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JWE06 series

XP Power

6W

DC-DC converters

The 6W JWE06 series is housed in a 0.94 x 0.54 x 0.31" (23.8 x 13.7 x 8.0 mm) DIP16 metal cased package. Featuring a 4:1 input voltage range of 9 to 36VDC for nominal 24VDC or 18 to 75VDC for a nominal 48VDC, ideal for many applications that demand multiple input voltages or where the input voltage varies widely.

Single output models provide 3.3, 5, 12, 15 or 24VDC and dual outputs of ±12VDC, or ±15VDC that can be configured as a single 30VDC.

The JWE06 has a regulated output and provides 1.5kVDC isolation between input and output. Operating temperature range is from -40°C to +105°C, with derating above +75°C.



Features

- Regulated single & dual outputs
- 4:1 input range
- Single outputs 3.3 to 24VDC
- Dual outputs ±12 & ±15VDC
- DIP16 metal case
- 1.5kVDC isolation
- High power density
- -40°C to +105°C operating temperature
- Full power to +75°C
- 3 year warranty

Applications

Autonomous equipment

Industrial

Technology

Instrumentation

Robotics

Dimensions

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

More resources

Click the link or scan the code

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Models & ratings

Model number	Input voltage	Output voltage	Output current	Efficiency	Input current[1]		Maximum capacitive load[2]
					No load	Full load	
JWE0624S3V3	9-36VDC	3.3VDC	1500mA	78%	8mA	265mA	680µF
JWE0624S05		5VDC	1200mA	82%		305mA	680µF
JWE0624S12		12VDC	500mA	86%		295mA	330µF
JWE0624S15		15VDC	400mA	86%		295mA	330µF
JWE0624S24		24VDC	250mA	87%		290mA	150µF
JWE0624D12		±12VDC	±250mA	86%		295mA	±50µF
JWE0624D15		±15VDC	±200mA	87%		290mA	±150µF

Continued on page 2

Notes:

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

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JWE06 series

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Models & ratings

Model number	Input voltage	Output voltage	Output current	Efficiency	Input current[1]		Maximum capacitive load[2]
					No load	Full load	
JWE0648S3V3	18-75VDC	3.3VDC	1500mA	78%	6mA	130mA	680µF
JWE0648S05		5VDC	1200mA	82%		155mA	680µF
JWE0648S12		12VDC	500mA	86%		145mA	330µF
JWE0648S15		15VDC	400mA	86%		145mA	330µF
JWE0648S24		24VDC	250mA	87%		145mA	150µF
JWE0648D12		±12VDC	±250mA	87%		145mA	±150µF
JWE0648D15		±15VDC	±200mA	87%		145mA	±150µF

Notes:

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

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range	9		36	VDC	24VDC nominal
	18		75		48VDC nominal
Input filter	Internal Pi type				
Undervoltage lockout	ON at ≥9V, OFF at <8V				24VDC nominal
	ON at ≥18V, OFF at <16V				48VDC nominal
Input surge			25	VDC	12VDC models (for 1s)
			50		24VDC models (for 1s)
			100		48VDC models (for 1s)

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 250µs for a 25% load change.
Ripple & noise			55	mV pk-pk	20MHz bandwidth. Measured using 0.47µF 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	

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JWE06 series

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General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency		88		%	See models and ratings table
Isolation: input to output	1500/1800			VDC	60s/1s Functional
Isolation resistance	10^9			Ω	At 500VDC
Isolation capacitance		500		pF	
Switching frequency		370		kHz	
Power density			2.3 (38.0)	W/cm³ (W/in³)	
Mean time between failure	2.9			Mhrs	MIL-HDBK-217F, +25°C GB
Weight		6.1 (0.013)		g (lb)	

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				

Safety approvals

Safety agency	Standard	Notes & conditions
CB Report	IEC60950-1, IEC62368-1	Information technology
UL	UL/cUL60950-1, UL/cUL62368-1	Information technology
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Emissions - EMC

Phenomenon	Standard	Test level	Notes & conditions
Conducted	EN55032	Class A	No filter required

Immunity - EMC

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

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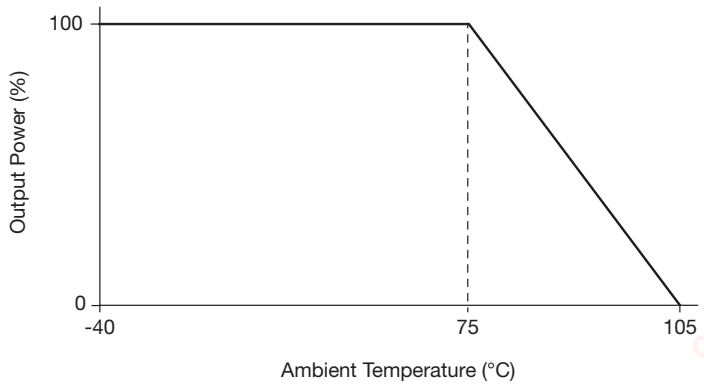
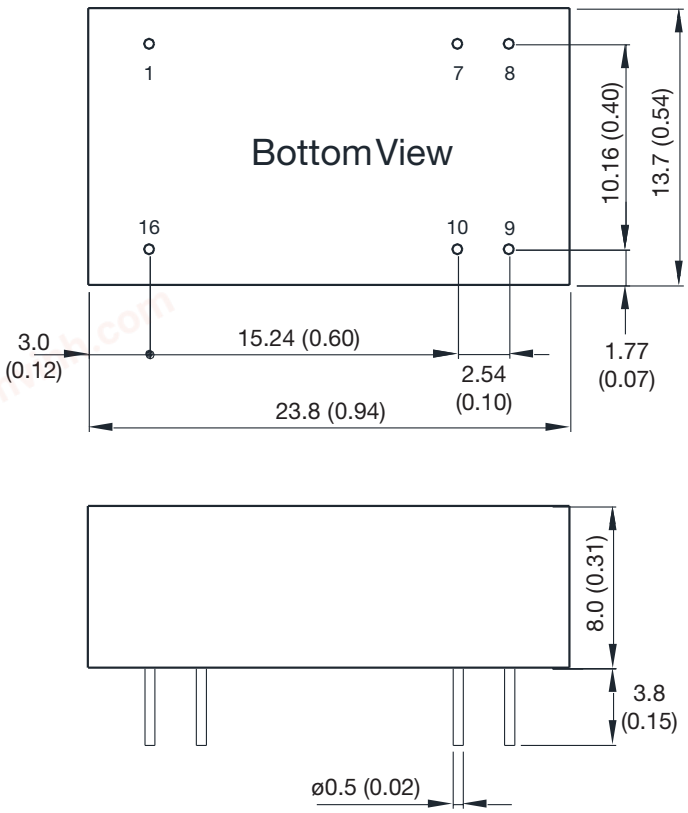
Application notes

Derating curve



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

Notes:

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