1W SIP Package DC-DC Unregulated Converter SPU01 & DPU01 series





CE

Features

- SIP6 package with industry standard pinout
- Operating temperature range -40 ~ +90℃
- Comply to EN55032 radiated Class A without additional components
- High efficiency up to 84%
- Protection: Short circuit
- 1.5KVDC I/O isolation
- Low cost
- 3 years warranty

Applications

- Telecom/datacom system
- Wireless network
- Industrial control facility
- Instrument
- Analyzer
- Detector
- Data switch

Description

SPU01 and DPU01 series are 1W isolated and unregulated module type DC-DC converter with SIP6 package. It features international standard pins, a high efficiency up to 84%, wide working temperature range -40~+90℃, 1.5KVDC I/P-O/P isolation voltage, compliance to EN55032 radiated Class A without additional components, short circuit protection, etc. The models account for different input voltage 5V/12V/24V±10%, and various output voltage, 5V/12V/15V for single output and ±5V/±12V/±15V for dual outputs, which are suitable for all kinds of systems, Such as industrial control, telecommunication field, distributed power architecture, and so on.

Model Encoding

S PU01 L – 12

- 12 — Output voltage (5/12/15Vdc · ±5/±12/±15Vdc)
- L — Input voltage (L: 4.5 ~ 5.5Vdc · M: 10.8 ~ 13.2Vdc · N: 21.6 ~ 26.4Vdc)
- 01 — Rated wattage
- S — Series name { S:Single output / D:Dual output

MODEL SELECTION TABLE

ORDER NO.	INPUT			OUTPUT		EFFICIENCY (TYP.)	CAPACITOR LOAD (MAX.)
	INPUT VOLTAGE (RANGE)	INPUT CURRENT		OUTPUT VOLTAGE	OUTPUT CURRENT		
		NO LOAD	FULL LOAD				
SPU01L-05	5V (4.5 ~ 5.5V)	40mA	253mA	5V	0 ~ 200mA	79%	220μF
SPU01L-12		45mA	255mA	12V	0 ~ 84mA	79%	220μF
SPU01L-15		45mA	258mA	15V	0 ~ 67mA	79%	220μF
DPU01L-05		45mA	260mA	±5V	±0 ~ 100mA	78%	*100μF
DPU01L-12		45mA	255mA	±12V	±0 ~ 42mA	78%	*100μF
DPU01L-15		45mA	270mA	±15V	±0 ~ 33mA	75%	*100μF
SPU01M-05	12V (10.8 ~ 13.2V)	15mA	104mA	5V	0 ~ 200mA	81%	220μF
SPU01M-12		15mA	104mA	12V	0 ~ 84mA	83%	220μF
SPU01M-15		15mA	103mA	15V	0 ~ 67mA	84%	220μF
DPU01M-05		15mA	105mA	±5V	±0 ~ 100mA	81%	*100μF
DPU01M-12		15mA	102mA	±12V	±0 ~ 42mA	83%	*100μF
DPU01M-15		15mA	108mA	±15V	±0 ~ 33mA	78%	*100μF
SPU01N-05	24V (21.6 ~ 26.4V)	7mA	52mA	5V	0 ~ 200mA	80%	220μF
SPU01N-12		7mA	52mA	12V	0 ~ 84mA	81%	220μF
SPU01N-15		8mA	52mA	15V	0 ~ 67mA	80%	220μF
DPU01N-05		7mA	54mA	±5V	±0 ~ 100mA	80%	*100μF
DPU01N-12		8mA	53mA	±12V	±0 ~ 42mA	80%	*100μF
DPU01N-15		8mA	55mA	±15V	±0 ~ 33mA	78%	*100μF

