ETA-USA

HIGH QUALITY SWITCHING POWER SUPPLIES

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

ESS15 SERIES

RoHS

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

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

Options

DIN Rail an Option

V JST (ex: ESS15-05-J)

ETA USA
16170 Vineyard Blvd. Suite 180, Morgan Hill, CA 95037
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Output Characteristic	Unit	Models						
		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 ESS15-24V ESS15-36V ESS15-48V	0010-63-3044 (5199-04)	0009-65-2049- (5277-04A)	5194PBT(L)	WH-ESS15-J; 40cm WIRE HARNESS

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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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Derating Curves

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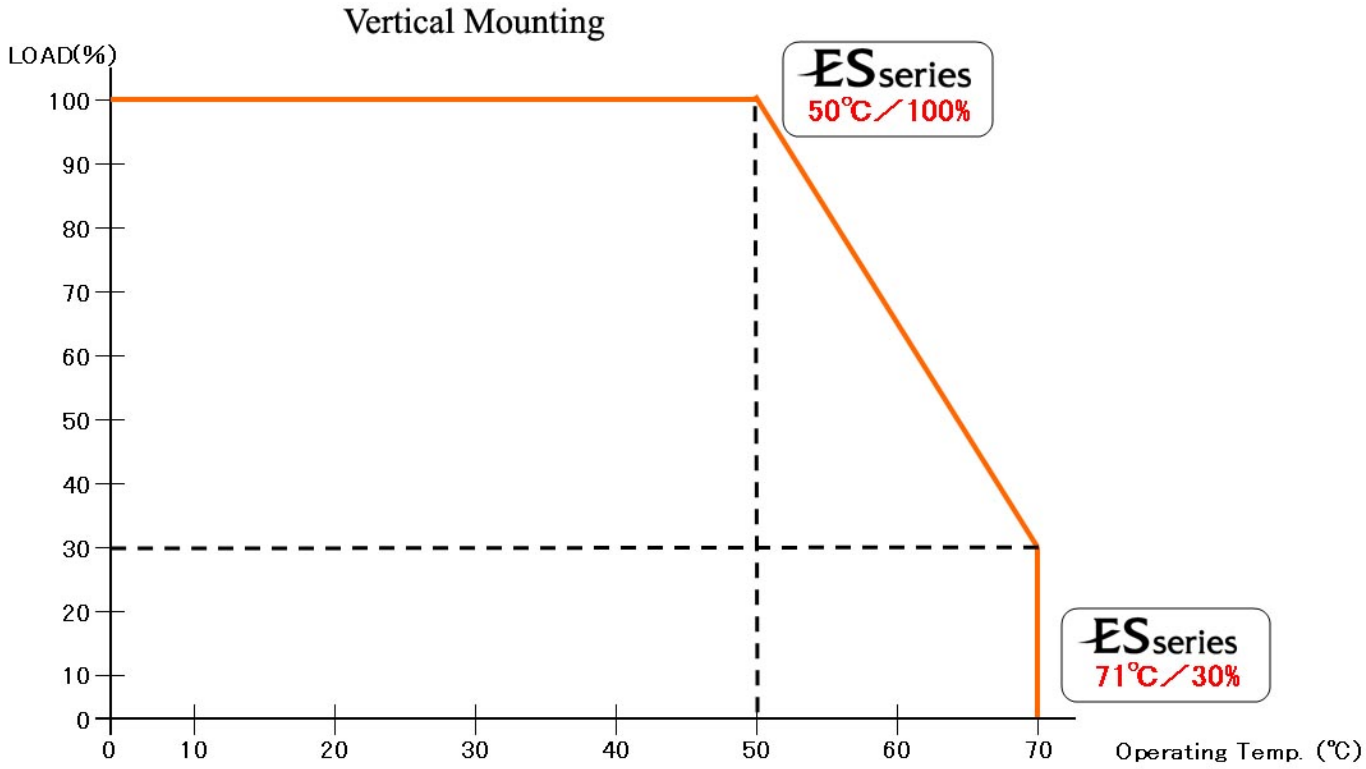

