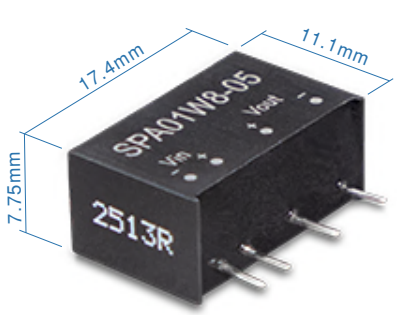
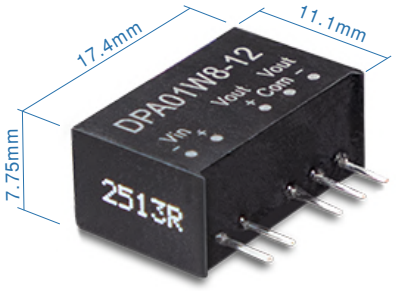
# 1W SIP Package 8:1 Ultra-Wide Input DC-DC Regulated Converter SPA01W8 & DPA01W8 series




TPTC020

Automate Industrial Security Network Telecom

## Features

- SIP6 package with industry standard pinout
- 8:1(9~75Vdc) ultra-wide input range
- Operating temperature range -40 ~ +95℃
- 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℃, 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 ±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

**SPA 01 W8 – 12**

- 12: Output voltage (3.3/5/9/12/15/24Vdc，±5/±12/±15Vdc)
- W8: 8:1(9~75Vdc) Wide input voltage
- 01: Rated wattage
- SPA: Series name { S:Single output / D:Dual output



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## 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



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## SPECIFICATION

| | | | |
|---|---|---|---|
| **INPUT** | | | |
| **VOLTAGE RANGE** | 9~75Vdc | | |
| **SURGE VOLTAGE (100ms max.)** | 100Vdc | | |
| **FILTER** | Capacitor Network | | |
| **PROTECTION** | Fuse recommended. 400mA Slow-Blow Type. | | |
| **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** (Typ.) | Start-up voltage | 8.8Vdc | |
| | Shutdown voltage | 8Vdc | |
| **ENVIRONMENT** | | | |
| **COOLING** | Free-air convection | | |
| **WORKING TEMP.** | -40 ~ +95℃ (Refer to "Derating Curve") | | |
| **CASE TEMPERATURE** | +110℃ max. | | |
| **WORKING HUMIDITY** | 5% ~ 95% RH non-condensing | | |
| **STORAGE TEMP., HUMIDITY** | -55 ~ +125℃, 10 ~ 95% RH non-condensing | | |
| **TEMP. COEFFICIENT** | 0.05% / ℃ (0 ~ 95℃) | | |
| **SOLDERING TEMPERATURE** | 1.5mm from case of 3 ~ 5sec./265℃ 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℃/ 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℃) | | |
| **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 | | |

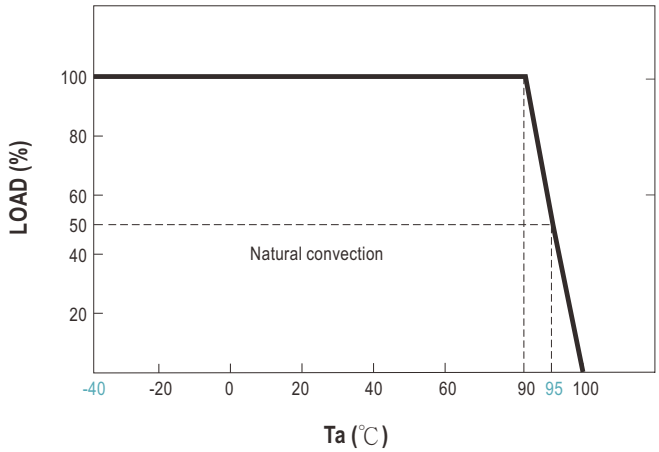
**NOTE**

1.All parameters are specified at normal input(24Vdc), rated load, 25℃ 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



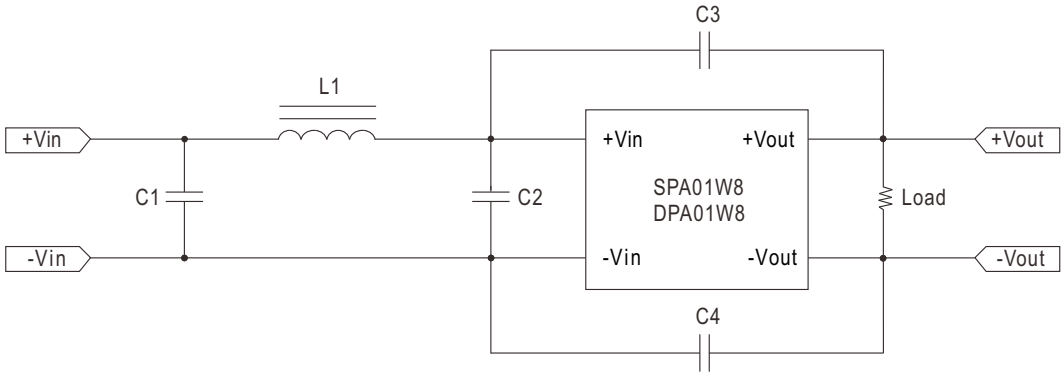
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## ■ Derating Curve




