

KEY FEATURES

- Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Regulated Output
- Low Ripple and Noise
- 3-Years Product Warranty


ELECTRICAL SPECIFICATIONS

| Model No. | SB1R5-5-5S | SB1R5-5-12S | SB1R5-5-15S | SB1R5-5-24S | SB1R5-5-5D | SB1R5-5-12D | SB1R5-5-15D |
|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Max. Output Wattage (W) | 1.5W | 1.5W | 1.5W | 1.5W | 1.5W | 1.44W | 1.5W |
| Input Voltage (V.DC.) | 5V (4.5-5.5) | 5V (4.5-5.5) | 5V (4.5-5.5) | 5V (4.5-5.5) | 5V (4.5-5.5) | 5V (4.5-5.5) | 5V (4.5-5.5) |
| Output Voltage (V.DC.) | 5V / 300mA | 12V / 125mA | 15V / 100mA | 24V / 63mA | ±5V / ±150mA | ±12V / ±60mA | ±15V / ±50mA |
| Efficiency | 60% | 54% | 56% | 58% | 57% | 59% | 61% |

| Model No. | SB1R5-12-5S | SB1R5-12-12S | SB1R5-12-15S | SB1R5-12-24S | SB1R5-12-5D | SB1R5-12-12D | SB1R5-12-15D |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Max. Output Wattage (W) | 1.5W | 1.5W | 1.5W | 1.5W | 1.5W | 1.44W | 1.5W |
| Input Voltage (V.DC.) | 12V (10.8-13.2) | 12V (10.8-13.2) | 12V (10.8-13.2) | 12V (10.8-13.2) | 12V (10.8-13.2) | 12V (10.8-13.2) | 12V (10.8-13.2) |
| Output Voltage (V.DC.) | 5V / 300mA | 12V / 125mA | 15V / 100mA | 24V / 63mA | ±5V / ±150mA | ±12V / ±60mA | ±15V / ±50mA |
| Efficiency | 65% | 60% | 62% | 64% | 60% | 61% | 65% |

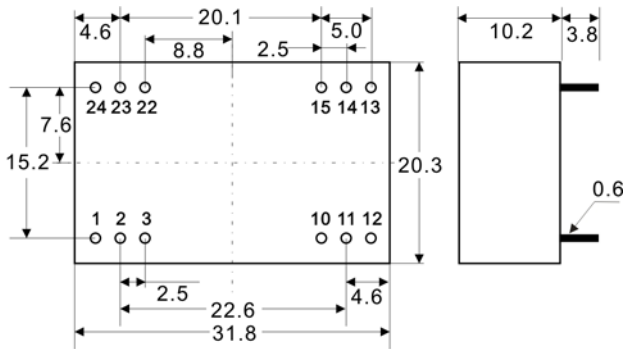
| Model No. | SB1R5-24-5S | SB1R5-24-12S | SB1R5-24-15S | SB1R5-24-24S | SB1R5-24-5D | SB1R5-24-12D | SB1R5-24-15D |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Max. Output Wattage (W) | 1.5W | 1.5W | 1.5W | 1.5W | 1.5W | 1.44W | 1.5W |
| Input Voltage (V.DC.) | 24V (21.6-26.4) | 24V (21.6-26.4) | 24V (21.6-26.4) | 24V (21.6-26.4) | 24V (21.6-26.4) | 24V (21.6-26.4) | 24V (21.6-26.4) |
| Output Voltage (V.DC.) | 5V / 300mA | 12V / 125mA | 15V / 100mA | 24V / 63mA | ±5V / ±150mA | ±12V / ±60mA | ±15V / ±50mA |
| Efficiency | 57% | 55% | 55% | 58% | 54% | 54% | 56% |

| Model No. | SB1R5-48-5S | SB1R5-48-12S | SB1R5-48-15S | SB1R5-48-24S | SB1R5-48-5D | SB1R5-48-12D | SB1R5-48-15D |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Max. Output Wattage (W) | 1.5W | 1.5W | 1.5W | 1.5W | 1.5W | 1.44W | 1.5W |
| Input Voltage (V.DC.) | 48V (43.2-52.8) | 48V (43.2-52.8) | 48V (43.2-52.8) | 48V (43.2-52.8) | 48V (43.2-52.8) | 48V (43.2-52.8) | 48V (43.2-52.8) |
| Output Voltage (V.DC.) | 5V / 300mA | 12V / 125mA | 15V / 100mA | 24V / 63mA | ±5V / ±150mA | ±12V / ±60mA | ±15V / ±50mA |
| Efficiency | 53% | 52% | 51% | 54% | 52% | 54% | 54% |