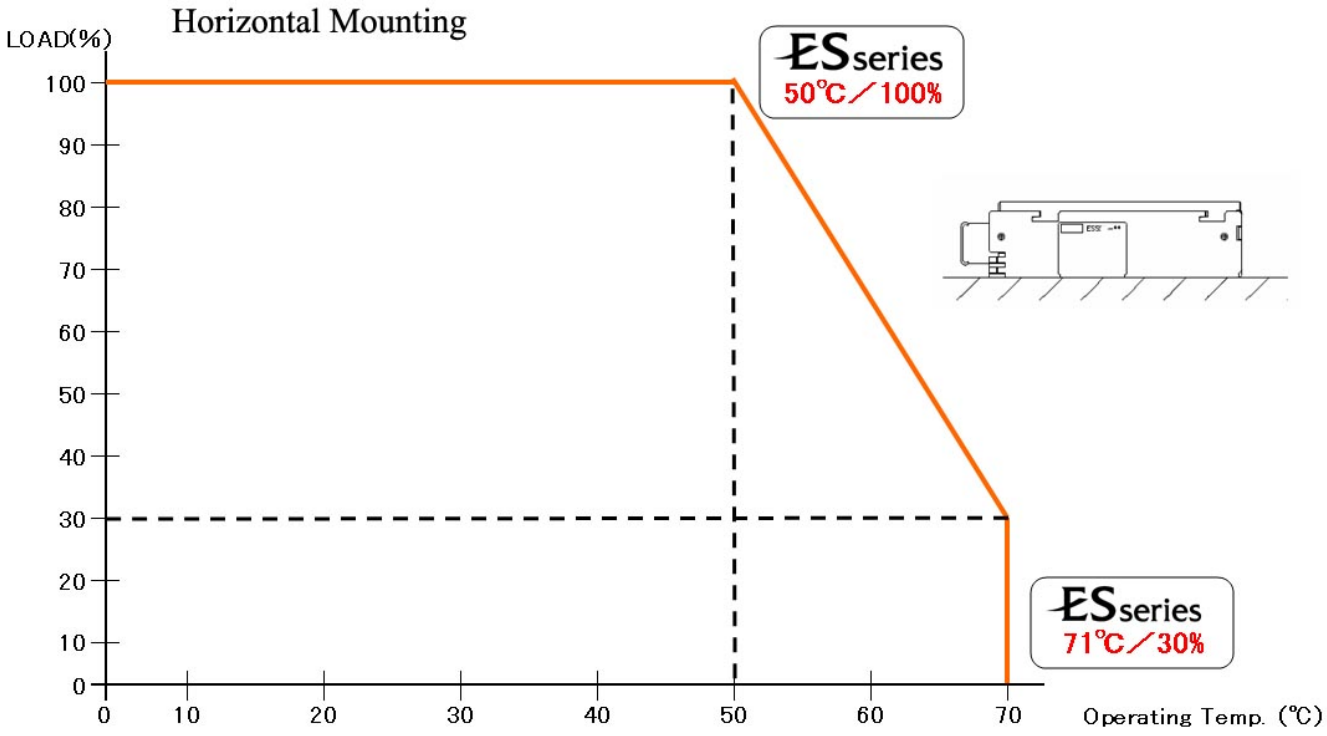

Efficiency Curves

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