

**KEY FEATURES**

- Power Module for PCB Mountable
- High Efficiency and Reliability
- 4:1 Wide Input Range
- Single and Dual Output
- Regulated Output
- Low Ripple and Noise
- 2-Years Product Warranty


**ELECTRICAL SPECIFICATIONS**

Model No. ( Single Output )	SH08-24F-3.3S	SH08-24F-5S	SH08-24F-12S	SH08-24F-15S	SH08-24F-24S
Input Voltage (V.DC.)	12V (9-36V)	12V (9-36V)	12V (9-36V)	12V (9-36V)	12V (9-36V)
Output Voltage (V.DC.)	3.3V/2200mA	5V/1600mA	12V/666mA	15V/533mA	24V/333mA
Efficiency (typ.)	82%	84%	85%	85%	85%
Capacitor Load (max)	2200 $\mu$ F	2200 $\mu$ F	1200 $\mu$ F	680 $\mu$ F	330 $\mu$ F

Model No. ( Single Output )	SH08-48F-3.3S	SH08-48F-5S	SH08-48F-12S	SH08-48F-15S	SH08-48F-24S
Input Voltage (V.DC.)	24V (18-75V)	24V (18-75V)	24V (18-75V)	24V (18-75V)	24V (18-75V)
Output Voltage (V.DC.)	3.3V/2200mA	5V/1600mA	12V/666mA	15V/533mA	24V/333mA
Efficiency (typ.)	82%	84%	85%	85%	85%
Capacitor Load (max)	2200 $\mu$ F	2200 $\mu$ F	1200 $\mu$ F	680 $\mu$ F	330 $\mu$ F

Model No. ( Single Output )	SH08-24F-3.3S	SH08-24F-5S	SH08-24F-12S	SH08-24F-15S	SH08-24F-24S
	SH08-48F-3.3S	SH08-48F-5S	SH08-48F-12S	SH08-48F-15S	SH08-48F-24S
Max Output Wattage (W)	8W				
Input	Input Filter				
	Voltage (V.DC.)				
	3.3	5	12	15	24
Output	Voltage Accuracy				
	$\pm 2\%$				
	Current (mA) max				
	2200	1600	666	533	333
	Line Regulation (LL-HL) (typ.)				
	$\pm 0.5\%$				
	Load Regulation (10-100%) (typ.)				
$\pm 1\%$					
Minimum Load					
0%					
Ripple					
50 mV max.					
Noise					
100 mV max.					
Switching Frequency					
300KHz					
Protection	Over Power Protection				
	Above 105% Rated Output Power				
Isolation	Short Circuit Protection				
	Current limit, auto-recovery				
Environment	Voltage				
	1600 VDC.				
	Resistance				
10 <sup>8</sup> ohms					
Physical	Capacitance				
	1000 pF				
	Operating Temperature				
	-25°C...+60°C (at Full Load)				
	Storage Temperature				
	-55°C...+105°C				
	Case Temperature				
+100°C max.					
Physical	Temperature Coefficient				
	$\pm 0.02\%$ 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 0.44 Inches ( 31.8 x 20.3 x 11.2 mm ) Tolerance $\pm 0.5$ mm				
	Case Material				
	Nickel-Coated Copper with Non-Conductive Base, Six-side shielded.				
Physical	Weight				
	20 g				
Physical	Cooling Method				
	Free-air convection				

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

Model No. ( Dual Output )	SH08-24F-5D	SH08-24F-12D	SH08-24F-15D
Input Voltage (V.DC.)	12V (9-36V)	12V (9-36V)	12V (9-36V)
Output Voltage (V.DC.)	±5V / ±800mA	±12 / ±333mA	±15 / ±267mA
Efficiency (typ.)	82%	84%	84%
Capacitor Load (max)	1000µF	220µF	100µF

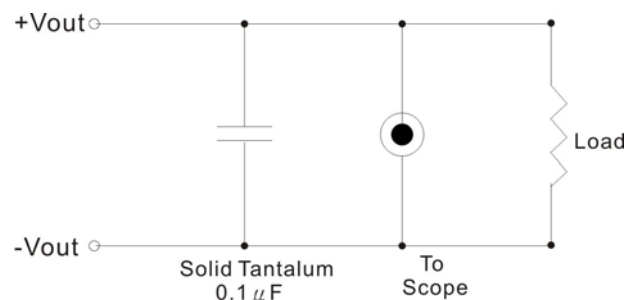
Model No. ( Dual Output )	SH08-48F-5D	SH08-48F-12D	SH08-48F-15D
Input Voltage (V.DC.)	24V (18-75V)	24V (18-75V)	24V (18-75V)
Output Voltage (V.DC.)	±5V / ±800mA	±12 / ±333mA	±15 / ±267mA
Efficiency (typ.)	82%	85%	84%
Capacitor Load (max)	1000µF	220µF	100µF

