2W SMD Package DC-DC Unregulated Converter

SFTN02-N series



Features

- SMD package with industry standard pinout
- Operating temperature range -40 ~ +85℃
- High efficiency up to 86%
- 3KVDC I/O isolation
- Low cost
- 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

SFTN02-N series is 2W isolated and unregulated module type DC-DC converter with SMD package. It features international standard pins, a high efficiency up to 86%, wide working temperature range -40~+85℃, 3KVDC I/P-O/P isolation voltage, compliance to BS EN/EN55032. The models account for different input voltage 5V/12V/24V±10%, and various output voltage, 5V/12V/15V for single output which are suitable for all kinds of systems, Such as industrial control, telecommunication field, distributed power architecture, and so on.

Model Encoding

SFTN02 L – 12 N

- NEW Series
- Output voltage (5/12/15Vdc)
- Input voltage (L: 4.5 ~ 5.5Vdc，M: 10.8 ~ 13.2Vdc，N: 21.6 ~ 26.4Vdc)
- Rated wattage
- Series name

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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				
SFTN02L-05N	Normal 5V (4.5 ~ 5.5V)	50mA	513mA	5V	40 ~ 400mA	77%	1500μF
SFTN02L-12N		50mA	500mA	12V	33 ~ 167mA	82%	330μF
SFTN02L-15N		50mA	494mA	15V	27 ~ 133mA	84%	330μF
SFTN02M-05N	Normal 12V (10.8 ~ 13.2V)	25mA	208mA	5V	40 ~ 400mA	81%	1500μF
SFTN02M-12N		25mA	206mA	12V	33 ~ 167mA	83%	330μF
SFTN02M-15N		25mA	200mA	15V	27 ~ 133mA	83%	330μF
SFTN02N-05N	Normal 24V (21.6 ~ 26.4V)	15mA	107mA	5V	40 ~ 400mA	81%	1500μF
SFTN02N-12N		15mA	105mA	12V	33 ~ 167mA	86%	330μF
SFTN02N-15N		15mA	104mA	15V	27 ~ 133mA	82%	330μF

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SPECIFICATION				
INPUT	VOLTAGE RANGE	L: 4.5 ~ 5.5Vdc M: 10.8 ~ 13.2Vdc N: 21.6 ~ 26.4Vdc		
	FILTER	Internal capacitor		
	PROTECTION	Fuse recommended. 5Vin models: 800mA Slow-Blow Type 12Vin models: 300mA Slow-Blow Type 24Vin models: 170mA Slow-Blow Type		
	INTERNAL POWER DISSIPATION	500mW		
OUTPUT	VOLTAGE ACCURACY	±5.0%		
	RATED POWER	2W		
	RIPPLE & NOISE Note.2	150mVp-p		
	LINE REGULATION Note.3	1.2% for 1% input variation		
	LOAD REGULATION Note.4	±5%		
	SWITCHING FREQUENCY (Typ.)	85KHz		
PROTECTION	SHORT CIRCUIT	0.5 second max.		
ENVIRONMENT	COOLING	Free-air convection		
	WORKING TEMP.	-40 ~ +85℃ (Refer to "Derating Curve")		
	CASE TEMPERATURE	+90℃ max.		
	WORKING HUMIDITY	20% ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-55 ~ +125℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	0.03% / ℃ (0 ~ 90℃)		
	SOLDERING TEMPERATURE	1.5mm from case of 1 ~ 10sec./240℃ max.		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes		
SAFETY & EMC (Note.5,6)	SAFETY STANDARDS	EAC TP TC 020/2011 approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVDC		
	ISOLATION RESISTANCE	I/P-O/P:10G Ohms / 500VDC / 25℃/ 70% RH		
	ISOLATION CAPACITANCE (Typ.)	115pF		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note(Note.6)**
		Conducted	BS EN/EN55032(CISPR32)	Class A/B with external components (see page 5)
		Radiated	BS EN/EN55032(CISPR32)	
	EMC IMMUNITY	**Parameter**	**Standard**	**Test Level / Note**
		ESD	BS EN/EN61000-4-2	±8KV air ; ±6KV contact, Criterion B
		Radiated Susceptibility	BS EN/EN61000-4-3	3V/m, Criterion A
		EFT/Burest	BS EN/EN61000-4-4	1KV at power, Criterion B
		Surge	BS EN/EN61000-4-5	0.5KV Line-Line, Criterion B
		Conducted	BS EN/EN61000-4-6	3Vrms, Criterion A
		Magnetic Field	BS EN/EN61000-4-8	1A/m, Criterion A
OTHERS	MTBF	886Khrs min. MIL-HDBK-217F(25℃)		
	DIMENSION (L*W*H)	15.24*10.9*9.1mm (0.6*0.43*0.36 inch)		
	CASE MATERIAL	Non-Conductive black plastic (UL 94V-0 rated)		
	PACKING	1.6g ; 33pcs/per tube, 1584pcs/48 tube/per carton		

