

■ Features

- SIP8 package with industry standard pinout
- 8:1 (9~75Vdc) ultra-wide input range
- Operating temperature range -40 ~ +90°C
- No minimum load required
- High efficiency up to 87%
- Protections: Short circuit (Continuous) / Overload / UVLO
- 1.5KVdc I/O isolation
- Remote ON/OFF control
- 3 years warranty

■ Applications

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

■ GTIN CODE

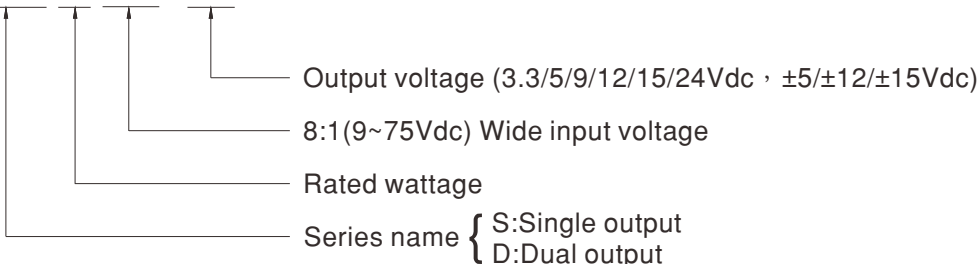
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

■ Description

SPB09W8 and DPB09W8 series are 9W isolated and regulated module type DC-DC converter with SIP8 package. It features international standard pins, a high efficiency up to 87%, wide working temperature range -40~+90°C, 1.5KVdc I/P-O/P isolation voltage, continuous-mode short circuit protection, etc. The models account for different input voltage 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

S **PB 09** **W8** - **12**





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				
SPB09W8-03	Nominal 12V, 24V, 36V, 48V, 72V (9 ~ 75V)	10mA	339mA	3.3V	0 ~ 2000mA	81%	680μF
SPB09W8-05		10mA	401mA	5V	0 ~ 1600mA	83%	680μF
SPB09W8-09		10mA	436mA	9V	0 ~ 1000mA	86%	470μF
SPB09W8-12		10mA	431mA	12V	0 ~ 750mA	86%	330μF
SPB09W8-15		10mA	431mA	15V	0 ~ 600mA	86%	220μF
SPB09W8-24		10mA	431mA	24V	0 ~ 375mA	87%	100μF
DPB09W8-05		10mA	397mA	±5V	±0 ~ 800mA	82%	*330μF
DPB09W8-12		10mA	431mA	±12V	±0 ~ 375mA	87%	*150μF
DPB09W8-15		10mA	431mA	±15V	±0 ~ 300mA	86%	*100μF

* For each output

SPECIFICATION
INPUT

VOLTAGE RANGE	9~75Vdc
SURGE VOLTAGE (100ms max.)	100Vdc
FILTER	Pi network
PROTECTION	Fuse recommended. 2A Slow-Blow

OUTPUT

VOLTAGE ACCURACY	±2%
RATED POWER	9W
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	Single output models: ±0.5% (±1% for 3.3Vout model), Dual output models: ±0.5%
CROSS REGULATION	±5% @ 25%~100% Load only dual output
SWITCHING FREQUENCY (Min.)	300KHz

PROTECTION

SHORT CIRCUIT	Protection type : Continuous, automatic recovery	
OVERLOAD	120 ~ 230% rated output power	
	Protection type : Recovers automatically after fault condition is removed	
UNDER VOLTAGE LOCKOUT (Typ.)	Start-up voltage	8.8Vdc
	Shutdown voltage	8Vdc

FUNCTION

REMOTE CONTROL	Power ON: R.C. ~ -Vin >2.5Vdc~30Vdc or open circuit ; Power OFF: R.C. ~ -Vin <1Vdc or short
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ENVIRONMENT

COOLING	Free-air convection
WORKING TEMP.	-40 ~ +90°C (Refer to "Derating Curve")
CASE TEMPERATURE	+115°C max.
WORKING HUMIDITY	20% ~ 90% RH non-condensing
STORAGE TEMP., HUMIDITY	-55 ~ +125°C, 10 ~ 95% RH non-condensing
TEMP. COEFFICIENT	0.05% / °C (0 ~ 70°C)
SOLDERING TEMPERATURE	1.5mm from case of 3 ~ 5sec./260°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.)	80pF

