



## ■ Features

- SMD package with industry standard pinout
- Operating temperature range -40 ~ +100°C
- Comply to BS EN/EN55032 radiated Class A without additional components
- High efficiency up to 82%
- Protection: Short circuit
- 3KVDC I/O isolation
- Low cost
- Optional reel packing
- 3 years warranty

## ■ Applications

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

## ■ GTIN CODE

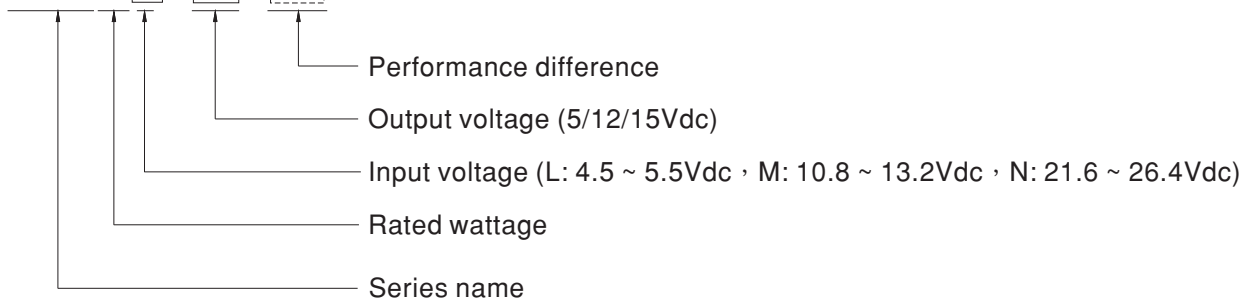
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

## ■ Description

SFTN02 series is 2W isolated and unregulated module type DC-DC converter with SMD package. It features international standard pins, a high efficiency up to 82%, wide working temperature range -40~+100°C, 3KVDC I/P-O/P isolation voltage, compliance to BS EN/EN55032 radiated Class A without additional components, short circuit protection, etc. 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** - **SC**



| Type  | Description  | Note     |
|-------|--|----------|
| Blank | -40~+100°C working temperature with max. 0.5 second short protection | In Stock |
| SC    | -40~+105°C working temperature with continuous short protection      | Optional |

