6 Watts
JTE Series



- 4:1 Input Range
- DIP–24 Plastic Case
- Operating Temperature –40 °C to +100 °C
- Single & Dual Outputs
- Optional Metal Case
- 1500 VDC Isolation, 3000 VDC Option
- 3 Year Warranty

Specification

Input

Input Voltage Range	• 24 V (9-36 VDC) 48 V (18-75 VDC)
Input Current	• See table
Input Filter	• Pi network
Input Reflected Ripple	• 20 mA pk-pk through 12 µH inductor and 4.7 µF capacitor
Input Surge	• 24 V models 50 VDC for 100 ms 48 V models 100 VDC for 100 ms
Under Voltage Lockout	• 24 V models on >8.5 V, off <8.0 V 48 V models on >16.5 V, off <15.5 V

Output

Output Voltage	• See table
Output Voltage Balance	• ±2% max, dual output models
Initial Set Accuracy	• ±2% max
Minimum Load	• No minimum load required
Line Regulation	• ±0.5% max
Load Regulation	• ±1.2% max for single output and ±5% max for dual output from 10-100%
Cross Regulation	• ±5% max on dual output models (see note 4)
Start Up Delay	• 20 ms typical
Ripple & Noise	• 80 mV pk-pk (100 mV for D24 models), 20 MHz bandwidth (see note 5)
Transient Response	• <3% max deviation, recovery to within 1% in 300 µs for a 25% load change (4% max. deviation for S3V3 models)
Overload Protection	• 135% - 185% of Full Load
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Maximum Capacitive Load	• See table
Temperature Coefficient	• ±0.02/°C max

General

Efficiency	• See table
Isolation Voltage	• 1500 VDC Input to Output, for optional high isolation version 3000 VDC input to output add suffix '-H' to model number 1000 VDC Input to Case 1000 VDC Output to Case
Isolation Capacitance	• 1000 pF typical input to output
Isolation Resistance	• $10^9\Omega$
Switching Frequency	• 330 kHz typical
Power Density	• 15 W/in^3
MTBF	• >800 kHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

Operating Temperature	• -40 °C to +100 °C, derate from 100% load at +60 °C to no load at +100 °C
Case Temperature	• +100 °C max
Storage Temperature	• -55 °C to +125 °C
Cooling	• Natural convection
Operating Humidity	• Up to 95%, non-condensing

EMC

Emissions	• EN55022 class A conducted
ESD Immunity	• EN61000-4-2, Level 3 8 kV air discharge Perf Criteria B, 6 kV contact discharge Perf Criteria B
Radiated immunity	• EN61000-4-3, 10 V/m, Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3, Perf Criteria A*
Surge	• EN61000-4-5, level 2, Perf Criteria A*
Conducted Immunity	• EN61000-4-6, 10 Vrms, Perf Criteria A
Magnetic Fields	• EN61000-4-8, 1 A/m, Perf Criteria A

** External input capacitor required, 220µF/100V*

Models and Ratings

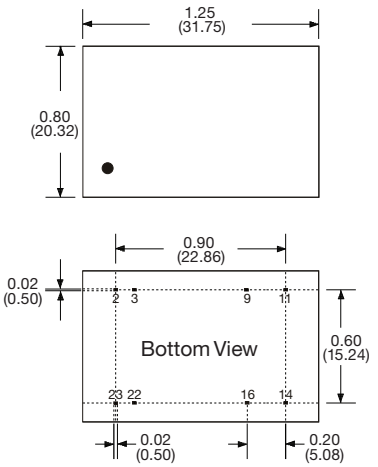
Input Voltage	Output Voltage	Output Current	Input Current[2]		Maximum Capacitive Load[3]	Efficiency	Model Number[1,6]
			No Load	Full Load			
9-36 V	3.3 V	1400 mA	10 mA	257 mA	470 µF	76%	JTE0624S3V3
	5.0 V	1200 mA	10 mA	316 mA	470 µF	80%	JTE0624S05
	12.0 V	500 mA	10 mA	301 mA	100 µF	84%	JTE0624S12
	15.0 V	400 mA	10 mA	301 mA	100 µF	84%	JTE0624S15
	24.0 V	250 mA	10 mA	301 mA	47 µF	84%	JTE0624S24
	±3.3 V	±909 mA	10 mA	324 mA	±220 µF	78%	JTE0624D03
	±5.0 V	±600 mA	10 mA	308 mA	±220 µF	82%	JTE0624D05
	±12.0 V	±250 mA	10 mA	301 mA	±100 µF	84%	JTE0624D12
	±15.0 V	±200 mA	15 mA	301 mA	±100 µF	84%	JTE0624D15
	±24.0 V	±125 mA	20 mA	308 mA	±47 µF	82%	JTE0624D24
18-75 V	3.3 V	1400 mA	7 mA	128 mA	470 µF	76%	JTE0648S3V3
	5.0 V	1200 mA	7 mA	154 mA	470 µF	82%	JTE0648S05
	12.0 V	500 mA	7 mA	151 mA	100 µF	84%	JTE0648S12
	15.0 V	400 mA	7 mA	151 mA	100 µF	84%	JTE0648S15
	24.0 V	250 mA	7 mA	151 mA	47 µF	84%	JTE0648S24
	±3.3 V	±909 mA	7 mA	162 mA	±220 µF	78%	JTE0648D03
	±5.0 V	±600 mA	7 mA	154 mA	±220 µF	82%	JTE0648D05
	±12.0 V	±250 mA	7 mA	151 mA	±100 µF	84%	JTE0648D12
	±15.0 V	±200 mA	7 mA	151 mA	±100 µF	84%	JTE0648D15
	±24.0 V	±125 mA	10 mA	158 mA	±47 µF	80%	JTE0648D24

Notes

1. For optional 3000 VDC isolation add suffix '-H' to model number.
2. Input current measured at nominal input voltage.
3. Maximum capacitive load is per output.
4. Cross regulation for duals is ±5% when one output is at 100% and the other is varied between 25% and 100%.
5. Ripple & Noise measured with 1µF ceramic capacitor across output pins.
6. For optional metal case version, add suffix '-M' to part number e.g. JTE0624S12-M.

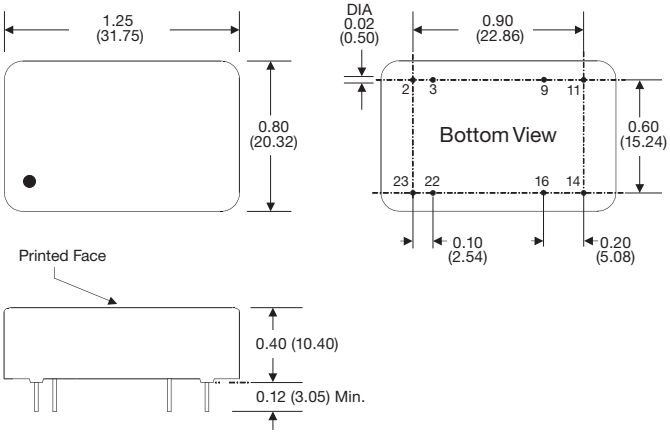
Mechanical Details

Plastic Case



Pin	Single	Dual
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	N.C.	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

Optional Metal Case



Notes

1. All dimensions are in inches (mm)
2. Weight: 0.04 lbs (17 g) approx.
3. Pin diameter: 0.02 ±0.002 (0.5 ±0.005)
4. Pin pitch tolerance: ±0.014 (0.35)
5. Case tolerance: ±0.02 (±0.5)

Application Note

Derating Curve