EMC EMISSION	Parameter	Standard	Test Level / Note
	Conducted	BS EN/EN55032(CISPR32)	N/A
	Radiated	BS EN/EN55032(CISPR32)	Class A with external 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 at power
	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

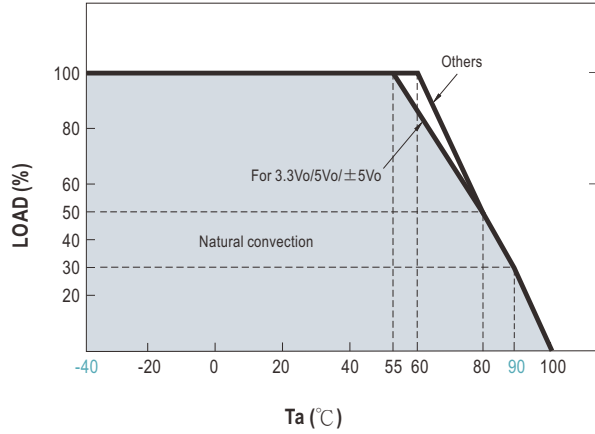
OTHERS

MTBF	>300Khrs MIL-HDBK-217F(25°C)
DIMENSION (L*W*H)	24*9.6*11.2mm (0.94*0.38*0.44 inch)
CASE MATERIAL	Non-Conductive black plastic (UL 94V-0 rated)
PACKING	5g ; 21pcs/per tube, 2100pcs/100 tube/per carton

NOTE

- All parameters are specified at normal input(24Vdc), rated load, 25°C 70% RH ambient.
 - Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1μf & 47μf capacitor.
 - Line regulation is measured from low line to high line at rated load.
 - Load regulation is measured from 0% to 100% rated load.
 - 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

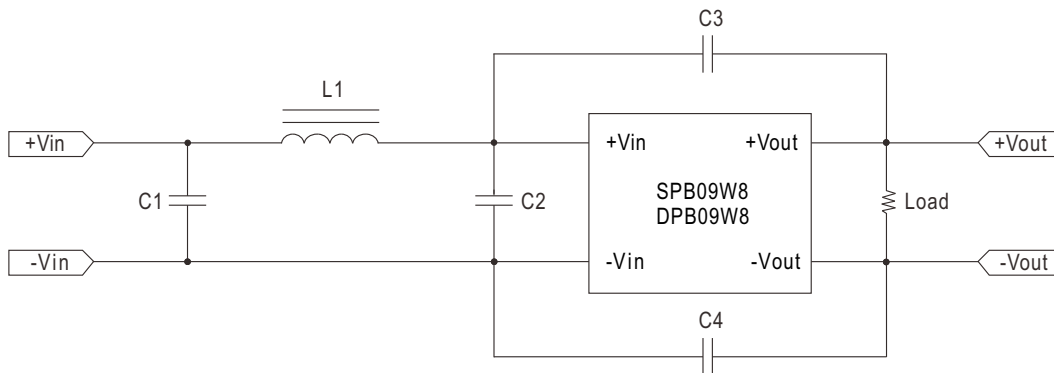


Remote ON/OFF Control

Remote On/Off Control			
Control Input	Pin3	Control Common	Pin1
Control Voltage		Converter Shutdown Idle Current	10mA
ON	>+2.5~30Vdc or Open Circuit	Logic Compatibility	CMOS or Open
OFF	<+1.0Vdc or Jumper Short to Pin1		Collector TTL