## ■ EMC Suggestion Circuit

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



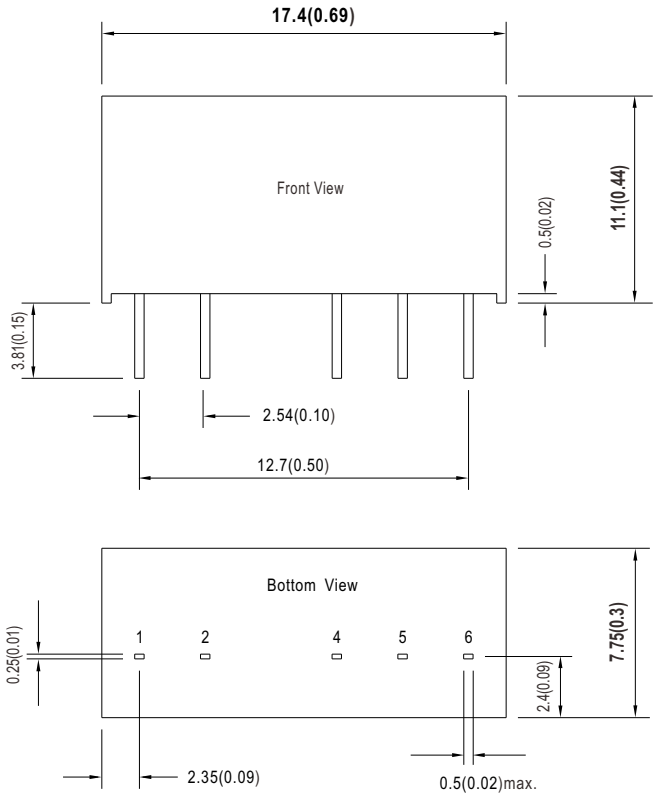

| Model No. | BS EN/EN55032 radiated Class B | | | | |
|---|---|---|---|---|---|
| | C1 | C2 | C3 | C4 | L1 |
| SPA01W8<br>DPA01W8 | 2.2μF/100V | 2.2μF/100V | 152/5KV | 152/5KV | 10μH |



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## ■ Mechanical Specification

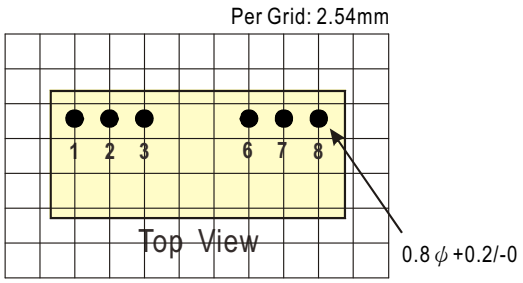
- All dimensions in mm(inch)
- Tolerance:x.x±0.5mm(x.xx±0.02")
  x.xx±0.25mm(x.xxx±0.010")
- Pin pitch tolerance:±0.05mm (±0.002")




## ■ 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 |

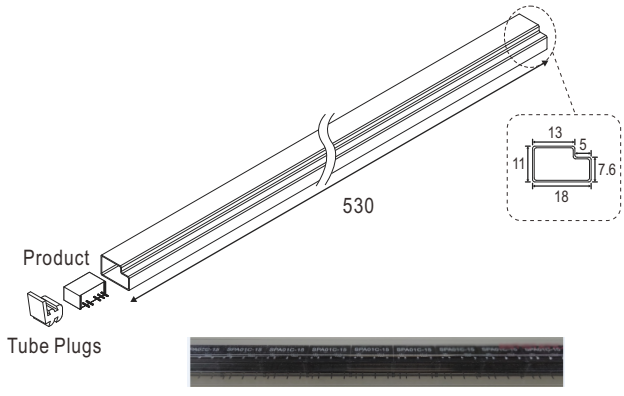
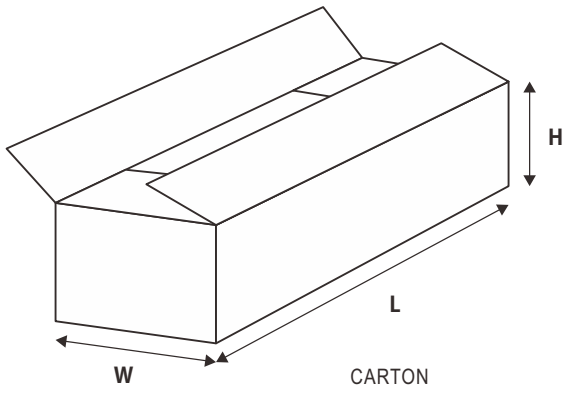
* N.P. : No PIN






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## ■ Packing

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

## ■ Installation Manual

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



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