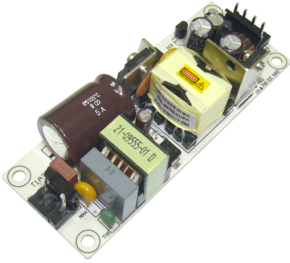


**SHFA31 SERIES**

**30W Open-Frame Power Supply for Medical Equipment**



- Wide Input Voltage 90 to 264 VAC, 47 to 63Hz
- Internal EMI Filter
- Output Voltage Available From 5VDC Thru 40VDC
- Single Output, Size: 1.5"x4"x0.84"
- Class II Insulation
- Input Surge Current, Over Load and Over Voltage Protection
- Solution for Home Health Care Equipment

**3 Year Warranty**

Approvals:

**Single Output**

Product Number	Output Voltage	Output Current	Total Regulation	Maximum Output Power
SHFA31-S02	5 ~ 6 VDC	4.00 ~ 3.33 A	5%	20W
SHFA31-S03	6 ~ 8 VDC	3.83 ~ 2.87 A	5%	23W
SHFA31-S04	8 ~ 11 VDC	3.37 ~ 2.45 A	5%	27W
SHFA31-S05	11 ~ 13 VDC	2.72 ~ 2.31 A	5%	30W
SHFA31-S06	13 ~ 16 VDC	2.31 ~ 1.88 A	5%	30W
SHFA31-S07	16 ~ 21 VDC	1.88 ~ 1.43 A	5%	30W
SHFA31-S08	21 ~ 27 VDC	1.43 ~ 1.12 A	3%	30W
SHFA31-S09	27 ~ 33 VDC	1.12 ~ 0.91 A	3%	30W
SHFA31-S10	33 ~ 40 VDC	0.91 ~ 0.76 A	3%	30W

**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		30	W
Input Current (Low Line)	Io=Full load, Vin=115 VAC			0.8	A
Input Current (High Line)	Io=Full load, Vin= 230 VAC	0.3		0.4	A
Low Line Inrush Current	Io=Full load, 25°C, Cool start, Vin=115VAC		15	18	A
High Line Inrush Current	Io=Full load, 25°C, Cool start, Vin=230 VAC		25	30	A
Efficiency	Io=Full Load, Vin=230VAC	75	85	89	%
Line Regulation	Io=Full Load		0.5	1	%
Load Regulation	Vin=230VAC		3	5	%
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	14		mS
Start Up Time	Io=Full Load, Vin=100VAC		0.25	0.5	S
Ripple & Noise (Peak to Peak)	Full Load, Vin=90VAC		0.5	1	%
Safety Ground Leakage Current	Io= Full Load, Vin=240VAC		0.1	0.3	mA
Temperature Coefficient	All output	-0.04		0.04	%/°C

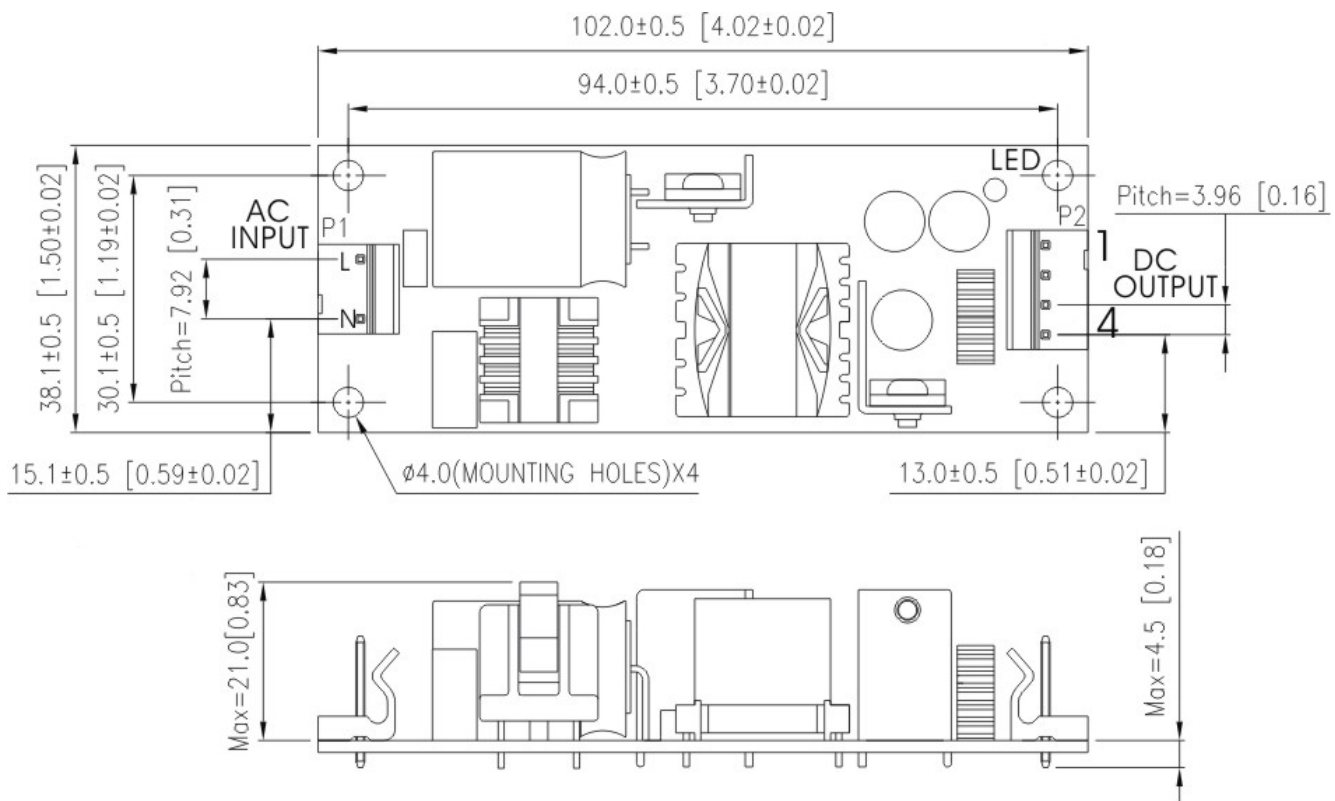
### Conditions

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		0	40	70	°C
Storage Temperature		-40		85	°C
Relative Humidity		5		95	%
Operation temperature at 25°C, calculated per MIL-HDBK-217F		100			KHrs
Derate linearly from 100% load at 50°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	5600	VDC
EMI requirements for CISPR-11 EN550111 Emission Limits	Vin=220VAC	B	CLASS
EMI requirements for FCC PART-18	Vin=110VAC	B	CLASS
Safety UL/c-UL, TUV/T-mark, CE, CB	UL 60601-1, EN 60601-1, IEC 60601-1	n/a	n/a
Environmental Compliance	RoHS	n/a	n/a

### Mechanical and PIN out



**Note:**

1. Dimensions are shown in mm & inch
2. Weight: approx. 200g
3. Input connector mates with Molex housing 09-50-3031 and Molex 2478 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3041 and Molex 2478 series crimp terminal.