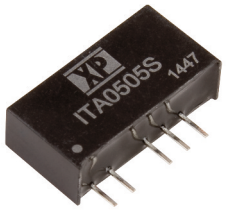
ITA Series

DC-DC Converter

XP Power

1 Watt

- Dual Output
- SIP Package
- -40 °C to +105 °C Operation
- Full Load to 95 °C Ambient
- 1500 VDC Isolation
- Class B Conducted & Radiated Emissions
- MTBF >3.5 MHrs
- 3 Year Warranty



Dimensions:

ITA:
0.76 x 0.24 x 0.39″ (19.5 x 6.0 x 10.0 mm)

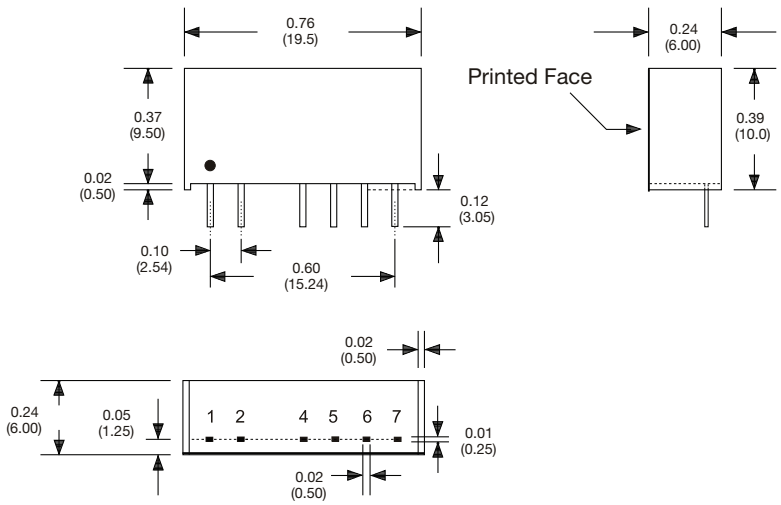
Models & Ratings

Input Voltage	Output Voltage	Output Current	Input Current[1]		Maximum Capacitive Load[2]	Efficiency[3]	Model Number
			No Load	Full Load			
5 V	±5 V	±100 mA	30 mA	253 mA	±100 µF	80%	ITA0505S
	±12 V	±41.6 mA	30 mA	250 mA	±47 µF	81%	ITA0512S
	±15 V	±33.3 mA	30 mA	250 mA	±47 µF	81%	ITA0515S
12 V	±5 V	±100 mA	15 mA	106 mA	±100 µF	80%	ITA1205S
	±12 V	±41.6 mA	15 mA	106 mA	±47 µF	80%	ITA1212S
	±15 V	±33.3 mA	15 mA	104 mA	±47 µF	81%	ITA1215S
24 V	±5 V	±100 mA	7 mA	53 mA	±100 µF	80%	ITA2405S
	±12 V	±41.6 mA	7 mA	53 mA	±47 µF	80%	ITA2412S
	±15 V	±33.3 mA	7 mA	53 mA	±47 µF	80%	ITA2415S

Notes

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

Mechanical Details



Pin Connections	
Pin	Dual
1	+Vin
2	-Vin
4	-Vout
5	Common
6	+Vout
7	No Pin

Notes

1. All dimensions are in inches (mm)
2. Weight: 0.0053lbs (2.4 g) approx.
3. Pin diameter: 0.02±0.002 (0.5±0.05)
4. Pin pitch tolerance: ±0.014 (±0.35)
5. Case tolerance: ±0.02 (±0.5)

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	4.5		5.5	VDC	5 V nominal
	10.8		13.2	VDC	12 V nominal
	21.6		26.4	VDC	24 V nominal
Input Filter	Capacitor				
Input Reflected Ripple			15	mA pk-pk	Through 12 µH inductor and 47 µF capacitor
Input Surge			9	VDC for 1000 ms	5 V models
			18	VDC for 1000 ms	12 V models
			30	VDC for 1000 ms	24 V models

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	±5		±15	VDC	See Models and Ratings table
Initial Set Accuracy			±5	%	At 70% load
Minimum Load	10			%	Minimum load required to meet specification. Operation at no load will not cause damage.
Line Regulation			±1.2	%/1%Vin	
Load Regulation			+5, -2.5	%	From 10% to full load from 70% load point
Cross Regulation			±5	%	When one load is varied between 25% and 100% and other is fixed at 100%
Ripple & Noise			60	mV pk-pk	20 MHz bandwidth. Measured using 0.1 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			VDC	
Switching Frequency	40/50		50/70	kHz	5 V/12-24 V input
Isolation Resistance	10^9			Ω	
Isolation Capacitance		50		pF	
Power Density			14	Win^3	
Mean Time Between Failure	3.6			MHrs	MIL-HDBK-217F, +25 °C GB
Weight		0.0053 (2.4)		lb (g)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		+105	°C	Derate from 100% load at +95 °C to 90% at +105 °C
Storage Temperature	-55		+125	°C	
Case Temperature			+115	°C	
Humidity			95	%RH	Non-condensing
Cooling					Natural convection

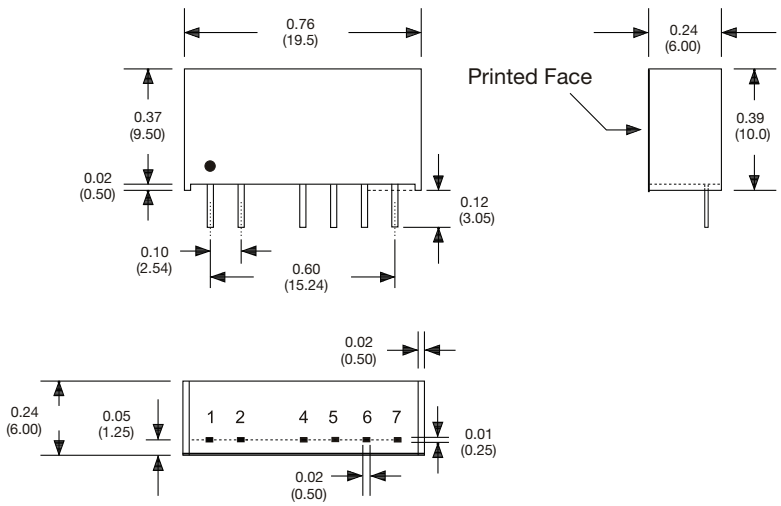
EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55022	Class B	See Application Note
Radiated	EN55022	Class B	

EMC: Immunity

Phenomenon	Standard	Test Level	Criteria	Notes & Conditions
ESD Immunity	EN61000-4-2	3	A	
Radiated Immunity	EN61000-4-3	10 Vrms	A	
EFT/Burst	EN61000-4-4	3	A	External input capacitor required 330 µF/100 V
Surges	EN61000-4-5	1	A	External input capacitor required 330 µF/100 V
Conducted Immunity	EN61000-4-6	3 V rms	A	
Magnetic Fields	EN61000-4-8	1 A/m	A	

Mechanical Details



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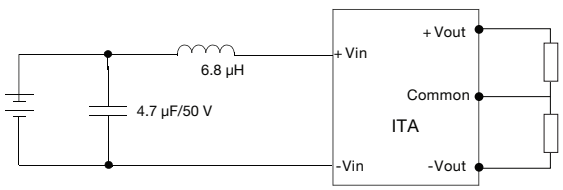
Application Note

EMI Filter



1206 Chip Capacitor, placed as close as possible to the input pins