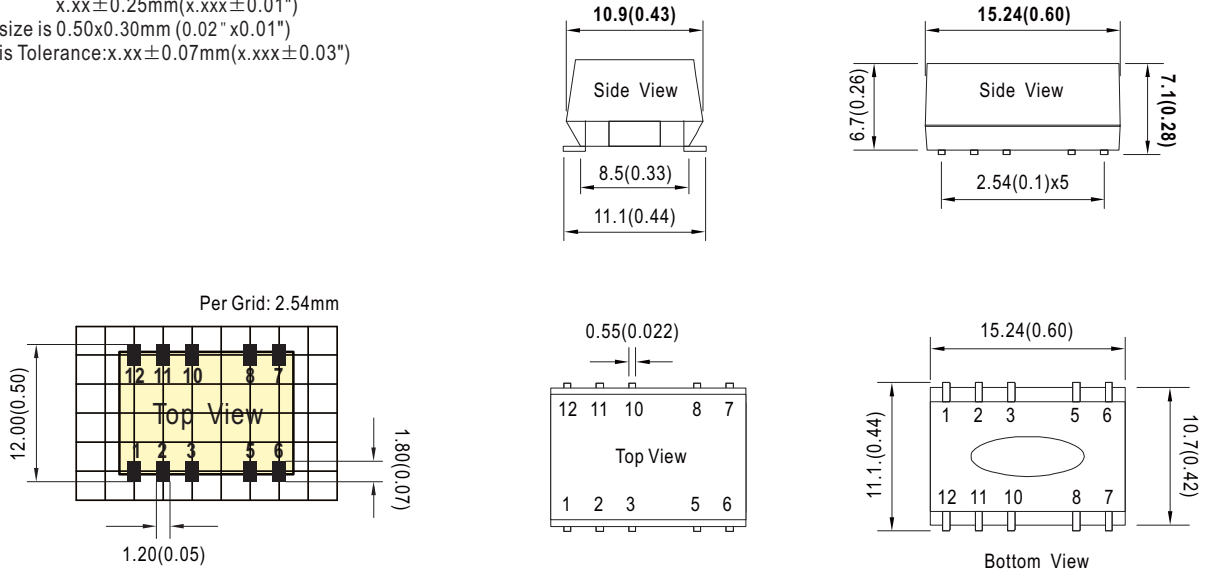


| MODEL SELECTION TABLE |                              |               |           |                |                |                   |                       |
|-----------------------|------------------------------|---------------|-----------|----------------|----------------|-------------------|-----------------------|
| ORDER NO.             | INPUT                        |               |           | OUTPUT         |                | EFFICIENCY (TYP.) | CAPACITOR LOAD (MAX.) |
|                       | INPUT VOLTAGE (RANGE)        | INPUT CURRENT |           | OUTPUT VOLTAGE | OUTPUT CURRENT |                   |                       |
|                       |                              | NO LOAD       | FULL LOAD |                |                |                   |                       |
| SFTN02L-05            | Normal 5V<br>(4.5 ~ 5.5V)    | 50mA          | 513mA     | 5V             | 40 ~ 400mA     | 78%               | 220 $\mu$ F           |
| SFTN02L-12            |                              | 50mA          | 500mA     | 12V            | 33 ~ 167mA     | 80%               | 220 $\mu$ F           |
| SFTN02L-15            |                              | 50mA          | 494mA     | 15V            | 27 ~ 133mA     | 81%               | 220 $\mu$ F           |
| SFTN02M-05            | Normal 12V<br>(10.8 ~ 13.2V) | 25mA          | 208mA     | 5V             | 40 ~ 400mA     | 80%               | 220 $\mu$ F           |
| SFTN02M-12            |                              | 25mA          | 206mA     | 12V            | 33 ~ 167mA     | 81%               | 220 $\mu$ F           |
| SFTN02M-15            |                              | 25mA          | 200mA     | 15V            | 27 ~ 133mA     | 83%               | 220 $\mu$ F           |
| SFTN02N-05            | Normal 24V<br>(21.6 ~ 26.4V) | 15mA          | 107mA     | 5V             | 40 ~ 400mA     | 78%               | 220 $\mu$ F           |
| SFTN02N-12            |                              | 15mA          | 105mA     | 12V            | 33 ~ 167mA     | 79%               | 220 $\mu$ F           |
| SFTN02N-15            |                              | 15mA          | 104mA     | 15V            | 27 ~ 133mA     | 80%               | 220 $\mu$ F           |

| SPECIFICATION           |   |  |                        |  |
|-------------------------|---|--|------------------------|--|
| INPUT                   | VOLTAGE RANGE   | L: 4.5 ~ 5.5Vdc<br>M: 10.8 ~ 13.2Vdc<br>N: 21.6 ~ 26.4Vdc  |                        |  |
|                         | SURGE VOLTAGE (100ms max.)  | 5Vin models : 9Vdc<br>12Vin models : 16Vdc<br>24Vin models : 30Vdc   |                        |  |
|                         | FILTER  | Internal capacitor   |                        |  |
|                         | PROTECTION  | Fuse recommended.<br>5Vin models: 800mA Slow-Blow Type<br>12Vin models: 300mA Slow-Blow Type<br>24Vin models: 170mA Slow-Blow Type |                        |  |
|                         | INTERNAL POWER DISSIPATION  | 500mW  |                        |  |
| OUTPUT                  | VOLTAGE ACCURACY  | ±2.0%  |                        |  |
|                         | RATED POWER   | 2W   |                        |  |
|                         | RIPPLE & NOISE Note.2   | 75mVp-p  |                        |  |
|                         | LINE REGULATION Note.3  | 1.2% for 1% input variation  |                        |  |
|                         | LOAD REGULATION Note.4  | ±8%  |                        |  |
|                         | SWITCHING FREQUENCY (Typ.)  | 100KHz   |                        |  |
| PROTECTION              | SHORT CIRCUIT   | Standard model: 0.5 second max.<br>Optional models (SC-suffix): Continuous   |                        |  |
| ENVIRONMENT             | COOLING   | Free-air convection  |                        |  |
|                         | WORKING TEMP.   | Standard model: -40 ~ +100°C (Refer to "Derating Curve") ; Optional models (SC-suffix): -40 ~ +105°C                               |                        |  |
|                         | CASE TEMPERATURE  | +105°C max.  |                        |  |
|                         | WORKING HUMIDITY  | 20% ~ 90% RH non-condensing  |                        |  |
|                         | STORAGE TEMP., HUMIDITY   | -55 ~ +125°C, 10 ~ 95% RH non-condensing   |                        |  |
|                         | TEMP. COEFFICIENT   | 0.03% / °C (0 ~ 90°C)  |                        |  |
|                         | SOLDERING TEMPERATURE   | 1.5mm from case of 1 ~ 10sec./240°C 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:100M Ohms / 500VDC / 25°C / 70% RH   |                        |  |
|                         | ISOLATION CAPACITANCE (Typ.)  | 80pF   |                        |  |
|                         | EMC EMISSION  | Parameter  | Standard               | Test Level / Note( Note.6)             |
|                         |   | Conducted  | BS EN/EN55032(CISPR32) | N/A                                    |
|                         |   | Radiated   | BS EN/EN55032(CISPR32) | Class A                                |
|                         | 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/Burest   | 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  | 880Khrs min. MIL-HDBK-217F(25°C)   |                        |  |
|                         | DIMENSION (L*W*H)   | 15.24*10.9*7.1mm (0.6*0.43*0.28 inch)  |                        |  |
|                         | CASE MATERIAL   | Non-Conductive black plastic (UL 94V-0 rated)  |                        |  |
|                         | PACKING   | Standard : 1.2g ; 32pcs/per tube, 3840pcs/120 tube/per carton<br>Optional : 1.2g ; 500pcs/per reel, 2500pcs/5 reel/per carton      |                        |  |
| NOTE                    | <p>1.All parameters are specified at normal input(L:5Vdc, M:12Vdc, N:24Vdc), rated load, 25°C 70% RH ambient.</p> <p>2.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 47µf capacitor.</p> <p>3.Line regulation is measured from low line to high line at rated load.</p> <p>4.Load regulation is measured from 10% to 100% rated load.</p> <p>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 <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p> <p>6.An external input filter capacitor is required if the module has to meet BS EN/EN61000-4-4, BS EN/EN61000-4-5.</p> <p>The filter capacitor Power Mate suggest: 470µF/100V.</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p> |  |                        |  |

