



ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

AC/DC SWITCHING POWER SUPPLY
SINGLE CHANNEL OUTPUT
15 WATTS
UNIVERSAL INPUT

ESS15 SERIES



RoHS



ES Series

ESS15 15W

ESS30 30W

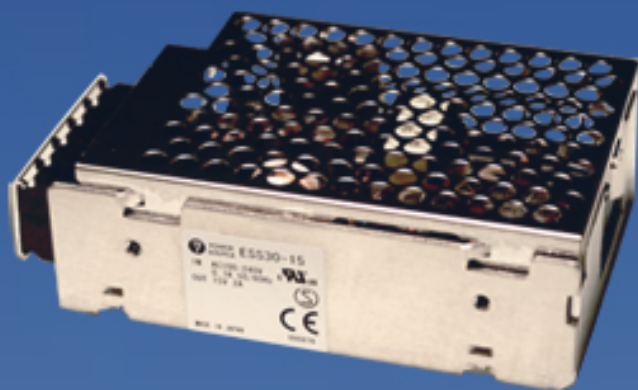
ESS50 50W

ESS75 75W

ESS100 100W

ESS150 150W

Closed Frame



General Description

Features

1. Smaller than competitors by 15-20%
2. Operating temp shows full load at 50° C (122° F), can operate at temperatures up to 71°C
3. Five-year guarantee
4. Over-current protection
5. Over-voltage protection
6. Can meet medical and appliance standards
7. Low leakage < 500µA

Options

DIN Rail an Option

V JST (ex: ESS15-05-J)

Application

Broad needs

Input

Input Voltage	AC100~240V
Input Voltage Range:	AC85~264V; (DC110~370V) with 70V derating possibility
Frequency:	50/60 Hz
Frequency Range:	47~440 Hz
Phase:	Single
Inrush Current:	*1, *4 14A (Typ.) at AC100VAC 28A (Typ.) 200VAC

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Output Characteristic		Models						
	Unit	ESS15-3.3	ESS15-05	ESS15-12	ESS15-15	ESS15-24	ESS15-36	ESS15-48
Output Voltage	Vdc	3.3	5.0	12	15	24	36	48
Output Current	A	3	3	1.3	1	0.7	0.4	0.33
Ripple &Noise(max)	mVpp	120	120	150	150	150	250	250
Voltage Adjust Range	V	2.97~3.63	4.50~5.50	10.8~13.2	13.5~16.5	21.6~26.4	32.4~39.6	43.2~52.8
Rise time	mS	20 mS max						
Hold up time	mS	20 mS max.						
Regulation								
a. Line Regulation [max]	mV	20	20	48	60	96	144	192
b. Load Regulation	mV	40	40	100	120	150	240	240
c. Temperature Coefficient	0 to 50°C	50	50	120	150	240	360	480
	-10 to 0°C	60	60	150	180	290	450	600
d. Drift(maximum)	mV	20	20	48	60	96	144	192

Efficiency *1	%	At AC100V 75%-85.5% At AC 200V 75%-87.5%						
Power Factor *1		No power factor needed						

Note: If you would like to buy a wire harness with this power supply, you may either order the wire harness through Molex or directly through ETA-USA. Please observe the following table:

ETA POWER SUPPLY	INPUT HOUSING -JST	OUTPUT HOUSING -JST	TERMINAL	ETA WIRE HARNESS # ; input/output
ESS15-3.3V				
ESS15-05V				
ESS15-12V				
ESS15-15V	0010-63-3044 (5199-04)	0009-65-2049- (5277-04A)	5194PBT(L)	WH-ESS15-J; 40cm WIRE HARNESS
ESS15-24V				
ESS15-36V				
ESS15-48V				



