

Features

- Ultra-wide Voltage Input Range 85~305V AC or 100~430V DC
- Super Small Design
- Operating Temperature: 40°C~+85°C
- Low Ripple & Noise, High Efficiency
- Low no-load Power Consumption
- Safety Standards to IEC/EN 62368-1
- Certified to UKCA, CE, TUV-GS, RoHS & REACH
- Protection: SCP, OCP, OVP
- Three Years Warranty



Certified to UKCA, CE, TUV-GS, RoHS & REACH & EN 62368-1/IEC 62368-1 Standards and complies with Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

Model Number Information

56YMC	15	S	□	xx
Series Name	Rated Wattage	Super-slim	: Enclosed T: Terminal Block D: DIN Rail	Output Voltage

Models

Model Number	DC Voltage (V)	Rated Current (A)	Rated Power (W)	Efficiency (%)	Max. Capacitive Load (uF)
56YMC15□-3.3	3.3	4	13.2	82.0	6600
56YMC15□-5	5	3	15	85.0	5000
56YMC15□-9	9	1.67	15.03	84.0	3000
56YMC15□-12	12	1.25	15	85.0	2000
56YMC15□-15	15	1	15	85.0	1500
56YMC15□-24	24	0.625	15	86.0	680

Input Specifications

Input Voltage	85~305V AC/100~430V DC
Frequency Range	47-63Hz
AC Current	0.45A at 115VAC / 0.30A at 230VAC
Inrush Current	Cold Start 30A at 115V AC / 60A at 230V AC
Leakage Current	< 0.1mA/277V AC, 50Hz

Output Specifications

Ripple & Noise	70mVp-p	All Models
Voltage Tolerance	±2.0%	All Models
Line Regulation	±0.5%	All Models
Load Regulation	±1.0%	All Models
No Load Power Consumption	0.1W / 230V AC	3.3v, 5v, 9v, 12v, 15v
	0.12W / 230V AC	24v
Set up	1000ms, 30ms at 230V AC at full load	
Rise Time	1000ms, 30ms at 115V AC at full load	
Hold up Time	55ms at 230V AC at full load / 10ms at 115V AC at full load	

Protection

Over Current	≥110% Rated Output current, recovers automatically after current goes down.	
Short Circuit	Hiccup mode allows long short circuit mode and re-powers on to recover.	
Over Voltage	≤7.5V DC	3.3v
	≤7.5V DC	5v
	≤15V DC	9v
	≤20V DC	12v
	≤20V DC	15v
	≤30V DC	24v
	Output voltage clamp or Hiccup mode	

Environmental Characteristics

Working Temp	-40 °C to +85 °C (Refer to "Derating Curve")
Working Humidity	20~95% RH non-condensing
Storage Temp., Humidity	- 40°C~+85°C, 10 ~ 95% RH non-condensing
Temp. Coefficient	± 0.02% / °C(0~50°C)
MTBF	3200K hrs min. MIL-HDBK-217F (25°C)
Projected Lifetime	> 130Kh/220V AC, 25°C at full load
	> 20Kh/220V AC, 55°C at full load
	> 27Kh/220V AC, 55°C at 80% load
Altitude Application	5000m
Cooling Method	Natural Air Cooling

Safety & EMC

Safety Standards	IEC/EN/BS EN 62368-1, EN61558-1, EN60335-1
	Conform to UL62368-1, IEC/EN60601-1, ANSI/AAMI ES60601-1
Withstand Voltage	I/P-O/P: 3.00KV AC
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/ 500V DC/25 °C/70% RH
EMC Emission	EN55032(CISPR32) Class B, CISPR11(EN55011) CLASS B, EN55014-1
EMC Immunity	IEC/EN55014-2 IEC/EN61000-4-2, 3, 4, 5, 6, 11

Notes:

1. All parameters without special description are measured under the conditions of input 230VAC, rated load, ambient temperature 25 ° C, and ambient humidity less than 75%.

- Ripple & noise are measured from peak to peak with a bandwidth limit of 20MHz(0.1uf and 47uf /50V parallel capacitor under DC output full load, AC nominal input 25 °C ambient temperature).
- Tolerance: includes set up tolerance, line and load regulation.
- Derating may be needed under low input voltages. Please check the derating curve for more details.
- The power supply is considered a component which will be installed into the final equipment. The final equipment must be confirmed to meet EMC directives. For guidance on performing these EMC tests, please refer to "EMI testing of component power supplies."
- The ambient temperature derating of 3.5°C/1000m is needed for operating altitude greater than 2000m(6500ft).

