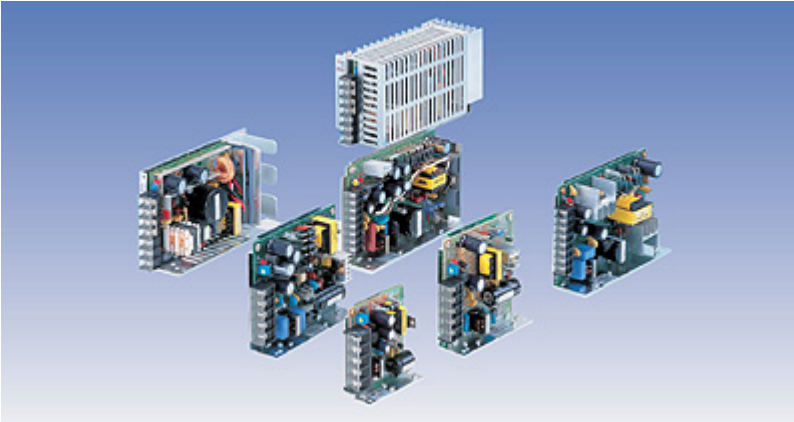


25 WATT AC-DC CONVERTER

ERA-FWA 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

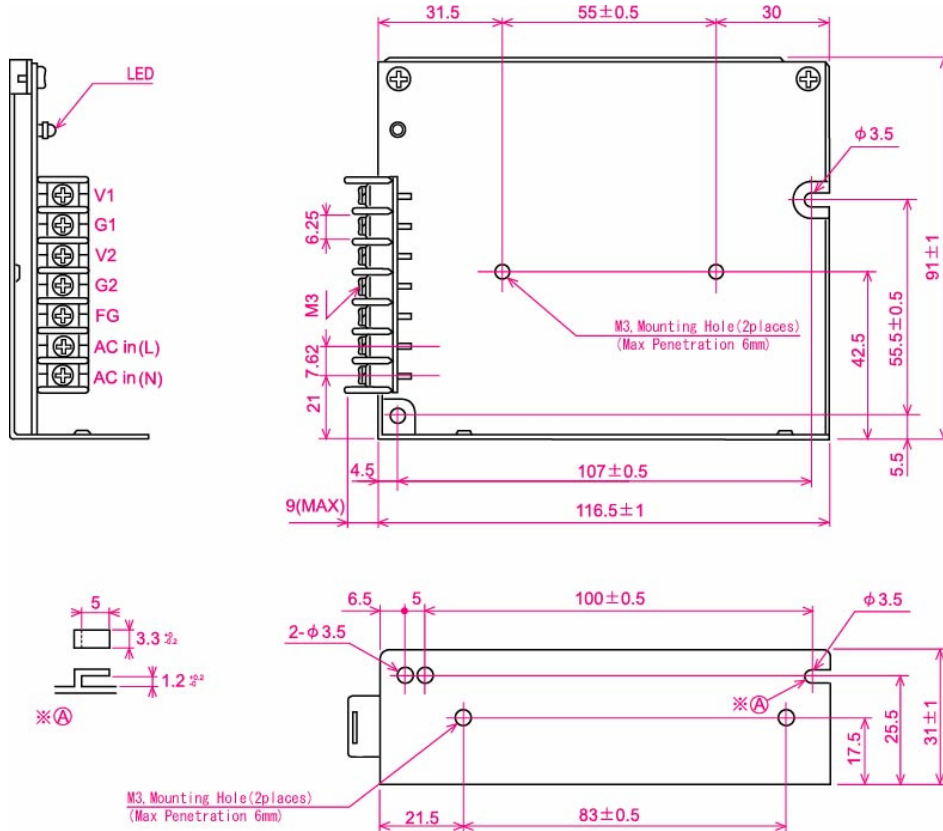
1. Cost effective
2. High efficiency
3. No derating without cover and horizontal mounting
4. Over voltage protection

Options

Case cover (add suffix "-P")

Specifications<AC/DC>	Model			
ERA**FWA 25WATTS/2OUTPUTS	ERA21FWA-B	ERA22FWA	ERA23FWA	ERA24FWA-B
Input Characteristic				
Input Voltage	AC100V(DC130V)			
Input Range	AC85-132V(DC110-170V)			
Input Frequency	50/60Hz			
Input Frequency Range	47-440Hz			
Phase	Single			
Inrush Current *1	30A(maximum)at AC100V			
Efficiency [%] (typical) *2	75	72	73	71

