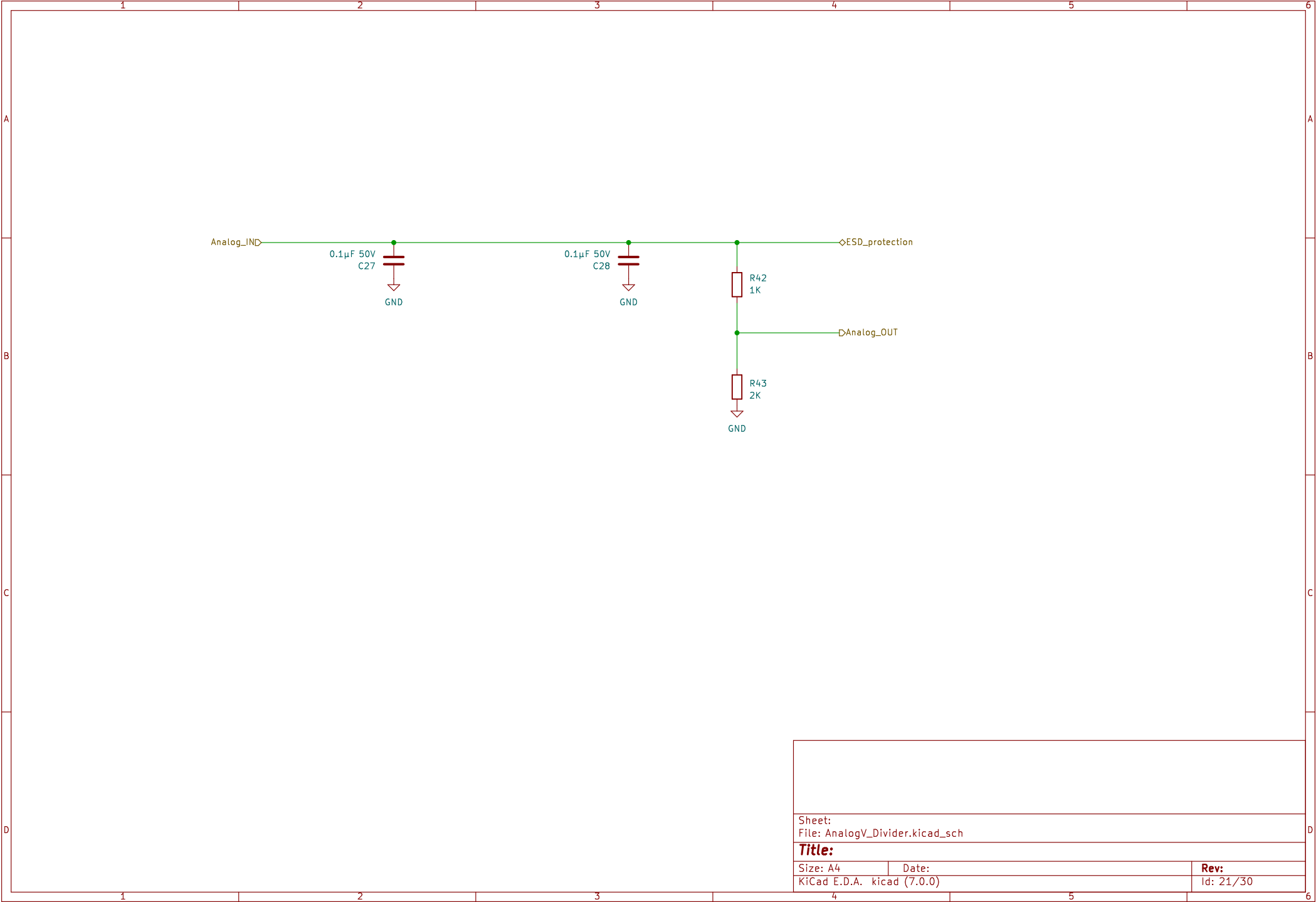
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Rev:

