

# SBU60 SERIES

## 63W Open Frame Switching Power Supplies For I.T.E.

### Description:

The SBU60 series of compact, open frame constructed, AC/DC switching mode power supplies provide 63 Watts of continuous output power. They are ideally suited for use in CRT terminals, disc drive systems, microprocess or based systems, portable equipments and many other applications. All models meet FCC Part-15 class B and CISPR-22 class B emission Limits and are designed to comply with UL/c-UL(UL 60950),ITS/GS(EN 60950) and new CE requirements. All units are 100% burned in and tested.



### Features:

- Wide Input Voltage 90 to 264 VAC, 47 to 63 Hz
- Internal EMI filter
- Single to Quad Output
- Input connector mates with Molex housing 09-50-3051 and Molex 2878 series crimp terminal
- Output connector mates with Molex housing 09-50-3061 (or 09-50-3081) and Molex 2878 series crimp terminal
- Output Voltage Available From 3 VDC Thru 50 VDC
- Input Surge Current, Over Voltage and Over Load protection
- Size: 3"x5"x1.09"
- Class I Insulation
- Two Years Warranty

### Safety Approvals :



### Electrical Characteristics:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>in</sub>	Input Voltage	Operating Voltage	90		264	VAC
F <sub>in</sub>	Input Frequency		47		63	Hz
W <sub>o</sub>	Output Power Range	V <sub>in</sub> =90 to 264VAC	0		63	W
V <sub>o</sub>	Output Voltage Range		See rating chart			V
I <sub>o</sub>	Output Current Range		See rating chart			A
I <sub>il</sub>	Input Current (Low Line)	I <sub>o</sub> =Full load, V <sub>in</sub> =115VAC			1.6	A
I <sub>ih</sub>	Input Current (High Line)	I <sub>o</sub> =Full load, V <sub>in</sub> =230VAC			1.0	A
I <sub>rl</sub>	Low Line Inrush Current	I <sub>o</sub> =Full load, 25 c, Cool start, V <sub>in</sub> =115VAC		12	15	A
I <sub>rh</sub>	High Line Inrush Current	I <sub>o</sub> =Full load, 25 c, Cool start, V <sub>in</sub> =230VAC		26	30	A
Eff	Efficiency	I <sub>o</sub> =Full Load, V <sub>in</sub> =230VAC	70	80	88	%
REG-i	Line Regulation	I <sub>o</sub> =Full Load		0.5	1	%
REG-o	Load Regulation	V <sub>in</sub> =230VAC		3	6	%
OVP	Over Voltage Protection		112		132	%
OCP	Over Current Protection		110		150	%
T <sub>tr</sub>	Transient Response	I <sub>o</sub> =Full Load to Half Load, V <sub>in</sub> =100VAC			4	mS
T <sub>hold</sub>	Hold-Up Time	I <sub>o</sub> =Full Load, V <sub>in</sub> =110VAC	12			mS
T <sub>s</sub>	Start Up Time	I <sub>o</sub> =Full Load, V <sub>in</sub> =100VAC	0.3	1	2	S
V <sub>rn</sub>	Ripple & Noise (Peak to Peak)	Full Load, V <sub>in</sub> =90VAC		1	2	%
I <sub>lk</sub>	Safety Ground Leakage Current	I <sub>o</sub> =Full Load, V <sub>in</sub> =240VAC		0.4	0.45	mA
T <sub>c</sub>	Temperature Coefficient	All output	-0.04		0.04	%/ c

### Environmental :

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
T <sub>oper</sub>	Operating Temperature		0		70	°C
T <sub>stg</sub>	Storage Temperature		-40		85	°C
H <sub>r</sub>	Relative Humidity		5		95	%
P <sub>d</sub>	Derate linearly from 100% load at 40°C to 50% load at 70°C					

### Safety Specifications:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>ps</sub>	Dielectric Withstanding Voltage for Primary to secondary	Primary to secondary	4242			VDC
V <sub>pg</sub>	Dielectric Withstanding Voltage for Primary to Ground	Primary to ground	2121			VDC
R <sub>i</sub>	Isolation Resistance	Test Voltage=500VDC	50			MΩ
CISPR	EMI requirements for CISPR-22	V <sub>in</sub> =220VAC	B			CLASS
FCC	EMI requirements for FCC PART-15	V <sub>in</sub> =110VAC	B			CLASS

