

**KEY FEATURES**

- Power Module for PCB Mountable
- 2:1 & 4:1 Wide Input Range
- Regulated Output
- Low Ripple and Noise
- 2-Years Product Warranty


**ELECTRICAL SPECIFICATIONS**

|                             |               |              |              |              |              |
|-----------------------------|---------------|--------------|--------------|--------------|--------------|
| Model No. ( Single Output ) | SB08-12-3.3S  | SB08-12-5S   | SB08-12-12S  | SB08-12-15S  | SB08-12-24S  |
| Input Voltage (V.DC.)       | 12V (9-18V)   | 12V (9-18V)  | 12V (9-18V)  | 12V (9-18V)  | 12V (9-18V)  |
| Output Voltage (V.DC.)      | 3.3V/2000mA   | 5V/1500mA    | 12V/666mA    | 15V/533mA    | 24V/333mA    |
| Efficiency                  | 67%           | 69%          | 76%          | 75%          | 68%          |
| Minimum Load                | 4%            | 3%           | 5%           | 5%           | 4%           |
| Model No. ( Single Output ) | SB08-24-3.3S  | SB08-24-5S   | SB08-24-12S  | SB08-24-15S  | SB08-24-24S  |
| Input Voltage (V.DC.)       | 24V (18-36V)  | 24V (18-36V) | 24V (18-36V) | 24V (18-36V) | 24V (18-36V) |
| Output Voltage (V.DC.)      | 3.3V/2000mA   | 5V/1500mA    | 12V/666mA    | 15V/533mA    | 24V/333mA    |
| Efficiency                  | 72%           | 73%          | 80%          | 80%          | 77%          |
| Minimum Load                | 3%            | 3%           | 4%           | 4%           | 4%           |
| Model No. ( Single Output ) | SB08-24F-3.3S | SB08-24F-5S  | SB08-24F-12S | SB08-24F-15S | SB08-24F-24S |
| Input Voltage (V.DC.)       | 24V (9-36V)   | 24V (9-36V)  | 24V (9-36V)  | 24V (9-36V)  | 24V (9-36V)  |
| Output Voltage (V.DC.)      | 3.3V/2000mA   | 5V/1500mA    | 12V/666mA    | 15V/533mA    | 24V/333mA    |
| Efficiency                  | 70%           | 66%          | 72%          | 71%          | 73%          |
| Minimum Load                |               | 4%           | 5%           | 5%           |              |
| Model No. ( Single Output ) | SB08-48-3.3S  | SB08-48-5S   | SB08-48-12S  | SB08-48-15S  | SB08-48-24S  |
| Input Voltage (V.DC.)       | 48V (36-75V)  | 48V (36-75V) | 48V (36-75V) | 48V (36-75V) | 48V (36-75V) |
| Output Voltage (V.DC.)      | 3.3V/2000mA   | 5V/1500mA    | 12V/666mA    | 15V/533mA    | 24V/333mA    |
| Efficiency                  | 73%           | 74%          | 80%          | 80%          | 79%          |
| Minimum Load                | 3%            | 3%           | 4%           | 4%           | 4%           |
| Model No. ( Single Output ) | SB08-48F-3.3S | SB08-48F-5S  | SB08-48F-12S | SB08-48F-15S | SB08-48F-24S |
| Input Voltage (V.DC.)       | 48V (18-75V)  | 48V (18-75V) | 48V (18-75V) | 48V (18-75V) | 48V (18-75V) |
| Output Voltage (V.DC.)      | 3.3V/2000mA   | 5V/1500mA    | 12V/666mA    | 15V/533mA    | 24V/333mA    |
| Efficiency                  | 70%           | 73%          | 78%          | 78%          | 73%          |

