

**KEY FEATURES**

- Power Module for PCB Mountable
- High Efficiency Up To 87%
- 4:1 Wide Input Range
- Six-sided Continuous Shield
- Standard Package
- Screw Terminal for Optional
- 2 Years Product Warranty


**ELECTRICAL SPECIFICATIONS**

| Model No. ( Single Output ) | SF30-24-2.5S  | SF30-24-3.3S  | SF30-24-5S   | SF30-24-12S  | SF30-24-15S  | SF30-24-24S  |
|-----------------------------|---------------|---------------|--------------|--------------|--------------|--------------|
| Max. Output Wattage (W)     | 15W           | 19.8W         | 30W          | 30W          | 30W          | 30W          |
| Input Voltage (V.DC.)       | 24V (10-40V)  | 24V (10-40V)  | 24V (10-40V) | 24V (10-40V) | 24V (10-40V) | 24V (10-40V) |
| Output Voltage (V.DC.)      | 2.5V / 6000mA | 3.3V / 6000mA | 5V / 6000mA  | 12V / 2500mA | 15V / 2000mA | 24V / 1250mA |
| Efficiency (%)              | 76%           | 83%           | 83%          | 83%          | 80%          | 84%          |
| capacitor Load max          | 60000 uF      | 27000 uF      | 6300 uF      | 470 uF       | 660 uF       | 240 uF       |

| Model No. ( Single Output ) | SF30-48-2.5S  | SF30-48-3.3S  | SF30-48-5S   | SF30-48-12S  | SF30-48-15S  | SF30-48-24S  |
|-----------------------------|---------------|---------------|--------------|--------------|--------------|--------------|
| Max. Output Wattage (W)     | 15W           | 19.8W         | 30W          | 30W          | 30W          | 30W          |
| Input Voltage (V.DC.)       | 48V (18-75V)  | 48V (18-75V)  | 48V (18-75V) | 48V (18-75V) | 48V (18-75V) | 48V (18-75V) |
| Output Voltage (V.DC.)      | 2.5V / 6000mA | 3.3V / 6000mA | 5V / 6000mA  | 12V / 2500mA | 15V / 2000mA | 24V / 1250mA |
| Efficiency (%)              | 81%           | 85%           | 87%          | 86%          | 85%          | 86%          |
| capacitor Load max          | 60000 uF      | 27000 uF      | 9000 uF      | 1800 uF      | 1000 uF      | 420 uF       |

| Model No. ( Dual Output ) | SF30-24-5D    | SF30-24-12D    | SF30-24-15D    | SF30-48-5D    | SF30-48-12D    | SF30-48-15D    |
|---------------------------|---------------|----------------|----------------|---------------|----------------|----------------|
| Max. Output Wattage (W)   | 30W           | 30W            | 30W            | 30W           | 30W            | 30W            |
| Input Voltage (V.DC.)     | 24V (10-40V)  | 24V (10-40V)   | 24V (10-40V)   | 48V (18-75V)  | 48V (18-75V)   | 48V (18-75V)   |
| Output Voltage (V.DC.)    | ±5V / ±3000mA | ±12V / ±1250mA | ±15V / ±1000mA | ±5V / ±3000mA | ±12V / ±1250mA | ±15V / ±1000mA |
| Efficiency (%)            | 81%           | 84%            | 83%            | 84%           | 86%            | 85%            |
| capacitor Load max        | ±1400 uF      | ±660 uF        | ±430 uF        | ±9500 uF      | ±760 uF        | ±450 uF        |

