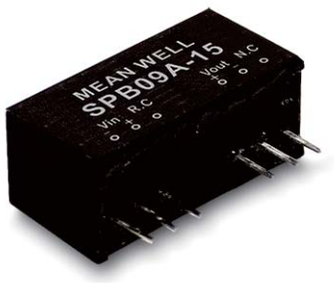
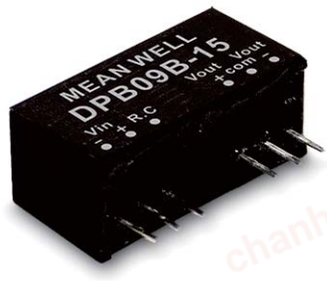
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9W SIP Package DC-DC Regulated Converter SPB09 & DPB09 series





Automate Industrial Security Network Telecom

Features

- SIP8 package with industry standard pinout
- 2:1 wide input range
- Operating temperature range -40 ~ +90℃
- No minimum load required
- High efficiency up to 89%
- Protections: Short circuit (Continuous) / Overload / Input under voltage
- 1.5KVDC I/O isolation
- Remote ON/OFF control
- 9V model available(optional)
- 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

SPB09 and DPB09 series are 9W isolated and regulated module type DC-DC converter with SIP8 package. It features international standard pins, a high efficiency up to 89%, wide working temperature range -40~+90℃, 1.5KVDC I/P-O/P isolation voltage, continuous-mode short circuit protection, etc. The models account for different input voltage 9~18V and 18~36V and 36~75V 2:1 wide input range, and various output voltage, 3.3V/5V/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

SPB09A-12

- 12 — Output voltage (3.3/5/12/15/24Vdc，±5/±12/±15Vdc)
- A — Input voltage (A: 9~18Vdc，B: 18~36Vdc，C: 36~75Vdc)
- 09 — Rated wattage
- SPB — 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				
SPB09A-03	Normal 12V (9 ~ 18V)	12mA	671mA	3.3V	0 ~ 2000mA	82%	1000μF
SPB09A-05		12mA	800mA	5V	0 ~ 1600mA	83%	1000μF
SPB09A-12		12mA	852mA	12V	0 ~ 750mA	88%	220μF
SPB09A-15		12mA	852mA	15V	0 ~ 600mA	88%	100μF
SPB09A-24		15mA	852mA	24V	0 ~ 375mA	88%	100μF
DPB09A-05		15mA	784mA	±5V	±0 ~ 800mA	85%	470μF
DPB09A-12		22mA	862mA	±12V	±0 ~ 375mA	88%	100μF
DPB09A-15		20mA	862mA	±15V	±0 ~ 300mA	88%	47μF
SPB09B-03	Normal 24V (18 ~ 36V)	6mA	335mA	3.3V	0 ~ 2000mA	82%	1000μF
SPB09B-05		8mA	392mA	5V	0 ~ 1600mA	85%	1000μF
SPB09B-12		12mA	426mA	12V	0 ~ 750mA	88%	220μF
SPB09B-15		12mA	421mA	15V	0 ~ 600mA	89%	100μF
SPB09B-24		20mA	421mA	24V	0 ~ 375mA	89%	100μF
DPB09B-05		10mA	392mA	±5V	±0 ~ 800mA	85%	470μF
DPB09B-12		15mA	431mA	±12V	±0 ~ 375mA	87%	100μF
DPB09B-15		15mA	431mA	±15V	±0 ~ 300mA	87%	47μF
SPB09C-03	Normal 48V (36 ~ 75V)	5mA	168mA	3.3V	0 ~ 2000mA	82%	1000μF
SPB09C-05		5mA	196mA	5V	0 ~ 1600mA	85%	1000μF
SPB09C-12		5mA	213mA	12V	0 ~ 750mA	88%	220μF
SPB09C-15		5mA	213mA	15V	0 ~ 600mA	88%	100μF
SPB09C-24		15mA	211mA	24V	0 ~ 375mA	89%	100μF
DPB09C-05		6mA	198mA	±5V	±0 ~ 800mA	84%	470μF
DPB09C-12		8mA	216mA	±12V	±0 ~ 375mA	87%	100μF
DPB09C-15		8mA	216mA	±15V	±0 ~ 300mA	87%	470μF

