

JCF10 Series



- 2:1 Input Range
- DIP-24 Metal Package
- Operating Temperature $-40\text{ }^{\circ}\text{C}$ to $+100\text{ }^{\circ}\text{C}$
- 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
$<500\text{ }\mu\text{s}$ 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 | • $-40\text{ }^{\circ}\text{C}$ to $+100\text{ }^{\circ}\text{C}$ (see derating curve) |
| Case Temperature | • $+100\text{ }^{\circ}\text{C}$ max |
| Storage Temperature | • $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$ |
| 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 |

Safety

- | | |
|------------------|--|
| Safety Approvals | • CE (Meets all applicable directives),
UKCA (Meets all applicable legislation) |
|------------------|--|

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.

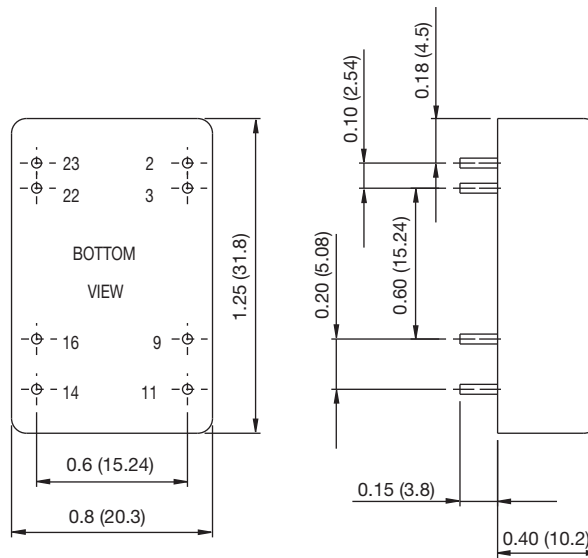
Mechanical Details

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

