ETA-USA

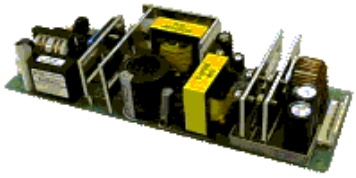
HIGH QUALITY SWITCHING POWER SUPPLIES

AC/DC SWITCHING POWER SUPPLY
AC INPUT 85~264
SINGLE CHANNEL OUTPUT
150 WATTS

RoHS

BFE-SX-U1 SERIES

BF E 3.3 S X - U
- BF: Series Name
- E: Wattage: E...150W
- 3.3: Output Voltage
- S: Single Output
- X: Universal Input
- U: Safety(UL...C-UL,VDE...)



Dimension: 75W × 180L× 38H

General Description

"BF"-Series AC/DC Switching power supplies are board type power supplies matched with new designs, which is in accordance with harmonic current regulation, of ultra-small sizes, high efficiency and low cost. By adopting the synchronization regular method (output less than 6 V) for the first time for this class of devices, BF-Series is 40mm smaller in depth compared with equivalent products by other makers. At the same time low cost is realized to meet market needs.

Application

Industrial

Input

Input Voltage:	AC100-240V
Input Voltage Range:	AC85-264V
Input Current:	2.0-0.9 A
Frequency:	50/60Hz
Input Frequency Range:	47-63Hz
Phase:	Single
Inrush Current: *1	18A(typ.) at AC100V 41A(typ.) at AC230V
Leakage Current:	1mA(maximum) at 25°C (rated input/output and rated input frequency)

Features

1. Board Type
2. Ultra Small size
3. Universal input(AC 85V to 264V)
4. Harmonic current complies to IEC61000-3-2
5. Power factor BFE: 0.98/0.93 (AC 100/230V)
6. High efficiency
7. Low Cost
8. EMI: complies to FCC class B, or EN55022 class B, or VCCI class B
9. Safety: UL 60950, C-UL, EN 60950-1

Options

N/A

Output Characteristic	Unit	Models								
		BFE3.3SX	BFE05SX	BFE06SX	BFE09SX	BFE12SX	BFE15SX	BFE24SX	BFE36SX	BFE48SX
Output Voltage	Vdc	3.3	5	6	9	12	15	24	36	48
Output Current	A	30	30	25	17	13	10.5	6.7	4.5	3.4
Voltage Adjust Range	V	±10% of Rated Output Voltage								
Ripple&Noise(max)*2	mVpp	120/160		150 at 0 to 40°C /180 at -10 to 0°C						
Rise up time	mS	500mS(maximum) at 25°C and rated input/output								
Hold up time	mS	20mS(minimum) at 25°C and rated input/output								
Regulation										
a. Line Regulation	mV	9.9	15	18	27	36	45	72	108	144
b. Load Regulation *3	mV	40	40	50	40	40	40	100	150	150
c. Temperature Coefficient *4	°C	0.03 %/°C								
d. Drift(maximum) *5	mV	13.2	20	24	36	48	60	96	144	192
e. Dynamic Load Regulation (typ.) *6	mV	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5
f. Recovery Time *6	mS	5 mS(typ.)								

Efficiency	%	76/79	80/82	80/83	82/85	83/86	83/86	84/87	85/88	85/88
Power Factor		0.97/0.92	0.98(typical) at AC100V/0.92(typical) at AC230V							

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Visit us at: www.eta-usa.com
email at: sales@eta-usa.com

Environmental Specification			
Operating Temperature	-10 to +50 °C		
Operating Humidity	less than 85%/RH(non-condensing)		
Storage Temperature	-20 to +85 °C		
Storage Humidity	less than 85%/RH(non-condensing)		
Withstanding Voltage	Primary-Secondary AC3,000V for 1minute Primary-Frame Ground AC2,500V for 1minute Secondary-Frame Ground AC500V for 1minute		
Isolation Resistance	Primary-Secondary-Frame Ground 50MΩ(minimum) by DC500V insulation tester		
Vibration	5-10Hz:10mm double amplitude,10-55Hz:19.6m/s2,20minutes' period for 60minutes each along X,Y,Z axes(non-operating)		
Shock	294m/s2		
Cooling	Convection		
Environmental Agencies			
Line Conducted Noise	Built to meet FCC Part15-B Class B Built to meet VCCI Class B Built to meet CISPR Class B Built to meet EN55022 Class B		
Line Harmonic Distortion	Built to meet IEC61000-3-2		
Safety	UL: UL60950-1 2nd edition, IEC61000-3-2 C-UL: CSA60950 VDE EN60950-1 2006, IEC950,		
MTBF [H]	347000	377000	398000
Switching Frequency[kHz]	100(typ.)		
Function/Protection			
Over current Protection	Current Limiting with automatic recovery		
Over voltage Protection	output shutdown(to reset,leave 1minute after shut-off)		
Remote Sense	not available		
Remote On/Off	not available		
Power Fail Detection	not available		
Series Operation	available		
Parallel Operation	not available		
Mechanical			
Dimension [mm]	75W × 180L × 38H		
Weight [g](typical)	420g		

