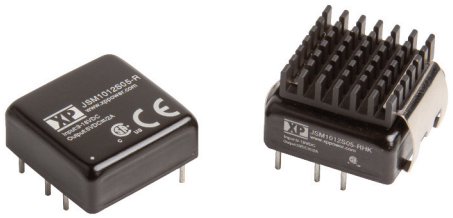
JSM10 Series

DC-DC Converter

XP Power

10 Watts

- Regulated Single & Dual Output
- 2:1 Input Range
- 1″ x 1″ Package
- 1500 VDC Isolation
- Operating Temperature -40 °C to +100 °C
- ITE Safety Approvals
- Optional Remote On/Off
- Optional Heatsink
- Metal Case
- 3 Year Warranty



Dimensions:

JSM10:
1.00 x 1.00 x 0.40″ (25.4 x 25.4 x 10.16 mm)

Models & Ratings

Input voltage	Output voltage	Output current	Input current[1,2]		Maximum capacitive load[3]	Efficiency	Model number[4]
			No load	Full load			
9-18V	3V3	2.50 A	15 mA	840 mA	4700 µF	82%	JSM1012S3V3
	5 V	2.00 A		980 mA	2200 µF	85%	JSM1012S05
	5.1 V	2.00 A		1000 mA	2200 µF	85%	JSM1012S5V1
	12 V	0.83 A		955 mA	330 µF	87%	JSM1012S12
	15 V	0.67 A		950 mA	220 µF	88%	JSM1012S15
	±5 V	±1.000 A		990 mA	±1000 µF	84%	JSM1012D05
	±12 V	±0.416 A		955 mA	±150 µF	87%	JSM1012D12
	±15 V	±0.333 A		955 mA	±100 µF	87%	JSM1012D15
18-36V	3V3	2.50 A	12 mA	415 mA	4700 µF	83%	JSM1024S3V3
	5 V	2.00 A		490 mA	2200 µF	85%	JSM1024S05
	5.1 V	2.00 A		500 mA	2200 µF	85%	JSM1024S5V1
	12 V	0.83 A		470 mA	330 µF	88%	JSM1024S12
	15 V	0.67 A		470 mA	220 µF	89%	JSM1024S15
	±5 V	±1.000 A		490 mA	±1000 µF	85%	JSM1024D05
	±12 V	±0.416 A		475 mA	±150 µF	88%	JSM1024D12
	±15 V	±0.333 A		470 mA	±100 µF	89%	JSM1024D15
36-75V	3V3	2.50 A	10 mA	205 mA	4700 µF	83%	JSM1048S3V3
	5 V	2.00 A		240 mA	2200 µF	86%	JSM1048S05
	5.1 V	2.00 A		250 mA	2200 µF	85%	JSM1048S5V1
	12 V	0.83 A		235 mA	330 µF	89%	JSM1048S12
	15 V	0.67 A		235 mA	220 µF	89%	JSM1048S15
	±5 V	±1.000 A		240 mA	±1000 µF	86%	JSM1048D05
	±12 V	±0.416 A		240 mA	±150 µF	87%	JSM1048D12
	±15 V	±0.333 A		235 mA	±100 µF	88%	JSM1048D15

Notes

1. Input currents measured at nominal input voltage.
2. Input current is typically 5 mA at nominal input voltage when output is turned off with optional remote on/off.
3. Maximum capacitive load is per output.
4. Add suffix "-R" for optional remote on/off, "-HK" for optional heatsink or "-RHK" for optional remote on/off and heatsink.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	9.0		18	VDC	12 V nominal
	18.0		36	VDC	24 V nominal
	36.0		75	VDC	48 V nominal
Input Filter	Internal Pi type				
Input Surge			25	VDC for 1 s	12 V models
			50		24 V models
			100		48 V models
Undervoltage Lockout	ON at >9V, OFF at <8.5 V				12 V models
	ON at >18V, OFF at <17 V				24 V models
	ON at >36V, OFF at <34 V				48 V models
Remote On/Off	ON: Logic high (3.5-12 V) or open circuit OFF: Logic low (<1.2 V) or short pin 2 to pin 6				

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			±2.0	%	For dual output with balanced laods
Minimum Load				A	No minimum load required
Line Regulation			±1.0	%	From minimum to maximum input at full load
Load Regulation			±0.5/±1.0	%	Single / Dual output, 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 300 µs for a 25% load change.
Ripple & Noise		80/100		mV pk-pk	3.3 & 5V output / other models. 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		85		%	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			2000	pF	
Switching Frequency		330		kHz	
Power Density			50.8	W/in³	
Mean Time Between Failure		2.5		MHrs	MIL-HDBK-217F, +25 °C GB
Weight		0.03 (15.0)		lb (g)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		+100	°C	See Derating Curve.
Storage Temperature	-50		+125	°C	
Case Temperature			+100	°C	
Humidity			95	%RH	Non-condensing
Cooling					Natural convection

EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55022	Class A	

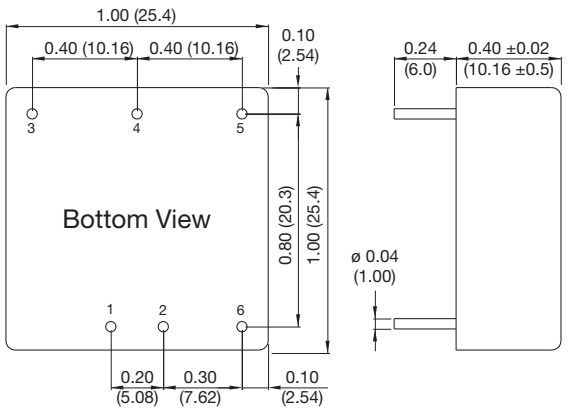
EMC: Immunity

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	

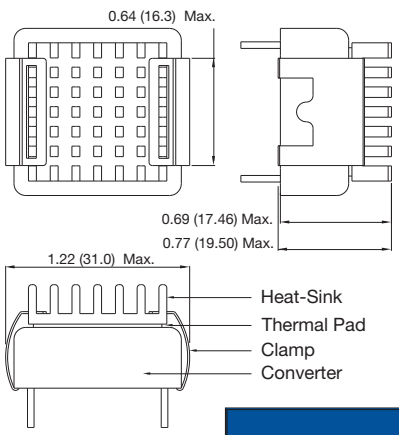
Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
CB Report	IEC60950-1	Information Technology
UL	UL/cUL60950-1	Information Technology

Mechanical Details



Optional Heatsink (-HK)



Notes

1. All dimensions are in inches (mm)
2. Weight: 0.03 lbs (15.0g) 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)

Pin Connections		
Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	+Vout	+Vout
4	No Pin	Common
5	-Vout	-Vout
6	Optional Remote On/Off	Optional Remote On/Off

Application Notes

Derating Curve

