



Наличие и актуальные цены на

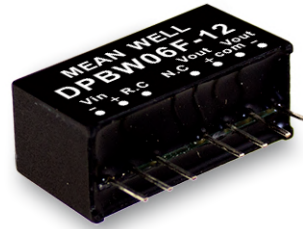
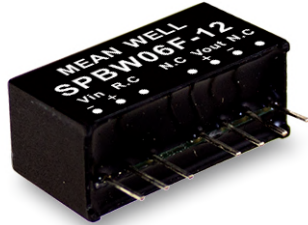
**SPBW06F-03**

<https://www.mean-well.ru/store/SPBW06F-03/>



6W SIP Package DC-DC Regulated Converter

## SPBW06 & DPBW06 series



### ■ Features

- SIP8 package with industry standard pinout
- 4:1 ultrawide input range
- Operating temperature range -40 ~ +85°C
- No minimum load required
- High efficiency up to 89%
- 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

### ■ GTIN CODE

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

### ■ Description

SPBW06 and DPBW06 series are 6W 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~+85°C, 1.5KVDC I/P-O/P isolation voltage, 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  $\pm 5V/\pm 12V/\pm 15V$  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

**S** **PBW06** **F** - **12**

Output voltage (3.3/5/12/15Vdc ,  $\pm 5/\pm 12/\pm 15Vdc$ )

Input voltage (F: 9~36Vdc , G: 18~75Vdc)

Rated wattage

Series name { S:Single output  
D: Dual output



# 6W SIP Package DC-DC Regulated Converter **SPBW06 & DPBW06** series

| MODEL SELECTION TABLE |                          |               |           |                   |                   |                      |                          |
|-----------------------|--------------------------|---------------|-----------|-------------------|-------------------|----------------------|--------------------------|
| ORDER NO.             | INPUT                    |               |           | OUTPUT            |                   | EFFICIENCY<br>(TYP.) | CAPACITOR LOAD<br>(MAX.) |
|                       | INPUT VOLTAGE<br>(RANGE) | INPUT CURRENT |           | OUTPUT<br>VOLTAGE | OUTPUT<br>CURRENT |                      |                          |
|                       |                          | NO LOAD       | FULL LOAD |                   |                   |                      |                          |
| SPBW06F-03            | 24V<br>(9 ~ 36V)         | 4mA           | 310mA     | 3.3V              | 0 ~ 1500mA        | 81%                  | 4700μF                   |
| SPBW06F-05            |                          | 4mA           | 298mA     | 5V                | 0 ~ 1200mA        | 85%                  | 2200μF                   |
| SPBW06F-12            |                          | 5mA           | 288mA     | 12V               | 0 ~ 500mA         | 88%                  | 1100μF                   |
| SPBW06F-15            |                          | 5mA           | 288mA     | 15V               | 0 ~ 400mA         | 88%                  | 470μF                    |
| DPBW06F-05            |                          | 4mA           | 298mA     | ±5V               | ±0 ~ 600mA        | 86%                  | *1400μF                  |
| DPBW06F-12            |                          | 6mA           | 288mA     | ±12V              | ±0 ~ 250mA        | 88%                  | *660μF                   |
| DPBW06F-15            |                          | 7mA           | 288mA     | ±15V              | ±0 ~ 200mA        | 88%                  | *220μF                   |
| SPBW06G-03            | 48V<br>(18 ~ 75V)        | 3mA           | 155mA     | 3.3V              | 0 ~ 1500mA        | 82%                  | 4700μF                   |
| SPBW06G-05            |                          | 3mA           | 150mA     | 5V                | 0 ~ 1200mA        | 85%                  | 2200μF                   |
| SPBW06G-12            |                          | 3mA           | 145mA     | 12V               | 0 ~ 500mA         | 88%                  | 1100μF                   |
| SPBW06G-15            |                          | 5mA           | 145mA     | 15V               | 0 ~ 400mA         | 87%                  | 470μF                    |
| DPBW06G-05            |                          | 4mA           | 150mA     | ±5V               | ±0 ~ 600mA        | 85%                  | *1400μF                  |
| DPBW06G-12            |                          | 3mA           | 145mA     | ±12V              | ±0 ~ 250mA        | 89%                  | *660μF                   |
| DPBW06G-15            |                          | 4mA           | 145mA     | ±15V              | ±0 ~ 200mA        | 88%                  | *220μF                   |