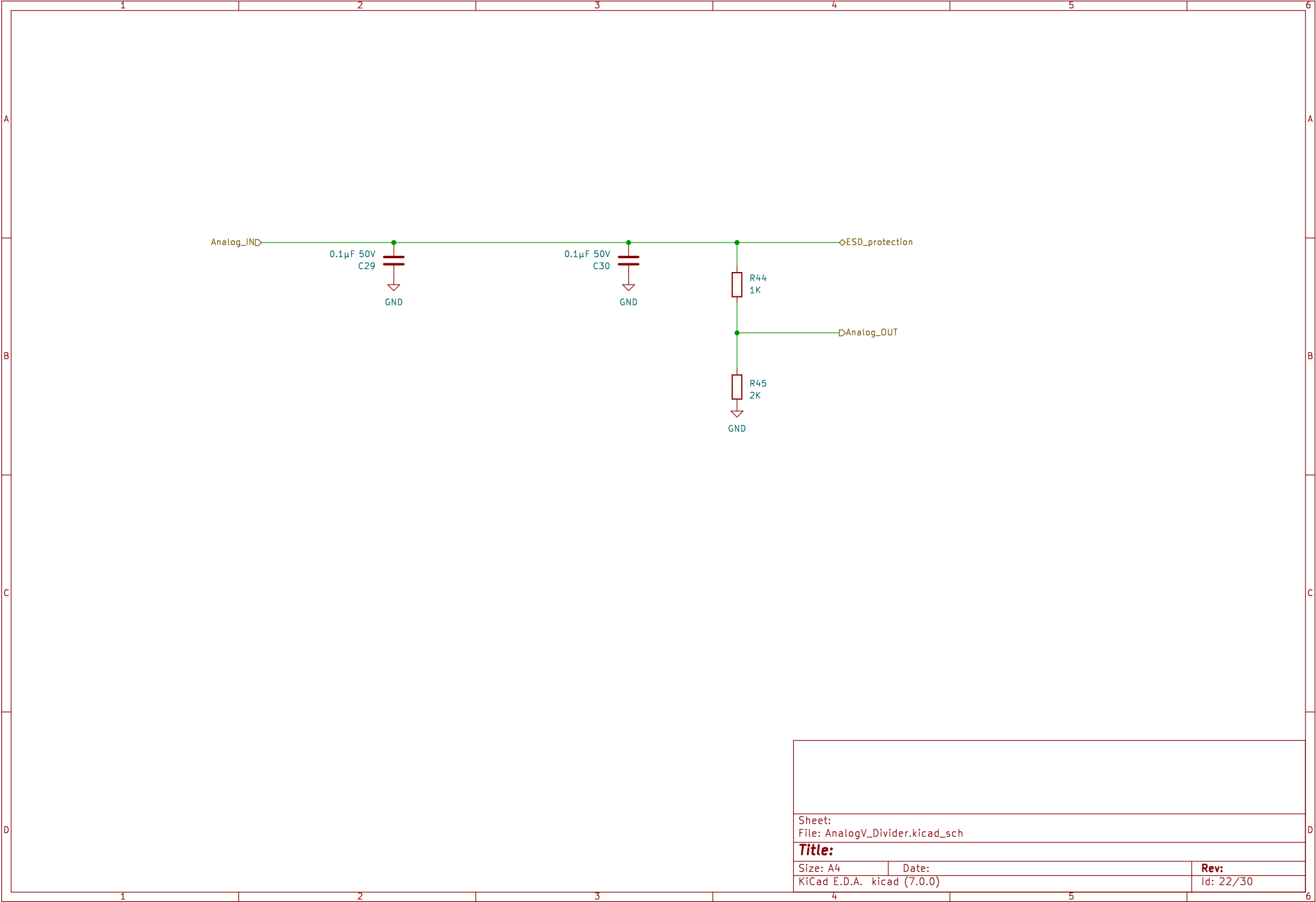
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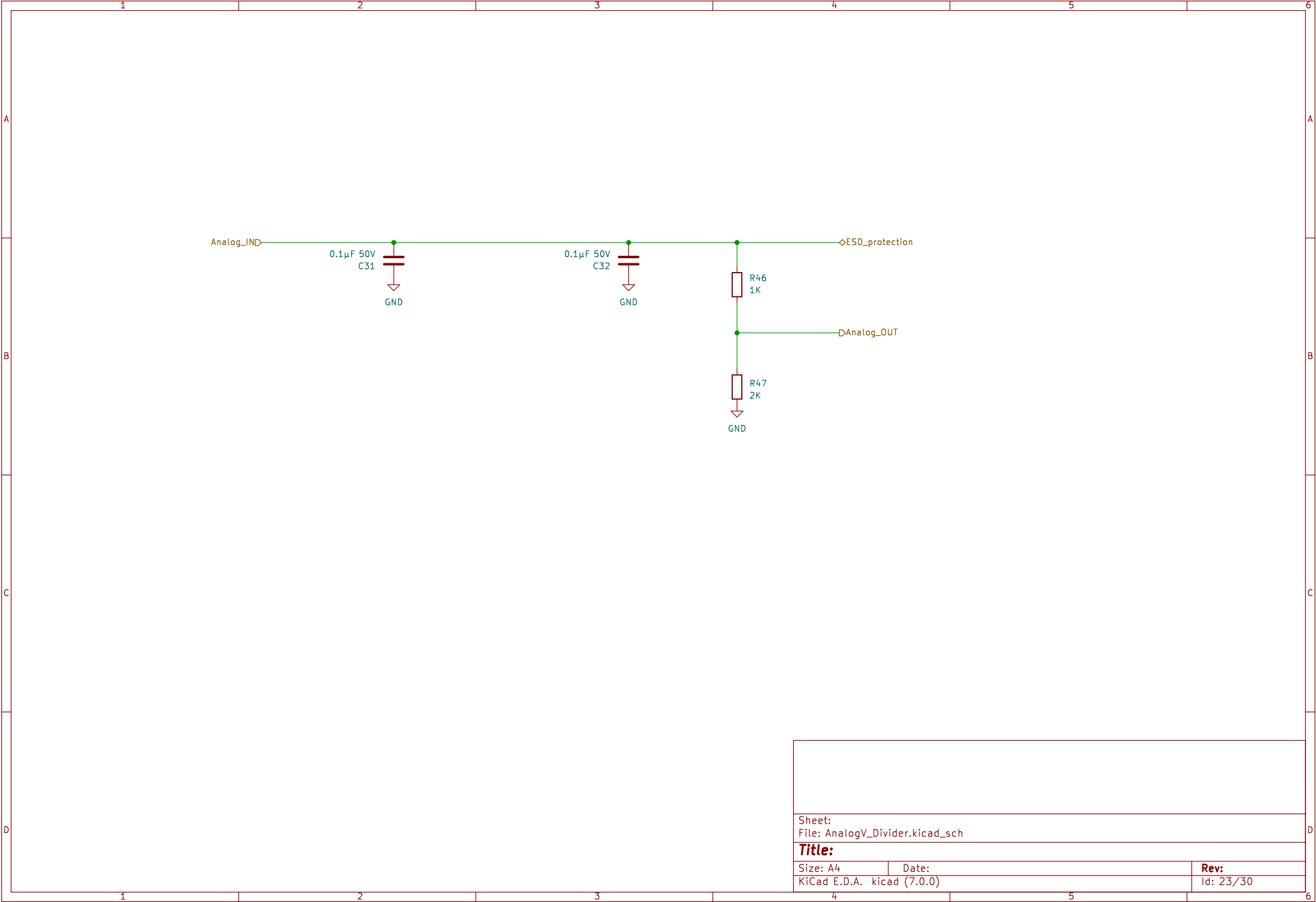




