



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

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

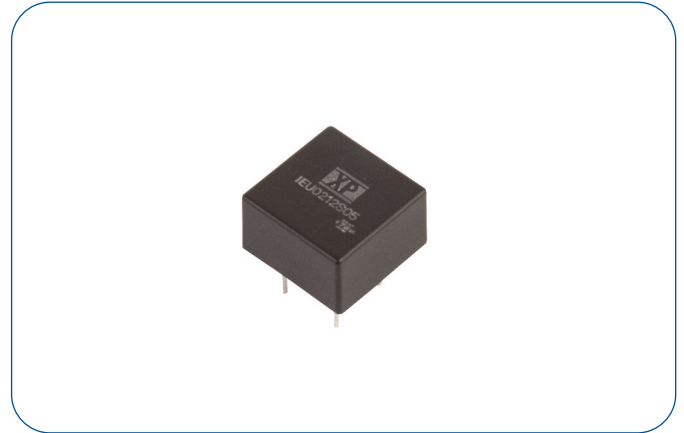
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

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



2 Watt

- Regulated Single & Dual Output
- 2:1 Input Range
- Compact DIP8 Package
- 1500 VDC Isolation
- Operating Temperature -40 °C to +95 °C
- ITE Safety Approvals
- Full Load at 70 °C
- Class A Conducted & Radiated Emissions
- 3 Year Warranty



Dimensions:

IEU02:
0.55 x 0.55 x 0.31" (14.0 x 14.0 x 8.0 mm)

Models & Ratings

Input voltage	Output voltage	Output current	Input current ⁽¹⁾		Maximum capacitive load ⁽²⁾	Efficiency	Model number
			No load	Full load			
4.5-10V	3V3	400 mA	40 mA	335 mA	100 µF	79%	IEU0205S3V3
	5 V	400 mA		495 mA	100 µF	81%	IEU0205S05
	12V	167 mA		470 mA	100 µF	85%	IEU0205S12
	15V	134 mA		460 mA	100 µF	87%	IEU0205S15
	±5V	±200 mA		480 mA	±100 µF	83%	IEU0205D05
	±12V	±83 mA		470 mA	±100 µF	85%	IEU0205D12
	±15V	±67 mA		475 mA	±100 µF	85%	IEU0205D15
9-18V	3V3	400 mA	27 mA	140 mA	100 µF	80%	IEU0212S3V3
	5 V	400 mA		200 mA	100 µF	83%	IEU0212S05
	12V	167 mA		190 mA	100 µF	87%	IEU0212S12
	15V	134 mA		195 mA	100 µF	87%	IEU0212S15
	±5V	±200 mA		200 mA	±100 µF	84%	IEU0212D05
	±12V	±83 mA		195 mA	±100 µF	86%	IEU0212D12
	±15V	±67 mA		195 mA	±100 µF	86%	IEU0212D15
18-36V	3V3	400 mA	15 mA	70 mA	100 µF	79%	IEU0224S3V3
	5 V	400 mA		100 mA	100 µF	84%	IEU0224S05
	12V	167 mA		95 mA	100 µF	86%	IEU0224S12
	15V	134 mA		95 mA	100 µF	87%	IEU0224S15
	±5V	±200 mA		100 mA	±100 µF	84%	IEU0224D05
	±12V	±83 mA		95 mA	±100 µF	86%	IEU0224D12
	±15V	±67 mA		95 mA	±100 µF	86%	IEU0224D15
36-75V	3V3	400 mA	8 mA	35 mA	100 µF	79%	IEU0248S3V3
	5 V	400 mA		50 mA	100 µF	83%	IEU0248S05
	12V	167 mA		50 mA	100 µF	85%	IEU0248S12
	15V	134 mA		50 mA	100 µF	86%	IEU0248S15
	±5V	±200 mA		50 mA	±100 µF	82%	IEU0248D05
	±12V	±83 mA		50 mA	±100 µF	84%	IEU0248D12
	±15V	±67 mA		50 mA	±100 µF	84%	IEU0248D15

Notes

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

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage Range	4.5		10	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			12	VDC for 1 s	5 V nominal
			25		12 V nominal
			50		24 V models
			100		48 V models

