ISB01 Series

DC-DC Converter

XP Power

1 Watt

- Regulated Single & Dual Output
- 2:1 Input Range
- Compact SMD Package
- 1500 VDC Isolation
- Operating Temperature -40 °C to +95 °C
- Remote On/Off
- Tape & Reel Package Available
- Optional Water Washable Versions
- 3 Year Warranty



Dimensions:

ISB01:
0.74 x 0.68 x 0.34" (18.9 x 17.2 x 8.7 mm)

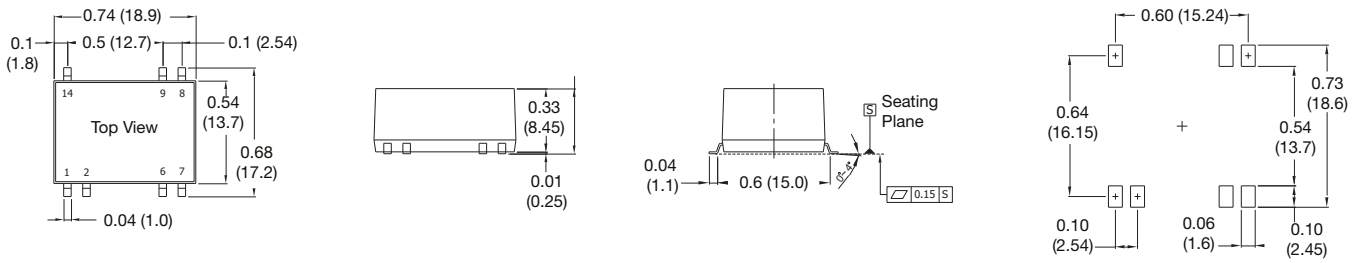
Models & Ratings

Input voltage	Output voltage	Output current	Input current[1,2]		Maximum capacitive load[3]	Reflected ripple current	Efficiency	Model number[4]
			No load	Full load				
4.5-9V	5 V	200 mA	40 mA	256 mA	1680 µF	80 mA	78%	ISB0105S05
	12 V	83 mA		252 mA	820 µF		79%	ISB0105S12
	15 V	67 mA		248 mA	680 µF		81%	ISB0105S15
	±12 V	±42 mA		255 mA	±470 µF		79%	ISB0105D12
	±15 V	±33 mA		248 mA	±330 µF		80%	ISB0105D15
9-18V	5 V	200 mA	20 mA	105 mA	1680 µF	40mA	79%	ISB0112S05
	12 V	83 mA		105 mA	820 µF		79%	ISB0112S12
	15 V	67 mA		102 mA	680 µF		82%	ISB0112S15
	±12 V	±42 mA		104 mA	±470 µF		81%	ISB0112D12
	±15 V	±33 mA		103 mA	±330 µF		80%	ISB0112D15
18-36V	5 V	200 mA	10 mA	53 mA	1680 µF	30mA	79%	ISB0124S05
	12 V	83 mA		51 mA	820 µF		82%	ISB0124S12
	15 V	67 mA		51 mA	680 µF		82%	ISB0124S15
	±12 V	±42 mA		51 mA	±470 µF		82%	ISB0124D12
	±15 V	±33 mA		50 mA	±330 µF		82%	ISB0124D15
36-75V	5 V	200 mA	7 mA	26 mA	1680 µF	20mA	79%	ISB0148S05
	12 V	83 mA		26 mA	820 µF		80%	ISB0148S12
	15 V	67 mA		26 mA	680 µF		80%	ISB0148S15
	±12 V	±42 mA		26 mA	±470 µF		81%	ISB0148D12
	±15 V	±33 mA		25 mA	±330 µF		81%	ISB0148D15

Notes

1. Input currents measured at nominal input voltage.
2. Input current is typically 2.5 mA at nominal input voltage when output is remotely turned off.
3. Maximum capacitive load is per output.
4. For optional water washable version, add suffix '-P' e.g. ISB0112S12-P.

