

## JTB03 Series



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

#### Output

Output Voltage	• See table
Output Voltage Balance	• $\pm 1\%$ max, dual output models
Initial Set Accuracy	• $\pm 2\%$ max
Start Up Delay	• 90 ms max
Start Up Rise Time	• 35 ms typical
Line Regulation	• $\pm 0.5\%$ max (high line to low line)
Load Regulation	• $\pm 0.5\%$ max single output models, $\pm 1.0\%$ max for dual output models
Cross Regulation	• 2.2% on dual output models
Transient Response	• $< 1.5\%$ max deviation, recovery to within 1% in 200 $\mu$ s for a 50% load change
Ripple & Noise	• 100 mV or 1% pk-pk, whichever is greater, 20 MHz BW
Overcurrent Protection	• $> 170\%$ fold back at normal input voltage
Short Circuit Protection	• Continuous with auto recovery
Maximum Capacitive Load	• 30,000 $\mu$ F
Temperature Coefficient	• $\pm 0.05/^\circ\text{C}$ max

#### General

Efficiency	• See table
Isolation	• 500 VDC Input to Output (1000 M $\Omega$ /80 pF) Optional high isolation version, 1500 VDC Input to Output, add suffix '-H' to model number
Switching Frequency	• Variable 100-700 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**

Input Voltage <sup>(1)</sup>	Output Voltage	Output Current	Input Current <sup>(3)</sup>		Efficiency	Model Number <sup>(2, 4)</sup>
			No Load	Full Load		
9-36 VDC	3.3 VDC	600 mA	15.0 mA	117 mA	70%	JTB0324S3V3
	5.0 VDC	600 mA	15.0 mA	174 mA	72%	JTB0324S05
	12.0 VDC	250 mA	15.0 mA	165 mA	76%	JTB0324S12
	15.0 VDC	200 mA	15.0 mA	165 mA	76%	JTB0324S15
	±5.0 VDC	±300 mA	25.0 mA	179 mA	70%	JTB0324D05
	±12.0 VDC	±125 mA	25.0 mA	174 mA	72%	JTB0324D12
	±15.0 VDC	±100 mA	25.0 mA	174 mA	72%	JTB0324D15
18-72 VDC	3.3 VDC	600 mA	7.5 mA	58 mA	70%	JTB0348S3V3
	5.0 VDC	600 mA	7.5 mA	87 mA	72%	JTB0348S05
	12.0 VDC	250 mA	7.5 mA	81 mA	77%	JTB0348S12
	15.0 VDC	200 mA	7.5 mA	81 mA	77%	JTB0348S15
	±5.0 VDC	±300 mA	12.0 mA	88 mA	72%	JTB0348D05
	±12.0 VDC	±125 mA	12.0 mA	87 mA	72%	JTB0348D12
	±15.0 VDC	±100 mA	12.0 mA	87 mA	70%	JTB0348D15

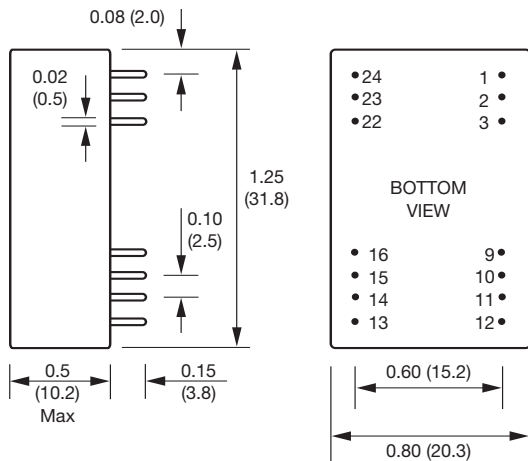
**Notes**

1. Nominal input voltage 24 or 48 VDC.
2. For optional 1500 VDC isolation add suffix '-H' to model number.
3. Input current is at nominal input voltage.
4. 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.

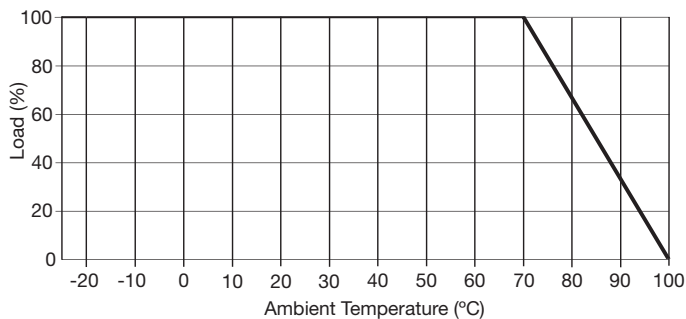


PIN CONNECTIONS		
Pin	Single Output	Dual Output
1	+V input	+V input
2	N/C	-V output
3	N/C	Common
9	No pin	No pin
10	-V output	Common
11	+V output	+V output
12	-V input	-V input
13	-V input	-V input
14	+V output	+V output
15	-V output	Common
16	No pin	No pin
22	N/C	Common
23	N/C	-V output
24	+V input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

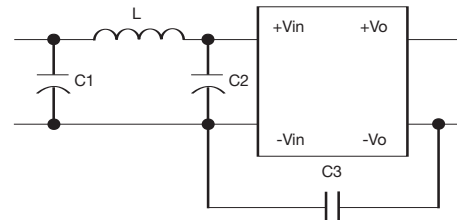
OPTION '-H' PIN CONNECTIONS		
Pin	Single Output	Dual Output
1	No pin	No pin
2	-V input	-V input
3	-V input	-V input
9	N/C	Common
10	N/C	N/C
11	N/C	-V output
12	No pin	No pin
13	No pin	No pin
14	+V output	+V output
15	N/C	N/C
16	-V output	Common
22	+V input	+V input
23	+V input	+V input
24	No pin	No pin

**Application Notes**

**Derating Curve**



**Input Filter**



Model	C1	C2	L	C3
JTB0324				
Class A	Not fitted	47 μF/ 50 V	Short	Not fitted
Class B	47 μF/ 50 V	47 μF/ 50 V	5 μH	1000 pF
JTB0348				
Class A	Not fitted	47 μF/ 100 V	Short	Not fitted
Class B	22 μF/ 100 V	22 μF/ 100 V	5 μH	Not fitted