SK9822-A (APA102-type) ring data and clock arrive on J2 (JST XH 5-pin: DATA/GND/CLK/GND/NTC_RING) through R1/R2 (datasheet: series resistors on both lines). J1 carries power only. LED_Dn_DOUT/COUT run from_Dn SDO/CKO to Dn+1 SDI/CKI.

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Size: A0 | Date: | Rev:
KiCad E.D.A. 10.0.0 | Id: 1/1

POWER (JST VH 4-pin B4PS-VH side entry) +5V, GND, 3.4 GND. LCSC C157990). Mates the mainboard's MX1.0-4P-VH).

LED_DATA_RAW

LED_CLK_RAW

R1 680R

R2 680R

LED_DI_CIN

J2 LED_DATA_RAW LED_CLK_RAW +5V GND GND GND

J1 +5V +5V GND GND

C1 100nF

+5V

GND

+5V

GND

PWR_FLAG

+5V

PWR_FLAG

LED RING SIGNAL (JST XH 5-pin: DATA, GND, CLK, GND, NTC_RING. LCSC C157991)

J_LED_DATA_CLK_NTC_GND_5PIN_SMD_RA_S5B-PH-SM4-TB

NTC_RING

NTC_RING

R_NTC_10K_B3950 10k, B25/85 3434K, 0603 (LCSC C77964) — ring thermistor, top side. Inside the inner LEDs.

THI: ring thermistor (NTC to GND: not the 5V pull-up, 1k and 100nF are on the mainboard at J-LED-SIG pin 5 -> GPIO3). On the top side, inside the inner LEDs, where their heat collects.

SX9822-A

+5V GND LED_DI_CIN LED_CI_CIN LED_DO_DOUT LED_CO_COUT

C1 100nF
C2 100nF
C3 100nF
C4 100nF
C5 100nF
C6 100nF
C7 100nF
C8 100nF
C9 100nF
C10 100nF
C11 100nF
C12 100nF
C13 100nF
C14 100nF
C15 100nF
C16 100nF
C17 100nF
C18 100nF
C19 100nF
C20 100nF
C21 100nF
C22 100nF
C23 100nF
C24 100nF
C25 100nF
C26 100nF
C27 100nF
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C173 100nF
C174 100nF
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C177 100nF
C178 100nF
C179 100nF
C180 100nF
D1 LED_DI_CIN LED_CI_CIN LED_DO_DOUT LED_CO_COUT
D2 LED_D1_DOUT LED_C1_COUT LED_D2_DOUT LED_C2_COUT
D3 LED_D2_DOUT LED_C2_COUT LED_D3_DOUT LED_C3_COUT
D4 LED_D3_DOUT LED_C3_COUT LED_D4_DOUT LED_C4_COUT
D5 LED_D4_DOUT LED_C4_COUT LED_D5_DOUT LED_C5_COUT
D6 LED_D5_DOUT LED_C5_COUT LED_D6_DOUT LED_C6_COUT
D7 LED_D6_DOUT LED_C6_COUT LED_D7_DOUT LED_C7_COUT
D8 LED_D7_DOUT LED_C7_COUT LED_D8_DOUT LED_C8_COUT
D9 LED_D8_DOUT LED_C8_COUT LED_D9_DOUT LED_C9_COUT
D10 LED_D9_DOUT LED_C9_COUT LED_D10_DOUT LED_C10_COUT
D11 LED_D10_DOUT LED_C10_COUT LED_D11_DOUT LED_C11_COUT
D12 LED_D11_DOUT LED_C11_COUT LED_D12_DOUT LED_C12_COUT
D13 LED_D12_DOUT LED_C12_COUT LED_D13_DOUT LED_C13_COUT
D14 LED_D13_DOUT LED_C13_COUT LED_D14_DOUT LED_C14_COUT
D15 LED_D14_DOUT LED_C14_COUT LED_D15_DOUT LED_C15_COUT
D16 LED_D15_DOUT LED_C15_COUT LED_D16_DOUT LED_C16_COUT
D17 LED_D16_DOUT LED_C16_COUT LED_D17_DOUT LED_C17_COUT
D18 LED_D17_DOUT LED_C17_COUT LED_D18_DOUT LED_C18_COUT
D19 LED_D18_DOUT LED_C18_COUT LED_D19_DOUT LED_C19_COUT
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D27 LED_D26_DOUT LED_C26_COUT LED_D27_DOUT LED_C27_COUT
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D29 LED_D28_DOUT LED_C28_COUT LED_D29_DOUT LED_C29_COUT
D30 LED_D29_DOUT LED_C29_COUT LED_D30_DOUT LED_C30_COUT
D31 LED_D30_DOUT LED_C30_COUT LED_D31_DOUT LED_C31_COUT
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D34 LED_D33_DOUT LED_C33_COUT LED_D34_DOUT LED_C34_COUT
D35 LED_D34_DOUT LED_C34_COUT LED_D35_DOUT LED_C35_COUT
D36 LED_D35_DOUT LED_C35_COUT LED_D36_DOUT LED_C36_COUT
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D38 LED_D37_DOUT LED_C37_COUT LED_D38_DOUT LED_C38_COUT
D39 LED_D38_DOUT LED_C38_COUT LED_D39_DOUT LED_C39_COUT
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D45 LED_D44_DOUT LED_C44_COUT LED_D45_DOUT LED_C45_COUT
D46 LED_D45_DOUT LED_C45_COUT LED_D46_DOUT LED_C46_COUT
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D175 LED_D174_DOUT LED_C174_COUT LED_D175_DOUT LED_C175_COUT
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D186 LED_D185_DOUT LED_C185_COUT LED_D186_DOUT LED_C186_COUT
D187 LED_D186_DOUT LED_C186_COUT LED_D187_DOUT LED_C187_COUT
D188 LED_D187_DOUT LED_C187_COUT LED_D188_DOUT LED_C188_COUT