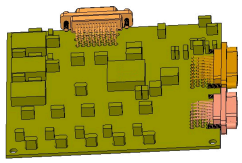
24 V DC-DC Power and Control Board

11 DC output rails from a 20–25 V DC input, with SPI, I²C and 3.3 V and 5 V TTL outputs.



DC input and regulation

Parameter	Specification
Nominal DC input	+24 VDC
DC input range	+20 … +25 VDC
Conversion efficiency	≥85% · Rated input and load
Voltage regulation	≤1% · T_a = 25 ±5 °C · 100%
Output ripple and noise	≤100 mV · Rated input and load · T_a = 25 ±5 °C · BW = 20 MHz · 47 µF + 1 µF

DC output rails

Parameter	Specification
VO1 (+5V1)	+5 VDC · ≥2 A
VO2 (+5V2)	+5 VDC · ≥2 A
VO3 (+6V)	+6 VDC · ≥2 A
VO4 (+12V1)	+12 VDC · ≥2 A
VO5 (+12V2)	+12 VDC · ≥2 A
VO6 (+12V3)	+12 VDC · ≥2 A
VO7 (+12V4)	+12 VDC · ≥2 A
VO8 (+19V)	+19 VDC · ≥12 A
VO9 (+24V1)	+24 VDC · ≥2 A
VO10 (+24V2)	+24 VDC · ≥2 A
VO11 (+28V)	+28 VDC · ≥3 A

Control and communication

Parameter	Specification
SPI	XS2 · CS0, CS1, CS2, CS3, CS4
I²C	XS2 · SDA, SCL
TTL 3.3 V	XS2 · TTL0–TTL4

Control and communication

Parameter	Specification
TTL 5 V	XS2 · TTL0–TTL4
Output enable	Each output rail

Protection with automatic recovery

Parameter	Specification
Input reverse polarity	Provided
Output short circuit	Provided
Overtemperature	Provided

Temperature limits

Parameter	Specification
Operating temperature	−40 … +50 °C
Storage temperature	−40 … +80 °C

XS1 · J30J-25ZKW

Parameter	Specification
1–7, 14–19	GND
8–13, 20–25	+VIN

XS2 · J30J-31ZKW

Parameter	Specification
1–10	GND
11	SDA
12	SCL
13	VCC (3.3 V)
14	CS2
15	CS3
16	CS4
17	3.3V-TTL0
18	3.3V-TTL1
19	3.3V-TTL2

XS2 · J30J-31ZKW

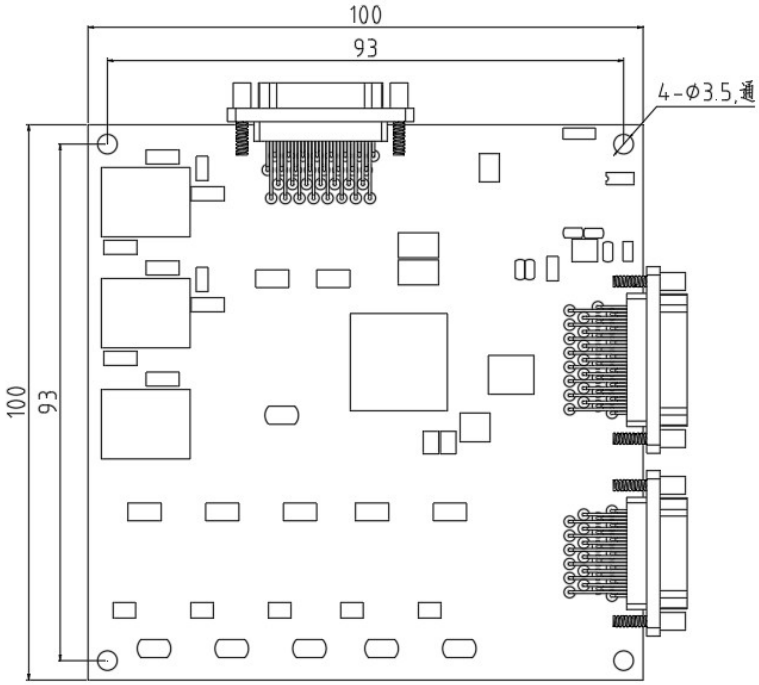
Parameter	Specification
20	3.3V-TTL3
21	3.3V-TTL4
22	5.0V-TTL0
23	5.0V-TTL1
24	5.0V-TTL2
25	5.0V-TTL3
26	5.0V-TTL4
27	MOSI
28	MISO
29	SCLK
30	CS0
31	CS1

XS3 · J30J-31TJW

Parameter	Specification
1–14	GND
15–16	+28V
17–18	+5V1
19–20	+5V2
21	+6V
22	+12V1
23	+12V2
24	+12V3
25	+12V4
26–29	+19V
30	+24V1
31	+24V2

Mechanical dimensions

Parameter	Specification
PCB outline	100 × 100 mm
Mounting holes	4 × Ø3.5 mm
Mounting hole center spacing	93 × 93 mm
Board mass	200 g



Document notice

Specifications are subject to revision. Before design release, confirm the current document revision and product-specific requirements with LCRF. The approved quotation and order documentation define the supplied configuration.