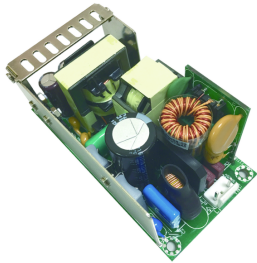


SHFA200 SERIES

200W Open Frame Power Supply for Medical Equipment



- Wide Operating Voltage, 90 to 260 VAC, 47 to 63 Hz
- Single Output
- Protection: OVP, OLP, OTP
- Size : 2" x4" x1.75"
- Input to Output : 2MOPP
- High ESD immunity
- Suitable professional healthcare facility

3 Year Warranty

Approvals:

Single Output

Model Number	Output Voltage		Output Current			Total Regulation	Ripple & Noise (mVp-p)	Maximum Output Power		Typ. Efficiency	Typ. No Load Consumption
	Vo1	Vo2	Vo1		Vo2			Typ.	Max*		
			Typ.	Max*							
SHFA200-S05(P)	12.0 VDC	12.0 VDC	12.5A	16.66A	0.1A	±3%	120	150W	200W	90%	0.21W
SHFA200-S06(P)	15.0 VDC	12.0 VDC	10.0 A	13.33A	0.1A	±3%	150	150W	200W	90%	0.21W
SHFA200-S07(P)	19.0 VDC	12.0 VDC	7.89 A	10.52A	0.1A	±3%	190	150W	200W	90%	0.21W
SHFA200-S08(P)	24.0 VDC	12.0 VDC	6.25 A	8.33A	0.1A	±3%	240	150W	200W	91%	0.21W
SHFA200-S09(P)	30.0 VDC	12.0 VDC	5.35 A	6.66A	0.1A	±3%	240	150W	200W	91%	0.21W
SHFA200-S10(P)	36.0 VDC	12.0 VDC	4.16 A	5.55A	0.1A	±3%	240	150W	200W	92%	0.21W
SHFA200-S11(P)	48.0 VDC	12.0 VDC	3.12 A	4.16A	0.1A	±3%	240	150W	200W	92%	0.21W

*With 10 CFM Forced Air to max load / *Max1:Free Air Max2:Forced Air / **P" means with optional Vo2 (12V@0.1A)

Electrical Characteristics

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Safety Approvals Input Voltage Range	Safety Approval & Specification in Label	100		240	VAC
Operate Voltage Range		90		260	VAC
Input Frequency	Sine wave	47		63	Hz
Power Factor Correction		0.90		1	
Output Power Range	See Rating Chart			200	W
Low Line Input Current	Full load, Vin=100VAC		3		A
High Line Input Current	Full load, Vin=240VAC		1		A
Low Line Input Inrush Current	Full load, 25°C, Cool start, Vin=100VAC			50	A
High Line Input Inrush Current	Full load, 25°C, Cool start, Vin=240VAC			100	A
Safety Ground Leakage Current	Vin=240VAC, F=60Hz			0.25	mA
Efficiency	Full Load, Vin=230VAC	(See rating chart.)			
Line Regulation	Full Load, Vin=100~120VAC or 200~240VAC			1	%
Over Voltage Protection	Latch off, recycle input to reset				%
Over Load Protection	Recovers automatically after fault condition is removed	110		150	%
Time of Transient Response	Io=Full Load to Half Load, Vin=110VAC			4	ms
Hold-Up Time	Full Load, Vin=100VAC			20	ms
Start Up Time	Full Load, Vin=100~240VAC			1	s
Ripple & Noise (Peak to Peak)	Full Load, Vin=90VAC	(See rating chart.)			
Insulation Resistance		50			MΩ
Temperature Coefficient	All Condition			±0.04	%/°C
Dielectric Withstanding Voltage(P-S)	Primary to Secondary, limit current<10 mA	4000			VAC
Dielectric Withstanding Voltage(P-G)	Primary to PE, limit current<10 mA	2828			VAC
EMC Emission	Compliance to EN55022(CISPR22)	B			Class

