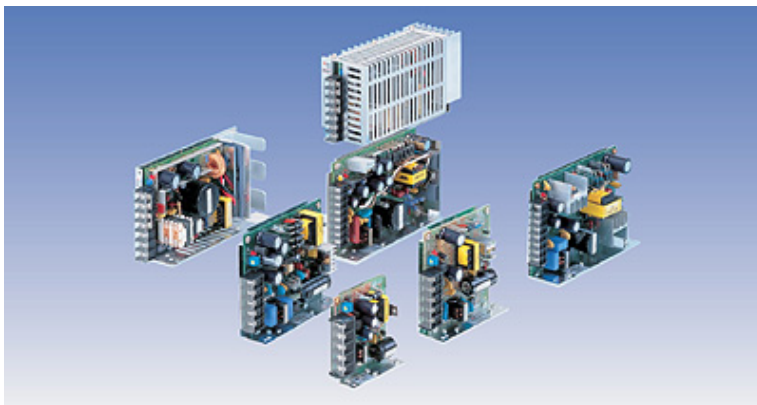


# 25 WATT AC-DC CONVERTER

## ERA-SB SERIES

### General Description

ER-series is an open frame, low cost switcher with high efficiency. 65 different models are available from low to medium power. Low power modules use a simple RCC circuit while higher power supplies employ a forward converter.



### Features

1. Cost effective
2. High efficiency
3. No derating without cover and horizontal mounting
4. Over voltage protection

### Options

Case cover (add suffix "-P")  
"-P" model dimension is same as  
"without cover" model

Specifications<AC/DC>	Model				
<b>ERA**SB 25WATTS/SINGLE</b>	ERA05SB	ERA12SB	ERA15SB	ERA24SB	ERA48SB
<b>Input Characteristic</b>					
Input Voltage	AC200V(DC260V)				
Input Range	AC170-264V(DC220-350V)				
Input Frequency	50/60Hz				
Input Frequency Range	47-440Hz				
Phase	Single				
Inrush Current *1	20A(maximum)at AC200V				
Efficiency [%] (typical) *2	75	80	82	86	87



## ERA\*\*SB Specification

Specifications<AC/DC>	Model				
	ERA05SB	ERA12SB	ERA15SB	ERA24SB	ERA48SB
<b>ERA**SB 25WATTS/SINGLE</b>					
<b>Output Characteristic</b>					
Output Voltage [V]	5	12	15	24	48
Output Current [A]	5.0	2.1	1.7	1.1	0.55
Voltage Adjust Range	+/- 10% of Rated Output Voltage(at no load within the input range)				
Ripple and Noise [mVp-p](maximum) *3	100	170	200	290	530
<b>Regulation</b>					
Statistic Line Regulation [mV](maximum)	25	60	75	120	240
Statistic Load Regulation [mV](maximum)	50	120	150	240	480
Temperature Coefficient *4	0.03%/°C				
Drift[mV](maximum) *5	40	75	90	135	255
Dynamic Load Regulation [mV](typical) *6	not specified				
Recovery Time *6	not specified				
Rise up time	200mS(maximum) at 25°Cand rated input/output				
Hold up time	20mS(minimum) at 25°Cand rated input/output				
<b>Functions</b>					
Overcurrent Protection $\geq 05\%$ of Rated Output Current[A]	Current Limiting with automatic recovery				
	5.25	2.21	1.79	1.16	0.58
Overvoltage Protection $\geq 12\%$ of Rated Output Voltage[V]	output shutdown(to reset,leave 30seconds after shut-off)				
	5.60	13.4	16.8	26.9	53.8
Remote Sense	not available				
Remote On/Off	not available				
<b>Environmental</b>					
Operating Temperature	-5 to +50°C[enclosed type:-5 to 50°Cat vertical mount/-5 to 45°Cat horizontal mount]				
Operating Humidity	85%RH(non-condensing)				
Storage Temperature	-20 to +85°C				
Storage Humidity	85%RH(non-condensing)				
Withstanding Voltage	Primary-Secondary AC2,500V for 1minute				
	Primary-Frame Ground AC2,500V for 1minute				
	Secondary-Frame Ground AC500V for 1minute				
Isolation Resistance	Primary-Secondary-Frame Ground 50M $\Omega$ (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	294m/s <sup>2</sup>				
Cooling	Convection				
? Leakage Current	1mA(maximum) at 25°Crated input/output and rated input frequency				
? Line Conducted Noise	Built to meet FCC Part15-B Class B				
? Safety					
Weight (typical)	280g/enclosed type:340g				
? MTBF [H]	630,000				
? Switching Frequency[kHz](typical) *7	40				

Conditions:

\*1 at cold start

\*2 at DC260V input and rated output

\*3 measured by a bayonet probe at output connector at 0 to 100MHz bandwidth

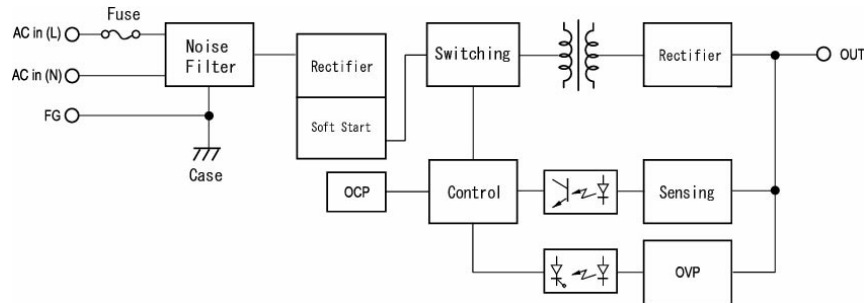
\*4 at -5 to +50°Cenclosed type: at -5 to 45°C

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

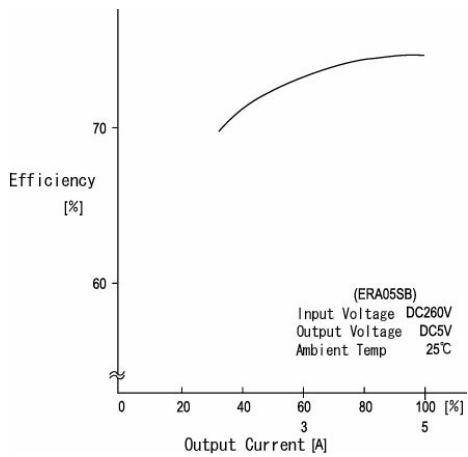
\*6 when output current changed from 25% to 75% of rated output current rapidly at AC200V input

\*7 variable on input voltage and load conditions

### Block Diagram



### Efficiency Curve



### OCP Curve

