SHFA60 SERIES

60W Open-Frame Power Supply for Medical Equipment



- Wide Input Voltage 90 to 264 VAC, 47 to 63Hz
- Output Voltage Available From 12VDC Thru 40VDC
- Input connector mates with molex housing 09-50-3031/35977-0300 and molex 2478/ 35922 series crimp terminal.
- Output connector mates with molex housing 09-50-3061/35977-0600 and molex 2478/ 35922 series crimp terminal.
- Single Output
- Size: 2"x4"x1"
- Class I Insulation
- Input Surge Current, Over Load and Over Voltage Protection
- Solution for Health Care Equipment

2 Year Warranty

Approvals:

Single Output

Product Number	Output Voltage	Output Current	Total Regulation	Maximum Output Power
SHFA60-S05	12 ~ 13 VDC	5.00 ~ 4.61 A	5%	60W
SHFA60-S06	13 ~ 16 VDC	4.61 ~ 3.75 A	5%	60W
SHFA60-S07	16 ~ 21 VDC	3.75 ~ 2.85 A	5%	60W
SHFA60-S08	21 ~ 27 VDC	2.85 ~ 2.22 A	3%	60W
SHFA60-S09	27 ~ 33 VDC	2.22 ~ 1.81 A	3%	60W
SHFA60-S10	33 ~ 40 VDC	1.81 ~ 1.50 A	3%	60W

Electrical Characteristics

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Input Voltage	Operating Voltage	90		264	VAC
Input Frequency		47		63	Hz
Output Power Range	Vin= 90 to 264 VAC	0		60	W
Input Current (Low Line)	Io=Full load, Vin=115 VAC			1.62	A
Input Current (High Line)	Io=Full load, Vin= 230 VAC	0.3		0.72	A
Low Line Inrush Current	Io=Full load, 25℃, Cool start, Vin=115VAC		26	30	A
High Line Inrush Current	Io=Full load, 25℃, Cool start, Vin=230 VAC		43	47	A
Efficiency	Io=Full Load, Vin=230VAC		85		%
Line Regulation	Io=Full Load			1	%
Load Regulation	Vin=230VAC			5	%
Over Voltage Protection		112		132	%
Over Current Protection		110		150	%
Transient Response	Io=Full Load to Half Load, Vin=100VAC			4	mS
Hold-Up Time	Io=Full Load, Vin=110VAC	12	16		mS
Start Up Time	Io=Full Load, Vin=100VAC	0.3	1	2	S
Ripple & Noise (Peak to Peak)	Full Load, Vin=90VAC			1	%
Safety Ground Leakage Current	Io= Full Load, Vin=240VAC		0.1	0.3	mA
Temperature Coefficient	All output	-0.04		0.04	%/°C

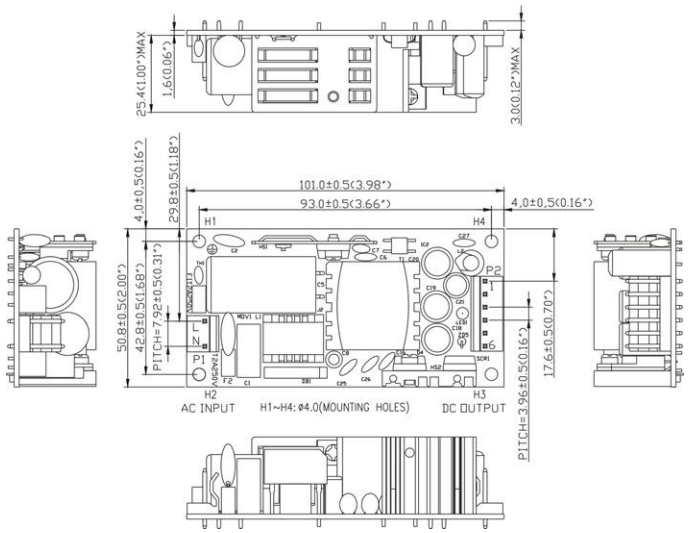
Conditions

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		0	40	70	℃
Storage Temperature		-40		85	℃
Relative Humidity		5		95	%
Operation temperature at 25℃, calculated per MIL-HDBK-217F		0.1M			Hrs
Derate linearly from 100% load at 40°C to 50% load at 70°C					

Approvals and Compliances

Parameter	Test Conditions	Min.	Unit
Dielectric Withstanding Voltage for Primary to secondary	Primary to secondary	5656	VDC
Dielectric Withstanding Voltage for Primary to Ground	Primary to ground	2828	VDC
Isolation Resistance	Test Voltage = 500VDC	50	MΩ
EMI requirements for CISPR-11	Vin=220VAC	B	CLASS
EMI requirements for FCC PART-18	Vin=110VAC	B	CLASS

Mechanical and PIN out



PIN CHART

MODEL \ PIN	1	2	3	4	5	6
SHFA60-SXX	OUT	OUT	OUT	RTN	RTN	RTN

Note:

1. Dimensions are shown in mm & inch
2. Weight: approx. 140g
3. Input connector mates with molex housing 09-50-3031/35977-0300 and molex 2478/ 35922 series crimp terminal.
4. Output connector mates with molex housing 09-50-3061/35977-0600 and molex 2478/ 35922 series crimp terminal.