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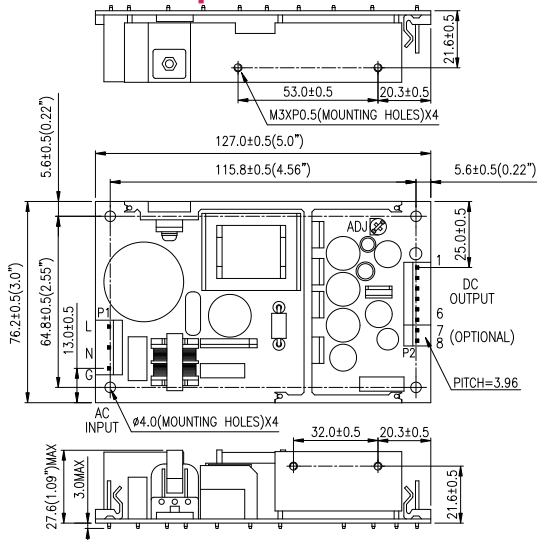
## 63W Open Frame Switching Power Supplies For I.T.E. Output Voltage And Current Rating Chart (Single Output) :

Model Number	Output Voltage	Output Current	Total Regulation	Maximum Output Power
SBU60-101	3 ~ 5 VDC	16.6 ~ 10.0 A	5%	50W
SBU60-102	5 ~ 6 VDC	11.0 ~ 9.16 A	5%	55W
SBU60-103	6 ~ 8 VDC	10.0 ~ 7.50 A	4%	60W
SBU60-104	8 ~ 11 VDC	7.87 ~ 5.72 A	3%	63W
SBU60-105	11 ~ 13 VDC	5.72 ~ 4.84 A	3%	63W
SBU60-106	13 ~ 16 VDC	4.84 ~ 3.93 A	3%	63W
SBU60-107	16 ~ 21 VDC	3.93 ~ 3.00 A	3%	63W
SBU60-108	21 ~ 27 VDC	3.00 ~ 2.33 A	2%	63W
SBU60-109	27 ~ 33 VDC	2.33 ~ 1.90 A	2%	63W
SBU60-110	33 ~ 40 VDC	1.90 ~ 1.57 A	2%	63W
SBU60-111	40 ~ 50 VDC	1.57 ~ 1.26 A	2%	63W

