

3W

DC-DC
converters 

The JTE03 series is housed in a DIP24 PCB mount plastic case. Featuring a 2:1 input voltage range of 9 to 18VDC, 18 to 36VDC or 36 to 75VDC with regulated single outputs of 3.3, 5, 9, 12, 15 & 24VDC and dual outputs ± 3.3 , ± 5 , ± 9 , ± 12 , ± 15 or ± 24 VDC.

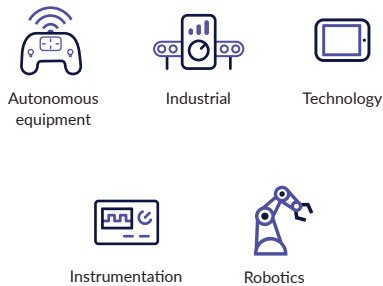
The 3W JTE03 has 1.5kVDC isolation (3KV optional) between input and output, short circuit protection is standard. The operating temperature range is from -40°C to +100°C, with derating above +85°C.



Features

- ▶ Regulated single & dual outputs
- ▶ 2:1 input range
- ▶ Single outputs 3.3 to 24VDC
- ▶ Dual outputs ± 3.3 to ± 24 VDC
- ▶ DIP24 package
- ▶ 1.5kVDC isolation, 3.0kVDC option
- ▶ -40°C to +100°C operating temperature
- ▶ Full power to +85°C
- ▶ 3 year warranty

Applications



Dimensions

31.75 x 20.32 x 10.16mm (1.25" x 0.80" x 0.40")

Documentation

For further information click the link or scan the code

→ xppower.com



Models & ratings

Model number ⁽³⁾	Input voltage	Output voltage	Output current	Efficiency	Input current ⁽¹⁾		Maximum Capacitive Load ⁽²⁾
					No load	Full load	
JTE0312S3V3	9-36VDC	3.3VDC	900 mA	75%	10mA	167mA	470 μ F
JTE0312S05		5.0VDC	600 mA	79%	10mA	160mA	470 μ F
JTE0312S12		12.0VDC	250 mA	81%	10mA	156mA	100 μ F
JTE0312S15		15.0VDC	200 mA	82%	10mA	154mA	100 μ F
JTE0312S24		24.0VDC	125 mA	82%	10mA	154mA	47 μ F
JTE0312D03		± 3.3 VDC	± 450 mA	75%	10mA	167mA	± 220 μ F
JTE0312D05		± 5.0 VDC	± 300 mA	79%	10mA	160mA	± 220 μ F
JTE0312D12		± 12.0 VDC	± 125 mA	81%	10mA	156mA	± 100 μ F
JTE0312D15		± 15.0 VDC	± 100 mA	81%	15mA	156mA	± 100 μ F
JTE0312D24		± 24.0 VDC	± 63 mA	80%	20mA	159mA	± 47 μ F

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Notes:

1. Input currents measured at nominal input voltage.
2. Maximum capacitive load is per output.

3. For optional 3000VDC isolation add suffix '-H' to model number.

Models & ratings

Model number ⁽³⁾	Input voltage	Output voltage	Output current	Efficiency	Input current ⁽¹⁾		Maximum Capacitive Load ⁽²⁾
					No load	Full load	
JTE0324S3V3	18-36VDC	3.3VDC	900 mA	73%	7mA	84mA	470μF
JTE0324S05		5.0VDC	600 mA	77%	7mA	80mA	470μF
JTE0324S12		12.0VDC	250 mA	81%	7mA	78mA	100μF
JTE0324S15		15.0VDC	200 mA	81%	7mA	77mA	100μF
JTE0324S24		24.0VDC	125 mA	81%	7mA	77mA	47μF
JTE0324D03		±3.3VDC	±450 mA	75%	7mA	84mA	±220μF
JTE0324D05		±5.0VDC	±300 mA	79%	7mA	78mA	±220μF
JTE0324D12		±12.0VDC	±125 mA	81%	7mA	78mA	±100μF
JTE0324D15		±15.0VDC	±100 mA	81%	7mA	78mA	±100μF
JTE0324D24		±24.0VDC	±63 mA	81%	10mA	81mA	±47μF

Notes:

- Input currents measured at nominal input voltage.
- Maximum capacitive load is per output.
- For optional 3000 VDC isolation add suffix '-H' to model number.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range	9		18	VDC	24VDC nominal
	18		36		48VDC nominal
Input filter	Pi network				
Input reflected ripple			20	mA pk-pk	Through 12μH inductor and 47μF capacitor
Input surge			50		24VDC models (for 1s max)
			100		48VDC models (for 1s max)

