

■ Features

- SIP8 package with industry standard pinout
- 4:1 ultrawide input range
- Operating temperature range -40 ~ +85°C
- No minimum load required
- Comply to BS EN/EN55032 radiated Class B without additional components
- High efficiency up to 85%
- Protections: Short circuit (Continuous) / Overload / Input under voltage
- 1.5KVDC I/O isolation
- Remote ON/OFF control
- 3 years warranty

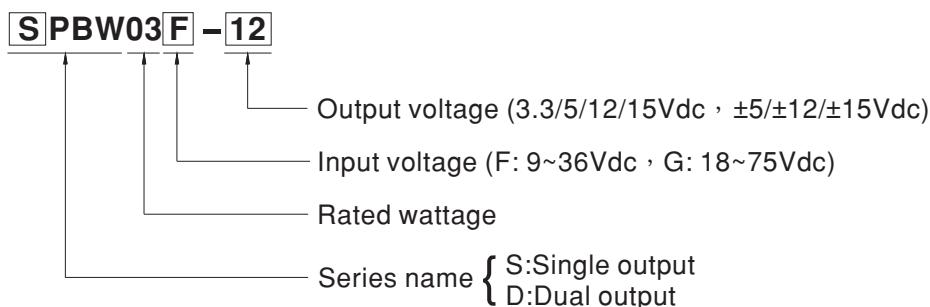
■ Applications

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

■ Description

SPBW03 and DPBW03 series are 3W 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~+85°C, 1.5KVDC I/P-O/P isolation voltage, compliance to BS EN/EN55032 radiated Class B without additional components, continuous-mode short circuit protection, etc. The models account for different input voltage 9~36V and 18~75V 4:1 wide input range, and various output voltage, 3.3V/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





3W SIP Package DC-DC Regulated Converter **SPBW03 & DPBW03** series

| 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 | | | | | | |
| SPBW03F-03 | 24V (9 ~ 36V) | 5mA | 122mA | 3.3V | 0 ~ 700mA | 79% | 180µF | | |
| SPBW03F-05 | | 4mA | 154mA | 5V | 0 ~ 600mA | 81% | 1000µF | | |
| SPBW03F-12 | | 11mA | 150mA | 12V | 0 ~ 250mA | 84% | 220µF | | |
| SPBW03F-15 | | 12mA | 150mA | 15V | 0 ~ 200mA | 84% | 120µF | | |
| DPBW03F-05 | | 8mA | 154mA | ±5V | ±0 ~ 300mA | 81% | *100µF | | |
| DPBW03F-12 | | 27mA | 150mA | ±12V | ±0 ~ 125mA | 83% | *470µF | | |
| DPBW03F-15 | | 16mA | 152mA | ±15V | ±0 ~ 100mA | 81% | *100µF | | |
| SPBW03G-03 | 48V (18 ~ 75V) | 3mA | 61mA | 3.3V | 0 ~ 700mA | 79% | 180µF | | |
| SPBW03G-05 | | 3mA | 77mA | 5V | 0 ~ 600mA | 82% | 1000µF | | |
| SPBW03G-12 | | 6mA | 74mA | 12V | 0 ~ 250mA | 85% | 220µF | | |
| SPBW03G-15 | | 7mA | 75mA | 15V | 0 ~ 200mA | 84% | 120µF | | |
| DPBW03G-05 | | 5mA | 76mA | ±5V | ±0 ~ 300mA | 82% | *100µF | | |
| DPBW03G-12 | | 13mA | 75mA | ±12V | ±0 ~ 125mA | 83% | *470µF | | |
| DPBW03G-15 | | 13mA | 75mA | ±15V | ±0 ~ 100mA | 83% | *100µF | | |

* For each output



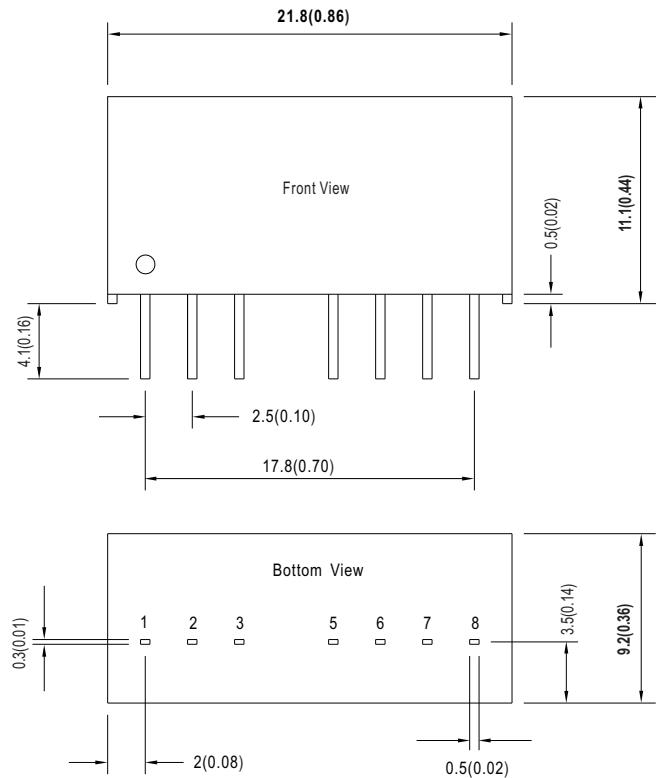
3W SIP Package DC-DC Regulated Converter

