

**Model:** ES60NA Series

**Approvals :** CE CB

**60 Watts single output**

**Features:**

**Size :** 130 \* 85 \* 38 mm (L\*W\*H)

- \* Universal AC input 90~264Vac.
- \* High efficiency design .
- \* Built-in constant current limiting design.
- \* Operation from -20°C~50°C full load.
- \* Protections: SCP / OVP / OLP .
- \* Cooling by free air convection.
- \* No load Power consumption < 0.75 Watts.
- \* 2 years warranty .



**Specifications:**

Model No.		ES60NA-3.3	ES60NA-5	ES60NA-12	ES60NA-15	ES60NA-24	ES60NA-48	
Output	DC Voltage	3.3V	5V	12V	15V	24V	48V	
	Rated Current Range	0~12A	0~12A	0~5A	0~4A	0~2.5A	0~1.25A	
	Rated Max. Power	39.6W	60W	60W	60W	60W	60W	
	Ripple & Noise (max)	80mV	80mV	120mV	150mV	150mV	240mV	
	Efficiency	73%	78%	83%	84%	85%	86%	
	Voltage Adjustment Range	3.15-3.5V	4.5-5.5V	10-13V	13.5-18V	20-27V	41-52V	
	Voltage Tolerance	±2%	±2%	±1%	±1%	±1%	±1%	
	Rise Time	<50ms at full load						
	Set up Time	300ms/230vac 800ms/115vac						
Hold Time	>12ms at full load							
Input	Voltage Range	90 Vac ~ 264 Vac or 127-370VDC						
	Frequency Range	47 Hz ~ 63 Hz						
	AC Current	1.1A@110VAC / 0.65A@230VAC						
	Inrush Current	Cold start 40A						
	Leakage Current	<2mA / 240 Vac						
Protections	Over Load	over 110~135% output rating current and by constant current mode . recovers automatically after fault condition has been removed.						
	Short Circuit	hiccup mode. recovers automatically after fault condition has been removed.						
	Over Voltage	3.8-4.5V	5.75-6.5V	14-16V	17.3-21V	29-33.6V	57-67V	
		Shutdown output voltage ,re-power on to restart						
Environment	Operation Temp.	-20°C~50°C full load , de-rating : 51-65 °C 2.5% / °C.						
	Operation Humidity	20% ~ 90% RH non-condensing.						
	Storage Temp.	-40 ~ +80°C						
	Storage Humidity	10% ~ 90% RH						
	Vibration	10 ~ 500 Hz, 2G 10 min. / 1 cycle, period for 60 min. each along X, Y, Z axes.						
Safety & EMC	Safety Standards	EN60950-1 .Approval						
	Withstand Voltage	I/P - O/P: 3 K VAC I/P - FG: 1.5KVAC O/P - FG: 0.5KVAC						
	Isolation Resistance	100M ohms / 500VDC at 25 °C.						
	EMI Conduction&Radiation	EN55022 class B, CISPR22 class B						
	Harmonic Current	EN61000-3-2, -3						
EMS Immunity	EN61000-4-2, 3, 4, 5, 6, 8, 11 Light industry level, criteria A							
Others	MTBF	400k hours min. MIL-HDBK-217F(25°C)						
	Dimension(L*W*H)	130*85*38mm						
	Packing(L*W*H)/Carton	400*265*200mm / 45 PCS						
	Weight	0.36KG/PCS N.W: 17.2KG/Carton						
Remark	1. All specification measured at 230 vac input and 25 °C ambient . 2. Ripple & noise are measured at 20MHZ bandwidth oscilloscope and with 0.1uf & 47uf parallel capacitor.							