2W SIP Package DC-DC Regulated Converter SPAN02 & DPAN02 series





CE

Features

- SIP8 package with industry standard pinout
- 2:1 wide input range
- Operating temperature range -40 ~ +90℃
- No minimum load required
- Comply to EN55032 radiated Class A without additional components
- High efficiency up to 85%
- Protections: Short circuit (Continuous) / Overload
- 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

Description

SPAN02 and DPAN02 series are 2W isolated and regulated module type DC-DC converter with SIP8 package. It features international standard pins, a high efficiency up to 85%, wide working temperature range -40~+90℃, 1.5KVDC I/P-O/P isolation voltage, compliance to EN55032 radiated class A without additional components, overload and continuous-mode short circuit protection, etc. The models account for different input voltage 4.5~9V, 9~18V, 18~36V and 36~75V 2:1 wide input range, and various output voltage, 5V/12V/15V 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

SPAN02E-12

- 12 — Output voltage (5/12/15Vdc；±5/±12/±15Vdc)
- E — Input voltage (E: 4.5~9Vdc，A: 9~18Vdc，B: 18~36Vdc，C: 36~75Vdc)
- 02 — Rated wattage
- SPAN — Series name { S:Single output / D:Dual output }

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				
SPAN02E-03	5V (4.5 ~ 9V)	60mA	452mA	3.3V	0 ~ 500mA	74%	500μF
SPAN02E-05		60mA	526mA	5V	0 ~ 400mA	78%	400μF
SPAN02E-12		60mA	501mA	12V	0 ~ 167mA	80%	167μF
SPAN02E-15		65mA	503mA	15V	0 ~ 134mA	80%	134μF
DPAN02E-05		60mA	519mA	±5V	±0 ~ 200mA	78%	*200μF
DPAN02E-12		60mA	504mA	±12V	±0 ~ 83mA	80%	*83μF
DPAN02E-15		60mA	503mA	±15V	±0 ~ 67mA	80%	*67μF
SPAN02A-03	12V (9 ~ 18V)	30mA	181mA	3.3V	0 ~ 500mA	76%	500μF
SPAN02A-05		32mA	211mA	5V	0 ~ 400mA	80%	400μF
SPAN02A-12		32mA	204mA	12V	0 ~ 167mA	83%	167μF
SPAN02A-15		32mA	202mA	15V	0 ~ 134mA	84%	134μF
DPAN02A-05		31mA	211mA	±5V	±0 ~ 200mA	79%	*200μF
DPAN02A-12		31mA	202mA	±12V	±0 ~ 83mA	82%	*83μF
DPAN02A-15		31mA	202mA	±15V	±0 ~ 67mA	83%	*67μF
SPAN02B-03	24V (18 ~ 36V)	18mA	90mA	3.3V	0 ~ 500mA	76%	500μF
SPAN02B-05		19mA	105mA	5V	0 ~ 400mA	79%	400μF
SPAN02B-12		19mA	102mA	12V	0 ~ 167mA	82%	167μF
SPAN02B-15		19mA	101mA	15V	0 ~ 134mA	83%	134μF
DPAN02B-05		18mA	105mA	±5V	±0 ~ 200mA	79%	*200μF
DPAN02B-12		19mA	102mA	±12V	±0 ~ 83mA	81%	*83μF
DPAN02B-15		19mA	100mA	±15V	±0 ~ 67mA	85%	*67μF
SPAN02C-03	48V (36 ~ 75V)	9mA	46mA	3.3V	0 ~ 500mA	75%	500μF
SPAN02C-05		9mA	53mA	5V	0 ~ 400mA	80%	400μF
SPAN02C-12		9mA	51mA	12V	0 ~ 167mA	82%	167μF
SPAN02C-15		9mA	50mA	15V	0 ~ 134mA	83%	134μF
DPAN02C-05		12mA	53mA	±5V	±0 ~ 200mA	78%	*200μF
DPAN02C-12		12mA	51mA	±12V	±0 ~ 83mA	82%	*83μF
DPAN02C-15		9mA	50mA	±15V	±0 ~ 67mA	84%	*67μF