SPBW03 & DPBW03 series**SPECIFICATION**

| | | | |
|-------------------------|--|---|----------------------------------|
| INPUT | VOLTAGE RANGE | F: 9~36Vdc , G: 18~75Vdc | |
| | SURGE VOLTAGE (100ms max.) | 24Vin models : 50Vdc, 48Vin models : 100Vdc | |
| | FILTER | Internal capacitor | |
| | PROTECTION | Fuse recommended. 24Vin models: 1A Slow-Blow, 48Vin models: 500mA Slow-Blow Type | |
| | INTERNAL POWER DISSIPATION | 500mW | |
| OUTPUT | VOLTAGE ACCURACY | ±1.5% | |
| | RATED POWER | 3W | |
| | RIPPLE & NOISE Note.2 | 50mVp-p | |
| | LINE REGULATION Note.3 | 0.5% | |
| | LOAD REGULATION Note.4 | Single output models: ±0.5%, Dual output models: ±1% | |
| | SWITCHING FREQUENCY (Min.) | 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 | 24Vin : 7.5Vdc ; 48Vin : 15.5Vdc |
| | | Shutdown voltage | 24Vin : 6Vdc ; 48Vin : 12Vdc |
| FUNCTION | REMOTE CONTROL | Power ON: R.C. ~ -Vin open circuit ; Power OFF: R.C. ~ -Vin <1.2V or short | |
| ENVIRONMENT | COOLING | Free-air convection | |
| | WORKING TEMP. | -40 ~ +85°C (Refer to "Derating Curve") | |
| | CASE TEMPERATURE | +100°C max. | |
| | WORKING HUMIDITY | 20% ~ 90% RH non-condensing | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +125°C, 10 ~ 95% RH non-condensing | |
| | TEMP. COEFFICIENT | 0.03% / °C (0 ~ 85°C) | |
| | SOLDERING TEMPERATURE | 1.5mm from case of 1 ~ 3sec./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 004 approved | |
| | WITHSTAND VOLTAGE | I/P-O/P:1.5KVDC | |
| | ISOLATION RESISTANCE | I/P-O/P:100M Ohms / 500VDC / 25°C / 70% RH | |
| | ISOLATION CAPACITANCE (Typ.) | 500pF | |
| | EMC EMISSION | Parameter | Standard |
| | | Conducted | BS EN/EN55032(CISPR32) |
| | | Radiated | BS EN/EN55032(CISPR32) |
| | EMC IMMUNITY | Parameter | Standard |
| | | ESD | BS EN/EN61000-4-2 |
| | | Radiated Susceptibility | BS EN/EN61000-4-3 |
| | | EFT/Burst | BS EN/EN61000-4-4 |
| | | Surge | BS EN/EN61000-4-5 |
| | | Conducted | BS EN/EN61000-4-6 |
| | | Magnetic Field | BS EN/EN61000-4-8 |
| OTHERS | MTBF | Single output models: 2800Khrs ; Dual output models: 2100Khrs MIL-HDBK-217F(25°C) | |
| | 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 | <p>1. All parameters are specified at normal input(F:24Vdc, G:48Vdc), rated load, 25°C 70% RH ambient.</p> <p>2. Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µF & 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-confirmed that it still meets 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)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx</p> | | |

■ Mechanical Specification

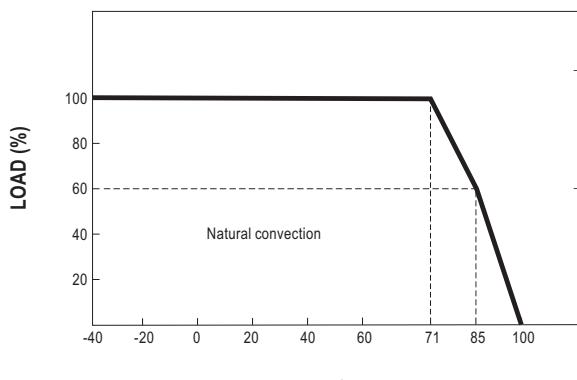
- All dimensions in mm(inch)
- Tolerance: $x.x \pm 0.5\text{mm}$ ($x.xx \pm 0.02''$)
- Pin pitch tolerance: $\pm 0.05\text{mm}$ ($\pm 0.002''$)



■ Plug Assignment

■ Derating Curve

| Pin-Out | | |
|---------|---------------------------|-------------------------|
| Pin No. | SPBW03 (Single output) | DPBW03 (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 |



■ Installation Manual

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