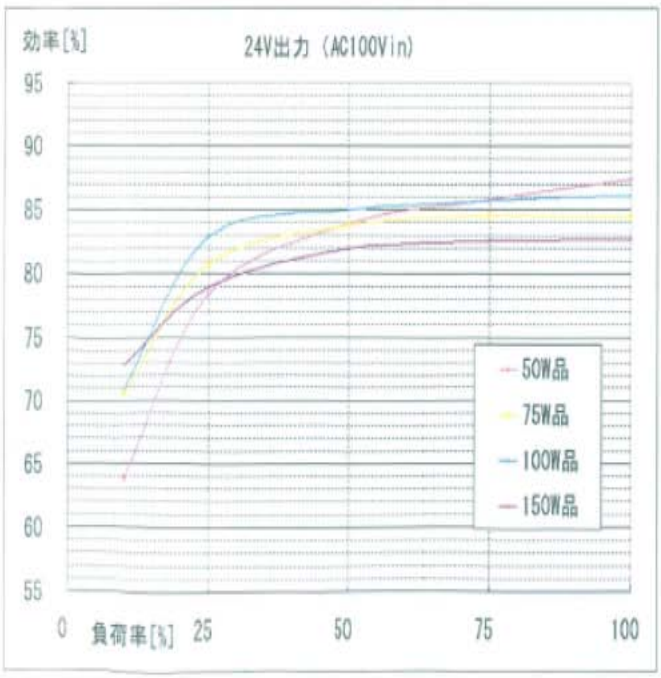
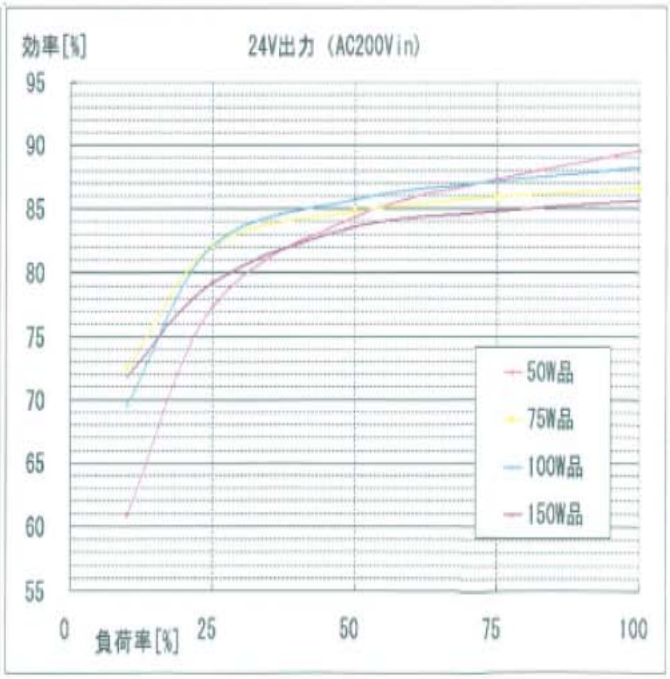
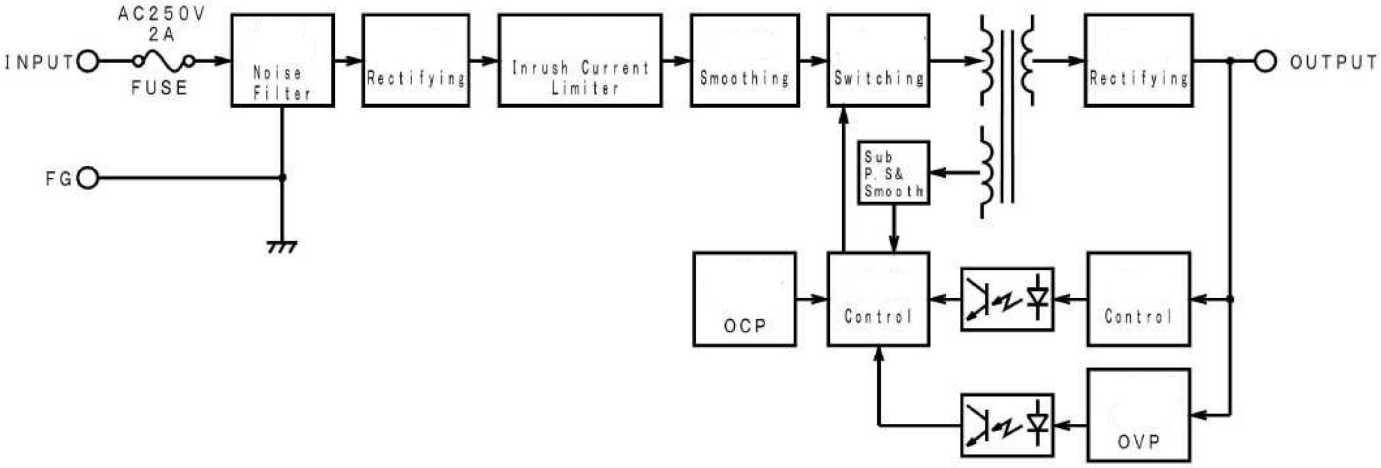