Mechanical Details



Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	4.5		9	VDC	5 V nominal
	9.0		18		12 V nominal
	18.0		36		24 V nominal
	36.0		75		48 V nominal
Input Filter	Internal Capacitor				
Input Surge			15	VDC for 1 s	5 V nominal
			25		12 V nominal
			50		24 V models
			100		48 V models
Remote On/Off	Output is ON if Remote On/Off (Pin 2) is open. Output is OFF if 2-4 mA is applied to Remote On/Off (Pin 2) via 1 kΩ resistor.				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	5		30	VDC	See Models and Ratings table
Initial Set Accuracy			±1.0	%	
Output Voltage Balance			±1.0	%	For dual output with balanced laods
Minimum Load				A	No minimum load required
Line Regulation			±0.2	%	
Load Regulation			±1.0	%	
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			75	mV pk-pk	20 MHz bandwidth. Measured using 0.47 µF ceramic capacitor.
Short Circuit Protection					Continuous, 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		80		%	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			50	pF	
Switching Frequency		220		kHz	
Power Density			5.8	W/in^3	
Mean Time Between Failure		2.8		MHrs	MIL-HDBK-217F, +25 °C GB
Weight		0.01 (4.5)		lb (g)	
Moisture Sensitivity Level	Level 2				IPC/JEDEC J-STD-020D.1

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		+95	°C	See Derating Curve.
Storage Temperature	-55		+125	°C	
Case Temperature			+95	°C	
Humidity			95	%RH	Non-condensing
Cooling					Natural convection
Case Flammability	UL 94V-0 Rated				Non conductive black plastic
Lead-Free Reflow Solder Process					IPC/JEDEC J-STD-020D.1

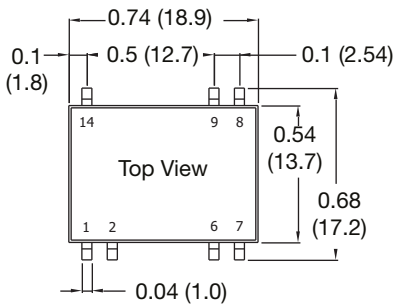
Safety Approvals

Safety Agency	Safety Standard	Notes & Conditions
CB	IEC60950-1	Information Technology
UL	UL/cUL60950-1, UL/cUL62368-1	Information Technology
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

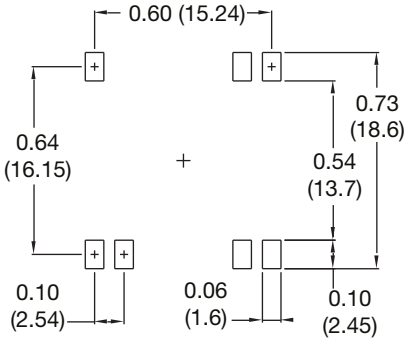
EMC: Emissions

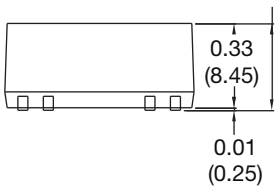
Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55022	Class A	

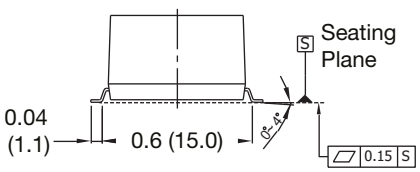
Mechanical Details



Connecting Pin Pattern



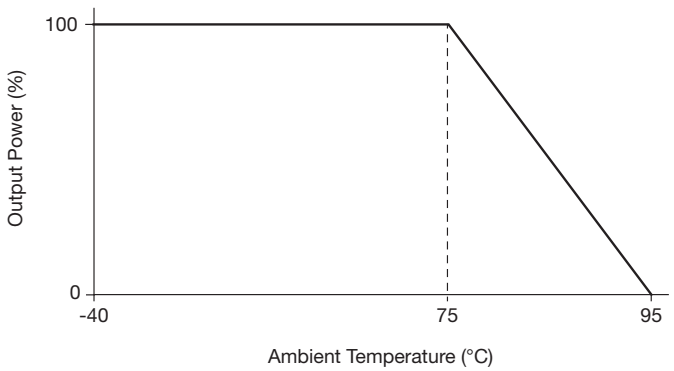




Pin Connections		
Pin	Single	Dual
1	-Vin	-Vin
2	Remote On/Off	Remote On/Off
6	No Connection	Common
7	No Connection	-Vout
8	+Vout	+Vout
9	-Vout	Common
14	+Vin	+Vin

Application Notes

Derating Curve



Notes

1. All dimensions are in inches (mm)
2. Weight: 0.01 lbs (4.5 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)