JWE06 Series

DC-DC Converter

XP Power

6 Watts

- Regulated Single & Dual Output
- Ultra Wide 4:1 Input Range
- DIP16 Package
- 1500 VDC Isolation
- Operating Temperature -40 °C to +105 °C
- Full Power to +75 °C
- ITE Safety Approvals
- High Power Density
- Metal Case
- 3 Year Warranty



Dimensions:

JWE06:
0.94 x 0.54 x 0.31" (23.8 x 13.7 x 8.0 mm)

Models & Ratings

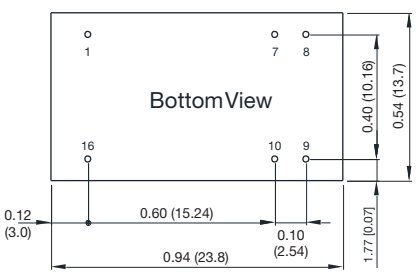
Input voltage	Output voltage	Output current	Input current[1]		Max. capacitive load[2]	Efficiency	Model number
			No load	Full load			
9-36V	3.3 V	1500 mA	8 mA	265 mA	680 µF	78%	JWE0624S3V3
	5.0 V	1200 mA		305 mA	680 µF	82%	JWE0624S05
	12.0 V	500 mA		295 mA	330 µF	86%	JWE0624S12
	15.0 V	400 mA		295 mA	330 µF	86%	JWE0624S15
	24.0 V	250 mA		290 mA	150 µF	87%	JWE0624S24
	±12.0 V	±250 mA		295 mA	±50 µF	86%	JWE0624D12
	±15.0 V	±200 mA		290 mA	±150 µF	87%	JWE0624D15
18-75V	3.3 V	1500 mA	6 mA	130 mA	680 µF	78%	JWE0648S3V3
	5.0 V	1200 mA		155 mA	680 µF	82%	JWE0648S05
	12.0 V	500 mA		145 mA	330 µF	86%	JWE0648S12
	15.0 V	400 mA		145 mA	330 µF	86%	JWE0648S15
	24.0 V	250 mA		145 mA	150 µF	87%	JWE0648S24
	±12.0 V	±250 mA		145 mA	±150 µF	87%	JWE0648D12
	±15.0 V	±200 mA		145 mA	±150 µF	87%	JWE0648D15

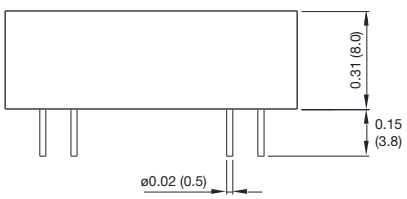
Notes

1. Input currents measured at nominal input voltage.

2. Maximum capacitive load is per output.

Mechanical Details





Pin Connections		
Pin	Single	Dual
1	-Vin	-Vin
7	No Connection	No Connection
8	No Connection	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	9.0		36	VDC	24 V nominal
	18.0		75	VDC	48 V nominal
Input Filter	Internal Pi type				
Undervoltage Lockout	ON at ≥9 V, OFF at <8 V				24 V models
	ON at ≥18 V, OFF at <16 V				48 V models
Input Surge			25	VDC for 1 s	12 V models
			50		24 V models
			100		48 V models

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	3.3		30	VDC	See Models and Ratings table
Initial Set Accuracy			±2.0	%	At full load
Output Voltage Balance		±1.0	±2.0	%	For dual output with balanced laods
Minimum Load				A	No minimum load required
Line Regulation		±0.2	±0.8	%	From minimum to maximum input at full load
Load Regulation		±0.5	±1.0	%	From 0 to full load
Cross Regulation			±5.0	%	On dual output models when one load is varied between 25% and 100% and other is fixed at 100%
Transient Response		3	5	% deviation	Recovery within 1% in less than 250 µs for a 25% load change.
Ripple & Noise			55	mV pk-pk	20 MHz bandwidth. Measured using 0.47 µF ceramic capacitor.
Overload Protection			150	%	
Short Circuit Protection					Continuous Trip & Restart (Hiccup mode), with auto recovery
Maximum Capacitive Load					See Models and Ratings table
Temperature Coefficient			0.02	%/°C	