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage	3.3		30	VDC	See Models and Ratings table
Initial Set Accuracy			±1.5	%	At full load
Output Voltage Balance			±2.0	%	For dual output with balanced loads
Minimum Load				A	No minimum load required
Line Regulation			±0.2	%	From minimum to maximum input at full load
Load Regulation			±1.0	%	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			5	% deviation	Recovery within 1% in less than 500 µs for a 25% load change.
Ripple & Noise		70		mV pk-pk	20 MHz bandwidth. Measured using 0.47 µF ceramic capacitor.
Overload Protection		180		%	
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		84		%	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		100		pF	
Switching Frequency		100		kHz	
Power Density			21.3	W/in ³	
Mean Time Between Failure		4.2		MHrs	MIL-HDBK-217F, +25 °C GB
Weight		0.008 (3.9)		lb (g)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		+95	°C	See Derating Curve.
Storage Temperature	-50		+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

EMC: Emissions

Phenomenon	Standard	Test Level	Notes & Conditions
Conducted	EN55022	Class A	See application note
Radiated	EN55022	Class A	See application note

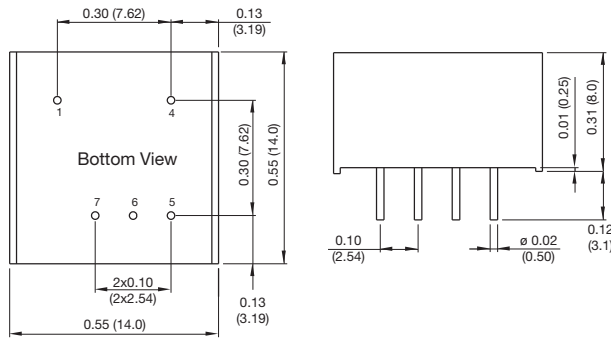
EMC: Immunity

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 input capacitor, suggested part is CHEMI-CON KY 220µF/100V
Surge	EN61000-4-5	±1 kV	A	With external input capacitor, suggested part is CHEMI-CON KY 220µF/100V
Conducted	EN61000-4-6	10 V rms	A	
Magnetic Fields	EN61000-4-8	3 A/m	A	

Safety Approvals

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

Mechanical Details



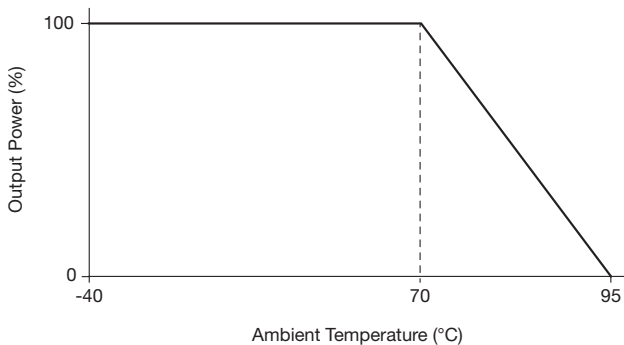
Pin Connections		
Pin	Single	Dual
1	-Vin	-Vin
4	+Vin	+Vin
5	+Vout	+Vout
6	No Pin	Common
7	-Vout	-Vout

Notes

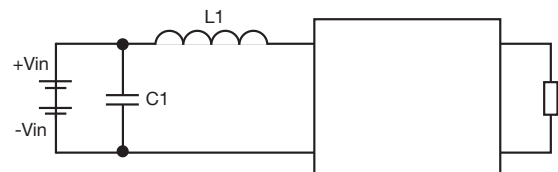
- All dimensions are in inches (mm)
- Weight: 0.008 lbs (3.9g) approx.
- Tolerance: X.XX±0.01 (X.X±0.25)
X.XXX±0.005 (X.XX±0.13)
- Pin Tolerance: ±0.002 (±0.05)

Application Notes

Derating Curve



EMI Filter



Model	C1	L1
IEU0205	4.7 µF/16 V	3.3 µH
IEU0212	4.7 µF/25 V	18.0 µH
IEU0224	4.7 µF/50 V	39.0 µH
IEU0248	2.2 µF/100 V	68.0 µH

C1 = 1206 X7R MLCC, L1 = SCD0504T series