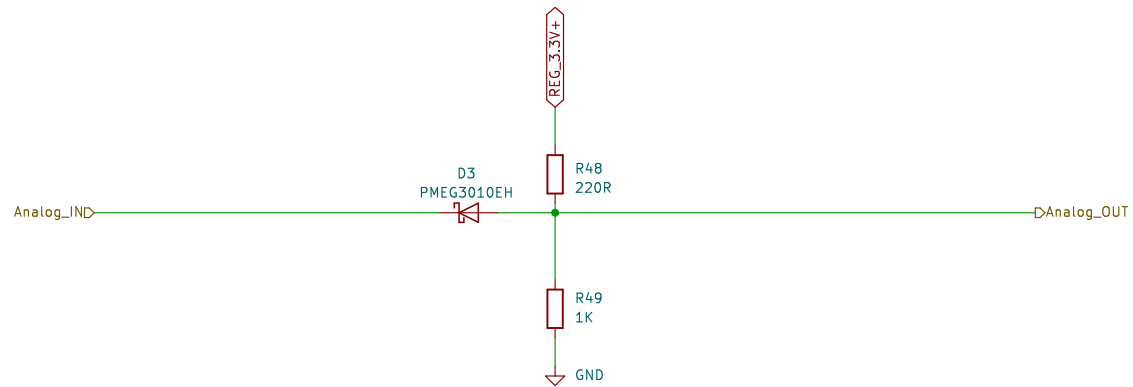


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Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 21/30





0.55 forward voltage diode for Spikes and backfeeding protection including short to +12V
Clamping ?
1K resistor in parallel -> increase for ECU sensor types ?
2200hm could be replaced by PPTC 30mA ?