* For each output

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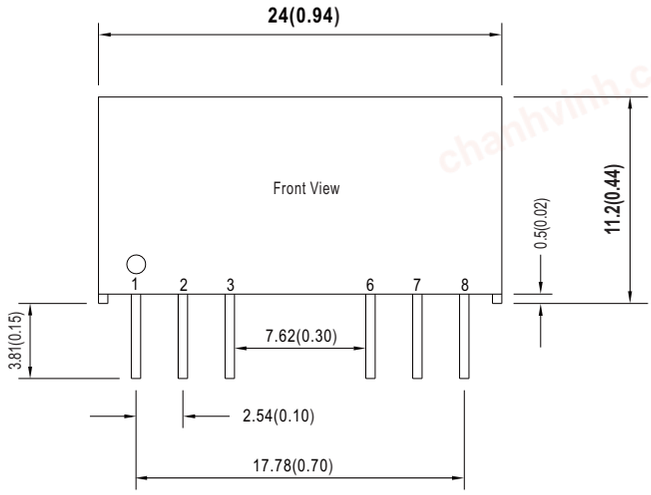
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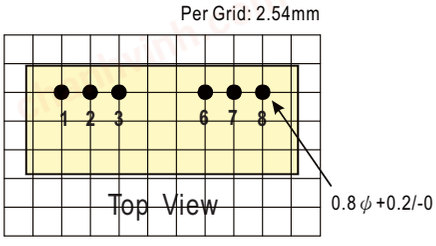
SPECIFICATION				
INPUT	VOLTAGE RANGE	A: 9~18Vdc , B: 18~36Vdc , C: 36~75Vdc		
	FILTER	Internal capacitor		
	PROTECTION	Fuse recommended. 12Vin models: 2A Slow-Blow, 24Vin models: 1A Slow-Blow Type, 48Vin models: 600mA Slow-Blow Type		
OUTPUT	VOLTAGE ACCURACY	±1.5%		
	RATED POWER	9W		
	RIPPLE & NOISE Note.2	100mVp-p		
	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%		
	SWITCHING FREQUENCY (Min.)	400KHz		
PROTECTION	SHORT CIRCUIT	Protection type : Continuous, automatic recovery		
	OVERLOAD	120 ~ 250% rated output power		
		Protection type : Recovers automatically after fault condition is removed		
FUNCTION	REMOTE CONTROL	Power ON: R.C. ~ -Vin >2.5Vdc or open circuit ; Power OFF: R.C. ~ -Vin <0.8Vdc or short		
ENVIRONMENT	COOLING	Free-air convection		
	WORKING TEMP.	-40 ~ +90℃ (Refer to "Derating Curve")		
	CASE TEMPERATURE	+115℃ max.		
	WORKING HUMIDITY	20% ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +125℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	0.03% / ℃ (0 ~ 70℃)		
	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)	SAFETY STANDARDS	EAC TP TC 020/2011 (EAC TP TC 004 for 48Vin type only) approved		
	WITHSTAND VOLTAGE	I/P-O/P:1.5KVDC		
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH		
	ISOLATION CAPACITANCE (Typ.)	500pF		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
		Conducted	BS EN/EN55032(CISPR32)	N/A
		Radiated	BS EN/EN55032(CISPR32)	Class A/B with external components
	EMC IMMUNITY	**Parameter**	**Standard**	**Test Level / Note**
		ESD	BS EN/EN61000-4-2	Level 3, ±8KV air, Level 2±4KV contact
		Radiated Susceptibility	BS EN/EN61000-4-3	Level 2, 3V/m
		EFT/Bursts	BS EN/EN61000-4-4	Level 2, 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	275Khrs MIL-HDBK-217F(25℃)		
	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	1.All parameters are specified at normal input(A:12Vdc, B:24Vdc, C:48Vdc), 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 10% 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			

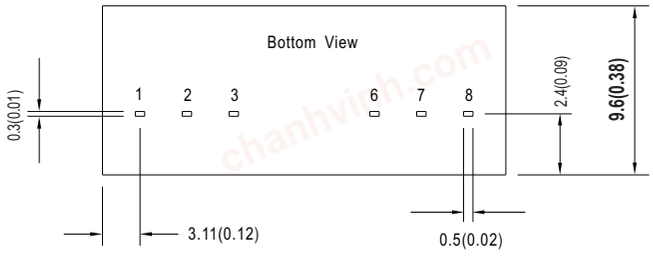
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■ Mechanical Specification

- All dimensions in mm(inch)
- Tolerance:x.x±0.5mm(x.xx±0.02")
- Pin size is 0.50x0.30mm (0.02"x0.01")
- Pin pitch tolerance:±0.05mm (±0.002")



