

15 Watts

JTH Series



- 4:1 Input Range
- 1500 VDC Isolation
- Efficiency up to 86%
- -40 °C to +100 °C Operating Temperature
- Optional Remote On/Off
- Single & Dual Outputs
- Continuous Short Circuit Protection

Specification

Input

Input Voltage Range	• 24 V (9-36 VDC) • 48 V (18-72 VDC)
Input Current	• See table
Input Filter	• Pi network
Input Reflected Ripple	• 35 mA rms through 12 μH inductor, 5 Hz to 20 MHz

Output

Output Voltage	• See table
Voltage Balance	• $\pm 1\%$
Minimum Load	• No minimum load required
Line Regulation	• $\pm 0.5\%$
Load Regulation	• $\pm 0.5\%$ 10-100% load, • $\pm 1.0\%$ below 10% load
Setpoint Accuracy	• $\pm 1\%$
Start Up Rise Time	• <20 ms
Start Up Delay	• <10 ms
Ripple & Noise	• 75 mV pk-pk 20 MHz BW
Transient Response	• 3% max deviation, recovery to within 1% in 200 μs for 25% load change
Temperature Coefficient	• 0.02%/°C
Overcurrent Protection	• 140% typical of full load at nominal input
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Remote On/Off	• Optional - see Application Note. - On = +2.5 to +5.5 VDC or Open circuit - Off = -0.7 to +0.8 VDC or short circuit

General

Efficiency	• See table
Isolation	• 1500 VDC Input to Output • 1000 VDC Input to Case • 1000 VDC Output to Case
Isolation Capacitance	• 1200 pF typical
Switching Frequency	• 300 kHz typical
MTBF	• >1.2 Mhrs to MIL-STD-217F

Environmental

Operating Temperature	• -40 °C to +100 °C, derate from 100% load at +60 °C to 0% load at +100 °C
Case Temperature	• 100 °C max
Cooling	• Convection-cooled
Operating Humidity	• Up to 95% RH, non-condensing
Storage Temperature	• -40 °C to +125 °C

EMC

Emissions	• EN55022 Class A conducted & radiated with external components, see application note.
ESD Immunity	• EN61000-4-2, 8 kV air discharge Perf Criteria A, 4 kV contact discharge Perf Criteria A
Radiated Immunity	• EN61000-4-3, Level 2 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, Level 1 Perf Criteria B
Conducted Immunity	• EN61000-4-6, 3 V Perf Criteria A
Magnetic Field	• EN61000-4-8, 1 A/m Perf Criteria A

Models and Ratings

Input Voltage Range	Output Voltage	Output Current	Input Current ⁽¹⁾		Efficiency	Max Capacitive Load	Model Number ⁽²⁾
			No Load	Full Load			
9-36 VDC	3.3 V	3000 mA	25 mA	515 mA	80%	3300 μ F	JTH1524S3V3 [^]
	5.0 V	3000 mA	25 mA	753 mA	83%	3300 μ F	JTH1524S05 [^]
	12.0 V	1250 mA	25 mA	735 mA	85%	680 μ F	JTH1524S12 [^]
	15.0 V	1000 mA	25 mA	726 mA	86%	470 μ F	JTH1524S15 [^]
	± 5.0 V	± 1500 mA	25 mA	753 mA	83%	± 2200 μ F	JTH1524D05 [^]
	± 12.0 V	± 625 mA	25 mA	735 mA	85%	± 470 μ F	JTH1524D12 [^]
	± 15.0 V	± 500 mA	25 mA	726 mA	86%	± 330 μ F	JTH1524D15 [^]
18-72 VDC	3.3 V	3000 mA	20 mA	257 mA	80%	3300 μ F	JTH1548S3V3 [^]
	5.0 V	3000 mA	20 mA	376 mA	83%	3300 μ F	JTH1548S05 [^]
	12.0 V	1250 mA	20 mA	367 mA	85%	680 μ F	JTH1548S12 [^]
	15.0 V	1000 mA	20 mA	363 mA	86%	470 μ F	JTH1548S15 [^]
	± 5.0 V	± 1500 mA	20 mA	376 mA	83%	± 2200 μ F	JTH1548D05 [^]
	± 12.0 V	± 625 mA	20 mA	367 mA	85%	± 470 μ F	JTH1548D12 [^]
	± 15.0 V	± 500 mA	20 mA	363 mA	86%	± 330 μ F	JTH1548D15 [^]

