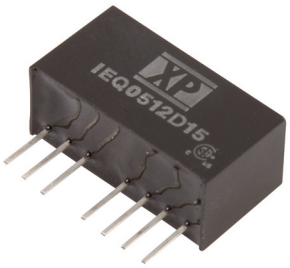
IEQ05 Series

DC-DC Converter

XP Power

5 Watt

- Regulated Single & Dual Output
- Wide 4:1 Input Range
- Compact SIP8 Package
- 1500 VDC Isolation
- Operating Temperature -40 °C to +90 °C
- Remote On/Off
- 3 Year Warranty



Dimensions:

IEQ05:
0.86 x 0.37 x 0.44" (21.8 x 9.3 x 11.2 mm)

Models & Ratings

Input voltage	Output voltage	Output current	Input current[1,2]		Maximum capacitive load[3]	Efficiency	Model number
			No load	Full load			
4.5-18V	3V3	1075 mA	60 mA	390 mA	1000 µF	76%	IEQ0512S3V3
	5 V	1000 mA		515 mA	1000 µF	81%	IEQ0512S05
	12 V	417 mA		500 mA	220 µF	83%	IEQ0512S12
	15 V	334 mA		505 mA	100 µF	83%	IEQ0512S15
	24 V	209 mA		510 mA	100 µF	82%	IEQ0512S24
	±12 V	±209 mA		515 mA	±100 µF	81%	IEQ0512D12
	±15 V	±167 mA		510 mA	±47 µF	82%	IEQ0512D15
9-36V	3V3	1075 mA	30 mA	195 mA	1000 µF	76%	IEQ0524S3V3
	5 V	1000 mA		255 mA	1000 µF	81%	IEQ0524S05
	12 V	417 mA		250 mA	220 µF	83%	IEQ0524S12
	15 V	334 mA		250 mA	100 µF	84%	IEQ0524S15
	24 V	209 mA		250 mA	100 µF	83%	IEQ0524S24
	±12 V	±209 mA		255 mA	±100 µF	82%	IEQ0524D12
	±15 V	±167 mA		255 mA	±47 µF	82%	IEQ0524D15
18-75V	3V3	1075 mA	20 mA	95 mA	1000 µF	76%	IEQ0548S3V3
	5 V	1000 mA		130 mA	1000 µF	80%	IEQ0548S05
	12 V	417 mA		125 mA	220 µF	83%	IEQ0548S12
	15 V	334 mA		125 mA	100 µF	84%	IEQ0548S15
	24 V	209 mA		125 mA	100 µF	82%	IEQ0548S24
	±12 V	±209 mA		125 mA	±100 µF	82%	IEQ0548D12
	±15 V	±167 mA		125 mA	±47 µF	83%	IEQ0548D15

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.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	4.5		18	VDC	12 V nominal
	9.0		36		24 V nominal
	18.0		75		48 V nominal
Input Filter	Internal Capacitor				
Input Surge			36	VDC for 1 s	12 V nominal
			50		24 V models
			100		48 V models
Remote On/Off	ON: open circuit OFF: 2-4 mA via 1kΩ resistor into pin 3 with respect to pin 1				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	3.3		30	VDC	See Models and Ratings table
Initial Set Accuracy			±2	%	
Output Voltage Balance		±1	±2	%	For dual output with balanced laods
Minimum Load				A	No minimum load required
Line Regulation		±0.3	±0.5	%	
Load Regulation		±0.5	±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 500 µs for a 25% load change.
Ripple & Noise			100	mV pk-pk	20 MHz bandwidth. Measured using 0.47 µF ceramic capacitor.
Overload Protection		170		%	
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		82		%	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		250		pF	
Switching Frequency	100			kHz	
Power Density			35.7	W/in³	
Mean Time Between Failure		2.4		MHrs	MIL-HDBK-217F, +25 °C GB
Weight		0.01 (4.8)		lb (g)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		+90	°C	See Derating Curve.
Storage Temperature	-55		+125	°C	
Case Temperature			+90	°C	
Humidity			95	%RH	Non-condensing
Cooling					Natural convection
Case Flammability	UL 94V-0 Rated				Non conductive black plastic

Safety Approvals

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

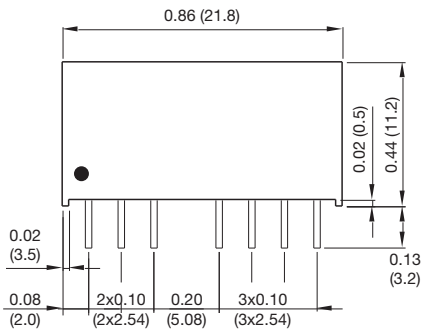
EMC: Emissions

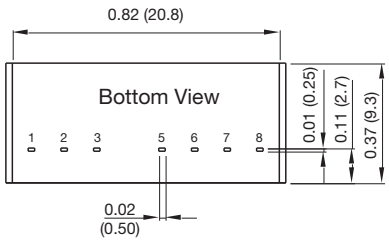
Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55022	Class A	

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,
Surge	EN61000-4-5	±1 kV	A	With external capacitor,
Conducted	EN61000-4-6	10 V rms	A	

Mechanical Details

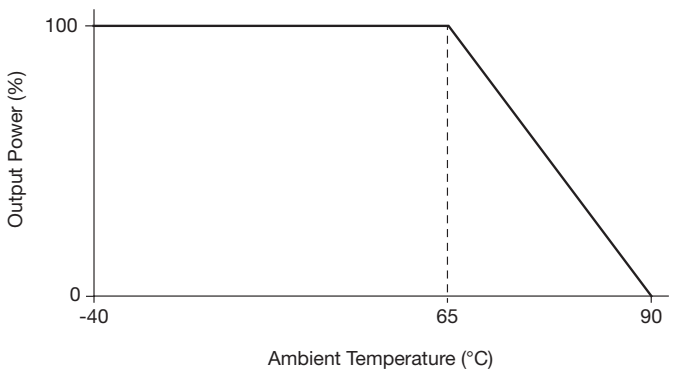




Pin Connections		
Pin	Single	Dual
1	-Vin	-Vin
2	+Vin	+Vin
3	Remote On/Off	Remote On/Off
5	No Connection	No Connection
6	+Vout	+Vout
7	-Vout	Common
8	No Connection	-Vout

Notes

1. All dimensions are in inches (mm)
2. Weight: 0.01 lbs (4.8 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)

Application Notes

Derating Curve