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency		88		%	See Models and Ratings table
Isolation: Input to Output	1500/1800			VDC	60 s/1 s
Isolation Resistance	10^9			Ω	At 500 VDC
Isolation Capacitance		500		pF	
Switching Frequency		370		kHz	
Power Density			38.0	W/in³	
Mean Time Between Failure				MHrs	MIL-HDBK-217F, +25 °C GB
Weight		0.013 (6.1)		lb (g)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		+105	°C	See Derating Curve.
Storage Temperature	-50		+125	°C	
Case Temperature			+105	°C	
Humidity			95	%RH	Non-condensing
Cooling					Natural convection
Case Flammability	UL 94V-0 Rated				

EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55032	Class A	No filter required
Radiated	EN55032	Class A	External Components, see application note.

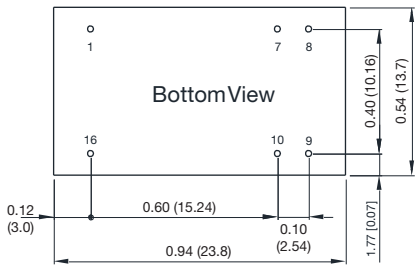
EMC: Immunity

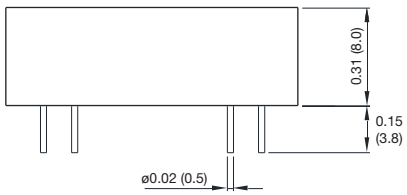
Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
ESD	EN61000-4-2	±8 kV air discharge, ±6 kV contact	A	
Radiated	EN61000-4-3	10 V/m	A	
EFT/Burst	EN61000-4-4	±2 kV	A	With external capacitor, suggested part is CHEMI-CON KY 330µF/100V
Surge	EN61000-4-5	±1 kV	A	With external capacitor, suggested part is CHEMI-CON KY 330µF/100V
Conducted	EN61000-4-6	10 V rms	A	
Magnetic Fields	EN61000-4-8	100 A/m	A	

Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
CB Report	IEC60950-1, IEC62368-1	Information Technology
UL	UL60950-1, UL62368-1	Information Technology
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Mechanical Details





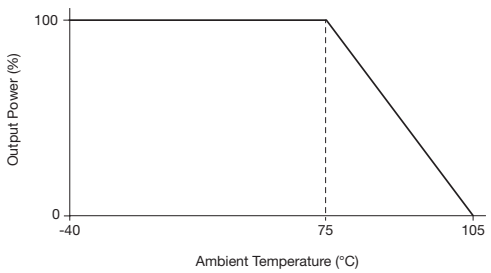
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8	No Connection	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

Notes

1. All dimensions are in inches (mm)
2. Weight: 0.013 lbs (6.1 g) approx.
3. Tolerance: X.XX±0.01 (X.X±0.25)
   X.XXX±0.005 (X.XX±0.13)
4. Pin Tolerance: ±0.002 (±0.05)

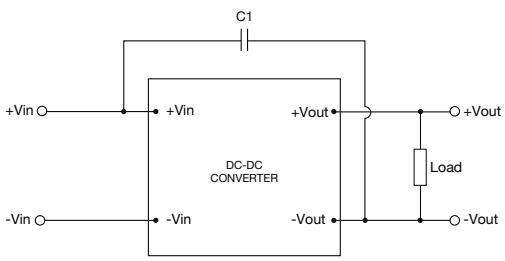
Application Notes

Derating Curve



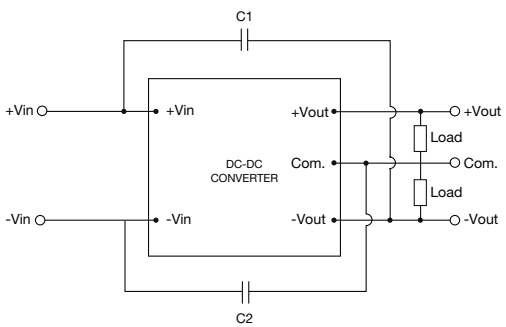
Radiated Emissions for EN55032 Class A

Single Output



C1: 220pF/2kV 1808 X7R

Dual Output



C1: 470pF/2kV 1808 X7R
C2: 470pF/2kV 1808 X7R