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Environmental Specification	
Operating Temperature*3	-10 to +71 °C
Operating Humidity	20~90% RH non condensing
Storage Temperature	-30 to +85 °C
Storage Humidity	10~95% RH
Withstanding Voltage	Primary-Secondary AC3,000V for 1minute Primary-Frame Ground AC2,500V for 1minute Secondary-Frame Ground AC1,000V for 1minute *Sensory Current: Secondary Frame Ground (20[mA])/Others (10[mA])
Isolation Resistance	Primary-Secondary-Frame Ground 100MΩ(minimum) by DC500V insulation tester
Vibration	5~10Hz:10mm double amplitude,10~55Hz:19.6m/s ² ,30 minute cycle each along X,Y,Z axes(non-operating)
Shock	196 m/s ² on x,y,z axis
Cooling	Convection
Leakage current	500μA
MTBF	>360,000 hours
Environmental Agencies	
Line Conducted Noise [EMI]	Built to meet FCC-B, VCCI-B, CISPR22-B, EN55022-B
Line Harmonic Distortion/Current	Not available
Safety	UL60950-1 1st ed. , CAN/CSA C22.2 No.60950-1-03 Approved UL508 17th ed. , CAN/CSA C22.2 No.107.1-01 Approved EN60950-1:2001+A11:2004 Approved CE Marking : EN60950-1:2001+A11:2004 (LVD) Declared
Function/Protection	
Over current Protection	Operate at 105% min of rated current, automatic return
Over voltage Protection	Input reentry at shutdown
Remote Sense	Not Available
Remote Control	Not Available
Series Operation	Available
Parallel Operation	Not available (N+1 application is possible by diode-OR)
Driving Indicator	Power Source on LED indication; Green
Mechanical	
Dimension [mm]	33.5W × 86.5L × 68H
Weight [g] (typical)	200g

Conditions:

- *1 Rated input and Rated output
- *2 at Output current quick change 25% to 75%
- *3 At 100% load (convection cooling)
- *4 Cold start at 25 °C Ambient temp.



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HIGH QUALITY SWITCHING POWER SUPPLIES