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	See models & ratings table				
Initial set accuracy			±2	%	
Minimum load	0			A	No minimum load required
Line regulation			±0.5	%	
Load regulation			±1.2	%	
Cross regulation			±5	%	On dual output models when one load is varied between 25% and 100% and other is fixed at 100%
Transient response			3	% deviation	Recovery within 2% in less than 2ms for a 25% load change. S3V3 versions: 5% max
Ripple & noise			80	mV pk-pk	20 MHz bandwidth. Measured using 1μF ceramic capacitor D24 versions: 100mV pk-pk
Short circuit protection	Continuous, with auto recovery				
Maximum capacitive load	See models and ratings table				
Temperature coefficient			0.02	%/°C	Trip and restart (hiccup mode)

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		81		%	See models and ratings table
Isolation: input to output			1500	VDC	3000 VDC option, add '-H' to model number
Switching frequency		330		kHz	
Isolation resistance	10 ⁹			Ω	
Isolation capacitance		1000		pF	
Power density			7.5	W/cm ³ (W/in ³)	
Mean time between failure	800			khrs	MIL-HDBK-217F, +25 °C GB
Weight		13.0 (0.03)		g (lb)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-40		+100	°C	Derate from 100% load at +85°C to no load at +100°C
Storage temperature	-55		+125	°C	
Case temperature			+100	°C	
Humidity			95	%	RH, non condensing
Cooling	Natural convection				

Safety approvals

Certification	Standard	Notes & conditions
UL	UL60950-1	Information technology
CSA	CAN/CSA C22.2 No.60950-1	
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Emissions - EMC

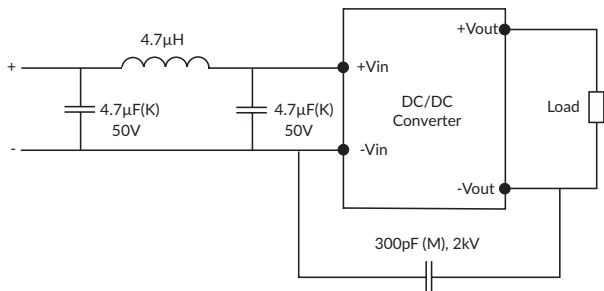
Phenomenon	Standard	Test level	Notes & conditions
Conducted	EN55022	Class A	Class B with external components, see application notes
Radiated	EN55022	Class A	

Immunity - EMC

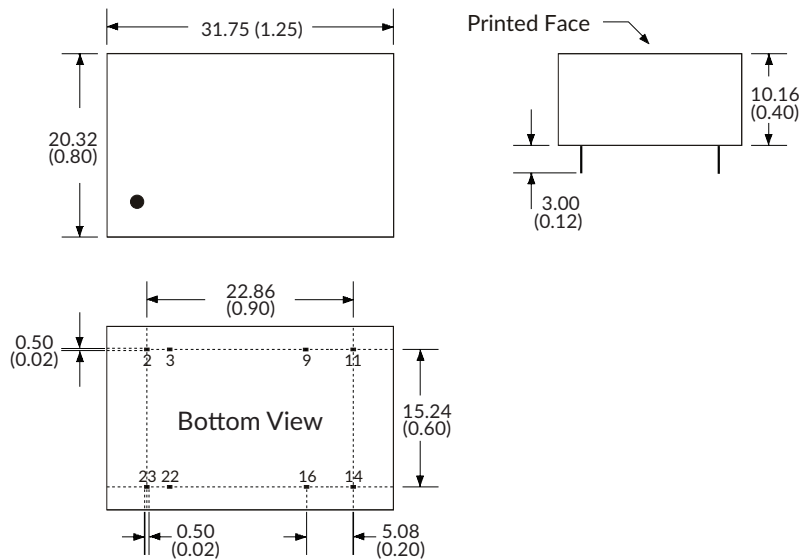
Phenomenon	Standard	Test level	Criteria	Notes & conditions
ESD Immunity	EN61000-4-2	3	A	
Radiated Immunity	EN61000-4-3	20 Vrms	A	
EFT/Burst	EN61000-4-4	3	A	
Surges	EN61000-4-5	Installation class 2	A	External input capacitor required 330µF/100V
Conducted Immunity	EN61000-4-6	3 V rms	A	
Magnetic Fields	EN61000-4-8	1 A/m	A	

Application notes

Class B conducted emissions filter



Mechanical details



Pin connections		
Pin	Single	Dual
2	-Vin	-Vin
3	-Vin	-Vin
9	N.P.	Common
11	N.C.	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

Notes:

1. All dimensions in mm (inches)
2. Weight: 13g (0.03lbs)
3. Pin diameter: 0.5±0.05 (0.02±0.002)
4. Pin pitch tolerance: ±0.35 (±0.014)
5. Case tolerance: ±0.5 (±0.02)