Model No. ( Dual Output )	SH08-24F-5D SH08-48F-5D	SH08-24F-12D SH08-48F-12D	SH08-24F-15D SH08-48F-15D
Max Output Wattage (W)	8W		
Input	Input Filter	π type	
Output	Voltage (V.DC.)	±5	±12
	Voltage Accuracy	±2%	
	Current (mA) max	±800	±333
	Line Regulation (LL-HL) (typ.)	±0.5%	
	Load Regulation (10-100%) (typ.)	±1%	±1%
	Minimum Load	0%	
	Ripple	50 mV max (Vp-p)	
	Noise	<0.5% Vout +50mV max (Vp-p)	
Protection	Switching Frequency	300KHz	
	Over Power Protection	Works over 120% of rating and recovers automatically.	
Isolation	Short Circuit Protection	Current limit, auto-recovery	
	Voltage	1600 VDC.	
Environment	Resistance	10 <sup>9</sup> ohms	
	Capacitance	1000 pF	
	Operating Temperature	-25°C...+60°C (at Full Load)	
Physical	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 0.44 Inches ( 31.8 x 20.3 x 11.2 mm ) Tolerance ±0.5 mm	
	Case Material	Nickel-Coated Copper with Non-Conductive Base, Six-side shielded.	
	Weight	20 g	
	Cooling Method	Free-air convection	

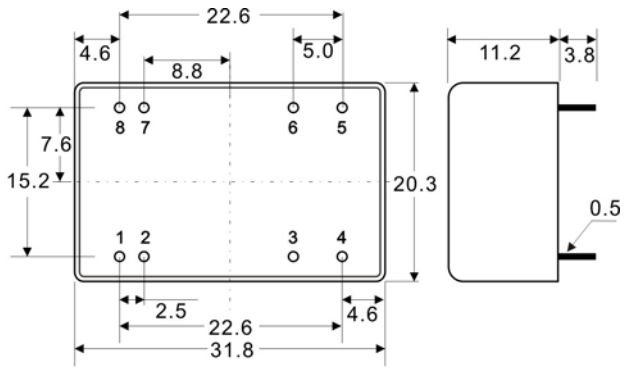
All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

## OUTPUT NOISE

The output noise is measured with 0.1µF tantalum capacitor



**MECHANICAL DIMENSION ( Top View )**

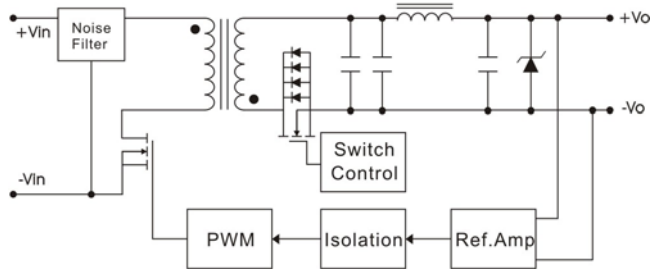


Tolerance  $\pm 0.5$  mm

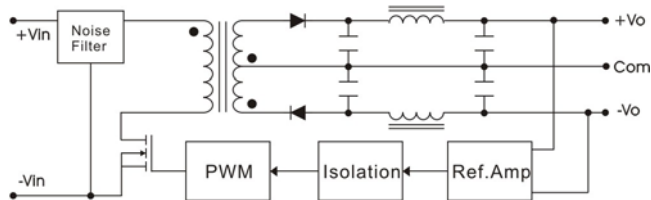
PIN#	Single	Dual
1	-VIN	-VIN
2	-VIN	-VIN
3	NO PIN	COMMON
4	NC	-VOUT
5	+VOUT	+VOUT
6	-VOUT	COMMON
7	+VIN	+VIN
8	+VIN	+VIN

**BLOCK DIAGRAM**

**Single Output**



**Dual Outputs**



**DERATING**