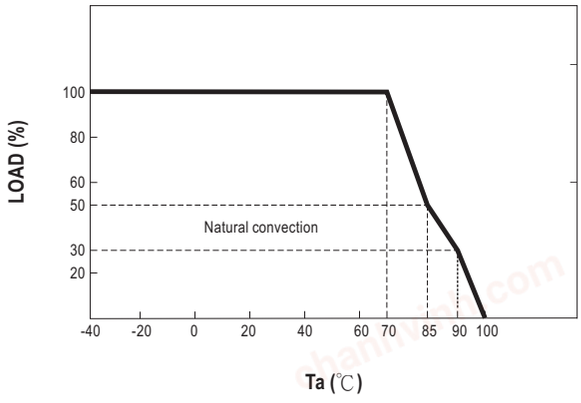




■ Plug Assignment

Pin-Out		
Pin No.	SPB09 (Single output)	DPB09 (Dual output)
1	-Vin	-Vin
2	+Vin	+Vin
3	R.C.	R.C.
6	+Vout	+Vout
7	-Vout	Common
8	N.C.	-Vout

■ Derating Curve

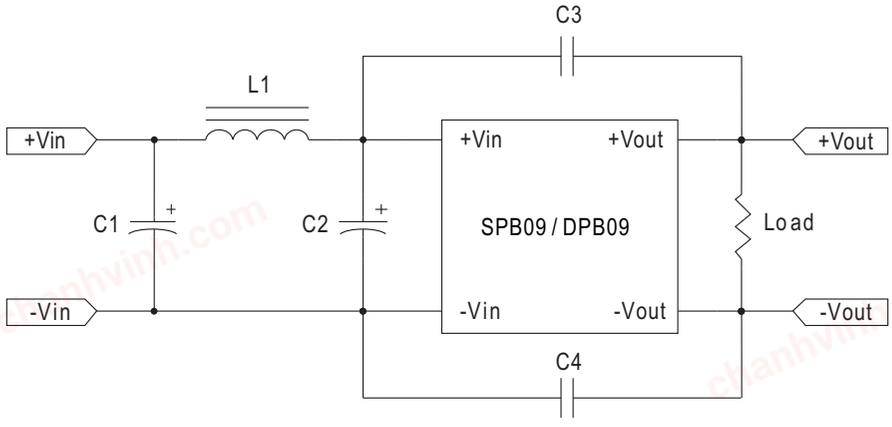


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■ Remote ON/OFF Control

Remote On/Off Control			
Control Input	Pin3	Control Common	Pin1
Control Voltage		Converter Shutdown Idle Current10mA	10mA
ON	>+2.5Vdc or Open Circuit	Logic Compatibility	CMOS or Open Collector TTL
OFF	<+0.8Vdc or Jumper Short to Pin1		

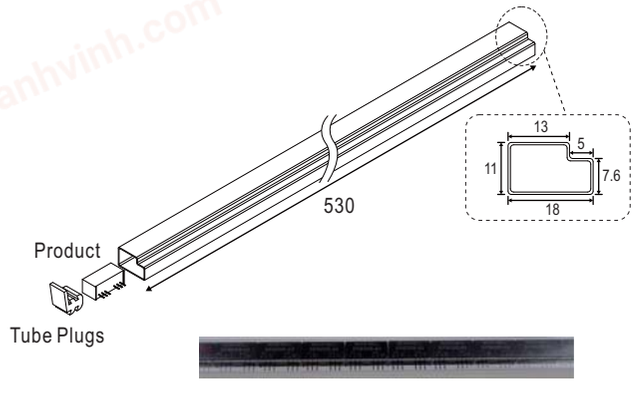
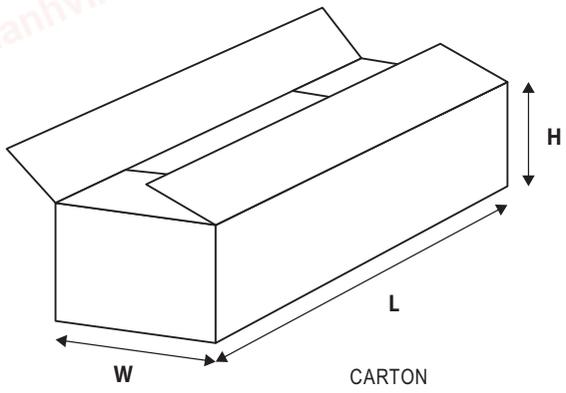
■ EMC Suggestion Circuit



No	BS EN/EN55032 Class A	BS EN/EN55032 Class B
C1	NC	2.2μF/100V
C2	2.2μF/100V	2.2μF/100V
C3	1000pF/2KV	1500pF/2KV
C4	1000pF/2KV	1500pF/2KV
L1	NC	10μH

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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  Tube pattern  CARTON L620 x W230 x H230	21	125g	2100	13.3Kg

■ Installation Manual

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