

## SBU99 series

V1.1

## 100W Open Frame Power Supply for General Purpose

The SBU99 series of AC/DC switching mode power supplies provide 100 Watts of continuous output power. All supplies are UL94V-1 min compliant. All models meet FCC Part-15 class B and CISPR-22 class B emission Limits and are designed to comply with UL/c-UL, CE marking conformity assessment. All units are 100% burned in and tested.



**RoHS2**  
2011/65/EU

### FEATURES:

- \* Wide Operating Voltage, 90 to 260 VAC, 47 to 63 Hz
- \* Internal EMI filter
- \* Active Power Factor Correction
- \* Crowbar Mode Over Voltage Protection
- \* Single Output
- \* Class I system
- \* 3 year warranty

### APPLICATIONS:

- \* Industrial PC
- \* Electrical Test & Measurement Instruments
- \* Communication equipment
- \* AV equipment

### GENERAL SPECIFICATION:

- \* **Short Circuit Protection:** Auto Recovery
- \* **Cooling:** Free Air Convection
- \* **Flammability Rating:** UL94V-1
- \* **Protection Classes:** Class I
- \* **Safety:** UL 60950-1:2nd Edition, CSA C22.2 No.60950-1-07  
IEC 60950-1:2005/A2:2013, EN 60950-1:2006/A2:2013

### APPROVALS:



### Electrical Characteristics:

Symbol	Characteristic	Condition	Min.	Typ.	Max.	Unit
Vins	Safety Approval Input Voltage Range	Safety Approval & Specification in Label	100		240	VAC
Vin	Input Operate Voltage Range	Detail to see Fig.1	90		260	VAC
Fi	Input Frequency	Sine wave	47		63	Hz
PF	Power Factor Correction	Io=Full load, Vin=240VAC	0.95		1	
Po	Output Power Range	See Rating Chart			100	W
Iil	Low Line Input Current	Full Load, Vin=100VAC		1.4		A
Iih	High Line Input Current	Full Load, Vin=240VAC		0.58		A
Irl	Low Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=100VAC			50	A
Irh	High Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=240VAC			120	A
Ik	Safety Ground Leakage Current	Vin=240VAC, Fi=60Hz			0.75	mA
η	Efficiency	Full Load, Vin=230VAC, Detail to see Rating Chart	See Rating Chart			
ΔVoi	Line Regulation	Full Load, Vin=100~120VAC			1	%
ΔVoL	Load Regulation	Vin=230VAC, 10~90% Load Change at Condition	1		3	%
OVP	Over Voltage Protection	Over Voltage Protection	112		132	%
OLP	Over Load Protection	Recovers automatically after fault condition is removed	110		150	%
ttr	Time of Transient Response	Full Load, Vin=110VAC			4	ms
thu	Hold-Up Time	Full Load, Vin=100VAC	See Rating Chart			
ts	Start-up time	Full Load, Vin=100~240VAC			1	s
Tc	Temperature Coefficient	Full load, Vin=100~240VAC			±0.04	%/°C
HV	Dielectric Withstanding Voltage (P-S)	Primary to Secondary			4242	VDC
Vpg	Dielectric Withstanding Voltage (P-G)	Primary to PE			2121	VDC
EMI	EMC Emission	Compliance to EN55022 (CISPR22)			B	Class

### Environmental:

Symbol	Characteristic	Condition	Min.	Typ.	Max.	Unit
To	Operating Temperature	Detail to see Fig.2 (Derate linearly from 100% load at 50°C to 50% load at 70°C)	0		70	°C
Ts	Storage Temperature	10 ~ 95% RH	-40		85	°C
Ho	Operating Humidity	non-condensing	0		95%	RH
Hs	Storage Humidity		0		95%	RH
ESDa	Electro Static Discharge	Air Discharge, IEC61000-4-2			8	kV
ESDc	Electro Static Discharge	Contact Discharge, IEC61000-4-2			4	kV
MTBF	Mean Time Between Failure	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	100k			h
ELEV	Operating Altitude (Elevation)	All condition			2000	m
VBR	Vibration	10 ~ 500Hz, 10min./1cycle, 60min. each along X, Y, Z axes			5	G
Vsl	Surge Voltage	Line-Neutral			1	kV
Vsg	Surge Voltage	Line-PE & Neutral-PE			2	kV