Sheet:
File: AnalogR_Divider.kicad_sch

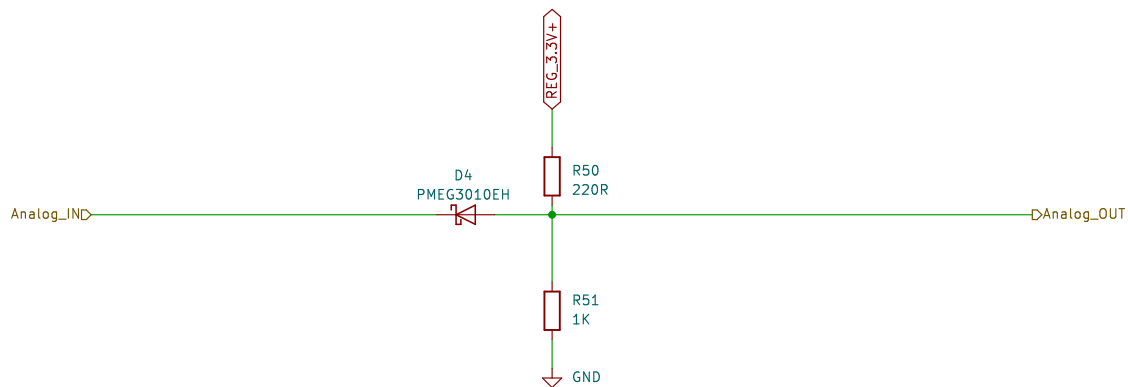
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Size: A4
KiCad E.D.A. kicad (7.0.0)

Date:

Rev:
Id: 24/30

0.55 forward voltage diode for Spikes and backfeeding protection including short to +12V
Clamping ?
1K resistor in parallel -> increase for ECU sensor types ?
2200hm could be replaced by PPTC 30mA ?



Sheet:
File: AnalogR_Divider.kicad_sch

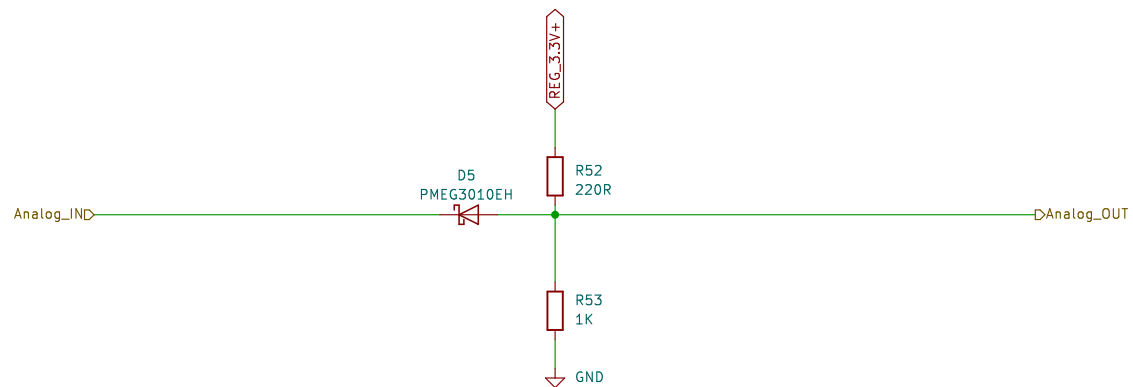
Title:

Size: A4
KiCad E.D.A. kicad (7.0.0)

Date:

Rev:
Id: 25/30

0.55 forward voltage diode for Spikes and backfeeding protection including short to +12V
Clamping ?
1K resistor in parallel -> increase for ECU sensor types ?
2200hm could be replaced by PPTC 30mA ?