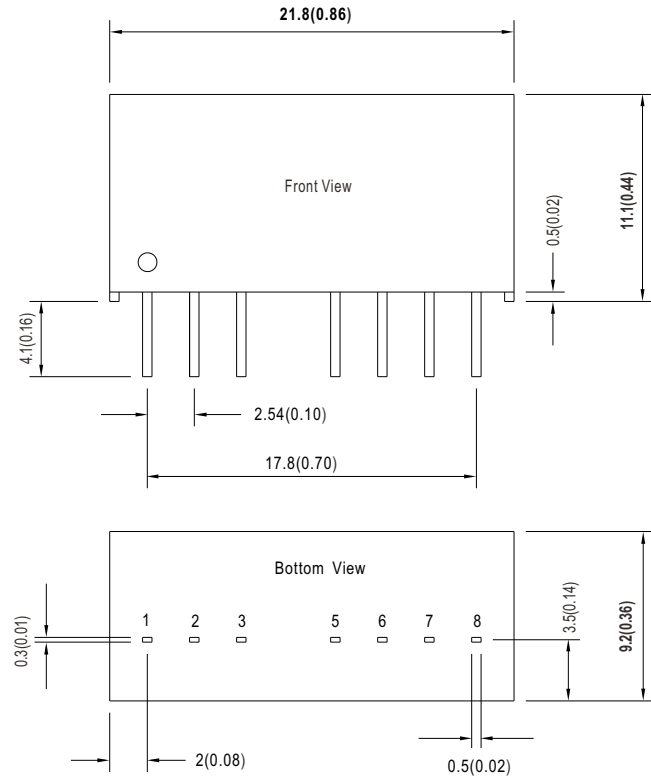
\* For each output



| 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: 1.25A fast-acting Type, 48Vin models: 630mA fast-acting Type                                                       |                             |                                    |
|                           | INTERNAL POWER DISSIPATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 500mW                                                                                                                                              |                             |                                    |
| OUTPUT                    | VOLTAGE ACCURACY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ±1.5%                                                                                                                                              |                             |                                    |
|                           | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 6W                                                                                                                                                 |                             |                                    |
|                           | RIPPLE & NOISE   Note.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 100mVp-p                                                                                                                                           |                             |                                    |
|                           | LINE REGULATION   Note.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ±0.2%                                                                                                                                              |                             |                                    |
|                           | LOAD REGULATION   Note.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Single output models: ±0.5%, Dual output models: ±1%                                                                                               |                             |                                    |
|                           | SWITCHING FREQUENCY (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 580KHz                                                                                                                                             |                             |                                    |
| PROTECTION                | SHORT CIRCUIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Protection type : Continuous, automatic recovery                                                                                                   |                             |                                    |
|                           | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Protection type : Recovers automatically after fault condition is removed                                                                          |                             |                                    |
| FUNCTION                  | REMOTE CONTROL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Power ON: R.C. ~ -Vin high impedance open ; Power OFF: supplying 2~4mA for R.C. pin<br>(Please refer to the application circuit in following page) |                             |                                    |
| ENVIRONMENT               | COOLING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Free-air convection                                                                                                                                |                             |                                    |
|                           | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -40 ~ +85℃ (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% / °C (0 ~ 65℃)                                                                                                                               |                             |                                    |
|                           | 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<br>( 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.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 50pF                                                                                                                                               |                             |                                    |
|                           | 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 2, ±8KV air, ±4KV contact    |
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Radiated Susceptibility                                                                                                                            | BS EN/EN61000-4-3           | Level 2, 3V/m                      |
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | EFT/Bursts                                                                                                                                         | BS EN/EN61000-4-4           | Level 1, 0.5KV                     |
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Surge                                                                                                                                              | BS EN/EN61000-4-5           | Level 1, 0.5KV Line-Line           |
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Conducted                                                                                                                                          | BS EN/EN61000-4-6           | Level 2, 3V(e.m.f.)                |
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Magnetic Field                                                                                                                                     | BS EN/EN61000-4-8           | Level 2, 3A/m                      |
| OTHERS                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | MTBF                                                                                                                                               | 1850Khrs 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4.5g ; 14pcs/per tube, 2058pcs/147 tube/per carton                                                                                                 |                             |                                    |
| NOTE                      | 1.All parameters are specified at normal input(F:24Vdc, G:48Vdc), rated load, 25℃ 70% RH ambient.<br>2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf & 47µf capacitor.<br>3.Line regulation is measured from low line to high line at rated load.<br>4.Load regulation is measured from 0% to 100% rated load.<br>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> )<br>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a> |                                                                                                                                                    |                             |                                    |

