

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

SPA01W8-12

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.
INTERNAL POWER DISSIPATION	315mW

OUTPUT

VOLTAGE ACCURACY	±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	±0.5%
LOAD REGULATION Note.4	±1% for 3.3Vdc output ±0.5% for others output
CROSS REGULATION	±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	Start-up voltage 8.8Vdc Shutdown voltage 8Vdc (Typ.)

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, ±8KV 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

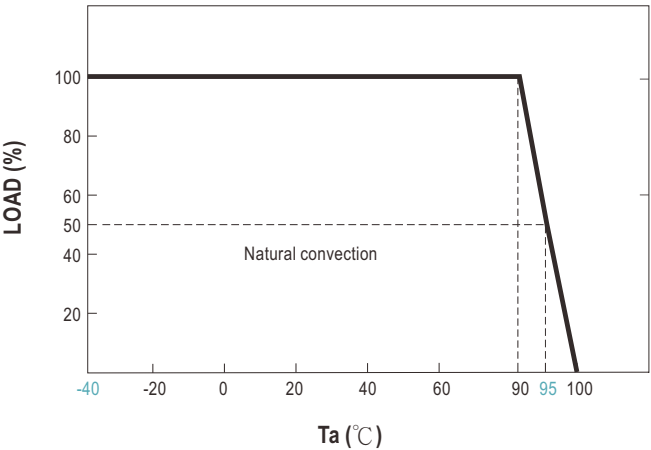
OTHERS

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

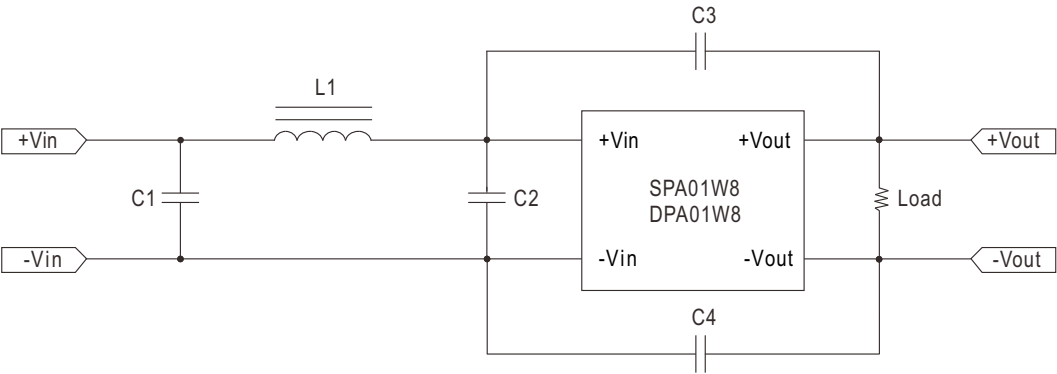
- 1.All parameters are specified at normal input(24Vdc), rated load, 25°C 70% RH ambient.
 - 2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1μf & 47μf capacitor.
 - 3.Line regulation is measured from low line to high line at rated load.
 - 4.Load regulation is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

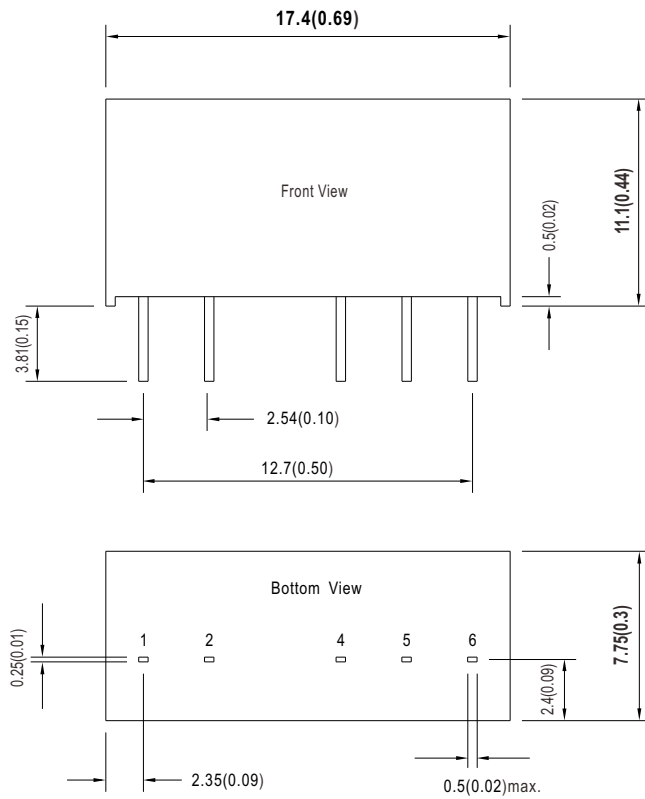
※ EMC Considerations EMI Test standard: BS EN/EN55032 Class B radiated test conditions recommendations:
Input Voltage: Nominal, Output Load: Full Load



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

Mechanical Specification

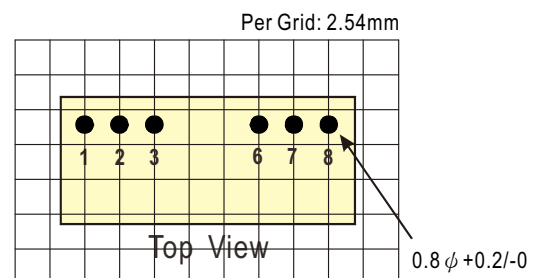
- All dimensions in mm(inch)
- Tolerance: $x.x \pm 0.5\text{mm}$ ($x.xx \pm 0.02"$)
 $x.xx \pm 0.25\text{mm}$ ($x.xxx \pm 0.010"$)
- Pin pitch tolerance: $\pm 0.05\text{mm}$ ($\pm 0.002"$)



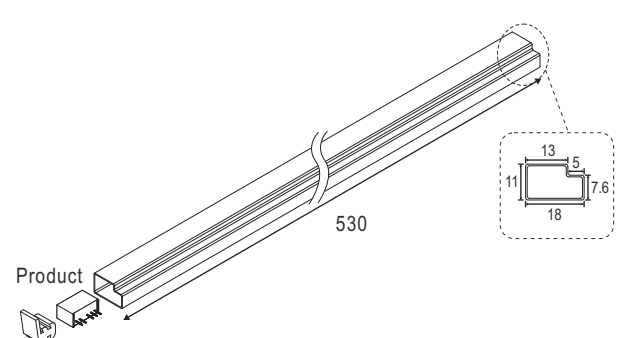

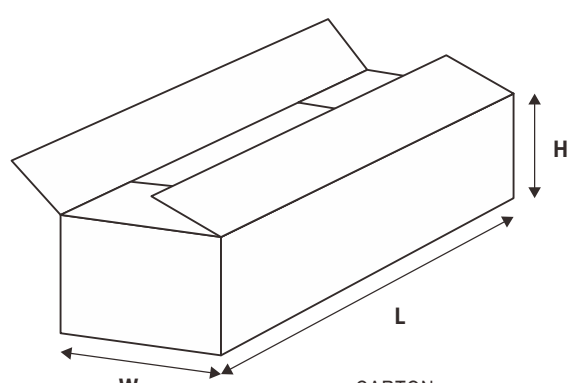
Plug Assignment

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.
<p>Unit : mm</p>  <p>Product</p> <p>Tube Plugs</p>  <p>Tube pattern</p>  <p>CARTON L620 x W230 x H230</p>	28	140g	2800	14.8Kg

■ Installation Manual

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