|                           |              |              |              |
|---------------------------|--------------|--------------|--------------|
| Model No. ( Dual Output ) | SB08-12-5D   | SB08-12-12D  | SB08-12-15D  |
| Input Voltage (V.DC.)     | 12V (9-18V)  | 12V (9-18V)  | 12V (9-18V)  |
| Output Voltage (V.DC.)    | ±5V / ±800mA | ±12 / ±333mA | ±15 / ±267mA |
| Efficiency                | 70%          | 75%          | 74%          |
| Minimum Load              | 4%           | 5%           | 5%           |
| Model No. ( Dual Output ) | SB08-24-5D   | SB08-24-12D  | SB08-24-15D  |
| Input Voltage (V.DC.)     | 24V (18-36V) | 24V (18-36V) | 24V (18-36V) |
| Output Voltage (V.DC.)    | ±5V / ±800mA | ±12 / ±333mA | ±15 / ±267mA |
| Efficiency                | 73%          | 78%          | 74%          |
| Minimum Load              | 2%           | 5%           | 6%           |
| Model No. ( Dual Output ) | SB08-24F-5D  | SB08-24F-12D | SB08-24F-15D |
| Input Voltage (V.DC.)     | 24V (9-36V)  | 24V (9-36V)  | 24V (9-36V)  |
| Output Voltage (V.DC.)    | ±5V / ±800mA | ±12 / ±333mA | ±15 / ±267mA |
| Efficiency                | 72%          | 76%          | 74%          |
| Model No. ( Dual Output ) | SB08-48-5D   | SB08-48-12D  | SB08-48-15D  |
| Input Voltage (V.DC.)     | 48V (36-75V) | 48V (36-75V) | 48V (36-75V) |
| Output Voltage (V.DC.)    | ±5V / ±800mA | ±12 / ±333mA | ±15 / ±267mA |
| Efficiency                | 73%          | 77%          | 74%          |
| Minimum Load              | 4%           | 5%           | 3%           |
| Model No. ( Dual Output ) | SB08-48F-5D  | SB08-48F-12D | SB08-48F-15D |
| Input Voltage (V.DC.)     | 48V (18-75V) | 48V (18-75V) | 48V (18-75V) |
| Output Voltage (V.DC.)    | ±5V / ±800mA | ±12 / ±333mA | ±15 / ±267mA |
| Efficiency                | 74%          | 77%          | 74%          |

|                             |   |   |  |  |  |     |
|-----------------------------|---|---|--|--|--|-----|
| Model No. ( Single Output ) | SB08-12-3.3S<br>SB08-24--3.3S<br>SB08-24F-3.3S<br>SB08-48-3.3S<br>SB08-48F-3.3S | SB08-12-5S<br>SB08-24--5S<br>SB08-24F-5S<br>SB08-48-5S<br>SB08-48F-5S | SB08-12-12S<br>SB08-24--12S<br>SB08-24F-12S<br>SB08-48-12S<br>SB08-48F-12S | SB08-12-15S<br>SB08-24--15S<br>SB08-24F-15S<br>SB08-48-15S<br>SB08-48F-15S | SB08-12-24S<br>SB08-24--24S<br>SB08-24F-24S<br>SB08-48-24S<br>SB08-48F-24S |     |
| Max Output Wattage (W)      | 6.6W  | 7.5W  | 8W   | 8W   | 8W   |     |
| Input                       | Input Filter  | L-C type  |  |  |  |     |
| Output                      | Voltage (V.DC.)   | 3.3   | 5  | 12   | 15   | 24  |
|                             | Voltage Accuracy  | ±2%   |  |  |  |     |
|                             | Current (mA) max  | 2000  | 1500   | 666  | 533  | 333 |
|                             | Line Regulation (LL-HL) (typ.)  | ±0.5%   |  |  |  |     |
|                             | Load Regulation (10-100%) (typ.)  | ±3%   | ±1%  | ±1%  | ±1%  | ±1% |
|                             | Ripple  | <0.2% Vout +20mV max (Vp-p)   |  |  |  |     |
|                             | Noise   | <0.5% Vout +50mV max (Vp-p)   |  |  |  |     |
| Switching Frequency         | 300KHz  |   |  |  |  |     |
| Protection                  | Over Power Protection   | Works over 120% of rating and recovers automatically.                 |  |  |  |     |
|                             | Short Circuit Protection  | Current limit, auto-recovery  |  |  |  |     |
| Isolation                   | Voltage   | 1600 VDC.   |  |  |  |     |
|                             | Resistance  | 10 <sup>8</sup> ohms  |  |  |  |     |
|                             | Capacitance   | 1000 pF   |  |  |  |     |
| Environment                 | Operating Temperature   | -25°C...+70°C (with derating)   |  |  |  |     |
|                             | Storage Temperature   | -55°C...+105°C  |  |  |  |     |
|                             | Case Temperature  | +100°C max.   |  |  |  |     |
|                             | Temperature Coefficient   | ±0.02% Per°C  |  |  |  |     |
|                             | Humidity  | 95% RH  |  |  |  |     |
| MTBF                        | >800,000 h @ 25°C (MIL-HDBK-217F)   |   |  |  |  |     |
| Physical                    | Dimension (L x W x H)   | 1.25 x 0.8 x 0.4 Inches ( 31.8 x 20.3 x 10.2 mm ) Tolerance ±0.5 mm   |  |  |  |     |
|                             | Case Material   | Six-side shielded Aluminum with Non-Conductive base, Black Anodize    |  |  |  |     |
|                             | Weight  | 13 g  |  |  |  |     |
|                             | Cooling Method  | Free-air convection   |  |  |  |     |

1.All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

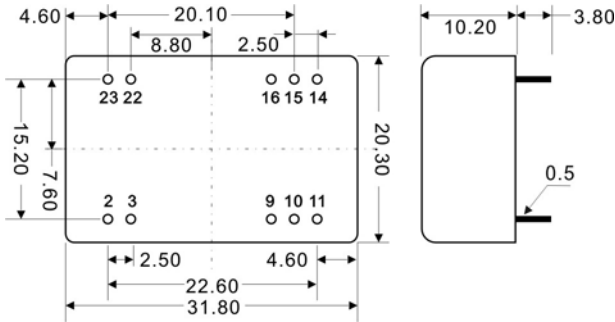
2.Ripple & Noise are measured at 20MHz of bandwidth with 0.1µF & 47UF parallel capacitor.

