

### General Description

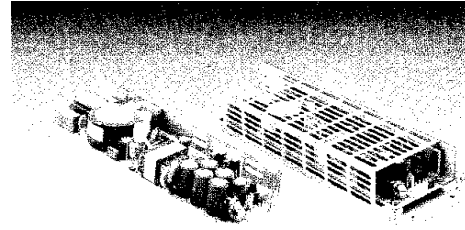
BW-series is an open board, low profile, low price switcher without chassis and cover. It is designed for small size and low cost applications world-wide. The output power can be boosted 15% to 30% above nominal.

Dimensions: 65x225x41 mm



### Options

Cover (Add suffix "-P" ex. BWS05SX-PU)  
40cm long wire harness



### Features

1. Open frame type
2. EMI: Complies with EN55022B, FCC/B
3. Low cost
4. Option: Chassis + cover
5. Mountable on any axis
6. Universal Input 85-264 VAC

# 50 WATT

## AC-DC CONVERTER

### BWB-SX-U1 SERIES

Specifications<AC/DC> BWB**SX-U 50WATTS/SINGLE	Model							
	BWB3.3SX-U1	BWB05SX-U1	BWB12SX-U1	BWB15SX-U1	BWB24SX-U1	BWB30SX-U1	BWB36SX-U1	BWB48SX-U1
Input Voltage	AC100/230V							
Input Current	1.2A at AC100V/0.7A at AC230V							
Input Range	AC85-264V(DC110-350V)							
Input Frequency	50/60Hz							
Input Frequency Range	47-440Hz							
Phase	Single							
Inrush Current *1	20A(maximum) at AC115V/40A(maximum) at AC230V							
Efficiency [%] (typical) *2	71	75	81	82	85	85	86	87
Output Voltage [V]	3.3	5	12	15	24	30	36	48
Output Current [A]	10.0	10.0	5.0	4.0	2.5	2.0	1.7	1.3
Voltage Adjust Range	+/- 5% of Rated Output Voltage(at no load within the input range)							
Ripple and Noise [mVp-p](maximum) *3	120	120	170	200	290	350	410	530
Regulation								
Statistic Line Regulation [mV](maximum)	26.4	40	96	120	192	240	288	384
Statistic Load Regulation [mV](maximum)	29.7	45	108	135	216	270	324	432
Temperature Coefficient *4	0.03%/°C							
Drift[mV](maximum) *5	31.5	40	75	90	135	165	195	255
Recovery Time *6	10mS(typical)							
Rise time	200mS(maximum) at 25°C and rated input/output							
Hold up time	20mS(typical) at 25°C and rated input/output							
Overcurrent Protection>=115% of Rated Output Current[A]	Current Limiting with automatic recovery							
	11.5	11.5	5.75	4.6	2.88	2.3	1.96	1.5
Overvoltage Protection>=115% of Rated Output Voltage[V]	Output shutdown(to reset,leave 1minute after shut-off)							
	3.8	5.75	13.8	17.3	27.6	34.5	41.4	55.2
Remote Sense	not available							
Remote On/Off	not available							
Operating Temperature	open board type:-10 to +50°C/enclosed type:-10 to +40°C							
Operating Humidity	20 to 85%RH(non-condensing)							
Storage Temperature	-20 to +85°C							
Storage Humidity	20 to 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 50Mohm(minimum) by DC500V insulation tester							
Vibration	5-10Hz:10mm double amplitude,10-55Hz:19.6m/s <sup>2</sup> ,20minutes' period for 60minutes each along X,Y,Z axes(non-operating)							
Shock	196m/s <sup>2</sup>							
Cooling	Convection							
Leakage Current	0.6mA(maximum) at 25°C,rated input/output and rated input frequency							
Line Conducted Noise	Built to meet FCC Part15-B Class B Built to meet VCCI Class B Built to meet with EN55022 Class B							
Safety	UL: UL60950-1 1st ed., CAN/CSA C22.2 No.60950-1-03 Approved C-UL: CSA C22.2 No.950 VDE: EN60950, IEC950, VDE0805							
Weight (typical)	open board type:240g/enclosed type:450g							
MTBF [H]	470,000							
Switching Frequency[kHz](typical)	55	60	60	60	60	60	60	60

Conditions:

\*1 at cold start

\*2 at DC260V input/rated output

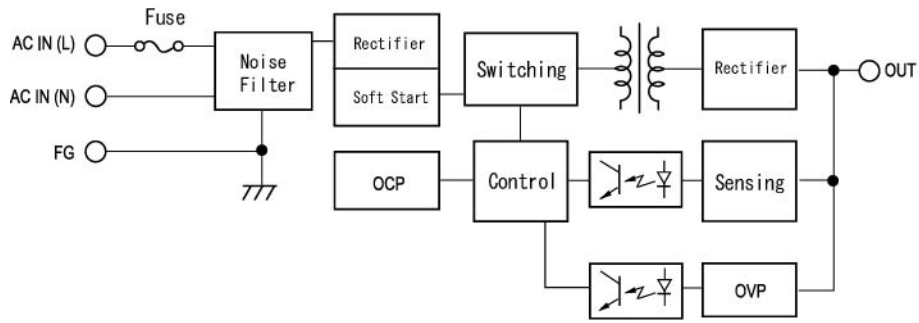
\*3 measured by a bayonet probe at the end of a pair of 15cm long wires terminated with a 100uF electrolytic capacitor and 0.1uF film capacitor in parallel at a 0 to 100MHz bandwidth

