



E-Star Power Development Co., Ltd. (E-STAR)

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## 12W LED Driver power supply < APC-12E



### ■ Features

- Constant current design
- Protections: Short circuit / Over voltage
- Fully isolated plastic case
- Small and compact size
- Cooling by free air convection
- Class II power unit, no FG
- No load power consumption <0.5W
- IP42 design
- Suitable for LED lighting and moving sign applications
- 100% full load burn-in test
- Low cost / High reliability
- 2 years warranty

### ■ Applications

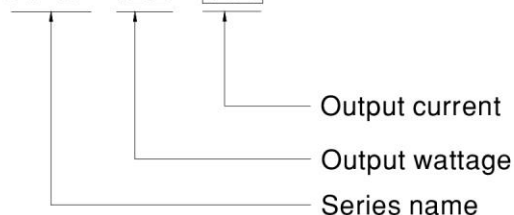
- Suitable for LED related fixture or appliance (such as LED Decoration or Advertisement devices)

### ■ Description

APC-12E series is one 12W AC/DC constant current mode single output LED power supply. It accepts input 180~264VAC and provides two models with different output current, 350mA and 700mA, respectively, that the small wattage LED applications employ the most frequently. Exploiting Class II design (without FG pin) and adopting the 94V-0 flame retardant plastic enclosure, APC-12E ideally fits the entry-level LED applications.

### ■ Model Encoding

**APC - 12E - 700**





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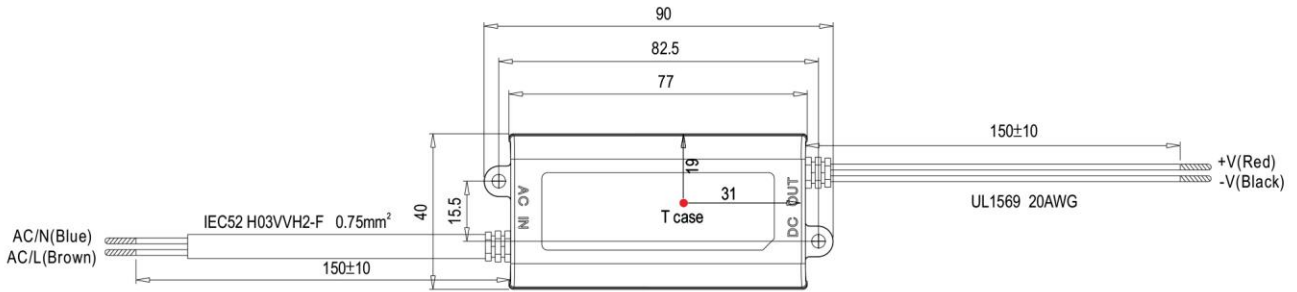
**SPECIFICATION**

