Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

ISM01 Series

DC-DC Converter

XP Power

1 Watt

- International Medical Safety Approvals
- Single & Dual Output
- Compact SMD Package
- 4000 VAC Isolation
- 2 x MOPP at 250 VAC
- 2 µA Patient Leakage Current
- Operating Temperature -40 °C to +95 °C
- Tape & Reel Package Available
- Optional Water Washable Versions
- 3 Year Warranty

Dimensions:

ISM01:
0.74 x 0.68 x 0.41" (18.9 x 17.2 x 10.5 mm)

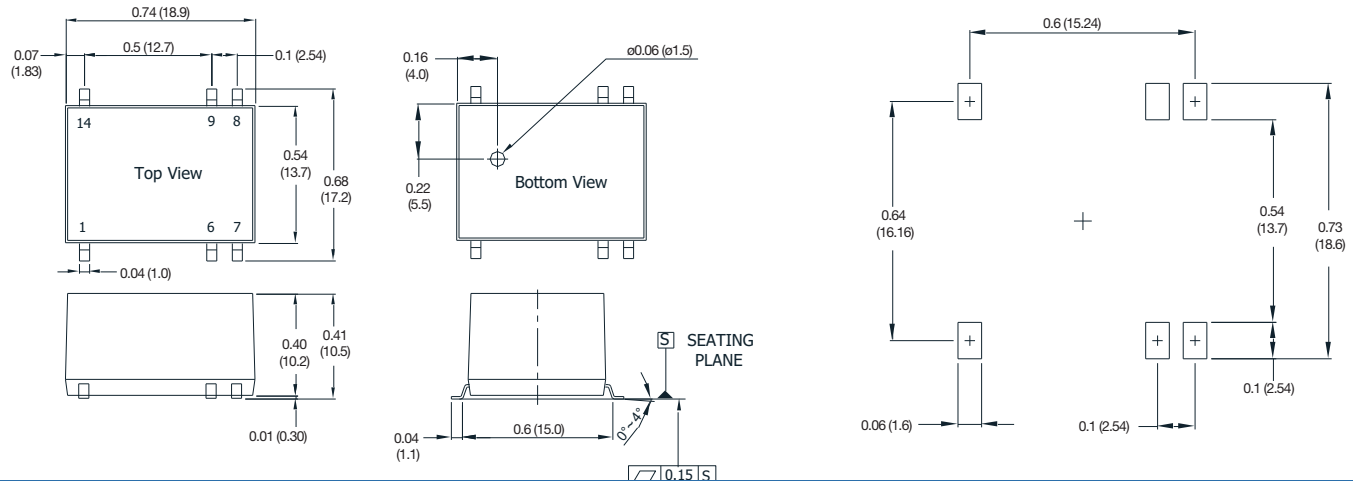
Models & Ratings

Input voltage	Output voltage	Output current		Input current[1]		Maximum[2] capacitive load	Reflected ripple current	Efficiency	Model number[3]
		Min	Max	No load	Full load				
4.5-5.5	5 V	4.00 mA	200 mA	50 mA	265 mA	220 µF	80 mA	76%	ISM0105S05
	12 V	1.68 mA	84 mA		250 mA	220 µF		80%	ISM0105S12
	15 V	1.36 mA	68 mA		245 mA	220 µF		83%	ISM0105S15
	±12 V	±0.84 mA	±42 mA		250 mA	±100 µF		80%	ISM0105D12
	±15 V	±0.66mA	±33 mA		235 mA	±100 µF		84%	ISM0105D15
10.8-13.2	5 V	4.00 mA	200 mA	35 mA	110 mA	220 µF	40 mA	76%	ISM0112S05
	12 V	1.68 mA	84 mA		105 mA	220 µF		79%	ISM0112S12
	15 V	1.36 mA	68 mA		105 mA	220 µF		80%	ISM0112S15
	±12 V	±0.84 mA	±42 mA		105 mA	±100 µF		79%	ISM0112D12
	±15 V	±0.66 mA	±33 mA		105 mA	±100 µF		80%	ISM0112D15
21.6-26.4	5 V	4.00 mA	200 mA	20 mA	55 mA	220 µF	30 mA	76%	ISM0124S05
	12 V	1.68 mA	84 mA		55 mA	220 µF		80%	ISM0124S12
	15 V	1.36 mA	68 mA		55 mA	220 µF		80%	ISM0124S15
	±12 V	±0.84 mA	±42 mA		55 mA	±100 µF		80%	ISM0124D12
	±15 V	±0.66 mA	±33 mA		50 mA	±100 µF		80%	ISM0124D15

Notes

1. Input currents measured at nominal input voltage.
2. Maximum capacitive load is per output.
3. For optional water washable version, add suffix '-P' e.g. ISM0112S05-P.

