

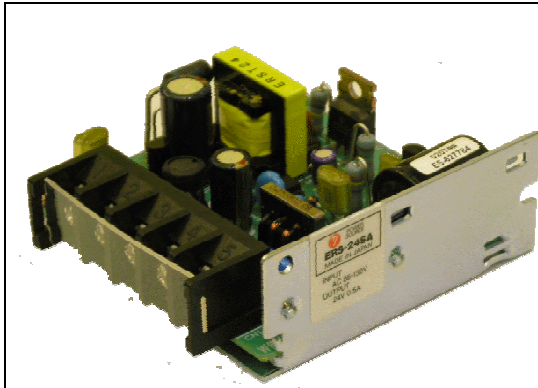


ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

AC/DC SWITCHING POWER SUPPLY
 INPUT: 85~132VAC
 SINGLE OUTPUT
 10 WATTS

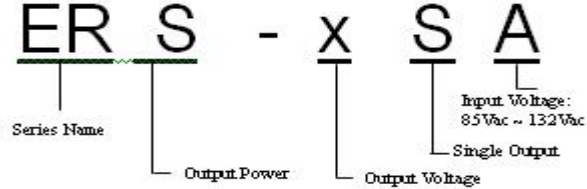
ERS-SA SERIES



Dimension: 74Wx68Lx27H [mm]

General Description

ER-Series are 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.



Options:

* Case Cover:(add suffix:'-P') Example:
 ERS05SA-P 74x68x27(mm)
 -P model dimension is same as without cover model

Features

1. Open Frame
2. Input: 100/200Vac
3. High Efficiency
4. Cost effective
5. No derating without cover and horizontal mounting
6. Over Voltage Protection
7. EMI: complies to FCC/A, FCC/B for ERD & ERE

Input Characteristics		Models				
	Unit	ERS05SA	ERS12SA	ERS15SA	ERS24SA	ERS48SA
Input Voltage	Vac	AC100V (DC130V)				
Input Voltage Range	Vdc	AC85-132V (DC110-175V)				
Input Frequency	Hz	50/60Hz				
Input Frequency Range	Hz	47-440Hz				
Inrush Current *1	A	25A (maximum) at AC100V				
Phase		Single				
Efficiency (typical) *2	%	72	76	78	79	81

Output Characteristics		Models				
	Unit	ERS05SA	ERS12SA	ERS15SA	ERS24SA	ERS48SA
Output Voltage	Vdc	5	12	15	24	48
Output Current	A	2.0	0.9	0.7	0.5	0.25
Voltage Tolerance	V	±5% of Rated Output Voltage (at no load within the input range)				
Ripple and Noise(max.) *3	mV	100	170	200	290	530
Regulation						
a. Static Line Regulation max.	mV	25	60	75	120	240
b. Static Load Regulation max.	mV	50	120	150	240	480
c. Temperature Coefficient *4	%/°C	0.03%/°C				
d. Drift max. *5	mV	40	75	90	135	255
e. Dynamic Load Reg. typ.*6	mV	Not Specified				
f. Recovery Time *6	mS	Not Specified				
g. Rise Time	mS	300mS (maximum) at rated input/output				
h. Hold Up Time	mS	20mS (typical) at rated input/output				





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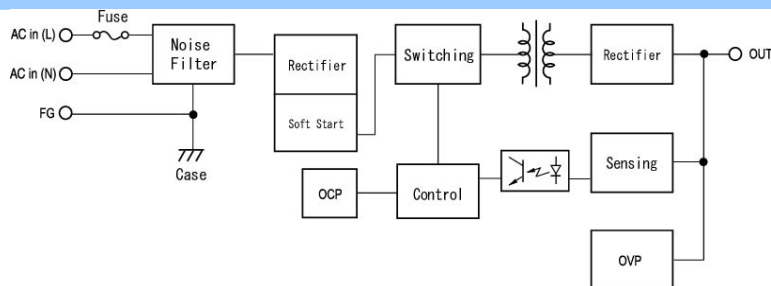
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Environmental Specification					
Operating Temperature	-5~+50°C				
Operating Humidity	85%RH (non-condensing)				
Storage Temperature	-20 to +85°C				
Storage Humidity	85%RH (non-condensing)				
Withstanding Voltage	Primary-Secondary AC1500V for 1minute Primary-Frame Ground AC1500V for 1minute Secondary-Frame Ground AC500V for 1minute				
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				
Isolation Resistance	Primary-Secondary-Frame Ground 50MΩ (minimum) by DC500V insulation tester				
Function/Protection					
Over current Protection ≥115% of Rated Output Current[A]	Current Limiting with automatic recovery				
	2.3	1.04	0.81	0.58	0.29
Over voltage Protection ≥115% of Rated Output Voltage[V]	Output shutdown (to reset, leave 1minute after shut-off)				
	5.75	13.8	17.25	27.6	55.2
Remote Sense	not available				
Remote On/Off	not available				
Other Specifications					
Leakage Current (typ.)	1mA (maximum) at 25°C, rated input/output and rated input frequency				
Line Conducted Noise	Built to meet FCC Part15-B Class B				
MTBF [H]	1000000				
Switching Frequency [kHz] (typical) *7	45	45	45	45	45
Mechanical Specification					
Dimension [mm]	43Wx47.5Lx18.5H [mm]				
Weight (typical)	140g/enclosed type:160g				