NOTE

1.All parameters are specified at normal input(L:5Vdc, M:12Vdc, N: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 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)
6.An external input filter capacitor is required if the module has to meet BS EN/EN61000-4-4, BS EN/EN61000-4-5. The filter capacitor Power Mate suggest: 470μF/100V.
※ Product Liability Disclaimer ： For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

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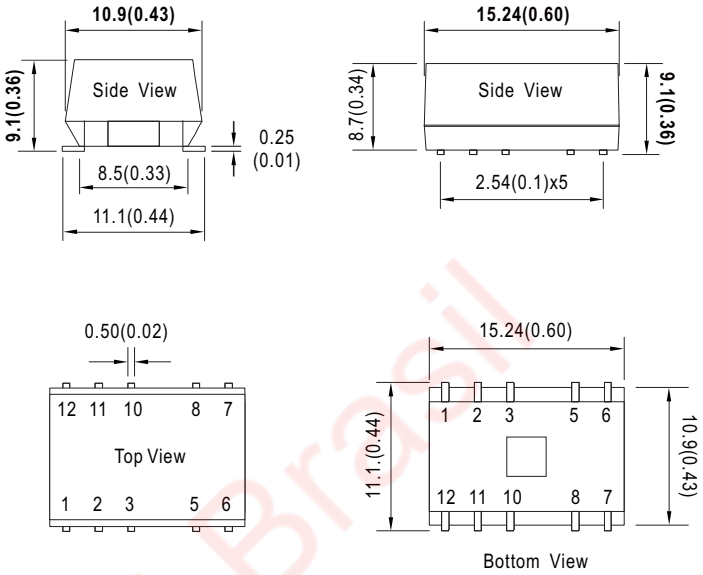
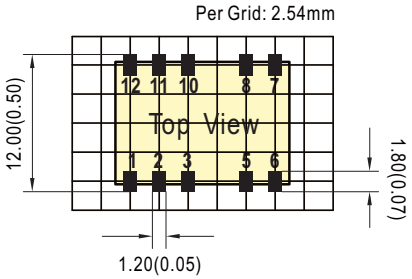
■ Mechanical Specification

- All dimensions in mm(inch)
- Tolerance:x.x±0.5mm(x.xx±0.02")
  x.xx±0.25mm(x.xxx±0.01")
- Pin size is 0.50x0.30mm (0.02"x0.01")
- Pin is Tolerance:x.xx±0.07mm(x.xxx±0.03")

