MODULAR FLIP-DISC CLOCK - DISPLAY MODULE

PH1
8 CLR
7 CLK
6 EN
5 DIN
4
3 VCC
2
1 VFD
GND GND GND
D55 SS24 D56 SMAJ15A

VFD
C19 22u C18 22u C17 22u C16 22u C15 22u C14 22u C13 100n C12 100n
GND

VFD
C11 22u C10 22u C9 22u C8 22u C7 22u C6 22u C5 100n C4 100n
GND

VCC U3
16 VCC
14 SER
DIO2
CLK 11 SCK
CLR 10 SCL
EN 12 RCK
13 G
8 GND
595D
QA 15 HY2
QB 1 LDL6
QC 2 HDH6
QD 3 HDH5
QE 4 LDL5
QF 5 HY6
QG 6 LY6
QH 7 LY2
QH* 9 DIO2
VCC C1 100n GND GND

VCC U2
16 VCC
14 SER
DIO1
CLK 11 SCK
CLR 10 SCL
EN 12 RCK
13 G
8 GND
595D
QA 15 LY3
QB 1 LDL3
QC 2 HDH3
QD 3 HDH4
QE 4 LDL4
QF 5 HY4
QG 6 LY4
QH 7 HY3
QH* 9 DIO2
VCC C3 100n GND GND

VCC U1
16 VCC
14 SER
DIN
CLK 11 SCK
CLR 10 SCL
EN 12 RCK
13 G
8 GND
595D
QA 15 HY1
QB 1 LY1
QC 2 HY5
QD 3 LY5
QE 4 HDH2
QF 5 HDH1
QG 6 HDH1
QH 7 LDL1
QH* 9 DIO1
VCC C2 100n GND GND

Driver stages (high side)

R12 22k HDH6 Q36 N Q35 P DH6 R13 22k GND LDL6 Q34 N R14 22k GND GND DL6
R11 22k HDH5 Q33 N Q32 P DH5 R18 22k GND LDL5 Q31 N R17 22k GND GND DL5
R10 22k HDH4 Q30 N Q29 P DH4 R20 22k GND LDL4 Q28 N R19 22k GND GND DL4
R9 22k   HDH3 Q27 N Q26 P DH3 R22 22k GND LDL3 Q25 N R21 22k GND GND
R8 22k   HDH2 Q24 N Q23 P DH2 R24 22k GND LDL2 Q22 N R23 22k GND GND
R7 22k   HDH1 Q21 N Q20 P DH1 R26 22k GND LDL1 Q19 N R25 22k GND GND

R6 22k   HY6 Q18 N Q17 P DHL6 R28 22k GND LY6 Q16 N R27 22k GND GND
R5 22k   HY5 Q15 N Q14 P DHL5 R30 22k GND LY5 Q13 N R29 22k GND GND
R4 22k   HY4 Q12 N Q11 P DHL4 R32 22k GND LY4 Q10 N R31 22k GND GND
R3 22k   HY3 Q9 N   Q8 P   DHL3 R34 22k GND LY3 Q7 N   R33 22k GND GND
R2 22k   HY2 Q6 N   Q5 P   DHL2 R36 22k GND LY2 Q4 N   R35 22k GND GND
R1 22k   HY1 Q3 N   Q2 P   DHL1 R38 22k GND LY1 Q1 N   R37 22k GND GND

Display matrix

VFD GND D48 D47 D46 D45 DHL6 DHL5 DHL4 D54 VFD GND
VFD GND D40 D39 D38 D37 DHL6 DHL5 DHL4 D53 VFD GND
VFD GND D32 D31 D30 D29 DHL6 DHL5 DHL4 D52 VFD GND
DH6 DL6 DH5 DL5 DH4 DL4
VFD GND D44 D43 D42 D41 DHL3 DHL2 DHL1
VFD GND D36 D35 D34 D33 DHL3 DHL2 DHL1
VFD GND D28 D27 D26 D25 DHL3 DHL2 DHL1

VFD GND D24 D23 D22 D21 DHL6 DHL5 DHL4
VFD GND D16 D15 D14 D13 DHL6 DHL5 DHL4
VFD GND D8 D7 D6 D5 DHL6 DHL5 DHL4
DH3 DL3 DH2 DL2 DH1 DL1
VFD GND D20 D19 D18 D17 DHL3 DHL2 DHL1 D51 VFD GND
VFD GND D12 D11 D10 D9 DHL3 DHL2 DHL1   D50 VFD GND
VFD GND D4 D3 D2 D1 DHL3 DHL2 DHL1   D49 VFD GND

FLIPO

MODULAR FLIP-DISC CLOCK - DISPLAY MODULE
WWW.FLIPO.IO
VFD: 12V USB-C PD
SPI: DIN, EN, CLK
4x3x3 MOD V2
DATE: 06.09.2025