5 Watts

JTB05 Series

- 4:1 Input Range
- DIP-24 Metal Package
- Operating Temperature -25 °C to +100 °C
- Input Pi Filter
- Fully Regulated Single & Dual Outputs
- 1500 VDC Isolation
- Continuous Short Circuit Protection

Specification

Input

Input Voltage Range	• 24 V (9-36 VDC) 48 V (18-72 VDC)
Input Current (no load)	• See table
Input Filter	• Pi network

Output

Output Voltage	• See tables
Output Voltage Balance	• ±1% max, dual output models
Initial Set Accuracy	• ±2% max
Start Up Rise Time	• 3 ms max
Line Regulation	• ±0.5% max from high line to low line
Load Regulation	• ±0.5% max single output models, ±1.0% max dual output models
Cross Regulation	• ±2.2% on dual output models
Transient Response	• <1.0% max deviation, recovery to within 1% in 200 µs for a 50% load change
Ripple & Noise	• 100 mV or 1.0% pk-pk, whichever is greater, 20 MHz BW
Overcurrent Protection	• >130% constant power
Short Circuit Protection	• Continuous with auto recovery
Temperature Coefficient	• ±0.05/°C max

General

Efficiency	• See table
Isolation	• 1500 VDC Input to Output (1000 MΩ/80 pF)
Switching Frequency	• Variable 200-320 kHz
MTBF	• 1,000 kHrs to MIL-HDBK-217F

Environmental

Operating Temperature	• -25 °C to +100 °C (see derating curve)
Case Temperature	• +100 °C max
Storage Temperature	• -40 °C to +100 °C
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 - see application note
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

JTB05 Series

Input Voltage[1]	Output Voltage	Output Current	Input Current[2]		Efficiency	Model Number[3]
			No Load	Full Load		
9-36 VDC	3.3 VDC	1000 mA	15.0 mA	191 mA	72%	JTB0524S3V3
	5.0 VDC	1000 mA	15.0 mA	267 mA	78%	JTB0524S05
	12.0 VDC	470 mA	15.0 mA	294 mA	80%	JTB0524S12
	15.0 VDC	400 mA	15.0 mA	313 mA	80%	JTB0524S15
	±5.0 VDC	±500 mA	25.0 mA	267 mA	78%	JTB0524D05
	±12.0 VDC	±230 mA	25.0 mA	288 mA	80%	JTB0524D12
	±15.0 VDC	±190 mA	25.0 mA	297 mA	80%	JTB0524D15
18-72 VDC	3.3 VDC	1000 mA	7.5 mA	100 mA	70%	JTB0548S3V3
	5.0 VDC	1000 mA	7.5 mA	134 mA	78%	JTB0548S05
	12.0 VDC	470 mA	7.5 mA	149 mA	79%	JTB0548S12
	15.0 VDC	400 mA	12.0 mA	157 mA	80%	JTB0548S15
	±5.0 VDC	±500 mA	12.0 mA	135 mA	77%	JTB0548D05
	±12.0 VDC	±230 mA	12.0 mA	146 mA	79%	JTB0548D12
	±15.0 VDC	±190 mA	12.0 mA	149 mA	80%	JTB0548D15

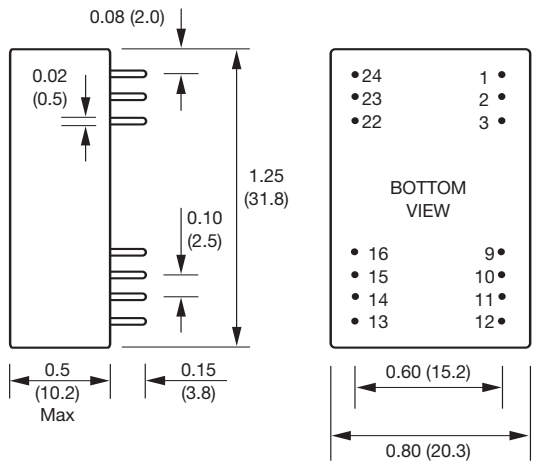
Notes

1. Nominal input voltage 24 or 48 VDC.
2. Input current is at nominal input voltage.
3. Surface mount versions with plastic case available in OEM quantities.

Mechanical Details

All dimensions are in inches (mm)

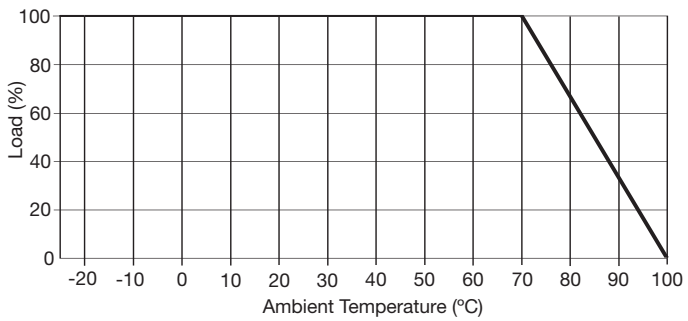
Weight: 0.04 lbs (20 g) approx.



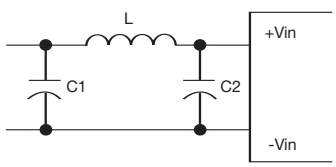
PIN CONNECTIONS		
Pin	Single Output	Dual Output
1	No pin	No pin
2	-V input	-V input
3	-V input	-V input
9	N/C	Common
10	N/C	N/C
11	N/C	-V output
12	No pin	No pin
13	No pin	No pin
14	+V output	+V output
15	N/C	N/C
16	-V output	Common
22	+V input	+V input
23	+V input	+V input
24	No pin	No pin

Application Notes

Derating Curve



Input Filter



Model	C1	C2	L
JTB0524			
Class A	Not fitted	220 µF/ 50 V	Short
Class B	100 µF/ 50 V	100 µF/ 50 V	8 µH
JTB0548			
Class A	Not fitted	47 µF/ 100 V	Short
Class B	22 µF/ 100 V	22 µF/ 100 V	5 µH