| Model No. ( Single Output ) | SF30-24-2.5S                     | SF30-24-3.3S  | SF30-24-5S | SF30-24-12S | SF30-24-15S | SF30-24-24S |      |
|-----------------------------|----------------------------------|---|------------|-------------|-------------|-------------|------|
| Max Output Wattage (W)      | 15W                              | 19.8W   | 30W        | 30W         | 30W         | 30W         |      |
| Output                      | Voltage (V.DC.)                  | 2.5   | 3.3        | 5           | 12          | 15          | 24   |
|                             | Voltage Accuracy                 | ±2%   |            |             |             |             |      |
|                             | Current (mA) max                 | 6000  | 6000       | 6000        | 2500        | 2000        | 1250 |
|                             | Line Regulation (LL-HL) (typ.)   | ±0.5%   |            |             |             |             |      |
|                             | Load Regulation (10-100%) (typ.) | ±1%   |            |             |             |             |      |
|                             | Ripple                           | 100 mV max.   |            |             | ±1% max.    |             |      |
|                             | Noise                            | 100 mV max.   |            |             | ±1% max.    |             |      |
|                             | Trim                             | ±10%  |            |             |             |             |      |
| Protection                  | Switching Frequency              | 250KHz  |            |             |             |             |      |
|                             | Over Power Protection            | Works over 120% of rating and recovers automatically.               |            |             |             |             |      |
|                             | Over Voltage Protection          | Zener diode clamp   |            |             |             |             |      |
| Isolation                   | Short Circuit Protection         | Hiccup mode, auto-recovery  |            |             |             |             |      |
|                             | Voltage                          | 1600 VDC.   |            |             |             |             |      |
|                             | Resistance                       | 10 <sup>8</sup> ohms  |            |             |             |             |      |
| Environment                 | Capacitance                      | 1000 pF   |            |             |             |             |      |
|                             | 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  |            |             |             |             |      |
| Physical                    | MTBF                             | >550,000 h @ 25°C (MIL-HDBK-217F)                                   |            |             |             |             |      |
|                             | Dimension (L x W x H)            | 2.0 x 1.6 x 0.47 Inches ( 50.8 x 40.6 x 11.9 mm ) Tolerance ±0.5 mm |            |             |             |             |      |
|                             | Case Material                    | Five-side shielded Aluminum with Non-Conductive base, Black Anodize |            |             |             |             |      |
|                             | Weight                           | 58 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.

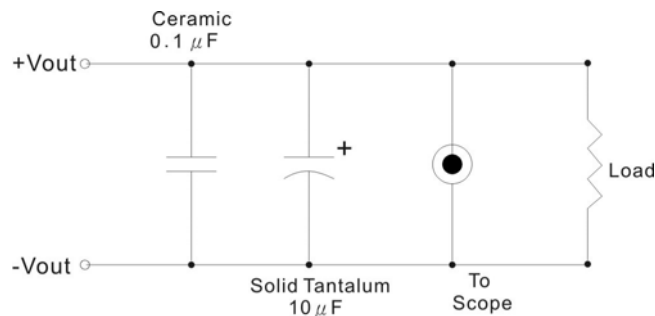
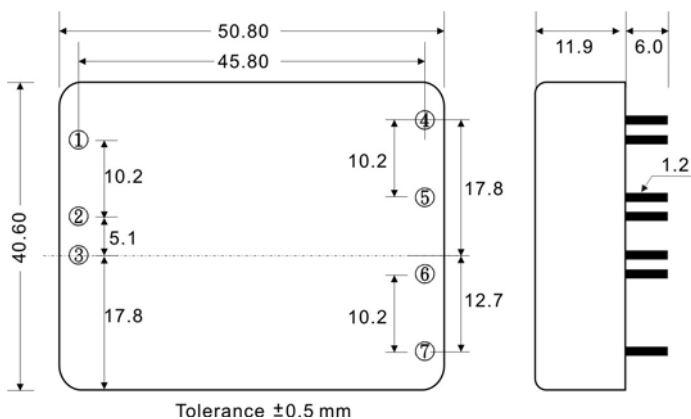
2. Ripple &amp; Noise are measured at 20MHz of bandwidth with 0.1uF &amp; 47uF parallel capacitor.