\*4 open board type: at -10 to +50°C/enclosed type: at -10 to +40°C

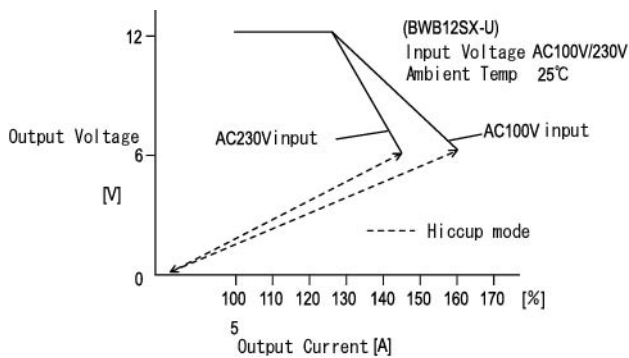
\*5 for 7hour period after 1hour warm-up at 25°Cand rated input/output

\*6 when output current changed from 25% of rated output current to 75% rapidly at rated input

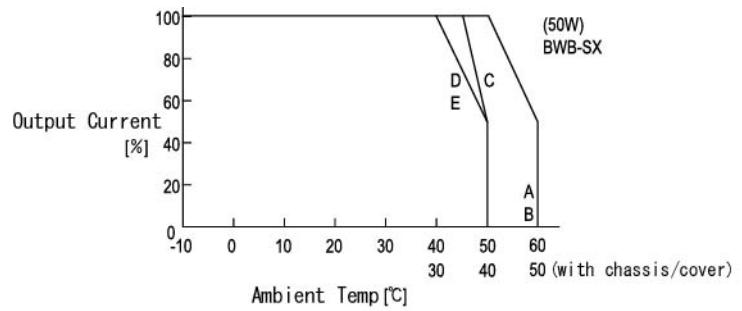
## BLOCK DIAGRAM



## OCP CURVE

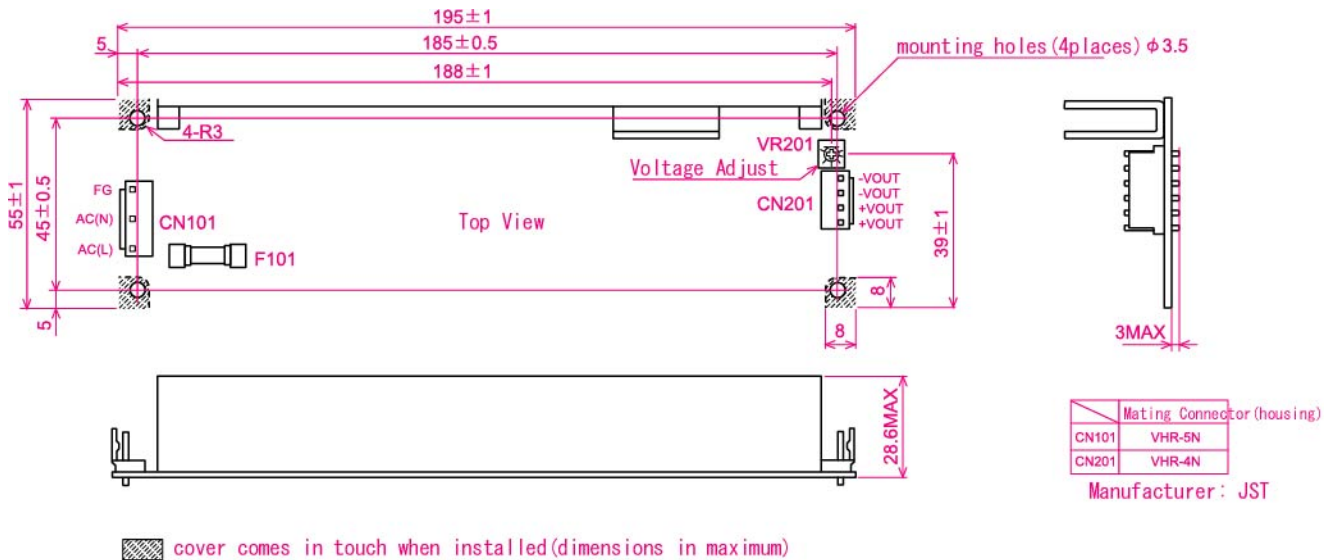


## DERATING CURVE



※For safety specification, contact ETA Sales Representative

## DIMENSION DIAGRAM



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