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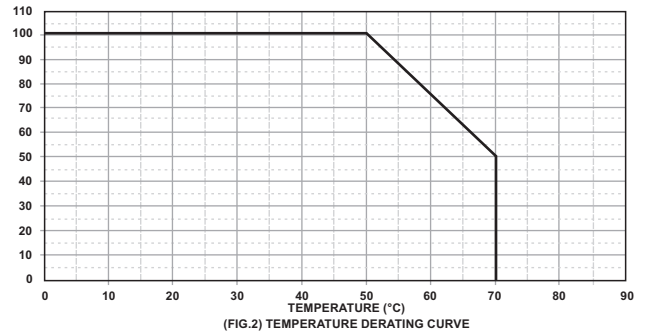
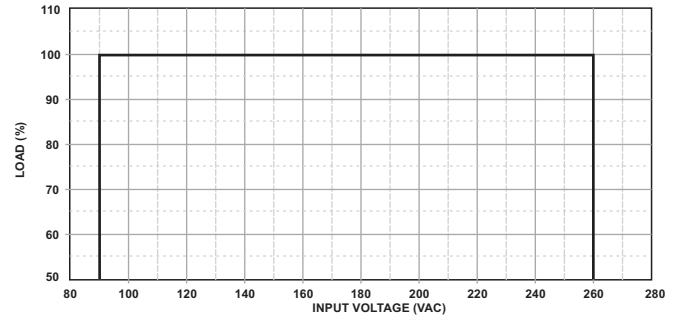
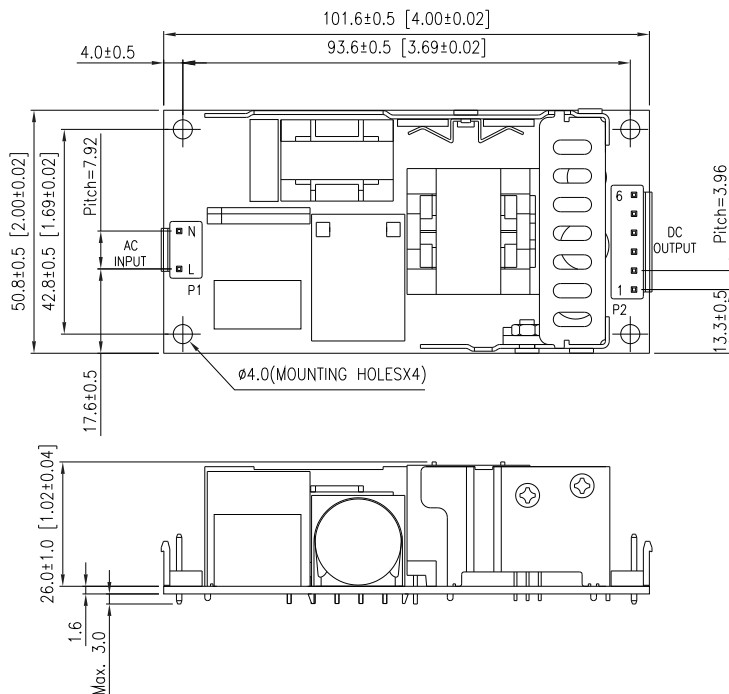
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### SPECIFICATION NOTE :

1. Output can provide up to peak load when the power supply starts up. Continuous staying in more than rated load is not allowed.
2. At factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
3. Line regulation is defined by changing  $\pm 10\%$  of input voltage from nominal line at rated load.
4. Load regulation is defined by changing  $\pm 40\%$  of measured output load from 60% rated load.
5. Ripple & noise is measured by using 20MHz bandwidth limited oscilloscope and terminated each output with a 0.47uF capacitor at rated load and nominal line.
6. 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.
7. Efficiency is measured at rated load, and nominal line.

### MECHANICAL DIMENSIONS: ( UNIT: mm )



### PACKING :

1. Dimensions are shown in mm.
2. Weight: 180~250gs approx.
3. Input connector mates with JST housing VHR-3N and JST SVH series crimp terminal.
4. Output connector mates with JST housing VHR-6N and JST SVH series crimp terminal.

### PIN CHART

MODEL	PIN	1	2	3	4	5	6
SBU99-1XX		OUT	OUT	OUT	RTN	RTN	RTN

### Rating Chart:

MODEL NO.	Setting Voltage Range (Factory setting, can't be adjusted)		Output Current (Based on the output volt.)		Maximum Output Power (W)	Ripple & Noise (mVp-p)	Total Regulation (%)	Typ. Efficiency (%)	Typ. No Load Consumption (W)	Hold-Up Time (ms)	Protection Mode
	min	max	min	max							
	(VDC)	(VDC)	(A)	(A)							
SBU99-105	11.0	13.0	7.69	8.33	100	100	$\pm 3$	87	0.5	16	Hiccup
SBU99-106	13.0	16.0	6.25	7.69	100	120	$\pm 3$	87	0.5	16	Hiccup
SBU99-107	16.0	21.0	4.76	6.25	100	150	$\pm 3$	88	0.5	16	Hiccup
SBU99-108	21.0	27.0	3.70	4.76	100	150	$\pm 3$	88	0.5	16	Hiccup
SBU99-109	27.0	33.0	3.03	3.70	100	200	$\pm 3$	88	0.5	16	Hiccup
SBU99-110	33.0	40.0	2.50	3.03	100	200	$\pm 3$	88	0.5	16	Hiccup
SBU99-111	40.0	48.0	2.00	2.50	100	200	$\pm 3$	89	0.5	16	Hiccup
SBU99-112	50.0	55.0	1.81	2.00	100	200	$\pm 3$	89	0.5	16	Hiccup