

KEY FEATURES

- Power Module for PCB Mountable
- 2:1 Input Range
- Synchronous Rectifier Topology
- Regulated Output
- Low Ripple and Noise
- Screw Terminal For Optional
- Remote ON/OFF Control (Optional)
- Standard 2" x 1" Package and Pinout
- CE, UL Approval
- 3-Years Product Warranty


ELECTRICAL SPECIFICATIONS

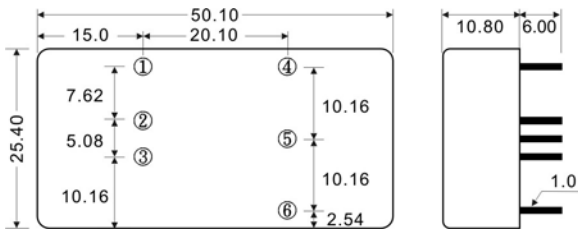
| Model No. | ST20-24-2.5S | ST20-24-3.3S | ST20-24-5S |
|-------------------------|---------------|---------------|--------------|
| Max. Output Wattage (W) | 12.5W | 14W | 20W |
| Input Voltage (V.DC.) | 24V (18-36V) | 24V (18-36V) | 24V (18-36V) |
| Output Voltage (V.DC.) | 2.5V / 4000mA | 3.3V / 4000mA | 5V / 4000mA |
| Efficiency | 83% | 86% | 87% |

| Model No. | ST20-48-2.5S | ST20-48-3.3S | ST20-48-5S |
|-------------------------|---------------|---------------|--------------|
| Max. Output Wattage (W) | 12.5W | 14W | 20W |
| Input Voltage (V.DC.) | 48V (36-75V) | 48V (36-75V) | 48V (36-75V) |
| Output Voltage (V.DC.) | 2.5V / 4000mA | 3.3V / 4000mA | 5V / 4000mA |
| Efficiency | 83% | 86% | 87% |

| Model No. | ST20-24-2.5S | ST20-24-3.3S | ST20-24-5S | ST20-48-2.5S | ST20-48-3.3S | ST20-48-5S | |
|------------------------|-------------------------------------|--|------------|--------------|--------------|------------|------|
| Max Output Wattage (W) | 12.5W | 14W | 20W | 12.5W | 14W | 20W | |
| Input | Input Filter | | | | | | |
| | π type | | | | | | |
| Output | Voltage (V.DC.) | 2.5 | 3.3 | 5 | 2.5 | 3.3 | 5 |
| | Voltage Accuracy | $\pm 2\%$ | | | | | |
| | Current (mA) max | 4000 | 4000 | 4000 | 4000 | 4000 | 4000 |
| | Line Regulation (LL-HL) (typ.) | $\pm 0.5\%$ | | | | | |
| | Load Regulation (10-100%) (typ.) | $\pm 1\%$ | | | | | |
| | Ripple | 110mV max (Vp-p) | | | | | |
| | Noise | 200mV max (Vp-p) | | | | | |
| | Efficiency | 83% | 86% | 87% | 83% | 86% | 87% |
| Protection | Switching Frequency | 400KHz | | | | | |
| | Over Power Protection | Works over 120% of rating and recovers automatically. | | | | | |
| | Over Voltage Protection | Zener diode clamp | | | | | |
| | Short Circuit Protection | Current limit, auto-recovery | | | | | |
| Isolation | Transient Response | ≤ 500 us (100% to 50% full load at $\pm 1\%$ error band) | | | | | |
| | Voltage | 1600 VDC. | | | | | |
| | Resistance | 10^8 ohms | | | | | |
| Environment | Capacitance | 1000 pF | | | | | |
| | Operating Temperature | $-25^{\circ}\text{C} \dots +70^{\circ}\text{C}$ (with derating) | | | | | |
| | Storage Temperature | $-55^{\circ}\text{C} \dots +105^{\circ}\text{C}$ | | | | | |
| | Case Temperature | $+100^{\circ}\text{C}$ max. | | | | | |
| | Temperature Coefficient | $\pm 0.02\%$ Per $^{\circ}\text{C}$ | | | | | |
| | Humidity | 95% RH | | | | | |
| Physical | MTBF | $>550,000$ h @ 25°C (MIL-HDBK-217F) | | | | | |
| | Dimension (L x W x H) | 1.97 x 1.0 x 0.425 Inches (50.1 x 25.4 x 10.8 mm) Tolerance ± 0.5 mm | | | | | |
| | Case Material | Six-side shielded Aluminum with Non-Conductive base, Black Anodize | | | | | |
| | Weight | 32 g | | | | | |
| Safety | Cooling Method | Free-air convection | | | | | |
| | Agency Approvals | CE, UL | | | | | |
| EMC | EMI (Conducted & Radiated Emission) | EN 55022 class A | | | | | |

 1.All specifications valid at normal input voltage, full load and $+25^{\circ}\text{C}$ after warm-up time unless otherwise stated.