### Mechanical Specification

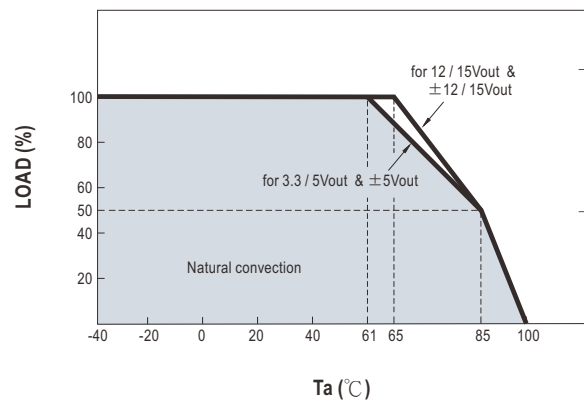
- All dimensions in mm(inch)
- Tolerance:  $x.x \pm 0.5\text{mm}$  ( $x.xx \pm 0.02"$ )
- Pin pitch tolerance:  $\pm 0.05\text{mm}$  ( $\pm 0.002"$ )



### Plug Assignment

| Pin-Out |                           |                         |
|---------|---------------------------|-------------------------|
| Pin No. | SPBW06<br>(Single output) | DPBW06<br>(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                   |

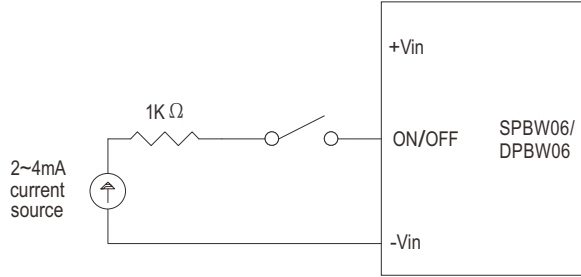
### Derating Curve



### Remote ON/OFF Control

The remote ON/OFF input feature of the converter allows external circuitry to turn the converter ON or OFF. Active-high remote ON/OFF is available as standard. The converter is turned ON if the remote ON/OFF pin is open circuit. Supply the ON/OFF pin at 2mA to 4mA will turn the converter OFF. The signal level of the ON/OFF pin is defined with respect to ground. If not using the ON/OFF pin, leave the pin open (module will be ON, recommended application as below)

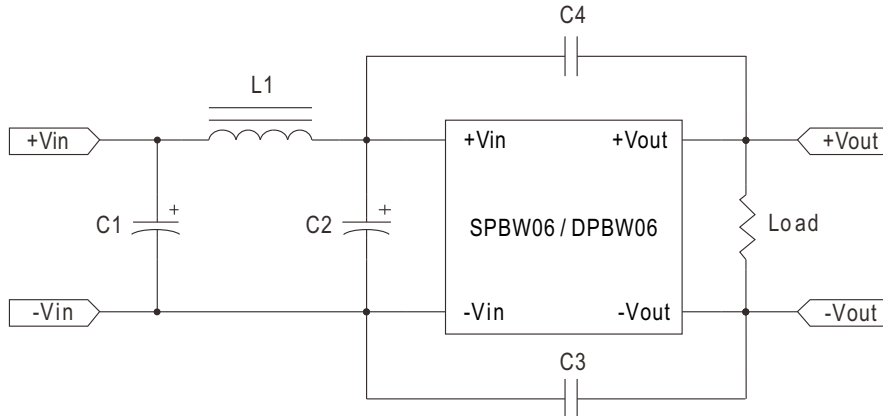
ON/OFF pin applied current via 1K $\Omega$