Notes

1. Measured at nominal input voltage.

2. For optional Remote On/Off, add suffix '-R' to model number.

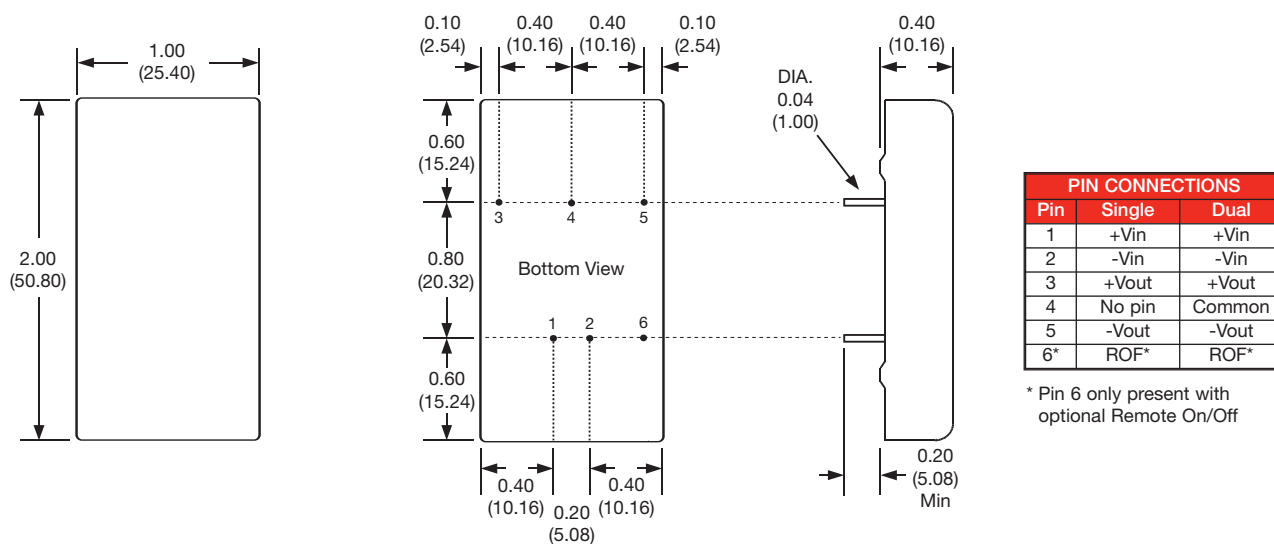
[^] Available from Newark. See pages 207-208.

Mechanical Details

All dimensions are in inches (mm).

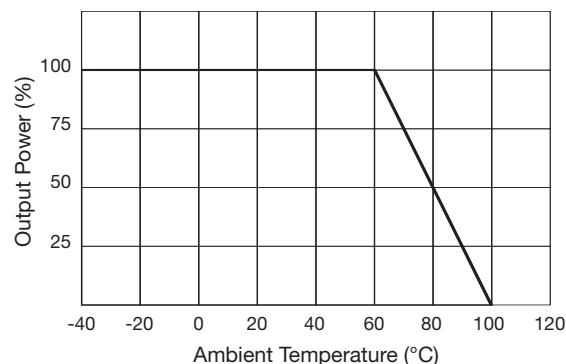
Tolerance x.xx = ± 0.10 (± 0.25).

Weight 0.07 lbs (30 g).



Application Notes

Derating Curve



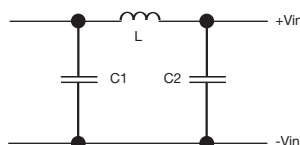
Optional Remote On/Off

On = +2.5 to +5.5 VDC on pin 6 WRT pin 2 or open circuit

Off = -0.7 to +0.8 VDC on pin 6 WRT pin 2 or short circuit pin 2 & 6

Input current is typically 2.5 mA when output is remotely switched off.

Input Filter



L = 12 μ H

C1 = 47 μ F

C2 = 33 μ F