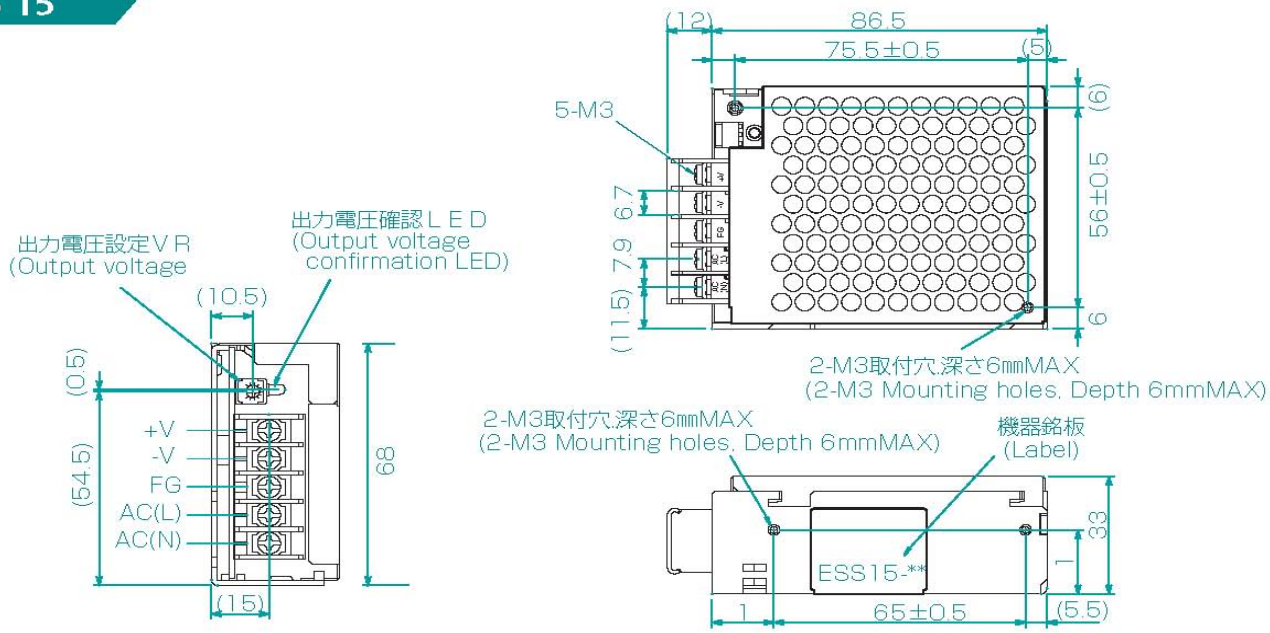


Block Diagram

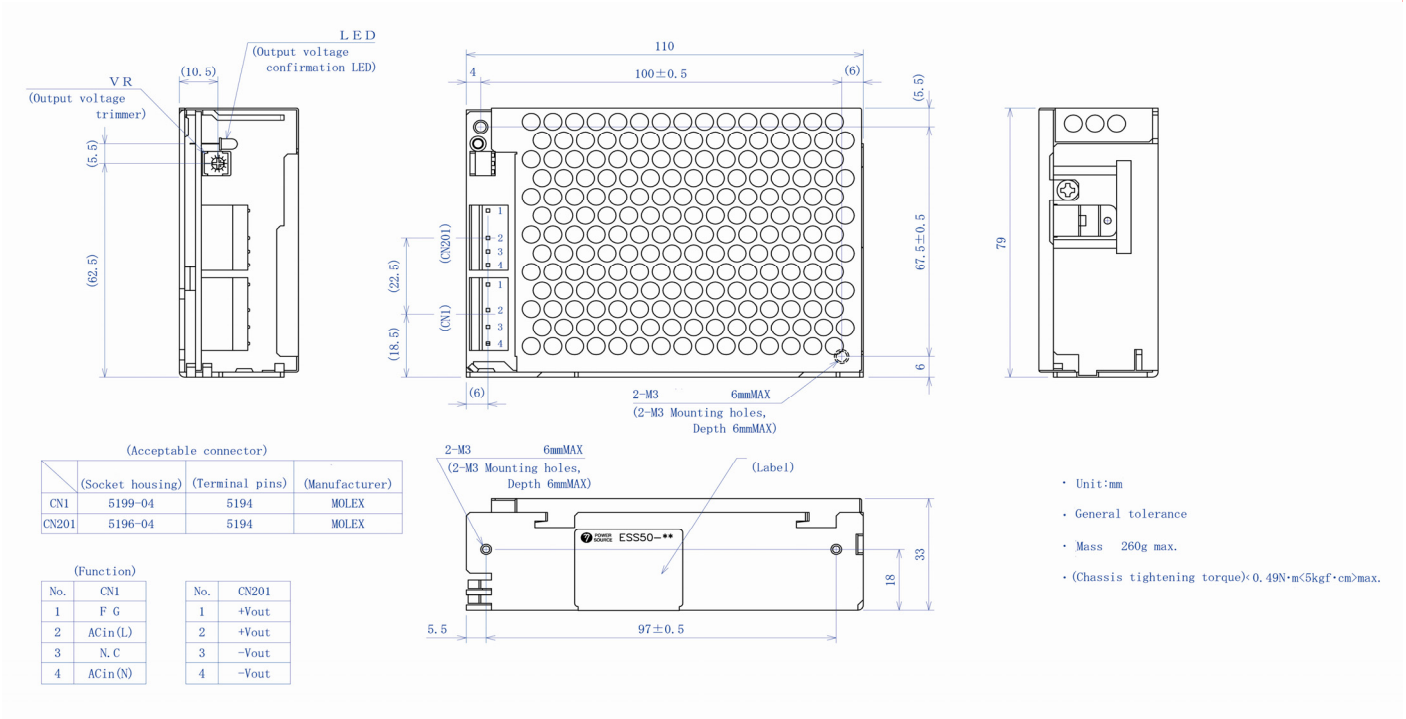


Mechanical Drawings

ESS 15



Mechanical Drawing with “-J” connector



(Acceptable connector)

	(Socket housing)	(Terminal pins)	(Manufacturer)
CN1	5199-04	5194	MOLEX
CN201	5196-04	5194	MOLEX

(Function)

No.	CN1
1	F G
2	ACin(L)
3	N.C
4	ACin(N)

No.	CN201
1	+Vout
2	+Vout
3	-Vout
4	-Vout

- Unit:mm
- General tolerance
- Mass 260g max.
- (Chassis tightening torque)<0.49N·m<5kgf·cm>max.

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ESS15-3.3 ESS15-48 ESS15-12 ESS15-24 ESS15-15 ESS15-36 ESS15-05