Environmental

Characteristic	Condition	Min.	Typ.	Max.	Unit
Operating Temperature	Detail to see Fig.2 (Derate linearly from 100% load at 40°C to 50% load at 70°C)	-10		70	°C
Storage Temperature	10 ~ 95% RH	-40		85	°C
Operating Humidity	non-condensing	0		95%	RH
Storage Humidity		0		95%	RH
Electro Static Discharge	Air Discharge, IEC61000-4-2			8	kV
Electro Static Discharge	Contact Discharge, IEC61000-4-2			4	kV
Mean Time Between Failure	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	200k			h
Operating Altitude (Elevation)	All condition			5000	m
Vibration	10 ~ 500Hz, 10min./1cycle, 60min. each along X, Y, Z axes			5	G
Surge Voltage	Line-Neutral			1	kV
Surge Voltage	Line-PE & Neutral-PE			2	kV

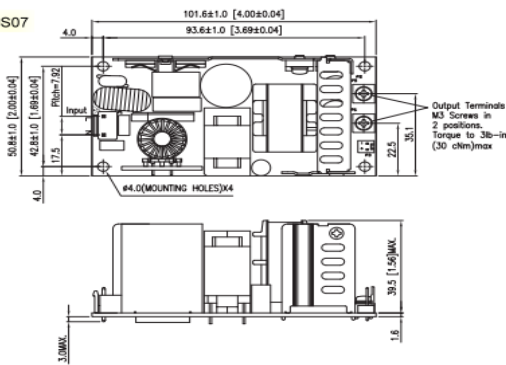
Mechanical Diagram and Technical Charts

SPECIFICATION NOTE :

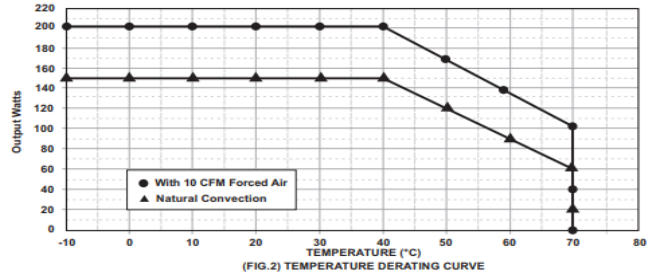
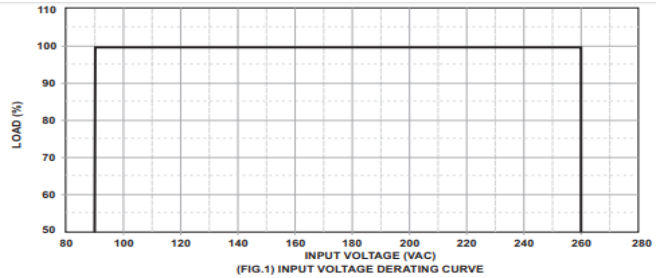
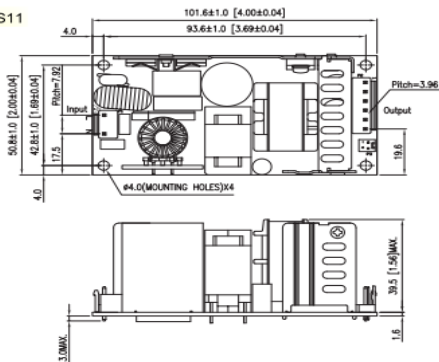
- Output can provide up to peak load when the power supply starts up. Continuous staying in more than rated load is not allowed.
- At factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
- Line regulation is defined by changing $\pm 10\%$ of input voltage from nominal line at rated load.
- Load regulation is defined by changing $\pm 40\%$ of measured output load from 60% rated load.
- Ripple & noise is measured by using 20MHz bandwidth limited oscilloscope and terminated each output with a 0.47 μ F capacitor at rated load and nominal line.
- Hold up time is measured from the end of the last charging pulse to the time which the main output drops down to low limit of main output at rated load and nominal line.
- Efficiency is measured at rated load, and nominal line.

MECHANICAL DIMENSIONS: (UNIT: mm)

SHFA200-S05~S07



SHFA200-S08~S11



PACKING :

- Net weight: 245g approx.
- Input connector mates with JST housing VHR-3N and JST SVH series crimp terminal..
- SHFA200-S08~S11 output connector mates with JST housing VHR-6N and JST SVH series crimp terminal.

PIN CHART

P2:Single Output

MODEL	Screw Terminal	P5	P6
SHFA200-S05~S07		Vout	RTN

MODEL	PIN	1	2	3	4	5	6
SHFA200-S08~S11		OUT	OUT	OUT	RTN	RTN	RTN

P3:With Optional Vo2

MODEL	PIN	1	2
SHFA200-SxxP		Vo2	RTN