Conditions:

- *1 cold start
- *2 at DC130V input, rated output
- *3 measured by a bayonet probe at the output connector at a 0 to 100MHz bandwidth
- *4 at -5 to +50°C
- *5 only for 7hours from 1hour after switch-on at 25°C and 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



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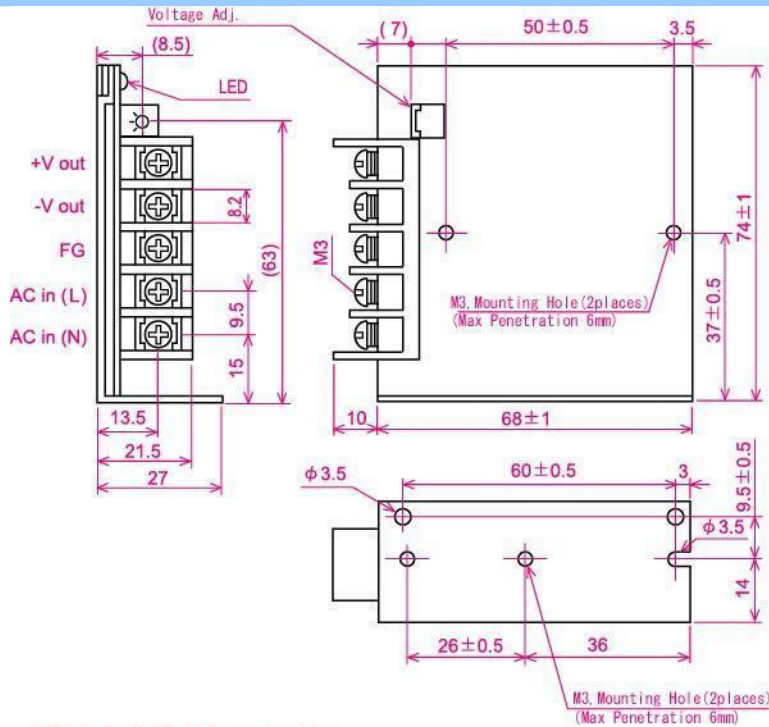
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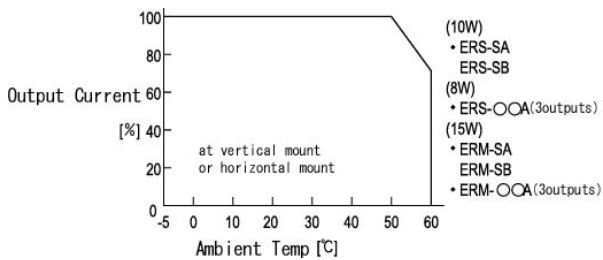
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DIMENSION DIAGRAM

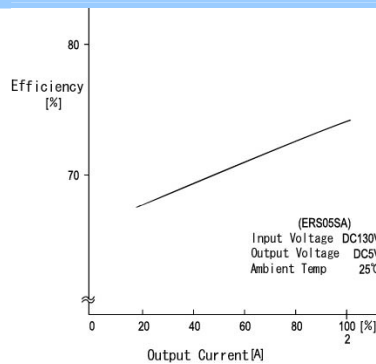


*The height of ERS with cover is 30mm
(3mm higher than ERS without cover)

DERATING CURVE



EFFICIENCY CURVE



OCP CURVE

