ETA-POWER EUROPE LTD.

BFE-SX-U 150W

AC/DC Power supply
Single output

POWER SOURCE

BF series is a board-type power supply matched with new design, which is in accordance with harmonic current regulation, of ultra-small sizes, high efficiency and low cost.

PFC

Features
Wide input voltage range (85-264Vac)
PFC 0.98@115Vac; 0.92@230Vac
High efficiency & reliability
Output voltage +/-10%
MTBF: 347'000 – 398'000 hours
Switching Frequency: 100kHz
Leakage Current: 1mA
Warranty: 2 years

Possibly applications
Process control
Office equipment
Computer peripherals
Telecommunications
Industrial electronics&machines

Mechanical features
Dimension (WxLxH): 75x180x38mm
Weight: 720g
Connector: JST connectors
Open frame type
Option: Wire harness for JST connectors (add –WH)

Control features
Over voltage protection: Output shutdown
Over current protection: Current limiting, aut. recovery

Standards

Harmonics:	IEC 1000-3-2; EN 60555-2
Safety:	UL :UL1950; C-UL:CSA C22.2 No.950; VDE : EN 60950; IEC950; VDE 805
EMI :	Built to meet EN 55022/B FCC classB; VCCI classB; CISPR classB

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Specifications<AC/DC>	Model								
BFESX-U 100WATTS/SINGLE**	BFE-3.3SX-U	BFE-05SX-U	BFE-06SX-U	BFE-09SX-U	BFE-12SX-U	BFE-15SX-U	BFE-24SX-U	BFE-36SX-U	BFE-48SX-U
Input Characteristic									
Input Voltage	AC100-230V								
Input Current	2.0-0.9A								
Input Range	AC85-264V								
Input Frequency	50/60Hz								
Input Frequency Range	47-63Hz								
Phase	Single								
Inrush Current *1	18A (typical) at AC100V / 41A (typical) at AC230V								
Efficiency [%] (typical) at 100V/230V input	76/79	80/82	80/83	82/85	83/86	83/86	84/87	85/88	85/88
Power Factor	0.98(typical) at AC100V / 0.92(typical) at AC230V								
Output Characteristic									
Output Voltage [V]	3.3	5	6	9	12	15	24	36	48
Output Current [A]	30.0	30.0	25.0	17	13	10.5	6.7	4.5	3.4
Voltage Adjust Range	+/- 10% of Rated Output Voltage (at no load within the input range)								
Regulation									
Ripple and Noise [mVp-p])maximum) *2	120 / 160		150 at 0 to 40°C / 180 at –10 to 0°C						
a. Line Regulation [mV](maximum)	9.9	15	18	27	36	45	72	108	144
b.Statistic Load Regulation [mV](maximum) *3	40	40	50	40	40	40	100	150	150
c.Temperature Coefficient *4	0.03%/°C								
d.Drift[mV](maximum) *5	13.2	20	24	36	48	60	96	144	196
e.Dynamic Load Regulation [mV](typical) *6	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5
f.Recovery Time *6	5mS (typical)								
Rise up time	500mS (maximum) at 25°C and rated input/output								
Hold up time	20mS (typical) at 25°C and rated input/output								
Functions									
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								
Environmental									
Operating Temperature	-10 to +60°C (-30 to + 70°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/s^2,20minutes, period for 60minutes each along X,Y,Z axes(non-operating)								
Shock	294m/s^2								
Cooling	Convection								
Leakage Current	1mA (maximum) at 25°C, rated input/output and rated input frequency								
Line Conducted Noise	FCC Part15-B Class A VCCI Class B CISPR Class B EN55022 Class B								
Line Harmonic Distortion	IEC61000-3-2								
Safety	UL: UL1950, IEC950 C-UL: CSA C22.2 No.950 VDE:EN60950, IEC950, VDE0805								
Weight (typical)	420g								
MTBF (H)	347000			377000			398000		
Switching Frequency (typical)	100 kHz								