|                           |   |  |  |      |
|---------------------------|---|--|--|------|
| Model No. ( Dual Output ) | SB08-12-5D<br>SB08-24--5D<br>SB08-24F-5D<br>SB08-48-5D<br>SB08-48F-5D | SB08-12-12D<br>SB08-24--12D<br>SB08-24F-12D<br>SB08-48-12D<br>SB08-48F-12D | SB08-12-15D<br>SB08-24--15D<br>SB08-24F-15D<br>SB08-48-15D<br>SB08-48F-15D |      |
| Max Output Wattage (W)    | 8W  | 8W   | 8W   |      |
| Input                     | Input Filter  | L-C type   |  |      |
| Output                    | Voltage (V.DC.)   | ±5   | ±12  | ±15  |
|                           | Voltage Accuracy  | ±2%  |  |      |
|                           | Current (mA) max  | ±800   | ±333   | ±267 |
|                           | Line Regulation (LL-HL) (typ.)  | ±0.5%  |  |      |
|                           | Load Regulation (10-100%) (typ.)                                      | ±1%  | ±1%  | ±1%  |
|                           | Ripple  | <0.2% Vout +20mV max (Vp-p)  |  |      |
|                           | Noise   | <0.5% Vout +50mV max (Vp-p)  |  |      |
| Switching Frequency       | 300KHz  |  |  |      |
| Protection                | Over Power Protection   | Works over 120% of rating and recovers automatically.                      |  |      |
|                           | Short Circuit Protection  | Current limit, auto-recovery   |  |      |
| Isolation                 | Voltage   | 1600 VDC.  |  |      |
|                           | Resistance  | 10 <sup>8</sup> ohms   |  |      |
|                           | Capacitance   | 1000 pF  |  |      |
| Environment               | Operating Temperature   | -25°C...+70°C (with derating)  |  |      |
|                           | Storage Temperature   | -55°C...+105°C   |  |      |
|                           | Case Temperature  | +100°C max.  |  |      |
|                           | Temperature Coefficient   | ±0.02% Per°C   |  |      |
|                           | Humidity  | 95% RH   |  |      |
| MTBF                      | >800,000 h @ 25°C (MIL-HDBK-217F)                                     |  |  |      |
| Physical                  | Dimension (L x W x H)   | 1.25 x 0.8 x 0.4 Inches ( 31.8 x 20.3 x 10.2 mm ) Tolerance ±0.5 mm        |  |      |
|                           | Case Material   | Six-side shielded Aluminum with Non-Conductive base, Black Anodize         |  |      |
|                           | Weight  | 13 g   |  |      |
|                           | Cooling Method  | Free-air convection  |  |      |

1.All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

2.Ripple & Noise are measured at 20MHz of bandwidth with 0.1µF & 47UF parallel capacitor.

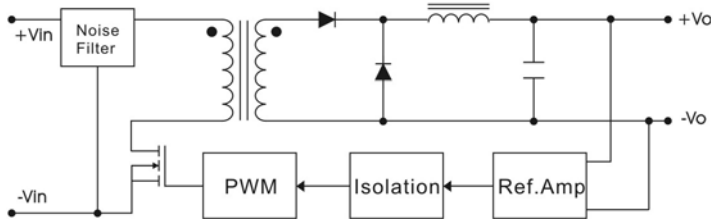
**MECHANICAL DIMENSION ( Top View )**



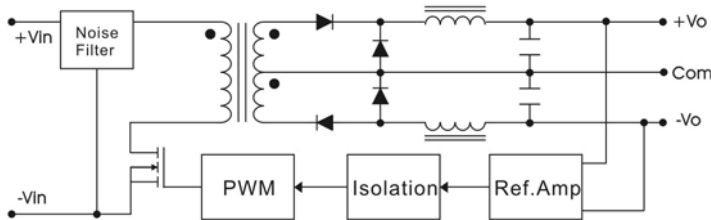
| PIN# | Single | Dual   |
|------|--------|--------|
| 2    | -VIN   | -VIN   |
| 3    | -VIN   | -VIN   |
| 9    | NC     | COMMON |
| 10   | NC     | NC     |
| 11   | NC     | -VOUT  |
| 14   | +VOUT  | +VOUT  |
| 15   | NC     | NC     |
| 16   | -VOUT  | COMMON |
| 22   | +VIN   | +VIN   |
| 23   | +VIN   | +VIN   |

**BLOCK DIAGRAM**

**Single Output**



**Dual Output**



**DERATING**