Sheet:
File: AnalogR_Divider.kicad_sch

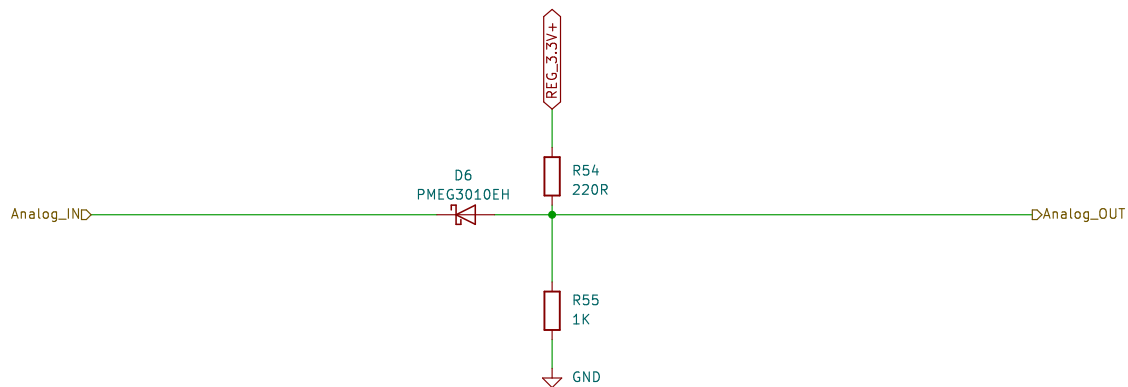
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Date:

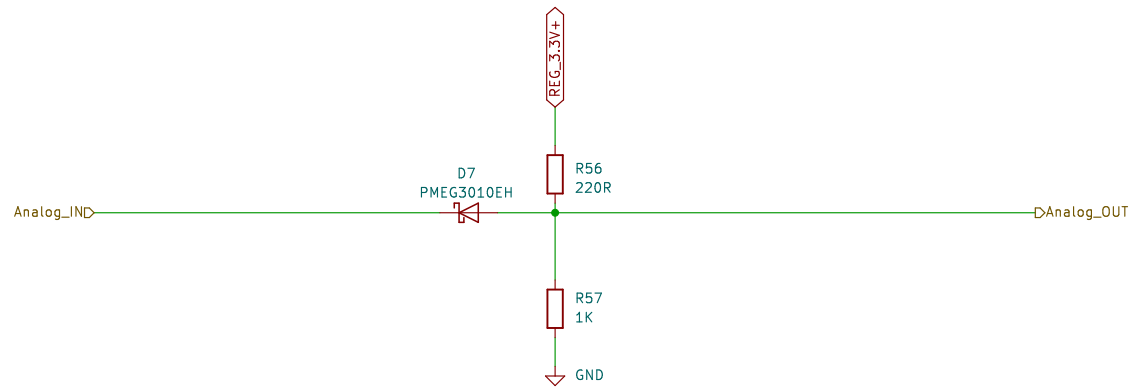
Rev:
Id: 26/30

0.55 forward voltage diode for Spikes and backfeeding protection including short to +12V
Clamping ?
1K resistor in parallel -> increase for ECU sensor types ?
2200hm could be replaced by PPTC 30mA ?



Sheet:		
File: AnalogR_Divider.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad (7.0.0)		Id: 27/30

0.55 forward voltage diode for Spikes and backfeeding protection including short to +12V
Clamping ?
1K resistor in parallel -> increase for ECU sensor types ?
2200hm could be replaced by PPTC 30mA ?



Sheet:
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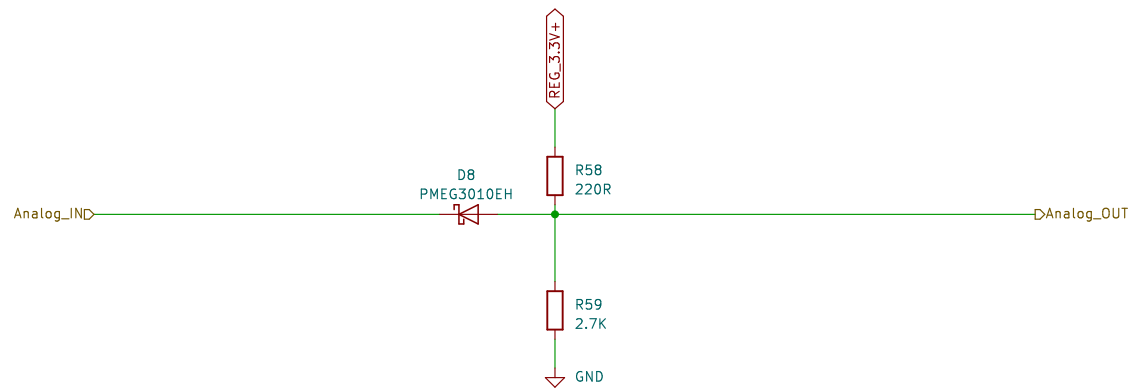
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KiCad E.D.A. kicad (7.0.0)

Date:

Rev:
Id: 28/30

0.55 forward voltage diode for Spikes and backfeeding protection including short to +12V
Clamping ?
1K resistor in parallel -> increase for ECU sensor types ?