Conditions:
*1 At cold start
*2 Measured by a bayonet probe at the end of a pair of 5cm long wires terminated with a 100μF electrolytic capacitor and 0.1μF 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 7 hour period after 1 hour 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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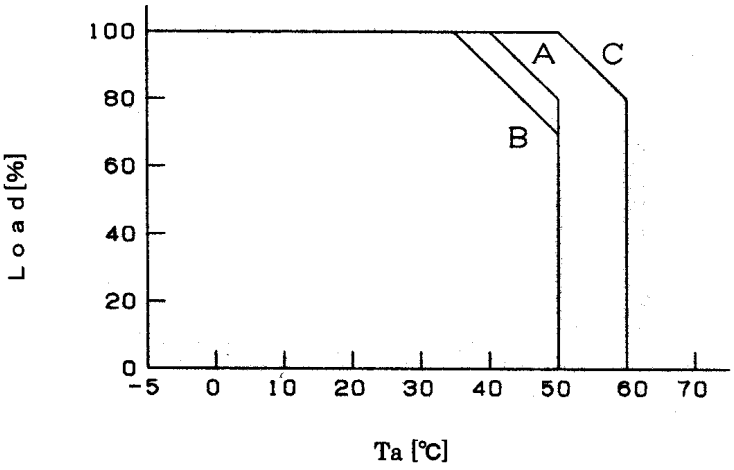
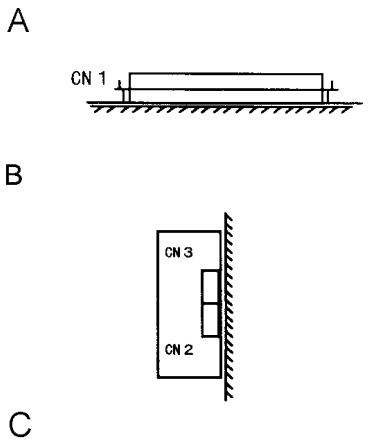
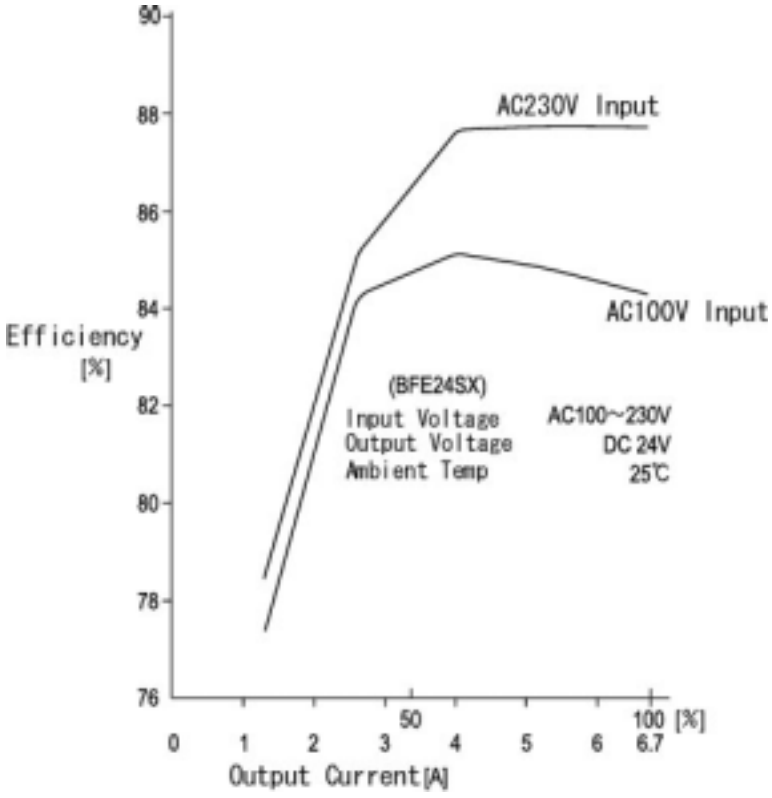
Derating





Compulsive air cooling.