**SF30 SERIES**
**30 Watts**

|                         |                                  |  |                            |
|-------------------------|----------------------------------|--|----------------------------|
| Model No. (Dual Output) | SF30-24-5D<br>SF30-48-5D         | SF30-24-12D<br>SF30-48-12D   | SF30-24-15D<br>SF30-48-15D |
| Max Output Wattage (W)  | 30W                              |  |                            |
| Input                   | Input Filter                     | $\pi$ type   |                            |
| Output                  | Voltage (V.DC.)                  | $\pm 5$  | $\pm 12$ $\pm 15$          |
|                         | Voltage Accuracy                 | $\pm 2\%$  |                            |
|                         | Current (mA) max                 | $\pm 3000$   | $\pm 1250$ $\pm 1000$      |
|                         | Line Regulation (LL-HL) (typ.)   | $\pm 0.5\%$  |                            |
|                         | Load Regulation (10-100%) (typ.) | $\pm 1\%$  |                            |
|                         | Ripple                           | $\pm 1\%$  |                            |
|                         | Noise                            | $\pm 1\%$  |                            |
|                         | Trim                             | $\pm 10\%$   |                            |
| Protection              | Over Power Protection            | Works over 120% of rating and recovers automatically.                    |                            |
|                         | Over Voltage Protection          | Zener diode clamp  |                            |
|                         | Short Circuit Protection         | Hiccup mode, auto-recovery   |                            |
| Isolation               | Voltage                          | 1600 VDC.  |                            |
|                         | Resistance                       | $10^8$ 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          | $\pm 0.02\%$ Per°C   |                            |
|                         | Humidity                         | 95% RH   |                            |
|                         | MTBF                             | >550,000 h @ 25°C (MIL-HDBK-217F)  |                            |
| Physical                | Dimension (L x W x H)            | 2.0 x 1.6 x 0.47 Inches ( 50.8 x 40.6 x 11.9 mm ) Tolerance $\pm 0.5$ mm |                            |
|                         | Case Material                    | Five-side shielded Aluminum with Non-Conductive base, Black Anodize      |                            |
|                         | Weight                           | 58 g   |                            |
|                         | Cooling Method                   | Free-air convection  |                            |

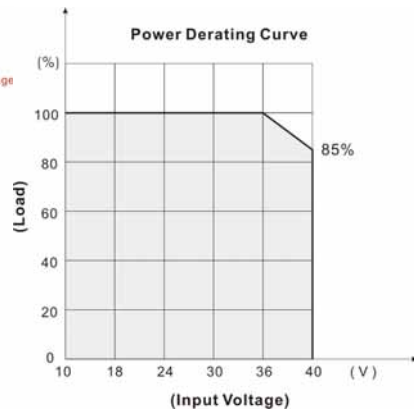
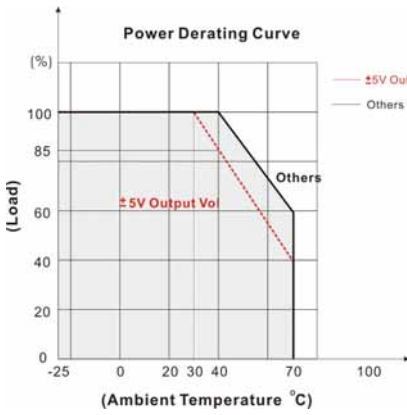
1. All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.
2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1 $\mu$ F & 47 $\mu$ F parallel capacitor.

**OUTPUT NOISE**

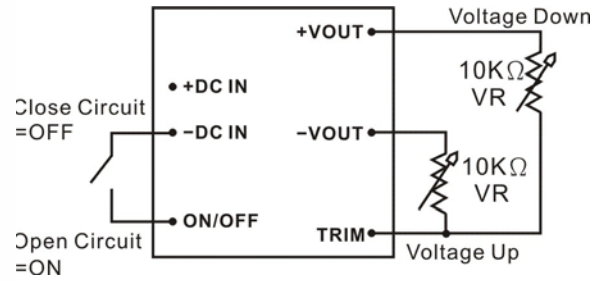
 The output noise is measured with 10 $\mu$ F tantalum capacitor and 0.1 $\mu$ F ceramic capacitor across output.