* For each output

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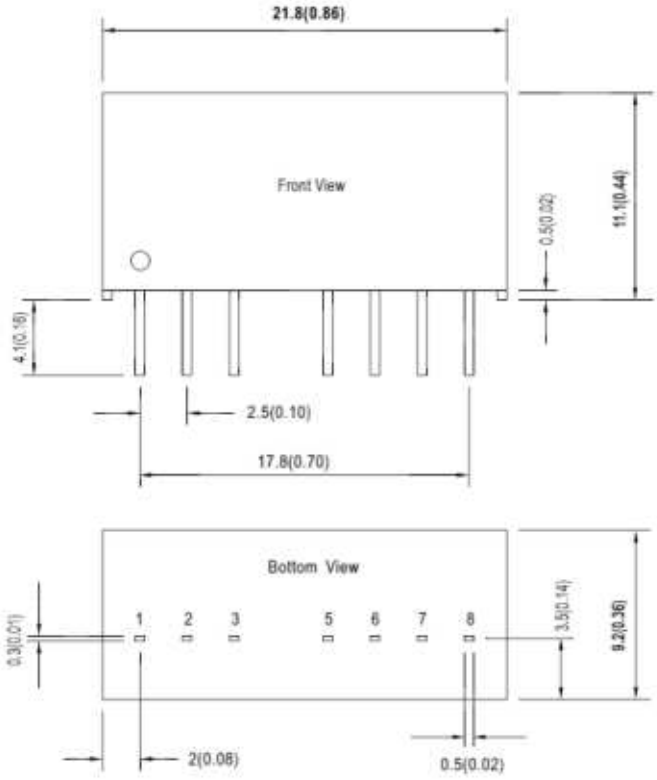
SPECIFICATION				
INPUT	VOLTAGE RANGE	E: 4.5~9Vdc , A: 9~18Vdc , B: 18~36Vdc , C: 36~75Vdc		
	SURGE VOLTAGE (100ms max.)	5Vin models : 15Vdc ; 12Vin models : 25Vdc ; 24Vin models : 50Vdc ; 48Vin models : 100Vdc		
	FILTER	Internal capacitor		
	PROTECTION	Fuse recommended. 5Vin models: 1000mA Slow-Blow Type, 12Vin models: 500mA Slow-Blow Type, 24V and 48Vin models: 250mA Slow-Blow Type		
	INTERNAL POWER DISSIPATION	500mW		
OUTPUT	VOLTAGE ACCURACY	±1.5%		
	RATED POWER	2W		
	RIPPLE & NOISE Note.2	75mVp-p		
	LINE REGULATION Note.3	±0.5%		
	LOAD REGULATION Note.4	Single output models: ±0.5%, Dual output models: ±1%		
	SWITCHING FREQUENCY (Typ.)	100KHz		
PROTECTION	SHORT CIRCUIT	Protection type : Continuous, automatic recovery		
	OVERLOAD	Protection type : Recovers automatically after fault condition is removed		
	UNDER VOLTAGE LOCKOUT	Start-up voltage	5Vin : 4.2Vdc ; 12Vin : 7.3Vdc ; 24Vin : 15.5Vdc ; 48Vin : 31Vdc	
		Shutdown voltage	5Vin : 3Vdc ; 12Vin : 5.8Vdc ; 24Vin : 12Vdc ; 48Vin : 24Vdc	
FUNCTION	REMOTE CONTROL	Power ON: R.C. ~ -Vin <0.8Vdc or open circuit; Power OFF: R.C. ~ -Vin >4 ~ 15Vdc or short		
ENVIRONMENT	COOLING	Free-air convection		
	WORKING TEMP.	-40 ~ +90℃ (Refer to "Derating Curve")		
	CASE TEMPERATURE	+100℃ max.		
	WORKING HUMIDITY	20% ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-55 ~ +125℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	0.03% / ℃ (0 ~ 85℃)		
	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)	WITHSTAND VOLTAGE	I/P-O/P:1.5KVDC		
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH		
	ISOLATION CAPACITANCE (Typ.)	10pF		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
		Conducted	EN55032(CISPR32)	N/A
		Radiated	EN55032(CISPR32)	Class A
	EMC IMMUNITY	**Parameter**	**Standard**	**Test Level / Note**
		ESD	EN61000-4-2	Level 2, ±8KV air, ±4KV contact
		Radiated Susceptibility	EN61000-4-3	Level 2, 3V/m
		EFT/Burest	EN61000-4-4	Level 1, 0.5KV
		Surge	EN61000-4-5	Level 1, 0.5KV Line-Line
		Conducted	EN61000-4-6	Level 2, 3V(e.m.f.)
		Magnetic Field	EN61000-4-8	Level 2, 3A/m
OTHERS	MTBF	2500Khrs MIL-HDBK-217F(25℃)		
	DIMENSION (L*W*H)	21.8*9.2*11.1mm (0.86*0.36*0.44 inch)		
	CASE MATERIAL	Non-Conductive black plastic (UL 94V-0 rated)		
	PACKING	4.8g		

NOTE

1. All parameters are specified at normal input(E:5Vdc, 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)

■ Mechanical Specification

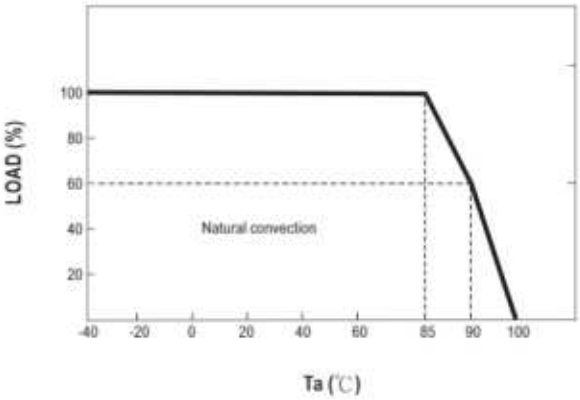
- All dimensions in mm(inch)
- Tolerance:x.x±0.5mm(x.xx±0.02")
- Pin pitch tolerance:±0.05mm (±0.002")



■ Plug Assignment

Pin-Out		
Pin No.	SPAN02 (Single output)	DPAN02 (Dual output)
1	-Vin	-Vin
2	+Vin	+Vin
3	R.C.	R.C.
5	N.C.	N.C.
6	+Vout	+Vout
7	-Vout	Common
8	N.C.	-Vout

■ Derating Curve



■ Installation Manual

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