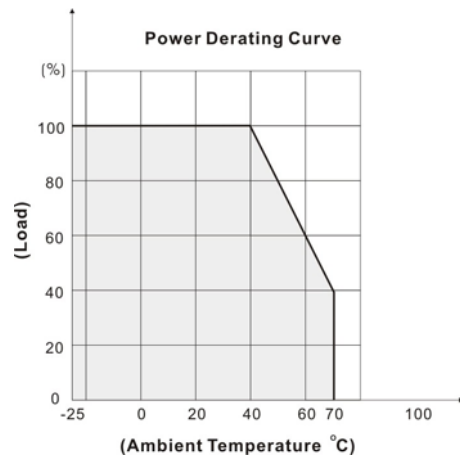
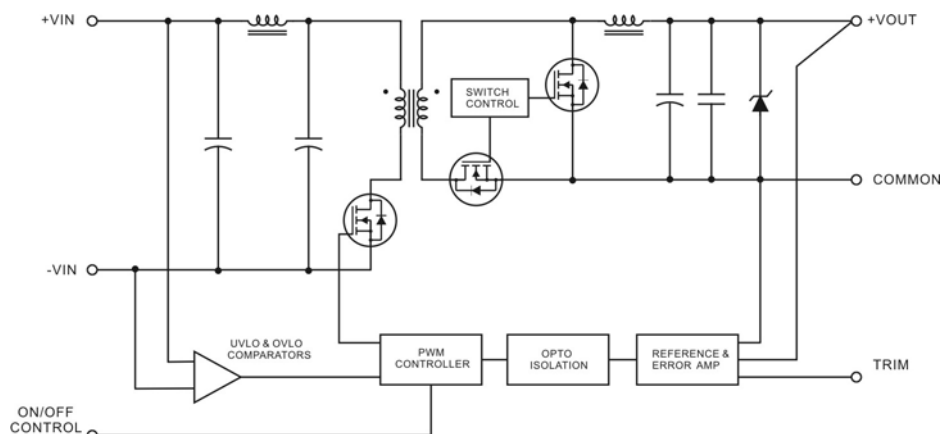
2.Ripple & Noise are measured at 20MHz of bandwidth with 0.1UF & 47UF parallel capacitor.

MECHANICAL DIMENSION (Top View)


| PIN# | Single |
|------|-------------------------|
| 1 | ON / OFF CTL (Optional) |
| 2 | -DC IN |
| 3 | +DC IN |
| 4 | -DC OUT |
| 5 | NO PIN |
| 6 | +DC OUT |

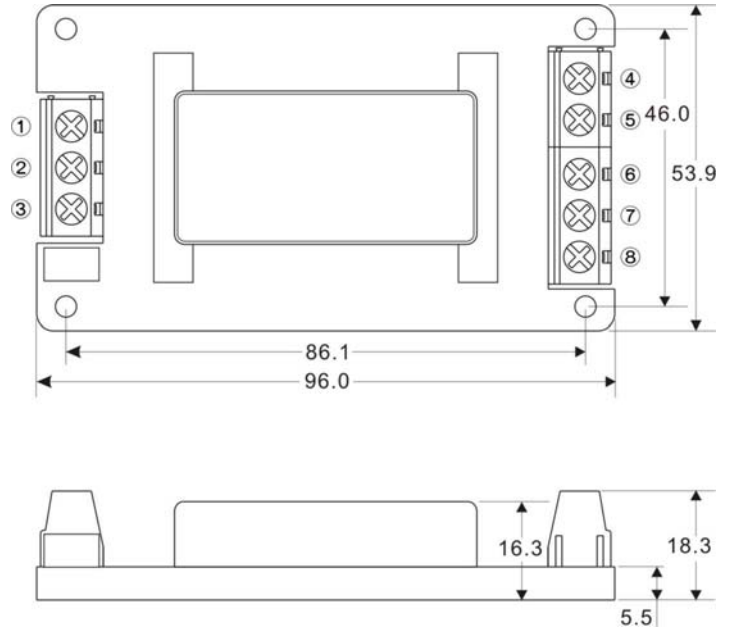
Remote On/Off Control

Control Pin is NOT available for standard ST20 models
 Add suffix -R for models with Control Pin

DERATING

BLOCK DIAGRAM


ST20 SERIES
20 Watts
SCREW TERMINAL
ST20-A2


| PIN# | Single | Dual |
|------|------------|------------|
| 1 | CTRL | CTRL |
| 2 | -DC IN | -DC IN |
| 3 | +DC IN | +DC IN |
| 4. | -DC OUT | -DC OUT |
| 5 | NO CONNECT | NO CONNECT |
| 6 | NO CONNECT | COMMON |
| 7 | NO CONNECT | NO CONNECT |
| 8 | +DC OUT | +DC OUT |


ST20-A5


| PIN# | Single | Dual |
|------|------------|------------|
| 1 | CTRL | CTRL |
| 2 | -DC IN | -DC IN |
| 3 | +DC IN | +DC IN |
| 4. | -DC OUT | -DC OUT |
| 5 | NO CONNECT | NO CONNECT |
| 6 | NO CONNECT | COMMON |
| 7 | NO CONNECT | NO CONNECT |
| 8 | +DC OUT | +DC OUT |