Derating Curves



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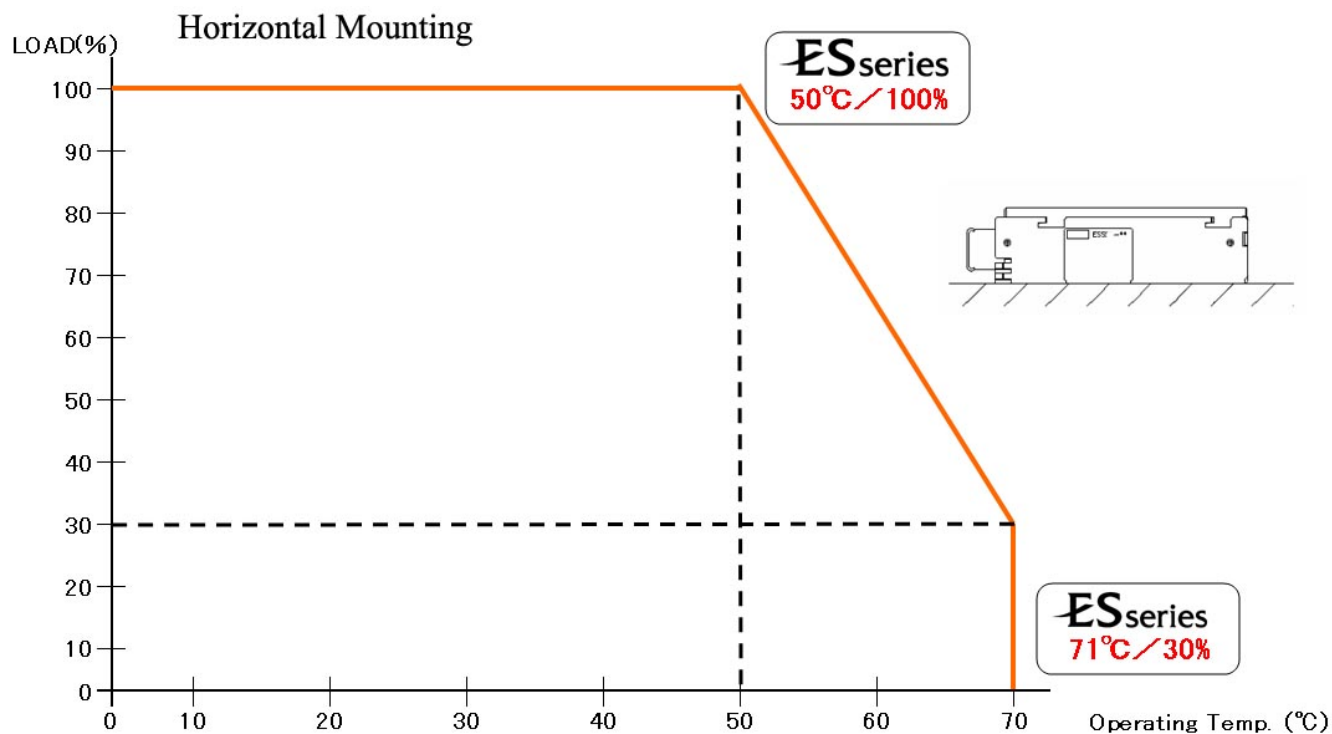