Mechanical Details



Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	4.5		5.5	VDC	5 V nominal
	10.8		13.2		12 V nominal
	21.6		26.4		24 V nominal
Input Filter	Internal Capacitor				
Input Surge			9	VDC for 1 s	5 V models
			18	VDC for 1 s	12 V models
			30	VDC for 1 s	24 V models

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	5.0		30	VDC	See Models and Ratings table
Initial Set Accuracy		±1.0	±3.0	%	
Output Voltage Balance		±0.1	±1.0	%	For dual output with balanced loads
Minimum Load	2			%	See Models and Ratings table
Line Regulation		±1.2	±1.5	%/1%	Output changes by max of 1.5% for each 1% change in input voltage
Load Regulation			10	%	10% to 100%
Ripple & Noise			100	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	4000			VAC	Reinforced, 2 x MOPP at 250 VAC working voltage
Leakage Current			2	µA	
Isolation Resistance	10^9			Ω	At 500 VDC
Isolation Capacitance		20		pF	
Switching Frequency		55		kHz	
Power Density			4.8	W/in^3	
Mean Time Between Failure	4.7			MHrs	MIL-HDBK-217F, +25 °C GB
Weight		0.01 (4.2)		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	-50		+125	°C	
Case Temperature			+105	°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	IEC60601-1	Medical
UL	ANSI/AAMI ES60601-1	Medical

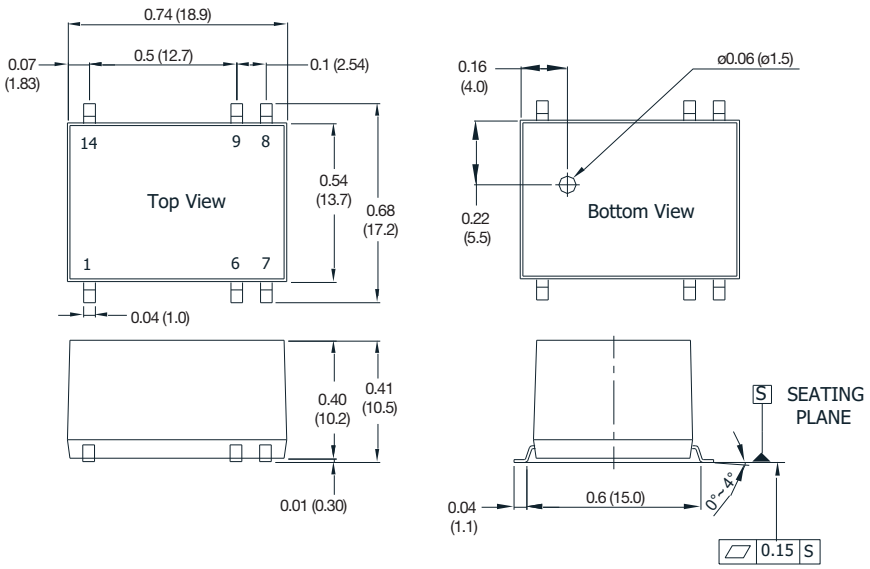
EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55011	Class A	

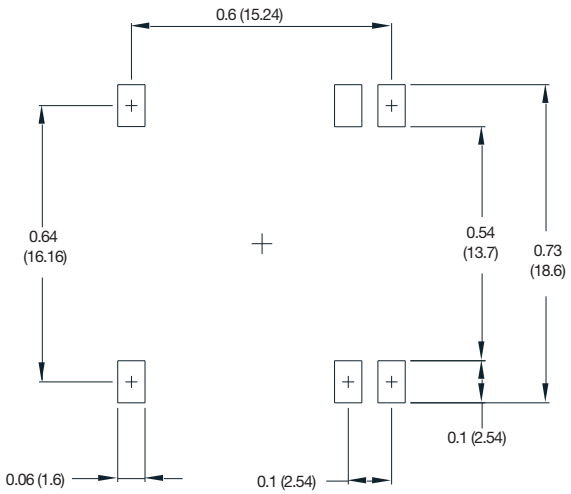
EMC: Immunity

Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
ESD	EN61000-4-2	±15 kV air discharge, ±8 kV contact	A	
Radiated	EN61000-4-3	10 V/m	A	
EFT/Burst	EN61000-4-4	±2 kV	A	
Surge	EN61000-4-5	±1 kV	A	
Conducted	EN61000-4-6	10 V rms	A	
Magnetic Fields	EN61000-4-8	30 A/m	A	

Mechanical Details



Connecting Pin Pattern



Pin Connections		
Pin	Single	Dual
1	-Vin	-Vin
6	No Connection	Common
7	No Connection	-Vout
8	+Vout	+Vout
9	-Vout	Common
14	+Vin	+Vin

Notes

1. All dimensions are in inches (mm)
2. Weight: 0.01 lbs (4.2 g) approx.
3. Tolerance: X.XX±0.02 (X.X±0.5)
   X.XXX±0.01 (X.XX±0.25)
4. Pin Tolerance: ±0.002 (±0.05)

Application Notes

Derating Curve