**MECHANICAL DIMENSION ( Top View )**


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

**DERATING**



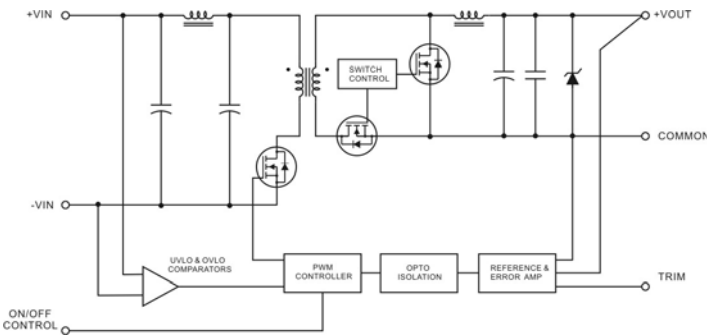
**REMOTE ON/OFF CONTROL & TRIM**



**BLOCK DIAGRAM**

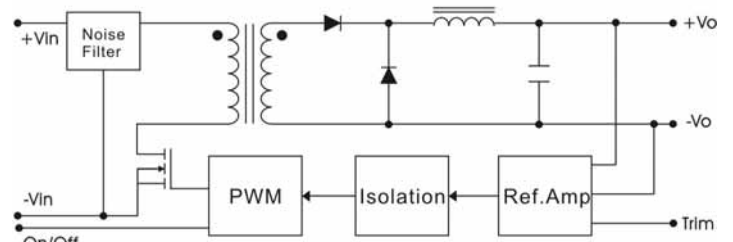
**Single Output**

Output Voltage (V.DC) : 2.5V, 3.3V, 5V

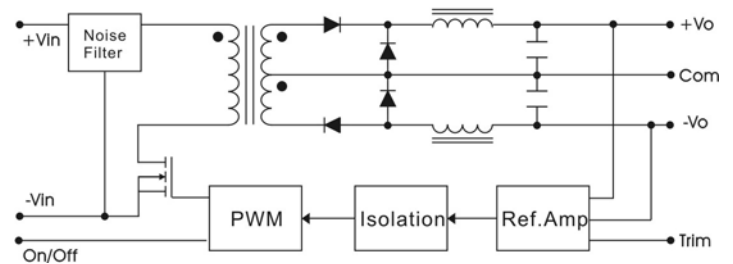


**Single Output**

Output Voltage (V.DC) : 12V, 15V, 24V

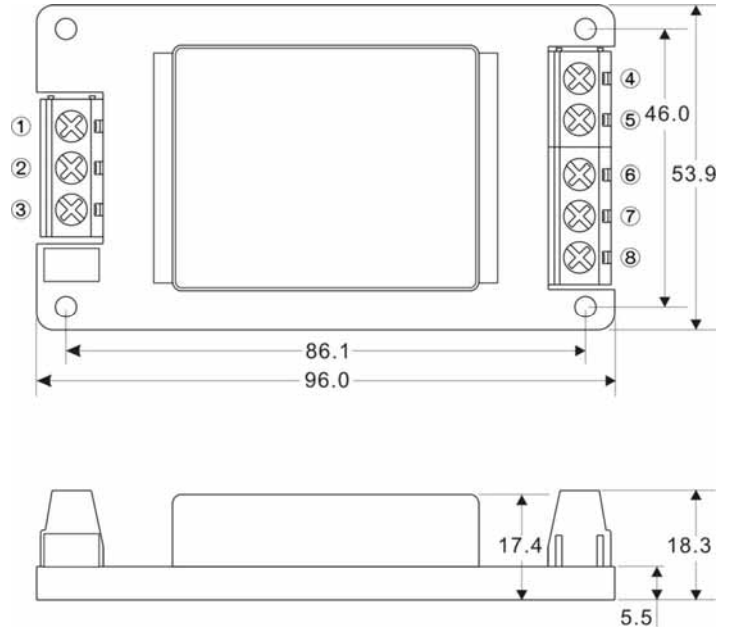


**Dual Output**



**SCREW TERMINAL**
**SF30-A2**


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


**SF30-A5**


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