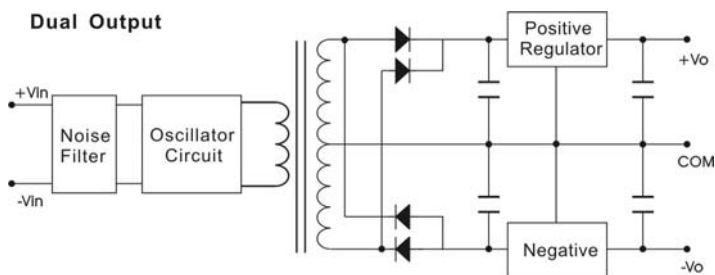
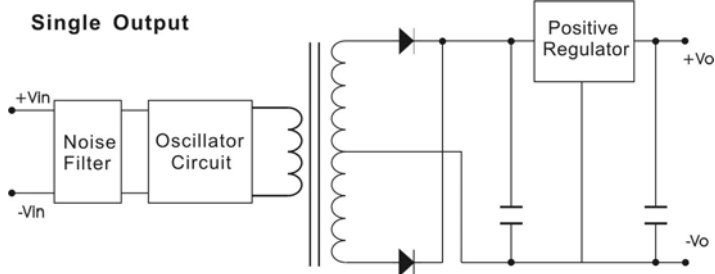
| Model No. | SB1R5-5-5S | SB1R5-5-12S | SB1R5-5-15S | SB1R5-5-24S | SB1R5-5-5D | SB1R5-5-12D | SB1R5-5-15D | |
|------------------------|----------------------------------|---|-------------|-------------|------------|-------------|-------------|--|
| Max Output Wattage (W) | 1.5W | 1.5W | 1.5W | 1.5W | 1.5W | 1.44W | 1.5W | |
| Input | Input Filter: π type | | | | | | | |
| Output | Voltage (V.DC.) | 5 | 12 | 15 | 24 | ±5 | ±12 | |
| | Voltage Accuracy | ±3% | | | | | | |
| | Current (mA) max | 300 | 125 | 100 | 63 | ±150 | ±60 | |
| | Line Regulation (LL-HL) (typ.) | ±0.3% | | | | | | |
| | Load Regulation (10-100%) (typ.) | ±0.5% | | | | | | |
| | Ripple | <0.2% Vout +10mV max (Vp-p) | | | | | | |
| | Noise | <0.5% Vout +30mV max (Vp-p) | | | | | | |
| Protection | Switching Frequency | 20KHz | | | | | | |
| | Over Power Protection | Works over 120% of rating and recovers automatically. | | | | | | |
| Isolation | Short Circuit Protection | Current limit, auto-recovery | | | | | | |
| | Voltage | 500 VDC. | | | | | | |
| Environment | Resistance | 10 ⁸ ohms | | | | | | |
| | Operating Temperature | -25°C...+100°C (with derating) | | | | | | |
| | Storage Temperature | -55°C...+105°C | | | | | | |
| | Case Temperature | +100°C max. | | | | | | |
| | Temperature Coefficient | ±0.02% Per°C | | | | | | |
| | Humidity | 95% RH | | | | | | |
| Physical | MTBF | >1,000,000 h @ 25°C (MIL-HDBK-217F) | | | | | | |
| | 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 | Plastic | | | | | | |
| | Weight | 13 g | | | | | | |
| Cooling Method | Free-air convection | | | | | | | |

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

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

MECHANICAL DIMENSION (Top View)

 Tolerance ± 0.5 mm

| PIN# | Single | Dual |
|------|--------|--------|
| 1 | +VIN | +VIN |
| 2 | NC | -VOUT |
| 3 | NO PIN | COMMON |
| 10 | -VOUT | COMMON |
| 11 | +VOUT | +VOUT |
| 12 | -VIN | -VIN |
| 13 | -VIN | -VIN |
| 14 | +VOUT | +VOUT |
| 15 | -VOUT | COMMON |
| 22 | NO PIN | COMMON |
| 23 | NC | -VOUT |
| 24 | +VIN | +VIN |

BLOCK DIAGRAM

DERATING
