

JCF10 Series



- 2:1 Input Range
- DIP-24 Metal Package
- Operating Temperature -40 °C to +100 °C
- High Efficiency up to 89%
- 1500 VDC Isolation
- Input Pi Filter
- Continuous Short Circuit Protection

Specification

Input

Input Voltage Range	• 24 V (18-36 VDC) • 48 V (36-75 VDC)
Input Current	• See table
Input Filter	• Pi network
Undervoltage Lockout	• Turn on >71% nominal input • Turn off <67% nominal input

Output

Output Voltage	• See table
Minimum Load	• None
Line Regulation	• $\pm 0.2\%$
Load Regulation	• $\pm 0.5\%$
Setpoint Accuracy	• $\pm 1.0\%$
Ripple & Noise	• 75 mV pk-pk, 20 MHz BW
Transient Response	• $\pm 5\%$ deviation recovery to within 1% in <500 μs for a 25% step load change
Temperature Coefficient	• $\pm 0.05\%/^{\circ}\text{C}$
Overvoltage Protection	• On single output models only • 2.5 V models: 3.9 V typical, • 3.3 V models: 3.9 V typical, • 5.0 V models: 6.2 V typical, • 12.0 V models: 15.0 V typical
Overcurrent Protection	• 110-140%
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery

General

Efficiency	• See table
Isolation Voltage	• 1500 VDC min
Switching Frequency	• 380 kHz typical
MTBF	• 1,000 kHrs min per MIL-HDBK-217F

Environmental

Operating Temperature	• -40 °C to +100 °C (see derating curve)
Case Temperature	• +100 °C max
Storage Temperature	• -40 °C to +125 °C
Cooling	• Convection-cooled
Operating Humidity	• Up to 95% RH, non-condensing
Shock	• 30 g, half sine wave 18 ms pulse applied 3 times on each of 6 axes
Vibration	• 5-500 Hz, 3 g, for 10 mins on each of 3 axes

EMC

Emissions	• EN55022, Level A conducted & radiated with external components (contact technical sales for details)
ESD Immunity	• EN61000-4-2, Level 2 Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3 V rms Perf Criteria A

Models and Ratings

Input Voltage	Output Voltage	Output Current	Input Current ⁽¹⁾		Efficiency	Model Number
			No Load	Full Load		
18-36 VDC	2.5 VDC	3.00 A	30 mA	368 mA	85%	JCF1024S2V5 [^]
	3.3 VDC	3.00 A	30 mA	480 mA	86%	JCF1024S3V3 [^]
	5.0 VDC	2.00 A	30 mA	475 mA	88%	JCF1024S05 [^]
	12.0 VDC	0.84 A	30 mA	470 mA	89%	JCF1024S12 [^]
36-75 VDC	2.5 VDC	3.00 A	15 mA	185 mA	85%	JCF1048S2V5 [^]
	3.3 VDC	3.00 A	15 mA	240 mA	86%	JCF1048S3V3 [^]
	5.0 VDC	2.00 A	15 mA	240 mA	87%	JCF1048S05 [^]
	12.0 VDC	0.84 A	15 mA	235 mA	89%	JCF1048S12 [^]

Notes

1. Input current measured at nominal input voltage.

[^] Available from Newark. See pages 207-208.

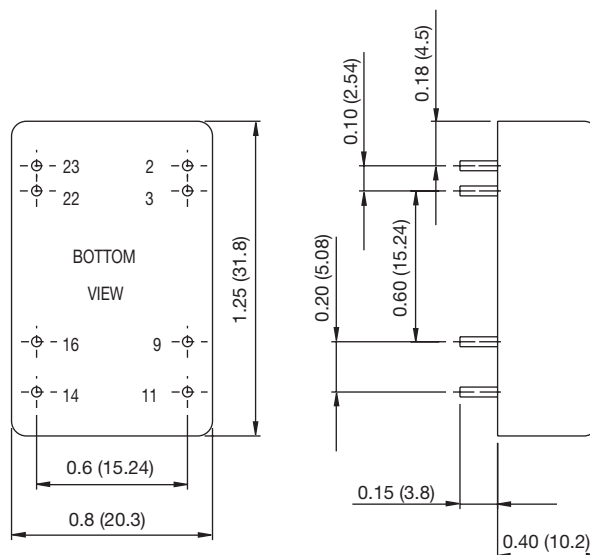
Mechanical Details

All dimensions are in inches (mm)

Pin Size: Diameter 0.02 (0.50)

Tolerance: x.xx = ± 0.02 (x.xxx = ± 0.010)

Weight: 18.4 g (0.04 lbs)



PIN CONNECTION	
Pin	Function
2	-V Input
3	-V Input
9	No Pin
11	NC
14	+V Output
16	-V Output
22	+V Input
23	+V Input

Application Notes

Derating Curve