EMC Suggestion Circuit

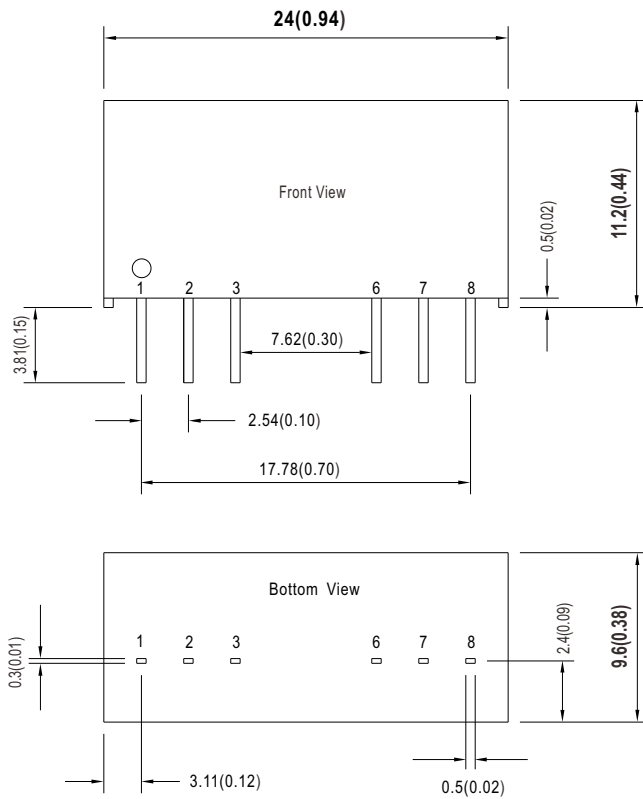
※ EMC Test standard: BS EN/EN55032 radiated Class A test conditions recommendations:
Input Voltage: Nominal, Output Load: Full Load



Model No.	BS EN/EN55032 radiated Class A				
	C1	C2	C3	C4	L1
SPB09W8 DPB09W8	X	2.2μF/100V MLCC	102/3KV	102/3KV	X

Mechanical Specification

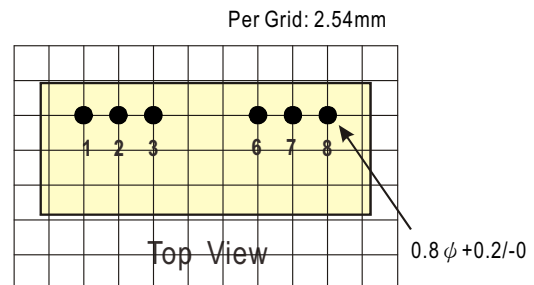
- All dimensions in mm(inch)
- Tolerance: $x.xx \pm 0.5mm (x.xx \pm 0.02")$
 $x.xx \pm 0.25mm (x.xxx \pm 0.010")$
- Pin size is 0.50x0.30mm (0.02" x0.01")
- Pin pitch tolerance: $\pm 0.05mm (\pm 0.002")$



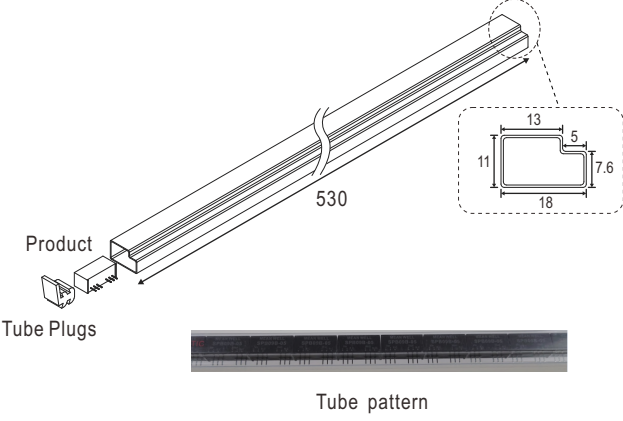
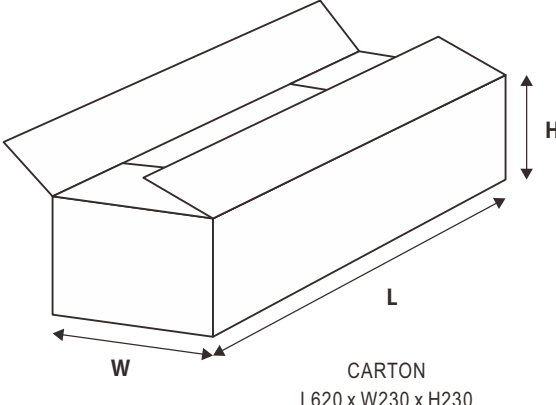
Pin Assignment

Pin No.	Pin-Out	
	SPB09W8 (Single output)	DPB09W8 (Dual output)
1	-Vin	-Vin
2	+Vin	+Vin
3	R.C.	R.C.
6	+Vout	+Vout
7	-Vout	Common
8	N.C.	-Vout

* N.C. : No connected



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>  	21	125g	2100	13.3Kg

Installation Manual

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