Dimensions & Weight

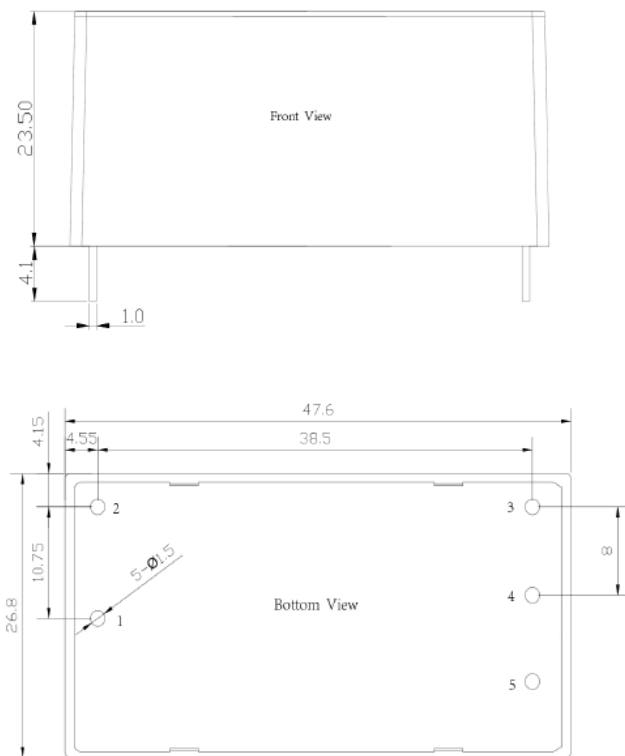
	Measurements	Weight
56YMC15	47.6 x 26.8 x 23.5mm / 1.87 x 1.06 x 0.93in	48g
56YMC15T	76.0 x 31.5 x 32.3mm / 2.99 x 1.24 x 1.27in	68g
56YMC15D	76.0 x 31.5 x 36.9mm / 2.99 x 1.24 x 1.45in	88g

Packaging

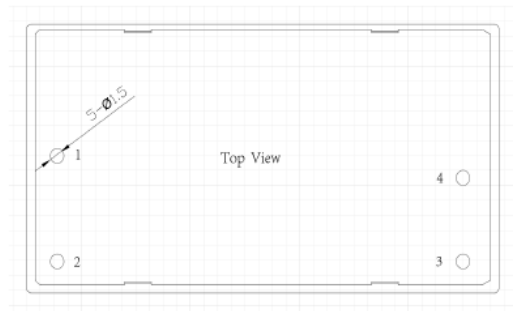
Carton Size	28 x 15 x 24cm / 11 x 5.9 x 9.44 in	
Master Carton Quantities	200pcs/Carton	56YMC15
	72pcs/Carton	56YMC15T
	72pcs/Carton	56YMC15D

Derating Curves



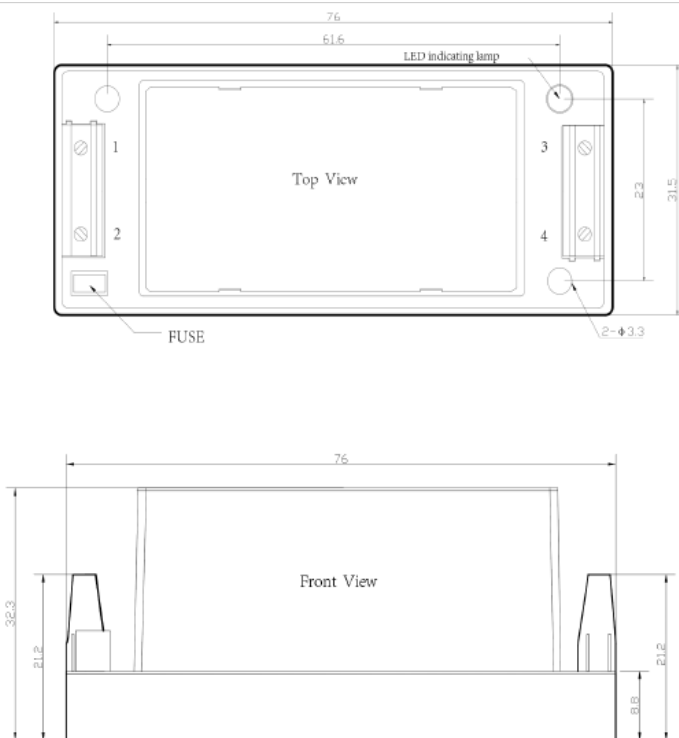
56YMC15 Dimensions and Recommended Layout


third-angle projection



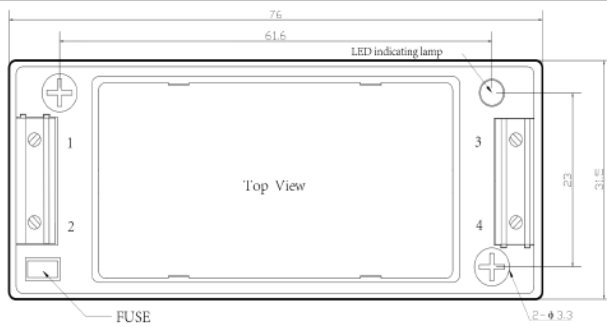
Pin-Out	
Pin	Function
1	AC/L
2	AC/N
3	-VO
4	+VO
5	No Pin

annotation:
 unit of size:mm
 Pin diameter tolerances:±0.10 [±0.004]
 General tolerances:±0.50 [±0.020]