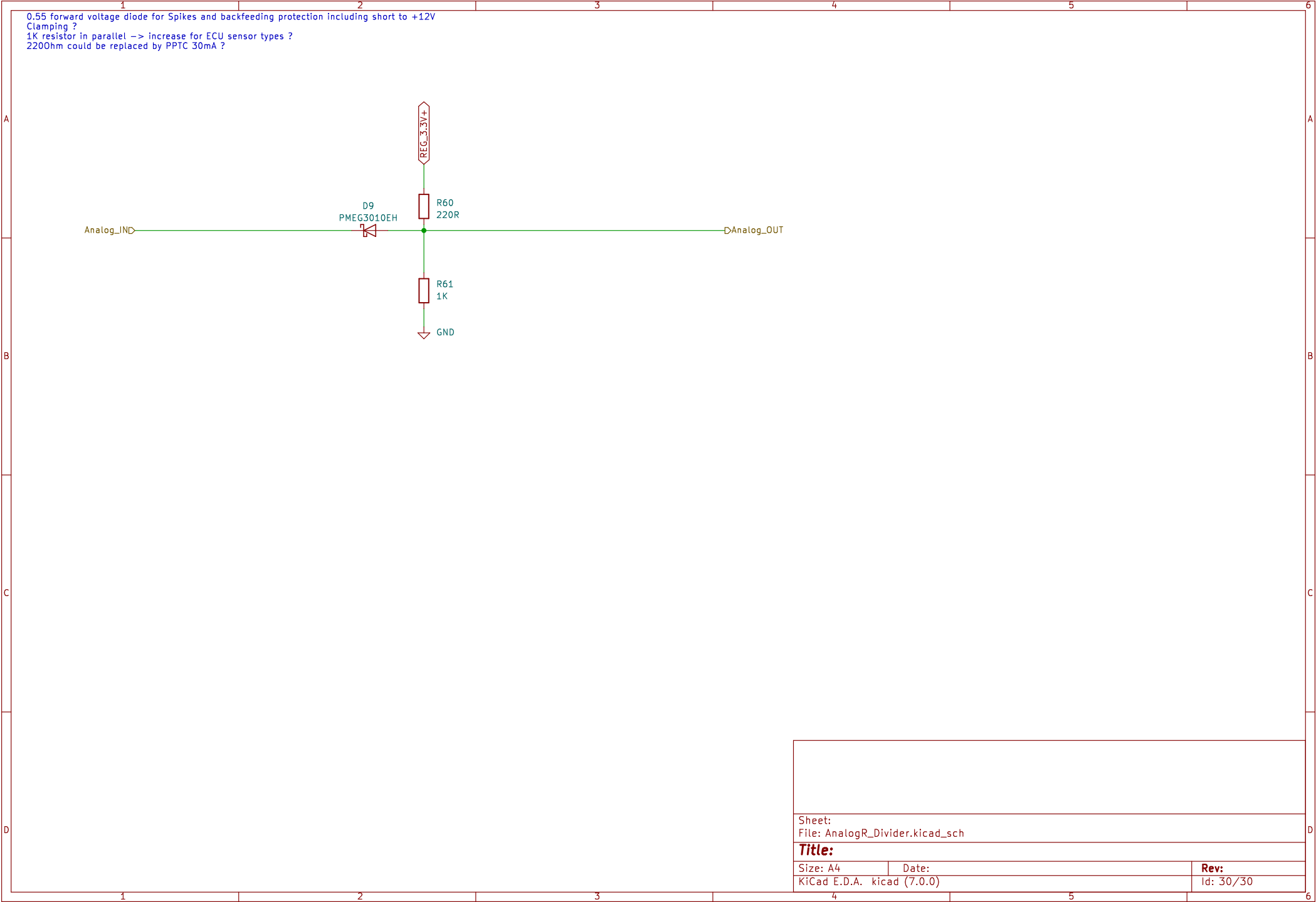
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Date:

Rev:
Id: 29/30



Sheet:		
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Size: A4	Date:	Rev:
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