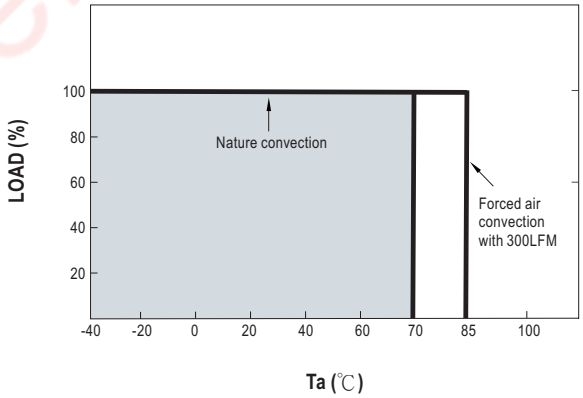




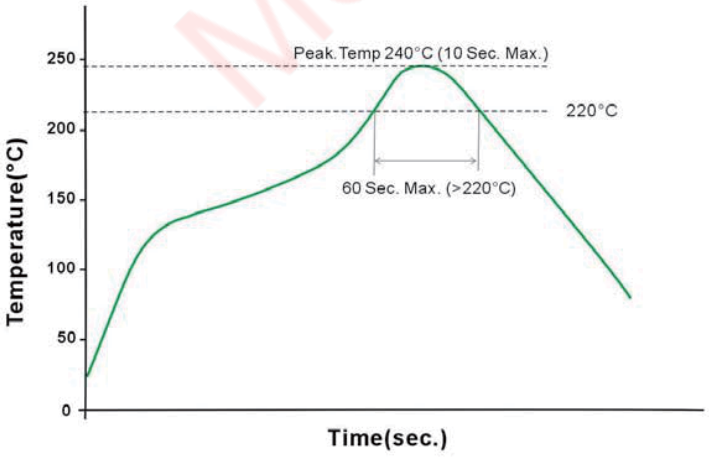
■ Plug Assignment

Pin No.	Pin-Out
1	-Vin
2	+Vin
5	-Vout
8	+Vout
3,6,7,10,11,12	N.C.

■ Derating Curve



■ Reflow Soldering Curve



Remark: The curve applies only to the hot air reflow soldering.

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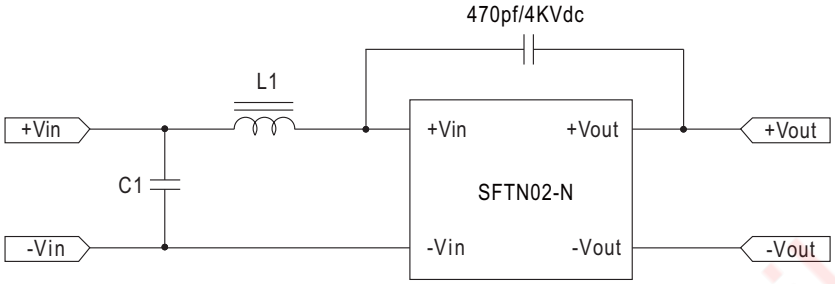
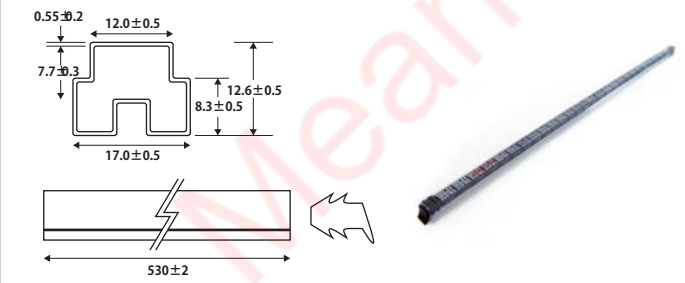
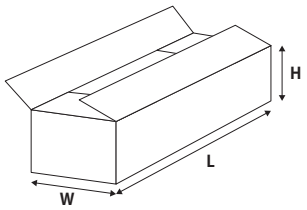
■ EMC Suggestion Circuit

※Required external componets to meet BS EN/EN55032 Class A/B are as below:



Model No.	Class A		Class B	
	L1	C1	L1	C1
SFTN02L-xxN	10μH	4.7μF	22μH	4.7μF
SFTN02M-xxN	3.3μH	2.2μF	6.8μH	2.2μF
SFTN02N-xxN	10μH	2.2μF	47μH	2.2μF

■ 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 L545 x W145 x H155	33	0.075Kg	1584	4Kg

■ Installation Manual

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

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