## Output Voltage And Current Rating Chart ( Multi Output ) :

Model Number	Output #1				Output #2				Output #3				Output #4				Maximum Output Power
	Voncom	Iomin	Iomax	Regmax	Voncom	Iomin	Iomax	Regmax	Voncom	Iomin	Iomax	Regmax	Voncom	Iomin	Iomax	Regmax	
SBU60-200	+3.3V	1.4A	7A	7%	+12V	0.6A	3A	5%									59.1W
SBU60-201	+5V	0.7A	7A	5%	+12V	0.3A	3A	5%									63W
SBU60-202	+5V	0.7A	7A	5%	+15V	0.3A	3A	5%									63W
SBU60-203	+5V	0.7A	7A	5%	+24V	0.4A	2A	5%									63W
SBU60-204	+3.3V	1.4A	7A	7%	+5V	0.5A	5A	5%									48.1W
SBU60-215	+5V	0.7A	7A	5%	-24V	0.2A	2A	5%									63W
SBU60-218	+3.3V	0.5A	5A	7%	+48V	0.1A	1.25A	5%									63W
SBU60-219	+5V	0.1A	5A	5%	+28V	0.2A	2A	5%									63W
SBU60-220	+5V	0.5A	5A	5%	+35V	0.1A	1.5A	5%									63W
SBU60-221	+5V	0.5A	5A	5%	+36V	0.1A	1.5A	5%									63W
SBU60-300	+3.3V	1.2A	6A	7%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%					63W
SBU60-300-1	+3.3V	1.2A	6A	7%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%					63W
SBU60-301	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	-5V	0A	0.8A	5%					63W
SBU60-301-1	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	+5V	0A	0.8A	5%					63W
SBU60-302	+5V	0.6A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%					63W
SBU60-302-1	+5V	0.6A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%					63W
SBU60-303	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	-15V	0A	0.8A	5%					63W
SBU60-303-1	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	+15V	0A	0.8A	5%					63W
SBU60-304	+5V	1.2A	6A	5%	+24V	0.4A	2A	5%	-24V	0A	0.5A	5%					63W
SBU60-304-1	+5V	1.2A	6A	5%	+24V	0.4A	2A	5%	+24V	0A	0.5A	5%					63W
SBU60-305	+5V	1.2A	6A	5%	+24V	0.4A	2A	5%	-12V	0A	0.8A	5%					63W
SBU60-305-1	+5V	1.2A	6A	5%	+24V	0.4A	2A	5%	+12V	0A	0.8A	5%					63W
SBU60-306	+3.3V	1.2A	6A	7%	+12V	0.6A	3A	5%	-5V	0A	0.8A	5%					59.8W
SBU60-306-1	+3.3V	1.2A	6A	7%	+12V	0.6A	3A	5%	+5V	0A	0.8A	5%					59.8W
SBU60-307	+5V	0.6A	6A	5%	+10V	0.2A	2A	5%	-10V	0A	1A	5%					60W
SBU60-307-1	+5V	0.6A	6A	5%	+10V	0.2A	2A	5%	+10V	0A	1A	5%					60W
SBU60-308	+3.3V	0.5A	5A	7%	+5V	0.5A	5A	5%	+12V	0A	1A	5%					53.5W
SBU60-308-1	+3.3V	0.5A	5A	7%	+5V	0.5A	5A	5%	-12V	0A	1A	5%					53.5W
SBU60-400	+3.3V	1.2A	6A	7%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
SBU60-400-1	+3.3V	1.2A	6A	7%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
SBU60-400-2	+3.3V	1.2A	6A	7%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
SBU60-400-3	+3.3V	1.2A	6A	7%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
SBU60-401	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	-12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
SBU60-401-1	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	-12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
SBU60-401-2	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	+12V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
SBU60-401-3	+5V	0.6A	6A	5%	+12V	0.3A	3A	5%	+12V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
SBU60-402	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	+12V	0A	0.8A	5%	63W
SBU60-402-1	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+12V	0A	0.8A	5%	63W
SBU60-402-2	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	-12V	0A	0.8A	5%	63W
SBU60-402-3	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	-12V	0A	0.8A	5%	63W
SBU60-403	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	+24V	0A	0.8A	5%	63W
SBU60-403-1	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	+24V	0A	0.8A	5%	63W
SBU60-403-2	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	+12V	0A	0.8A	5%	-24V	0A	0.8A	5%	63W
SBU60-403-3	+5V	1.2A	6A	5%	+12V	0.6A	3A	5%	-12V	0A	0.8A	5%	-24V	0A	0.8A	5%	63W
SBU60-404	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	-15V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
SBU60-404-1	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	-15V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
SBU60-404-2	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	+15V	0A	0.8A	5%	-5V	0A	0.8A	5%	63W
SBU60-404-3	+5V	0.6A	6A	5%	+15V	0.3A	3A	5%	+15V	0A	0.8A	5%	+5V	0A	0.8A	5%	63W
SBU60-423	+5V	0.1A	1A	5%	+24V	0.18A	1.8A	5%	-15V	0A	0.1A	5%	+12V	0A	0.8A	5%	59.3W

## Mechanical Specifications :



## PIN CHART

MODEL	PIN	1	2	3	4	5	6	7	8
SBU60-1XX	OUT	OUT	OUT	RTN	RTN	RTN			
SBU60-2XX	Vo2	Vo1	Vo1	COM	COM	N/C			
SBU60-3XX	Vo2	Vo1	Vo1	COM	COM	Vo3			
SBU60-4XX	Vo2	Vo1	Vo1	COM	COM	Vo3	Vo4	Vo4	

Note: Vo1:Output#1 Vo2:Output#2 Vo3:Output#3 Vo4:Output#4

Note:

- Dimensions are shown in inches or mm.
- Weight: 250gs approx.
- Input connector mates with Molex housing 09-50-3051 and Molex 2878 series crimp terminal.
- Output connector mates with Molex housing 09-50-3061 (or 09-50-3081) and Molex 2878 series crimp terminal.