**Mechanical Specification**

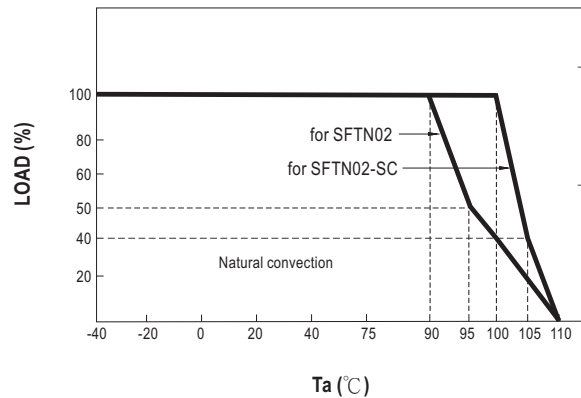
- All dimensions in mm(inch)
- Tolerance:  $x.xx \pm 0.5mm(x.xx \pm 0.02")$   
 $x.xxx \pm 0.25mm(x.xxx \pm 0.01")$
- Pin size is  $0.50 \times 0.30mm(0.02" \times 0.01")$
- Pin is Tolerance:  $x.xx \pm 0.07mm(x.xxx \pm 0.03")$



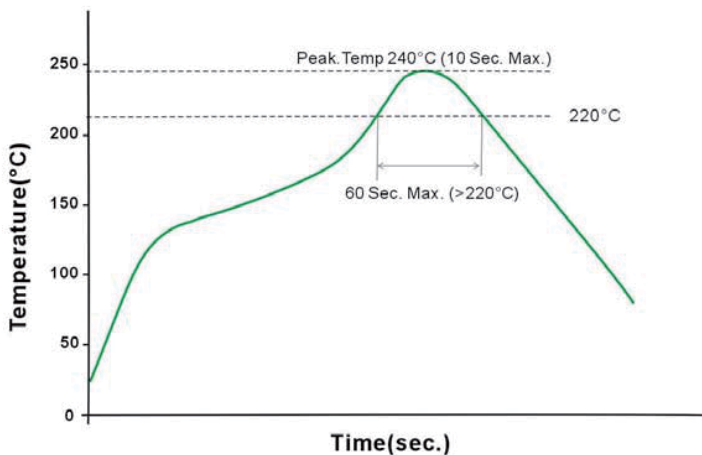
**Plug Assignment**

| 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.

**■ 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> <p>TUBE PATTERN</p> <p>CARTON<br/>L600 x W230 x H220</p>                                       | 32                 | 0.061Kg       | 3840                   | 8.12Kg          |
| Optional Reel Packing   | MPQ Per Reel (PCS) | One Box G.W.  | Max. Q'TY/ Carton(PCS) | One Carton G.W. |
| <p>Unit : mm</p> <p>Reel Width=32</p> <p>INNER BOX<br/>L355*W338*H50</p> <p>OUTER CARTON<br/>L375*W284*H370</p> | 500                | 1.3Kg         | 2500                   | 7.3Kg           |

**■ Installation Manual**

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