

TPTC020



Features

- SIP6 package with industry standard pinout
- 8:1 (9~75Vdc) ultra-wide input range
- Operating temperature range -40 ~ +95°C
- No minimum load required
- Comply to BS EN/EN55032 radiated Class A without additional components
- High efficiency up to 80%
- Protections: Short circuit (Continuous) / Overload / UVLO
- 1.5KVdc I/O isolation
- 3 years warranty

Applications

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

GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

Description

SPA01W8 and DPA01W8 series are 1W isolated and regulated module type DC-DC converter with SIP6 package. It features international standard pins, a high efficiency up to 80%, wide working temperature range -40~+95°C, 1.5KVdc I/P-O/P isolation voltage, compliance to BS EN/EN55032 radiated class A without additional components, overload and continuous-mode short circuit protection, etc. The models account for 9~75Vdc 8:1 ultra-wide input range, and various output voltage, 3.3V/5V/9V/12V/15V/24V for single output and $\pm 5V/\pm 12V/\pm 15V$ 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

SPA 01 W8 -12

Output voltage (3.3/5/9/12/15/24Vdc, $\pm 5/\pm 12/\pm 15Vdc$)

8:1 (9~75Vdc) Wide input voltage

Rated wattage

Series name { S:Single output
D: Dual output



1W SIP Package 8:1 Ultra-Wide Input DC-DC Regulated Converter

SPA01W8 & DPA01W8 series

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				
SPA01W8-03	Nominal 12V, 24V,36V,48V,72V (9 ~ 75V)	3mA	54mA	3.3V	0 ~ 300mA	77%	220μF
SPA01W8-05		4mA	53mA	5V	0 ~ 200mA	78%	220μF
SPA01W8-09		5mA	53mA	9V	0 ~ 111mA	80%	47μF
SPA01W8-12		5mA	53mA	12V	0 ~ 83mA	78%	47μF
SPA01W8-15		5mA	53mA	15V	0 ~ 67mA	80%	47μF
SPA01W8-24		7mA	55mA	24V	0 ~ 42mA	76%	47μF
DPA01W8-05		5mA	53mA	±5V	±0 ~ 100mA	78%	*47μF
DPA01W8-12		7mA	56mA	±12V	±0 ~ 42mA	76%	*47μF
DPA01W8-15		8mA	54mA	±15V	±0 ~ 33mA	77%	*47μF

* For each output

SPECIFICATION

INPUT

VOLTAGE RANGE 9~75Vdc

SURGE VOLTAGE (100ms max.) 100Vdc

FILTER Capacitor Network

PROTECTION Fuse recommended. 400mA Slow-Blow Type.

OUTPUT

VOLTAGE ACCURACY $\pm 2\%$

RATED POWER 1W

RIPPLE & NOISE Note.2 3.3~9V: 100mV Vp-p max. 12~24V: 1% Output Vp-p max.

LINE REGULATION Note.3 $\pm 0.5\%$

LOAD REGULATION Note.4 $\pm 1\%$ for 3.3Vdc output $\pm 0.5\%$ for others output

CROSS REGULATION $\pm 5\%$ @ 25%~100% Load only dual output

SWITCHING FREQUENCY (Typ.) 330KHz

PROTECTION

SHORT CIRCUIT Protection type : Continuous, automatic recovery

OVERLOAD 110 ~ 350% rated output power
Protection type : Recovers automatically after fault condition is removed

UNDER VOLTAGE LOCKOUT (Typ.)
Start-up voltage 8.8Vdc
Shutdown voltage 8Vdc

ENVIRONMENT

COOLING Free-air convection

WORKING TEMP. -40 ~ +95°C (Refer to "Derating Curve")

CASE TEMPERATURE +110°C max.

WORKING HUMIDITY 5% ~ 95% RH non-condensing

STORAGE TEMP., HUMIDITY -55 ~ +125°C, 10 ~ 95% RH non-condensing

TEMP. COEFFICIENT 0.05% / °C (0 ~ 95°C)

SOLDERING TEMPERATURE 1.5mm from case of 3 ~ 5sec./265°C max.