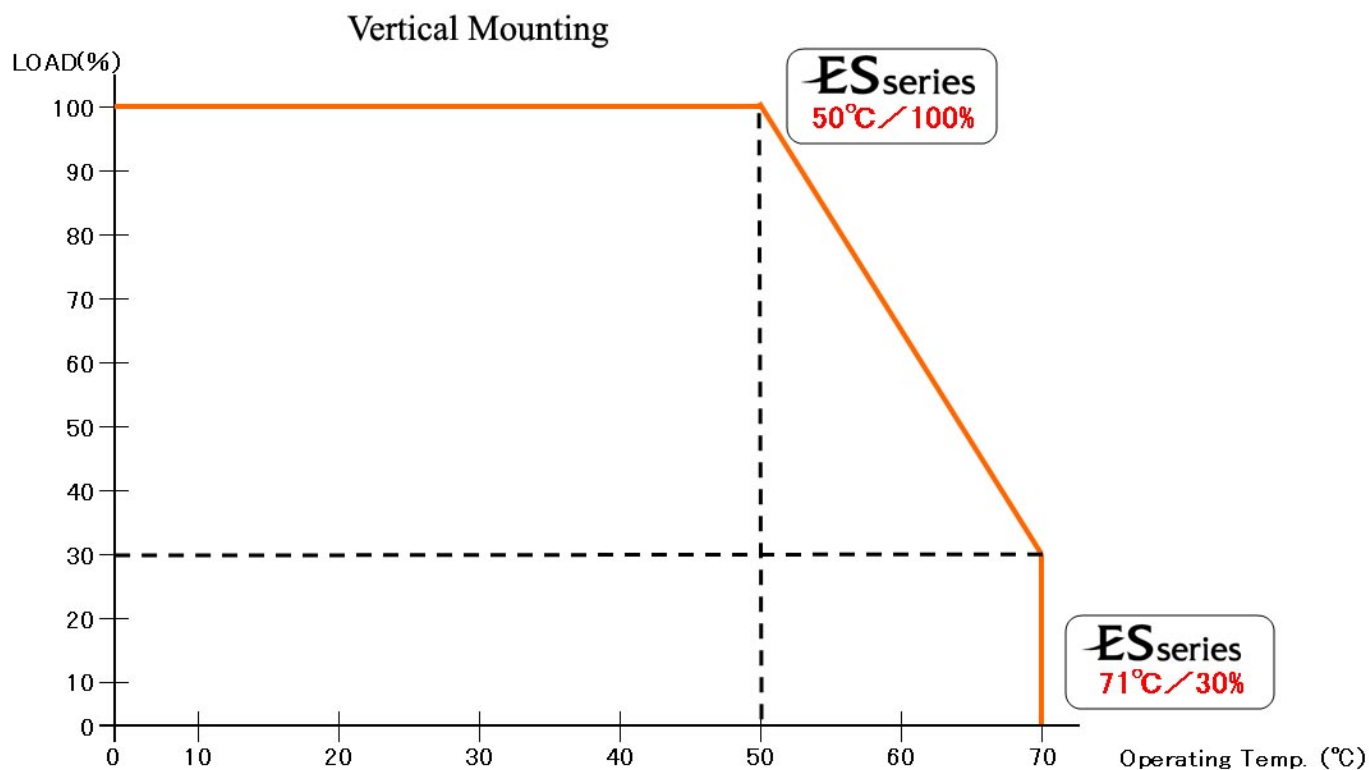
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Efficiency Curves