Dimension (mm)



ERA ** FWA Specification

Specifications<AC/DC>	Model							
ERA**FWA 25WATTS/2OUTPUTS	ERA21FWA-B	ERA22FWA	ERA23FWA	ERA24FWA	ERA25FWA	ERA26FWA	ERA27FWA	ERA28FWA
Output Characteristic								
Output Voltage [V]	24	5	12	12	15	15	12	5
Output Current [A]	0.2-0.85	0.9	0.2-1.2	0.9	0.2-0.85	0.85	0.2-1.7	0.9
Voltage Adjust Range	V1:+3%/-0% of Rated Output Voltage(at no load within the input range) V2:fixed with tolerance of +/-3.5%(at no load within the input range)							
Ripple and Noise [mVp-p](maximum) *3	290	100	170	170	200	200	170	100
Regulation								
Statistic Line Regulation [mV](maximum)	120	25	60	60	75	75	60	25
Statistic Load Regulation [mV](maximum)	240	50	120	240	150	300	120	100
Temperature Coefficient *4	0.03%/°C							
Drift[mV](maximum) *5	135	40	75	75	90	90	75	40
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							
Functions								
Overcurrent Protection $\geq 10\%$ of Rated Output Current[A]	V1:Current Limiting with automatic recovery V2:by the regulator I.C's characteristics							
	0.94	-	1.32	-	0.94	-	1.87	-
Overvoltage Protection $\geq 15\%$ of Rated Output Voltage[V]	V1:Zener diode clamping V2:not available							
	27.6	-	13.8	-	17.25	-	13.8	-
Remote Sense	not available							
Remote On/Off	not available							
Environmental								
Operating Temperature	-5 to +50°C(enclosed type:-5 to 50°Cat vertical mount/-5 to 40°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 AC1,500V for 1minute							
	Primary-Frame Ground AC1,500V 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	0.5mA(maximum) at 25°Crated input/output and rated input frequency							
? Line Conducted Noise	Built to meet FCC Part15-B Class B							
? Safety								
Weight (typical)	300g/enclosed type:330g							
? MTBF [H]	660,000							
? Switching Frequency[kHz](typical) *7	30				25			

Conditions:

*1 at cold start

*2 at DC130V input and rated output

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

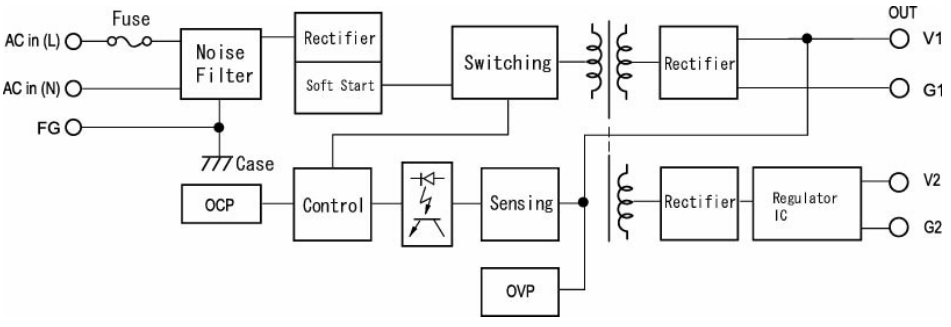
*4 at -5 to +50°Cenclosed type: at -5 to +40°C

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

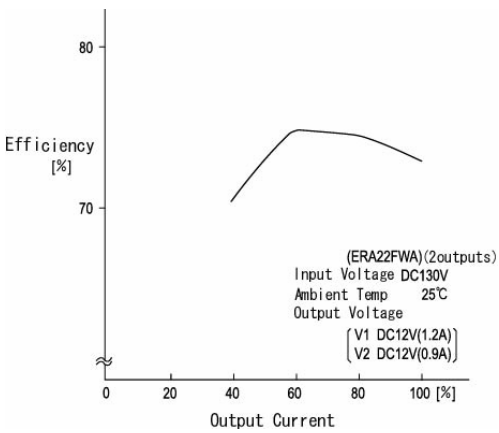
*6 when output current changed from 25% to 75% of rated output current rapidly at AC100V input

*7 variable on input voltage and load conditions

Block Diagram



Efficiency Curve



OCP Curve