Conditions:
*1 cold start
*2 measured by a bayonet probe at the end of a pair of 5cm long wires terminated with a 100uF electrolytic capacitor and 0.1uF film capacitor in parallel at a 0 to 100MHz bandwidth
*3 when output current changed from 0mA to rated output current
*4 at -10 to +40°C
*5 for 7hour period after 1hour warm-up at 25°C and rated input/output
*6 when output current changed from 25% to 75% of rated output current rapidly at rated input

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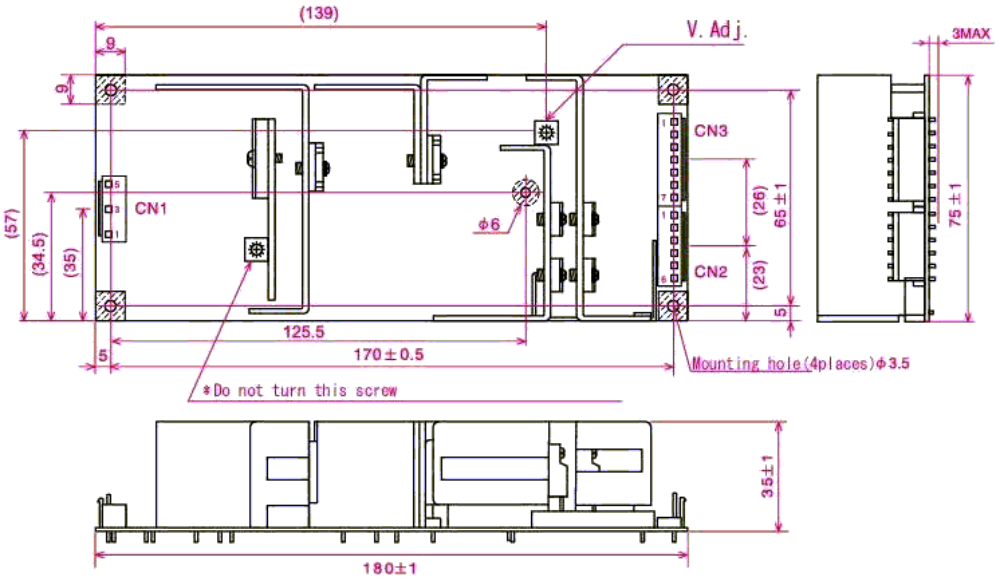
DIMENSION DIAGRAM (mm)



The cover touches the shaded area

CN1	
Pin no.	Function
1	AC IN(L)
3	AC IN(N)
5	FG

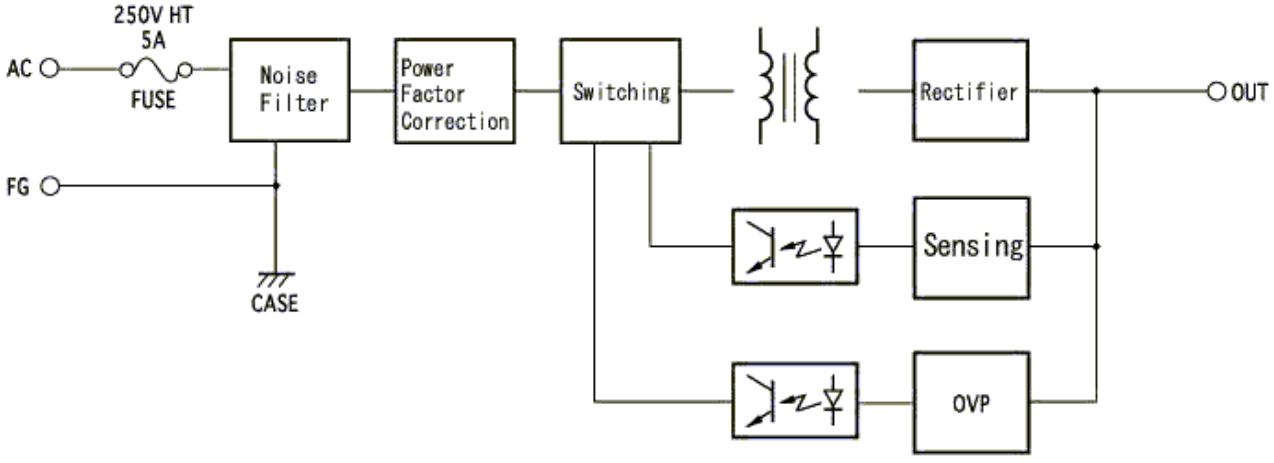
CN2	
Pin no.	Function
1	+V OUT
2	+V OUT
3	+V OUT
4	+V OUT
5	+V OUT
6	+V OUT

CN3	
Pin no.	Function
1	0V OUT
2	0V OUT
3	0V OUT
4	0V OUT
5	0V OUT
6	0V OUT
7	0V OUT