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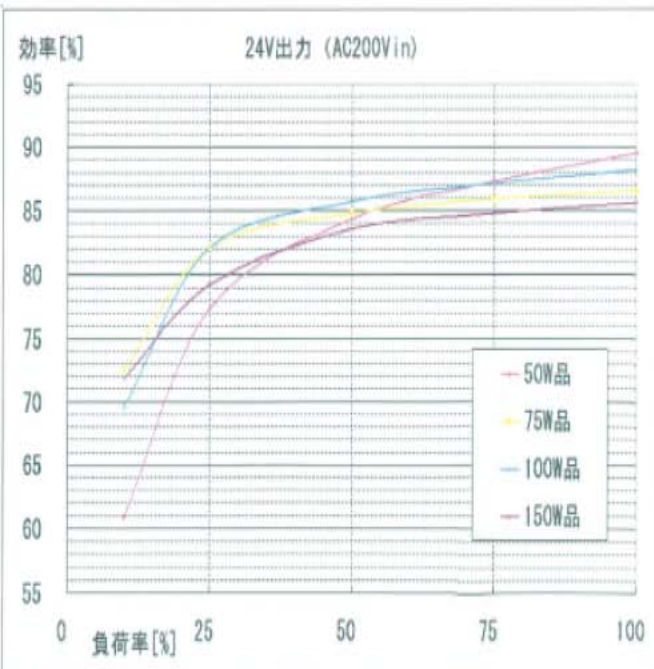
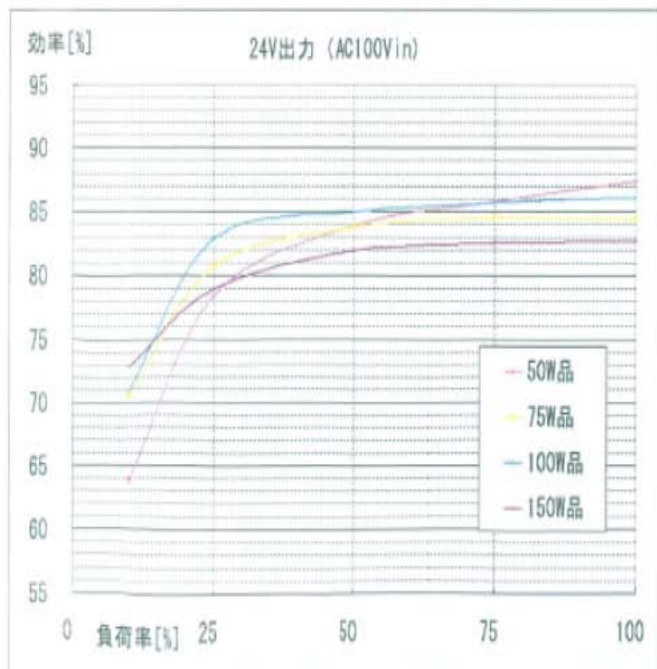
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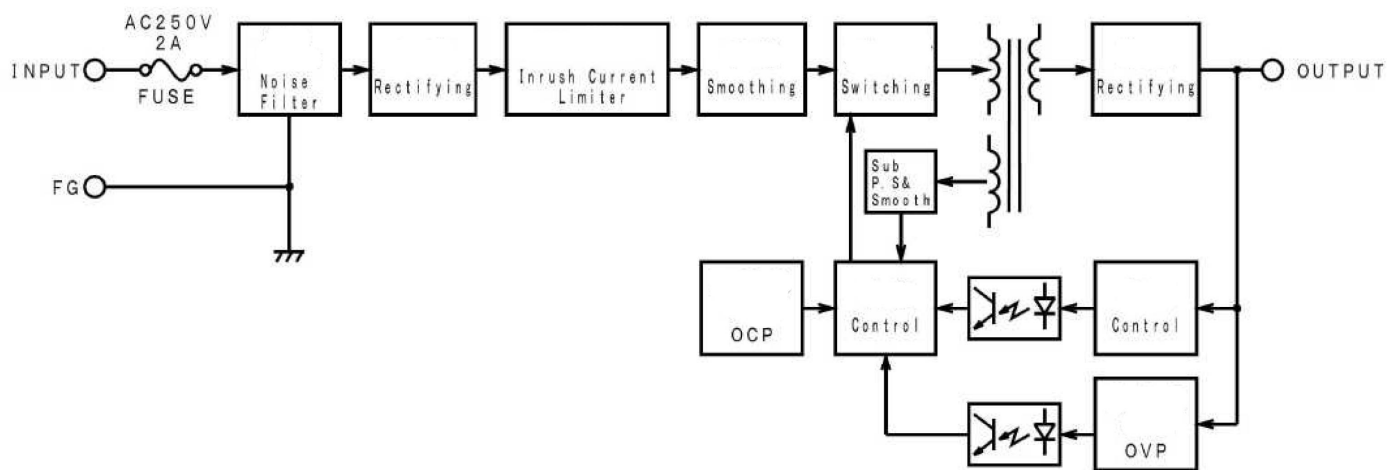