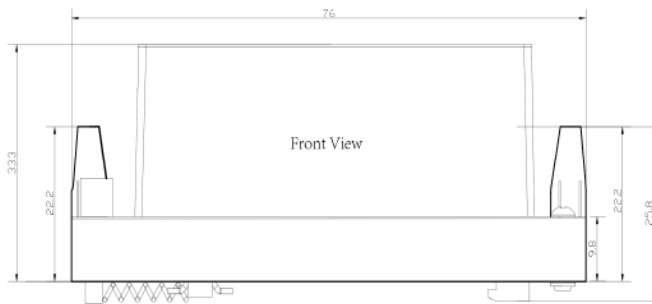
56YMC15T Dimensions and Recommended Layout


Pin Mode	
Pin	Function
1	AC/N
2	AC/L
3	+VO
4	-VO

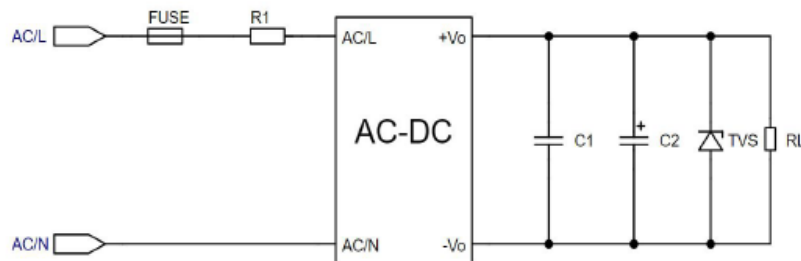
annotation:
 unit of size:mm
 Connection wire diameter:24-12AWG
 tightening torque:Max 0.4 N*m
 Unmarked tolerance:±1.00 [±0.039]

56YMC15D Dimensions and Recommended Layout


Pin Mode	
Pin	Function
1	AC/N
2	AC/L
3	+VO
4	-VO

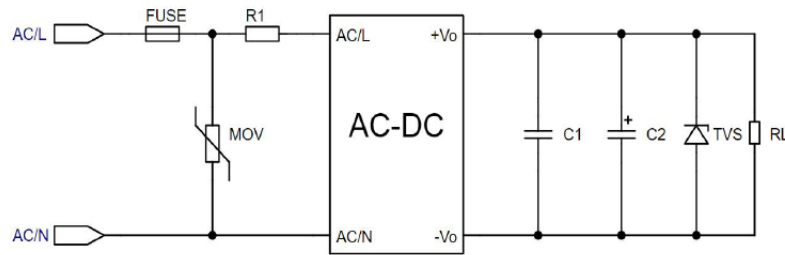


annotation:
 unit of size:mm
 Connection wire diameter:24-12AWG
 tightening torque:Max 0.4 N.m
 Guide type:TS35,Guide rails need to be grounded
 Unmarked tolerance:±1.00 [±0.039]

Typical Application Circuit
Figure 1: Typical application circuit


MODEL	FUSE	R1	C1	C2	TVS
56YMC15□-3.3	3.15A/300V, Slow fuse, must be connected	6.8Ω/3W (Wire Wound resistor must be connected)	1uF/50V	220uF/16V	SMBJ7.0A
56YMC15□-5				220uF/16V	SMBJ7.0A
56YMC15□-9				100uF/25V	SMBJ12A
56YMC15□-12				100uF/25V	SMBJ20A
56YMC15□-15				100uF/25V	SMBJ20A
56YMC15□-24				100uF/35V	SMBJ30A

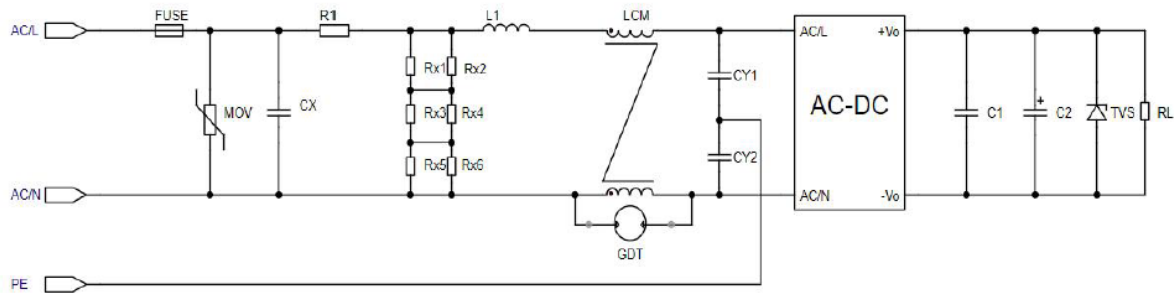
EMC Solution, Recommended Circuit

Figure 2: EMC Recommended circuits for higher requirements


Component Type	Recommended Value
MOV	14D561K

Figure 3: I device recommendation circuit

(Recommended when the output end of the product needs to be connected to PE or connected to PE through a Y cap)



Component Type	Recommended Value
FUSE	3.15A/300V Slow fuse must be connected
MOV	14D561K
CX	334K/305V AC
R1	12Ω/5W (Winding resistor, must be connected)
L1	1.2mH/0.5A
CY1/CY2	2.2nF/400VAC
GDT	300V/1KA
LCM	20mH