	Mating housing	Contact
CN1	VHR5N	SVH-21T-P1.1
CN2	VHR6N	SVH-21T-P1.1
CN3	VHR7N	SVH-21T-P1.1

Maker:J. S. T

BLOCK DIAGRAM



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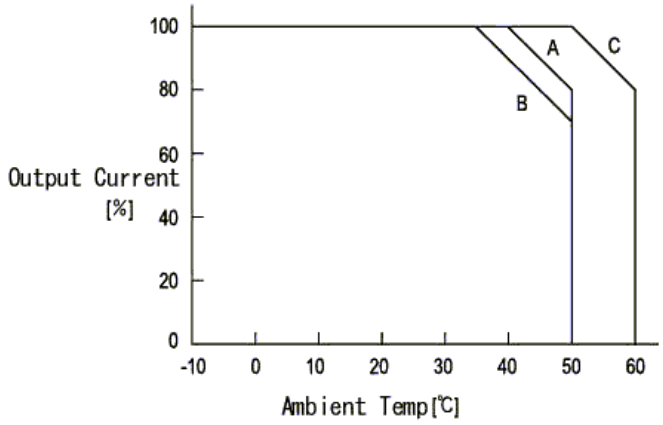
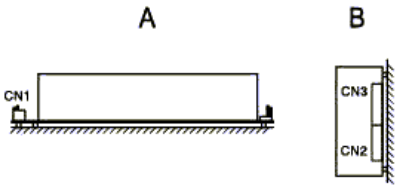
DERATING CURVE

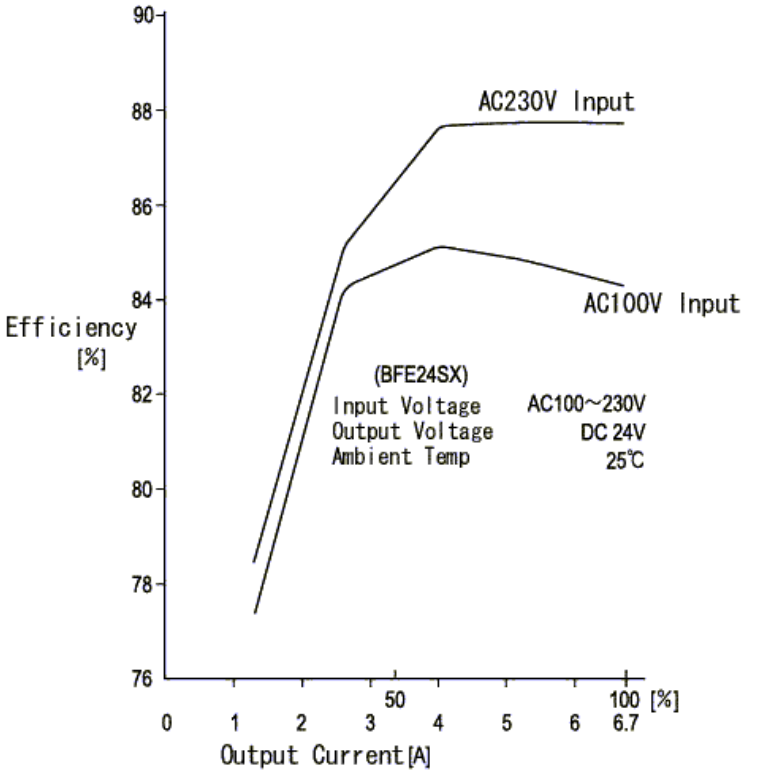


※For safety specification, contact ETA Sales Representative

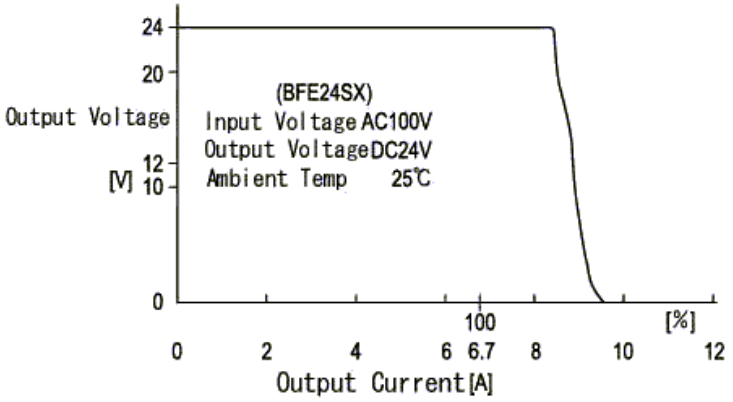


Forced Air Cooling

EFFICIENCY CURVE



OCP CURVE



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LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

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- *Тестирование поставляемой продукции.*
- *Поставку компонентов, требующих военную и космическую приемку.*
- *Входной контроль качества.*
- *Наличие сертификата ISO.*

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- *Оценку стоимости проекта по компонентам.*
- *Изготовление тестовой платы монтаж и пусконаладочные работы.*

Тел: +7 (812) 336 43 04 (многоканальный)
Email: org@lifeelectronics.ru

www.lifeelectronics.ru