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HIGH QUALITY SWITCHING POWER SUPPLIES



Block Diagram



Mechanical Drawings



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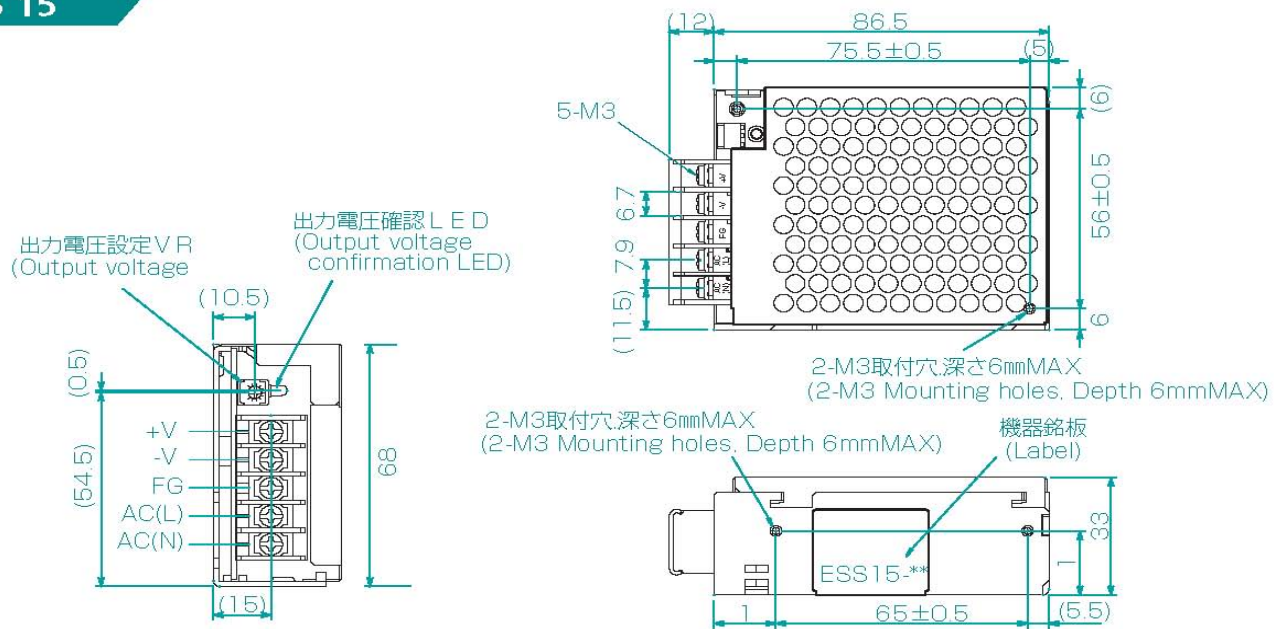
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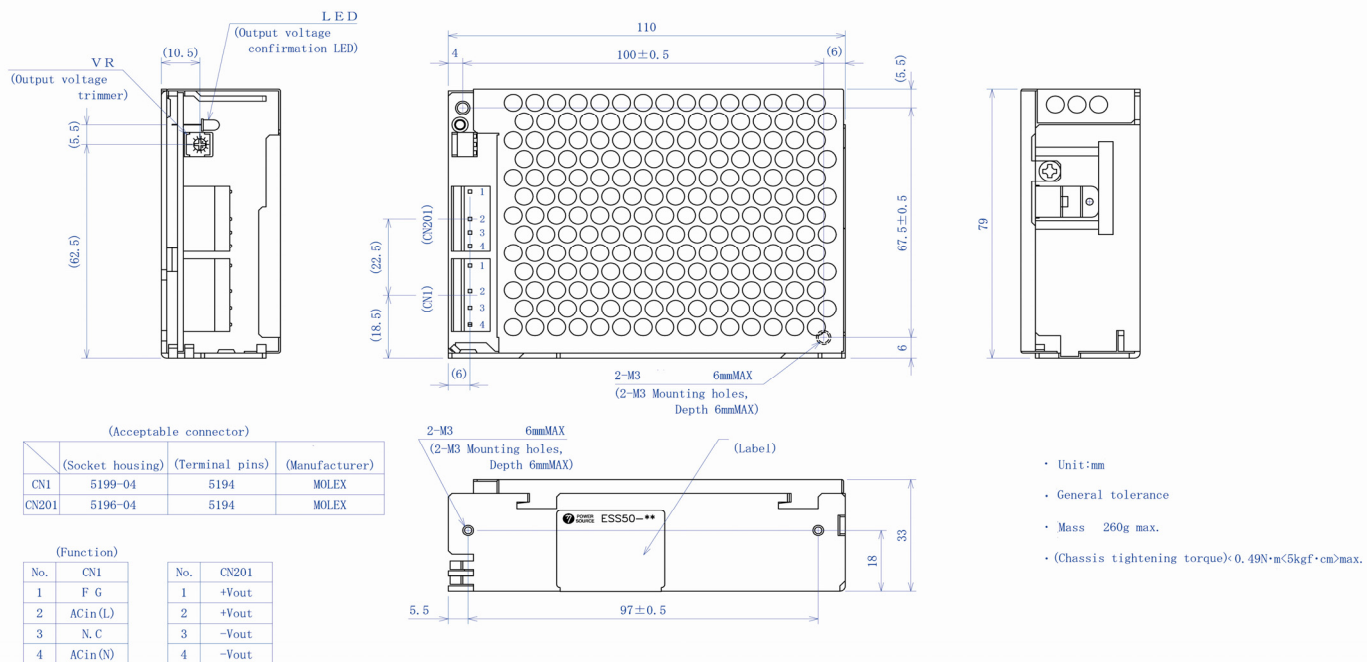
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HIGH QUALITY SWITCHING POWER SUPPLIES

ESS 15



Mechanical Drawing with “-J” connector



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