Application circuit

### EMC Suggestion Circuit

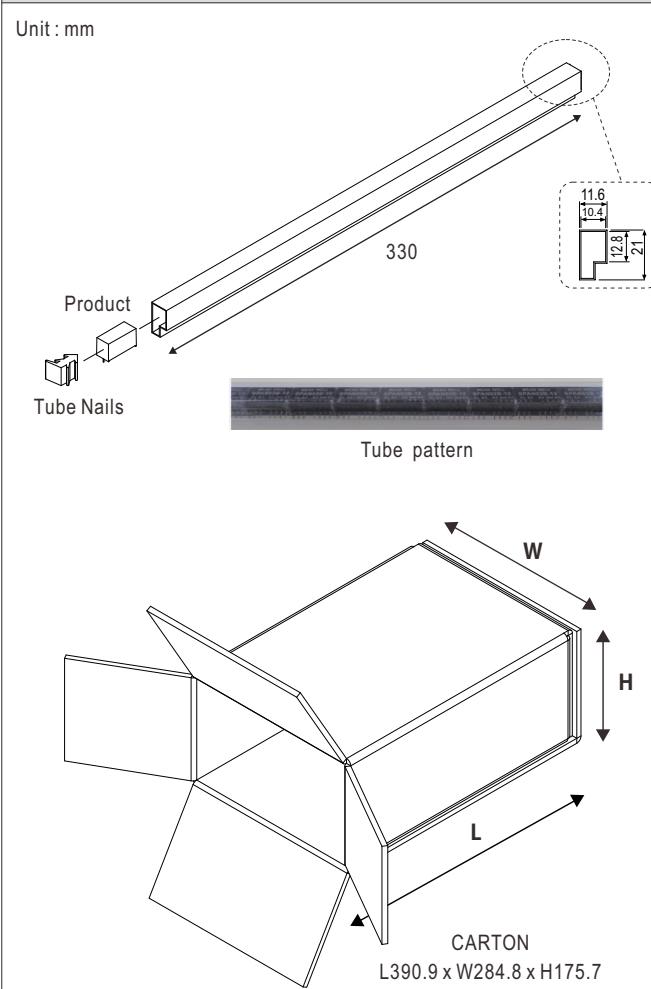
※Required external components to meet BS EN/EN55032 class A/B emission are as below:



| Model No.  | BS EN/EN55032 Class A |    |           |           |            | BS EN/EN55032 Class B |                  |            |            |            |
|------------|-----------------------|----|-----------|-----------|------------|-----------------------|------------------|------------|------------|------------|
|            | C1                    | C2 | C3        | C4        | L1         | C1                    | C2               | C3         | C4         | L1         |
| SPBW06F-03 | 10 $\mu$ F/50V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 10 $\mu$ F/50V        | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| SPBW06F-05 | 10 $\mu$ F/50V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 10 $\mu$ F/50V        | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| SPBW06F-12 | 10 $\mu$ F/50V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 10 $\mu$ F/50V        | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| DPBW06F-15 | 10 $\mu$ F/50V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 10 $\mu$ F/50V        | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| DPBW06F-05 | 10 $\mu$ F/50V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 10 $\mu$ F/50V        | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| DPBW06F-12 | 10 $\mu$ F/50V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 10 $\mu$ F/50V        | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| DPBW06F-15 | 10 $\mu$ F/50V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 10 $\mu$ F/50V        | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| SPBW06G-03 | 1 $\mu$ F/100V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 2.2 $\mu$ F/100V      | 2.2 $\mu$ F/100V | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| SPBW06G-05 | 1 $\mu$ F/100V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 2.2 $\mu$ F/100V      | 2.2 $\mu$ F/100V | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| SPBW06G-12 | 1 $\mu$ F/100V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 2.2 $\mu$ F/100V      | 2.2 $\mu$ F/100V | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| SPBW06G-15 | 1 $\mu$ F/100V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 2.2 $\mu$ F/100V      | 2.2 $\mu$ F/100V | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| DPBW06G-05 | 1 $\mu$ F/100V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 2.2 $\mu$ F/100V      | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| DPBW06G-12 | 1 $\mu$ F/100V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 2.2 $\mu$ F/100V      | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |
| DPBW06G-15 | 1 $\mu$ F/100V        | NC | 150pF/2KV | 150pF/2KV | 10 $\mu$ H | 2.2 $\mu$ F/100V      | NC               | 1500pF/2KV | 1500pF/2KV | 10 $\mu$ H |

Note: All of capacitors are ceramic capacitors

### ■ Packing

| Standard Tube Packing                                                                                                                                                                                                                                         | MPQ<br>Per Tube<br>(PCS) | One Tube<br>G.W. | Max. Q'TY/<br>Carton(PCS) | One Carton<br>G.W. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------|---------------------------|--------------------|
| <p>Unit : mm</p>  <p>Product</p> <p>Tube Nails</p> <p>330</p> <p>11.6</p> <p>10.4</p> <p>12.8</p> <p>2.1</p> <p>Tube pattern</p> <p>CARTON<br/>L390.9 x W284.8 x H175.7</p> | 14                       | 81.5g            | 2058                      | 13.98Kg            |

### ■ Installation Manual

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