

## 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
- 3-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.)	24V (9-36V)	24V (9-36V)	24V (9-36V)	24V (9-36V)	24V (9-36V)
Output Voltage (V.DC.)	3.3V/2200mA	5V/1600mA	12V/666mA	15V/533mA	24V/333mA
Efficiency (typ.)	79%	82%	82%	81%	81%
Capacitor Load (max)	2000 uF	800 uF	2200 uF	3000 uF	630 uF

Model No. ( Single Output )	SH08-48F-3.3S	SH08-48F-5S	SH08-48F-12S	SH08-48F-15S	SH08-48F-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/2200mA	5V/1600mA	12V/666mA	15V/533mA	24V/333mA
Efficiency (typ.)	80%	84%	84%	83%	83%
Capacitor Load (max)	85000 uF	70000 uF	2600 uF	3400 uF	1800 uF

Model No. ( Single Output )	SH08-24F-3.3S	SH08-24F-5S	SH08-24F-12S	SH08-24F-15S	SH08-24F-24S	
Max Output Wattage (W)	8W					
Input	Input Filter Voltage (V.DC.)					
Output	Input Filter	$\pi$ type				
	Voltage (V.DC.)	3.3	5	12	15	24
	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				
	Short Circuit Protection	Current limit, auto-recovery				
Isolation	Voltage	1600 VDC.				
	Resistance	$10^8$ ohms				
	Capacitance	1000 pF				
Environment	Operating Temperature	-25°C...+100°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	>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.				
	Weight	20 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 0.1uF & 47uF parallel capacitor.

Model No. ( Dual Output )	SH08-24F-5D	SH08-24F-12D	SH08-24F-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 (typ.)	82%	85%	85%
Capacitor Load (max)	±6600 uF	±1000 uF	±200 uF

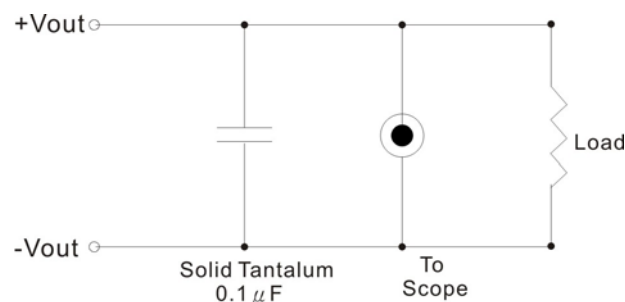
Model No. ( Dual Output )	SH08-48F-5D	SH08-48F-12D	SH08-48F-15D
Input Voltage (V.DC.)	48V (18-75V)	48V (18-75V)	48V (18-75V)
Output Voltage (V.DC.)	±5V / ±800mA	±12 / ±333mA	±15 / ±267mA
Efficiency (typ.)	82%	85%	85%
Capacitor Load (max)	±28000 uF	±720 uF	±350 uF

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 $\pi$ 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%	
	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.	
	Resistance	10 <sup>8</sup> ohms	
Environment	Capacitance	1000 pF	
	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	>800,000 h @ 25°C (MIL-HDBK-217F)	
	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	

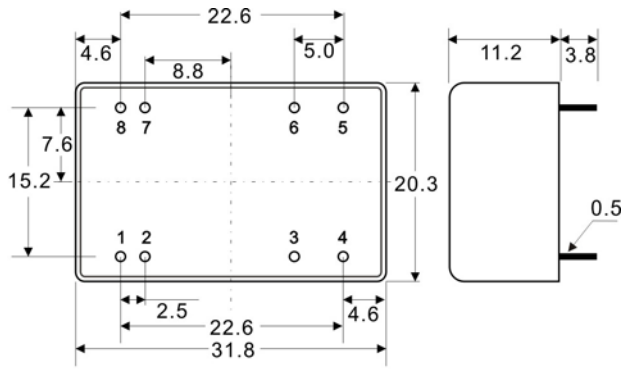
1. All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.
2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.

## OUTPUT NOISE

The output noise is measured with 0.1μF tantalum capacitor



**MECHANICAL DIMENSION ( Top View )**

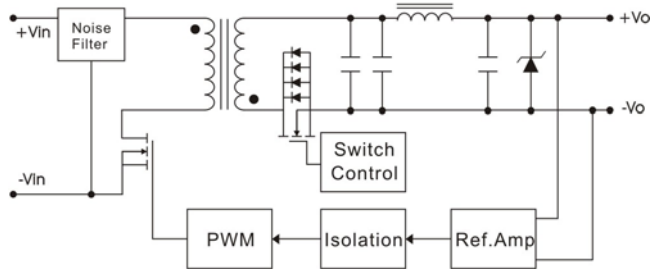


Tolerance  $\pm 0.5$  mm

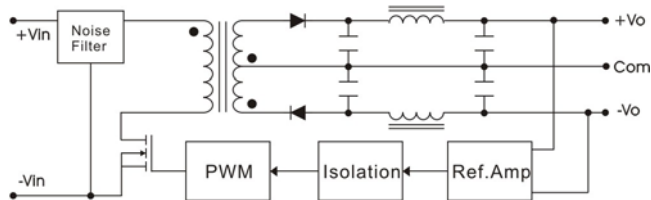
PIN#	Single	Dual
1	-VIN	-VIN
2	-VIN	-VIN
3	NO PIN	COMMON
4	NC	-VOUT
5	+VOUT	+VOUT
6	-VOUT	COMMON
7	+VIN	+VIN
8	+VIN	+VIN

**BLOCK DIAGRAM**

**Single Output**



**Dual Outputs**



**DERATING**