VIBRATION 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes

SAFETY & EMC (Note.5)

SAFETY STANDARDS EAC TP TC 020/2011 approved

WITHSTAND VOLTAGE I/P-O/P:1.5KVdc

ISOLATION RESISTANCE I/P-O/P:1000M Ohms / 500Vdc / 25°C / 70% RH

ISOLATION CAPACITANCE (Typ.) 60pF

EMC EMISSION	Parameter	Standard	Test Level / Note
	Conducted	BS EN/EN55032(CISPR32)	N/A
	Radiated	BS EN/EN55032(CISPR32)	Class A without additional components

EMC IMMUNITY	Parameter	Standard	Test Level / Note
	ESD	BS EN/EN61000-4-2	Level 3, ± 8 KV Air
	Radiated Susceptibility	BS EN/EN61000-4-3	Level 2, 3V/m
	EFT/Bursts	BS EN/EN61000-4-4	Level 1, 0.5KV
	Surge	BS EN/EN61000-4-5	Level 2, 0.5KV Line-Line
	Conducted	BS EN/EN61000-4-6	Level 2, 3V(e.m.f.)
	Magnetic Field	BS EN/EN61000-4-8	Level 1, 1A/m

OTHERS

MTBF >500Khrs MIL-HDBK-217F(25°C)

DIMENSION (L*W*H) 17.4*7.75*11.1mm (0.69*0.3*0.44 inch)

CASE MATERIAL Non-Conductive black plastic (UL 94V-0 rated)

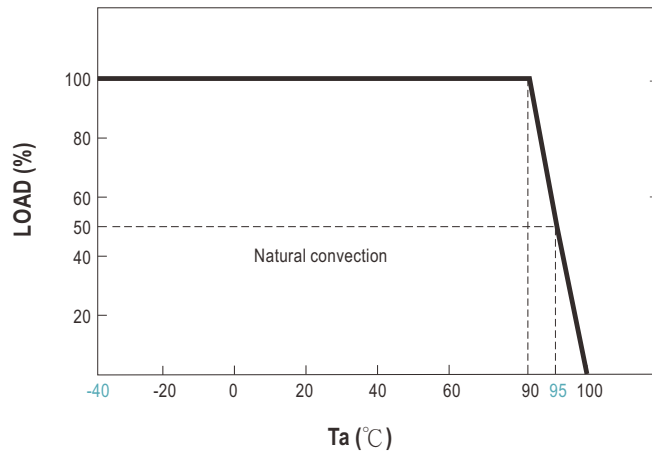
PACKING 3g ; 28pcs/per tube, 2800pcs/100 tube/per carton

NOTE

- 1.All parameters are specified at normal input(24Vdc), rated load, 25°C 70% RH ambient.
- 2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1 μ f & 47 μ f capacitor.
- 3.Line regulation is measured from low line to high line at rated load.
- 4.Load regulation is measured from 0% 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>)

※ Product Liability Disclaimer : For detailed information, please refer to <https://www.meanwell.com/serviceDisclaimer.aspx>

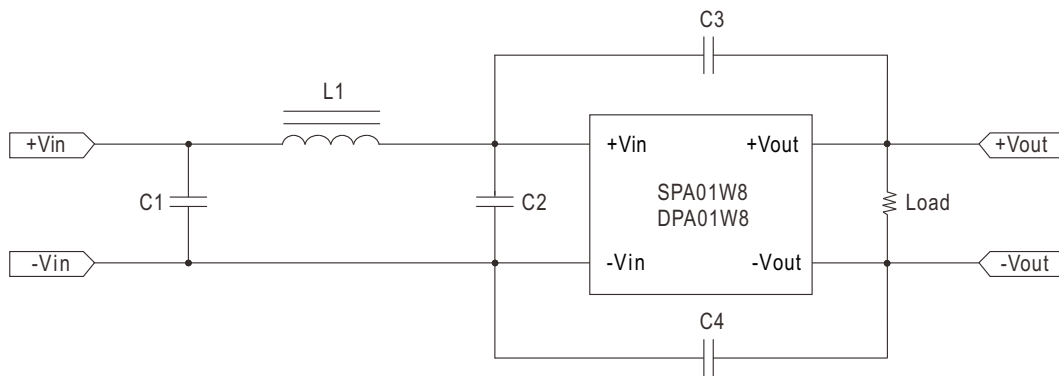
Derating Curve



EMC Suggestion Circuit

※ EMC Test standard: BS EN/EN55032 radiated Class B test conditions recommendations:

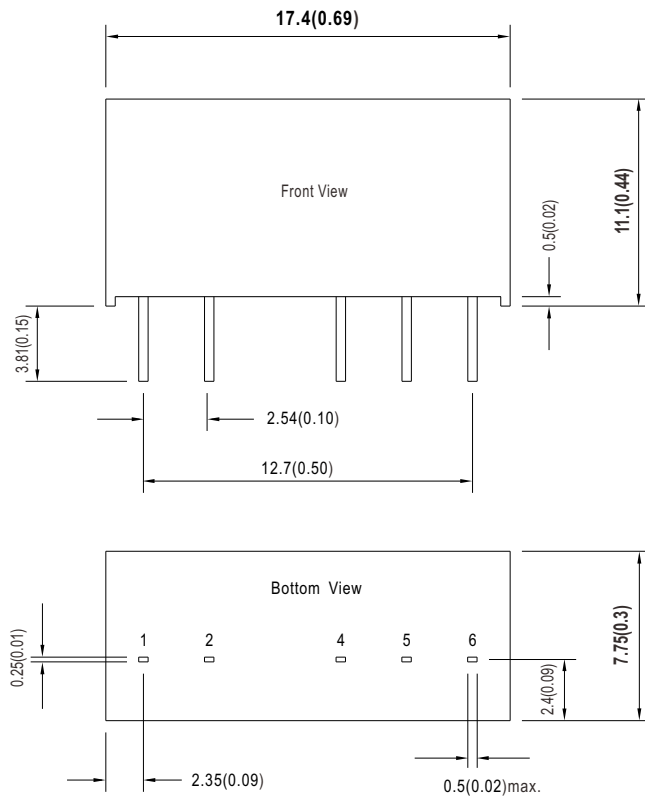
Input Voltage: Nominal, Output Load: Full Load



Model No.	BS EN/EN55032 radiated Class B				
	C1	C2	C3	C4	L1
SPA01W8 DPA01W8	2.2μF/100V	2.2μF/100V	152/5KV	152/5KV	10μH

Mechanical Specification

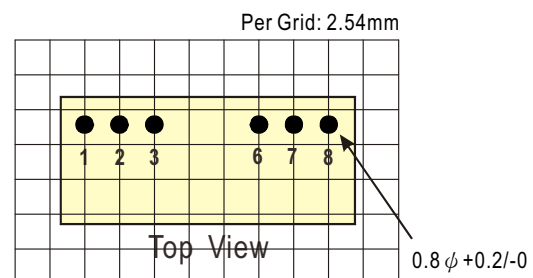
- All dimensions in mm(inch)
- Tolerance: $x.x \pm 0.5\text{mm}$ ($x.xx \pm 0.02"$)
 $x.xx \pm 0.25\text{mm}$ ($x.xxx \pm 0.010"$)
- Pin pitch tolerance: $\pm 0.05\text{mm}$ ($\pm 0.002"$)



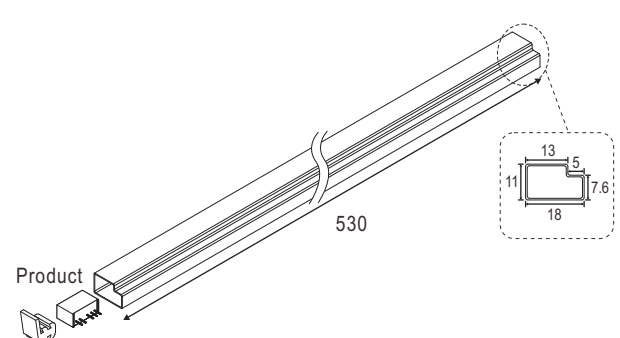
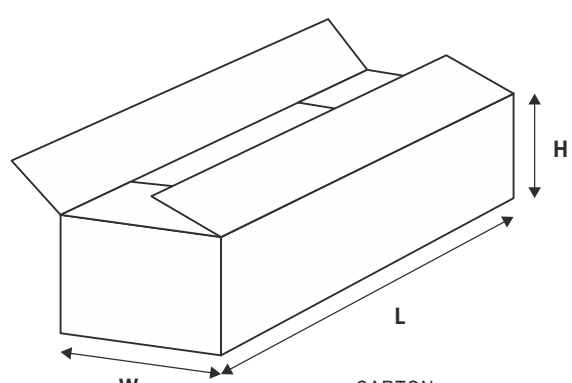
Pin Assignment

Pin-Out		
Pin No.	SPA01W8 (Single output)	DPA01W8 (Dual output)
1	-Vin	-Vin
2	+Vin	+Vin
4	+Vout	+Vout
5	N.P.	Common
6	-Vout	+Vout

* N.P. : No PIN



■ Packing

Standard Tube Packing	MPQ Per Tube (PCS)	One Tube G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
Unit : mm  Product Tube Plugs  Tube pattern  CARTON L620 x W230 x H230	28	140g	2800	14.8Kg

■ Installation Manual

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