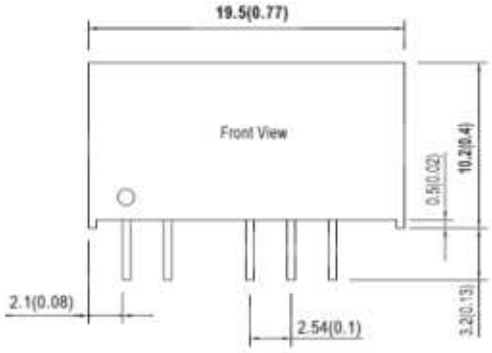
* For each output

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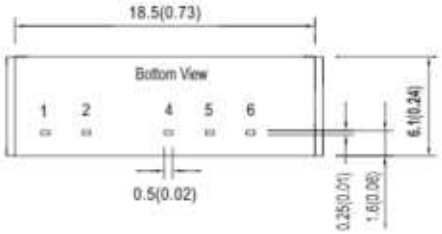
SPECIFICATION				
INPUT	VOLTAGE RANGE	L: 4.5 ~ 5.5Vdc , M: 10.8 ~ 13.2Vdc , N: 21.6 ~ 26.4Vdc		
	SURGE VOLTAGE (100ms max.)	5Vin models : 9Vdc ; 12Vin models : 18Vdc ; 24Vin models : 30Vdc		
	FILTER	Internal capacitor		
	PROTECTION	Fuse recommended. 500mA Slow-Blow Type for all models		
	INTERNAL POWER DISSIPATION	500mW		
OUTPUT	VOLTAGE ACCURACY	±3.0%		
	RATED POWER	1W		
	RIPPLE & NOISE Note.2	75mVp-p		
	LINE REGULATION Note.3	1.2% for 1% input variation		
	LOAD REGULATION Note.4	10%		
	SWITCHING FREQUENCY (Typ.)	24Vin: 75KHz, other: 100KHz		
PROTECTION	SHORT CIRCUIT	1 second max.		
ENVIRONMENT	COOLING	Free-air convection		
	WORKING TEMP.	-40 ~ +90℃ (Refer to "Derating Curve")		
	CASE TEMPERATURE	+100℃ max.		
	WORKING HUMIDITY	20% ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-55 ~ +125℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	0.03% / ℃ (0 ~ 85℃)		
	SOLDERING TEMPERATURE	1.5mm from case of 1 ~ 3sec./260℃ max.		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes		
SAFETY & EMC (Note.5)	WITHSTAND VOLTAGE	I/P-O/P:1.5KVDC		
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH		
	ISOLATION CAPACITANCE (Typ.)	10pF		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
		Conducted	EN55032(CISPR32)	N/A
		Radiated	EN55032(CISPR32)	Class A
	EMC IMMUNITY	**Parameter**	**Standard**	**Test Level / Note**
		ESD	EN61000-4-2	Level 2, ±8KV air, ±4KV contact
		Radiated Susceptibility	EN61000-4-3	Level 2, 3V/m
		EFT/Burest	EN61000-4-4	Level 1, 0.5KV
		Surge	EN61000-4-5	Level 1, 0.5KV Line-Line
		Conducted	EN61000-4-6	Level 2, 3V(e.m.f.)
		Magnetic Field	EN61000-4-8	Level 2, 3A/m
OTHERS	MTBF	1500Khrs MIL-HDBK-217F(25℃)		
	DIMENSION (L*W*H)	5/12Vin models:19.5*6.1*10.2mm (0.77*0.24*0.40 inch); 24Vin models:19.5*7.2*10.2mm (0.77*0.28*0.40 inch)		
	CASE MATERIAL	Non-Conductive black plastic (UL 94V-0 rated)		
	PACKING	5/12Vin models: 1.8g; 24Vin models: 2.7g		
NOTE	1.All parameters are specified at normal input(L:5Vdc, M:12Vdc, N:24Vdc), rated load, 25℃ 70% RH ambient. 2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1μf & 47μf capacitor. 3.Line regulation is measured from low line to high line at rated load. 4.Load regulation is measured from 20% to 100% rated load. 5.The final equipment must be re-confirm that it still meet EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."(as available on http://www.meanwell.com)			

■ Mechanical Specification

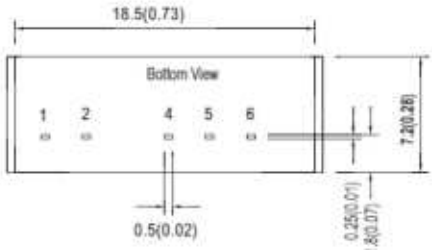
- All dimensions in mm(inch)
- Tolerance:x.x±0.25mm(x.xx±0.01")
  x.xx±0.13mm(x.xxx±0.005")
- Pin pitch tolerance: ±0.05mm (±0.002")



5/12Vin



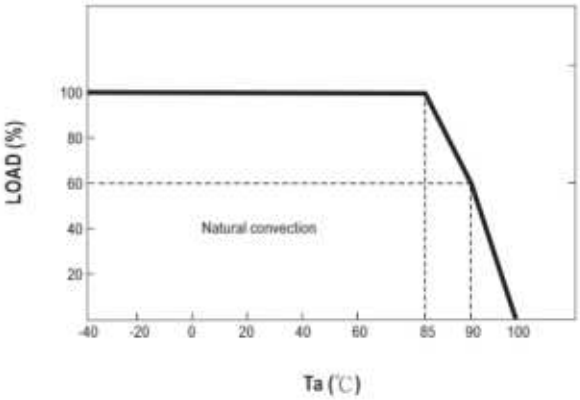
24Vin



■ Plug Assignment

Pin-Out		
Pin No.	SPU01 (Single output)	DPU01 (Dual output)
1	+Vin	+Vin
2	-Vin	-Vin
4	-Vout	-Vout
5	No pin	Common
6	+Vout	+Vout

■ Derating Curve



■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html