Efficiency



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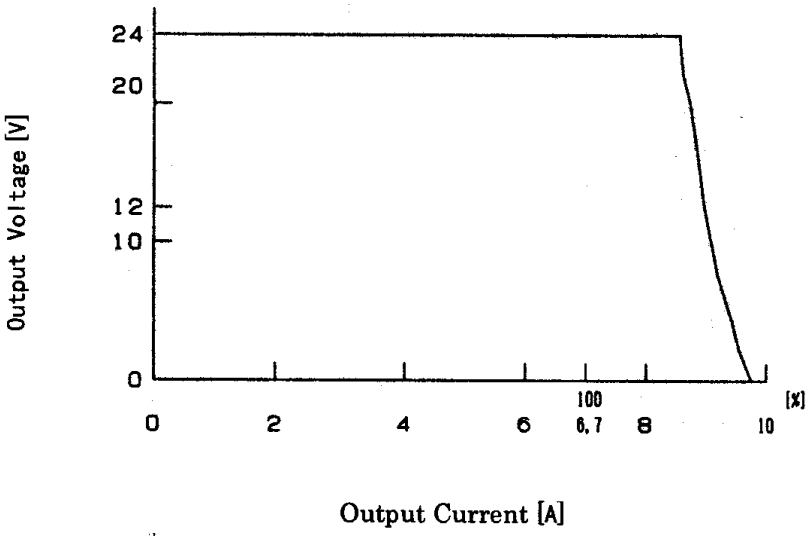
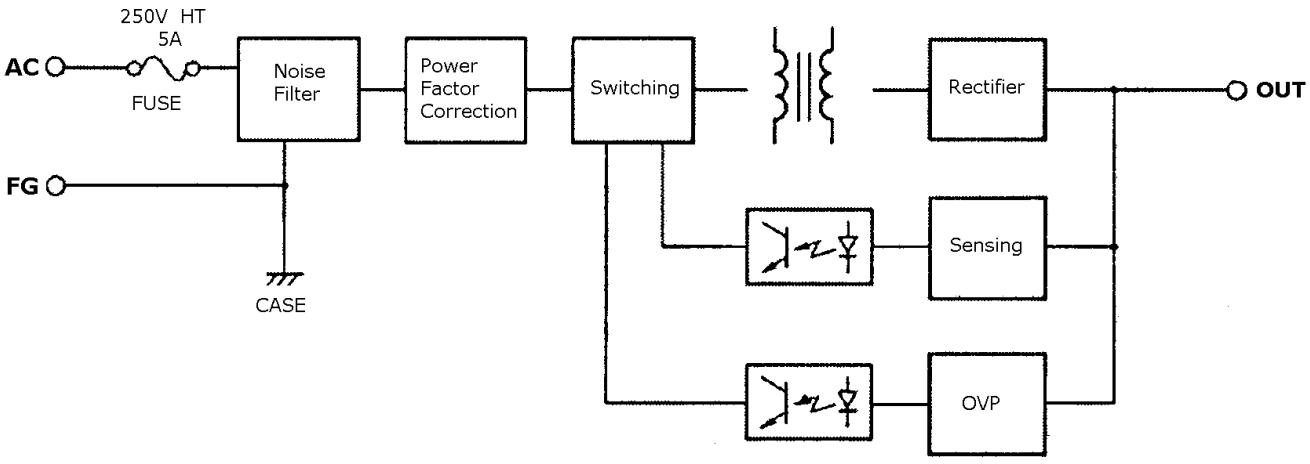
OCP



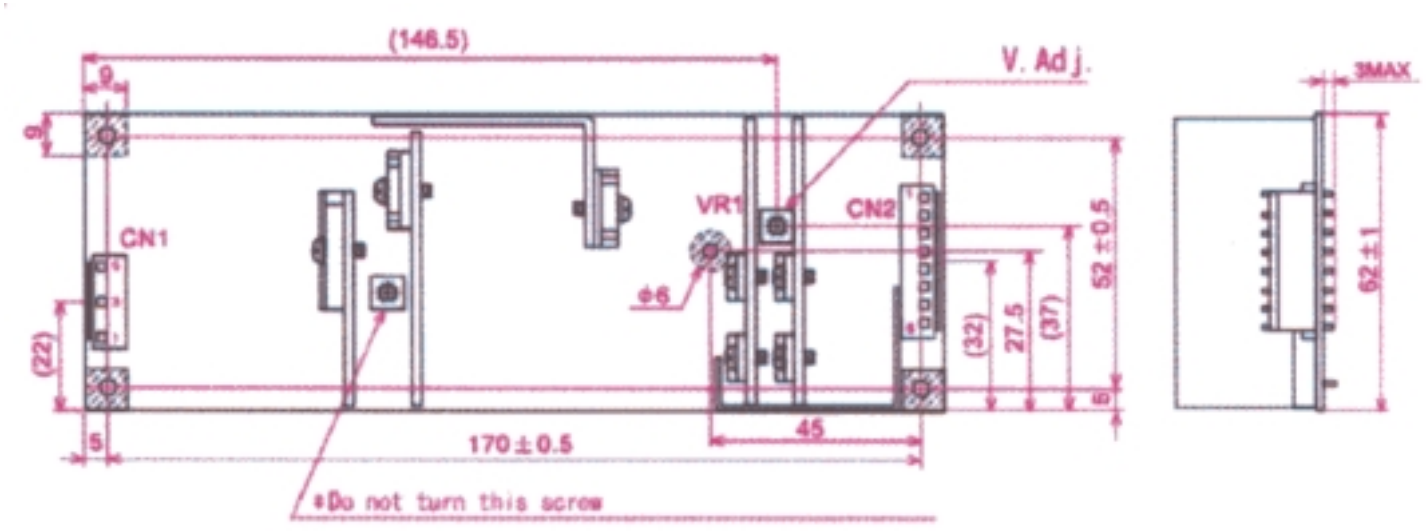
BFE24SX

Input Voltage ;	AC100V
Output Voltage ;	DC24V
Ta ;	25℃

Block diagram



Dimension



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

CN2	
Pin no.	Function
1	0V OUT
2	0V OUT
3	0V OUT
4	0V OUT
5	+V OUT
6	+V OUT
7	+V OUT
8	+V OUT

	Mating housing	Contact
CN1	VHR5N	SVH-21T-P1.1
CN2	VHR8N	SVH-21T-P1.1

Maker: J.S.T.

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