MODEL		APC-12E-350	APC-12E-700
OUTPUT	RATED CURRENT	350mA	700mA
	DC VOLTAGE RANGE	9~36V	9~18V
	RATED POWER	12.6W	12.6W
	RIPPLE & NOISE (max.) <sup>Note.2</sup>	300mVp-p	250mVp-p
	VOLTAGE TOLERANCE <sup>Note.3</sup>	±5.0%	
	CURRENT ACCURACY	±8.0%	
	LINE REGULATION	±1.0%	
	LOAD REGULATION	±3.0%	
	SETUP, RISE TIME	500ms, 180ms / 230VAC	
	HOLD UP TIME (Typ.)	20ms/230VAC at full load	
INPUT	VOLTAGE RANGE <sup>Note.4</sup>	180 ~ 264VAC    254 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	PF>0.5/230VAC at full load	
	EFFICIENCY (Typ.)	81%	79%
	AC CURRENT	0.2A/230VAC	
	INRUSH CURRENT (Typ.)	COLD START 70A(twidth=120μs measured at 50% Ipeak) at 230VAC	
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	17 units (circuit breaker of type B) / 29 units (circuit breaker of type C) at 230VAC	
	LEAKAGE CURRENT	0.25mA / 240VAC	
PROTECTION	OVER VOLTAGE	39.6~ 46.8V	20.7~ 24.3V
		Protection type : Shut off o/p voltage, clamping by zener diode	
ENVIRONMENT	WORKING TEMP.	-30 ~ 70°C (Refer to "Derating Curve")	
	WORKING HUMIDITY	20 ~ 90% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.2%/°C (0 ~ 50°C)	
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes	
SAFETY & EMC (Note 5)	SAFETY STANDARDS	ENEC EN61347-1, EN61347-2-13, EN62384, IP42 approved	
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC	
	ISOLATION RESISTANCE	I/P-O/P:>100M Ohms / 500VDC / 25°C / 70% RH	
	EMC EMISSION	Compliance to EN55015,EN61000-3-2 Class A,EN61000-3-3	
	EMC IMMUNITY	Compliance to EN61547,EN61000-4-2,3,4,5,6,8,11; light industry level(surge 2KV), criteria A	
OTHERS	MTBF	1145.7K hrs min.    MIL-HDBK-217F (25°C)	
	DIMENSION	77*40*29(L*W*H)	
	PACKING	0.08Kg; 120pcs/11.8Kg/1.06CUFT	
NOTE	<ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>Derating may be needed under low input voltage. Please check the static characteristic for more details.</li> <li>The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.</li> </ol>		

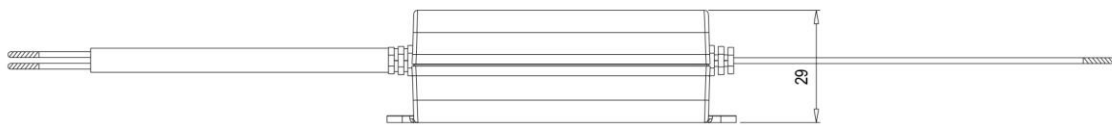
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**Mechanical Specification**

Unit:mm

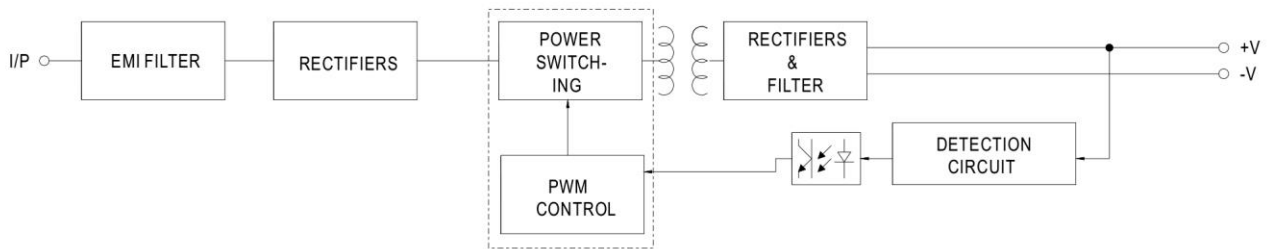


※ T case: Max. Case Temperature

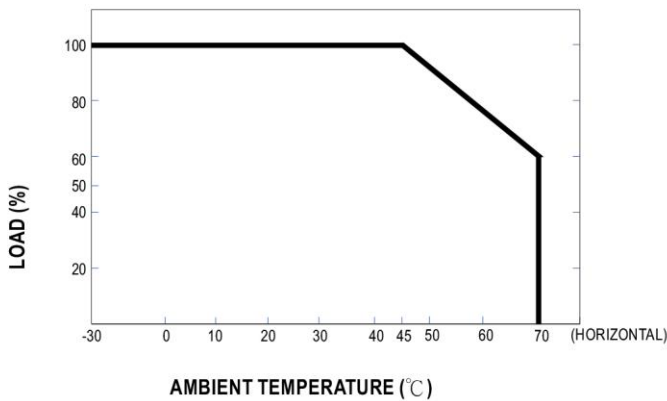


**Block Diagram**

fosc : 67KHz



**Derating Curve**



**Static Characteristics**

