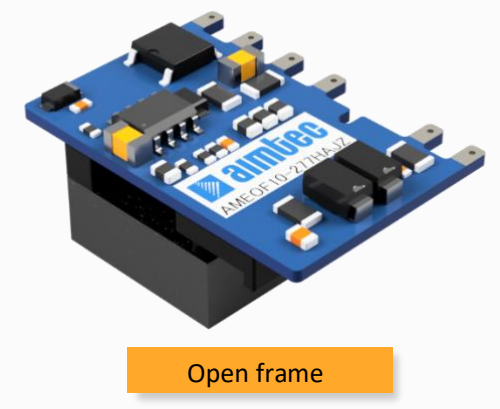


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AMEOFL10-277HAJZ



Open frame

The AMEOFL10-277HAJZ series is one of Aimtec's highly efficient, green 10W AC-DC converter series. It features an ultra-wide input range accepting either AC or DC voltage, high efficiency, compact size in an open-frame, low power consumption and CLASS II reinforced insulation. A variety of EMC external circuits enable this series to meet the needs of multiple industries.

This 10W converter offers great operating temperatures, from -40°C to 85°C and also boasts an isolation of 3600VAC for improved reliability and system safety. Furthermore, a high MTBF of 1,000,000h, output short circuit protection (OSCP) and an output over-current protection (OCP) come standard with the series.

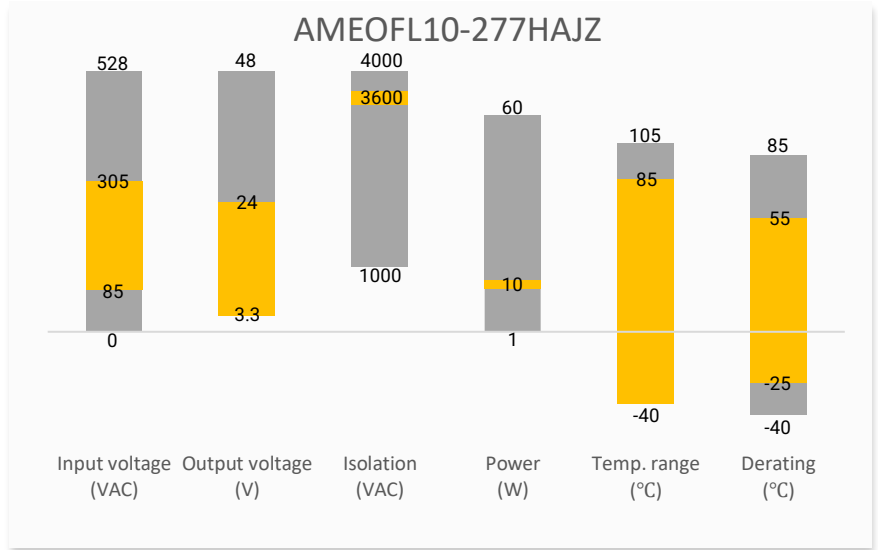
All models are suitable for industrial control, electric power, instrumentation and smart home applications.

Features

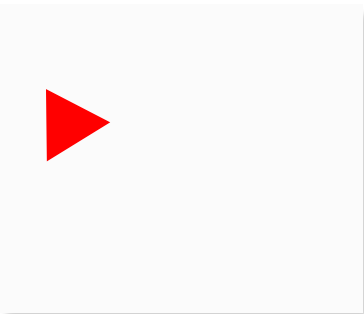


- Universal Input: 85 - 305VAC/90 - 430VDC
- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 3600VAC
- Low ripple & noise, 150mV(p-p), max.
- Output short circuit, over-current
- Open frame package

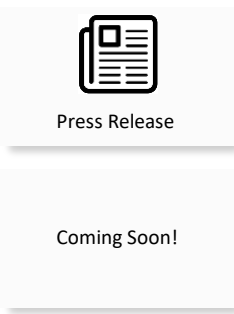
Summary



Training



Product Training Video
(click to open)



Application Notes

Applications



Power Grid Industrial Telecom Instrumentation

Models & Specifications

Single Output							
Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Max Output wattage (W)	Output Voltage (V)	Output Current max (A)	Maximum capacitive load (μF)	Efficiency @ 230VAC (%)
AMEOFL10-3S277HAJZ	85~305/47~63	90~430	6.6	3.3	2	1500	70
AMEOFL10-5S277HAJZ	85~305/47~63	90~430	10	5	2	1500	77
AMEOFL10-9S277HAJZ	85~305/47~63	90~430	10	9	1.1	1000	80
AMEOFL10-12S277HAJZ	85~305/47~63	90~430	10	12	0.83	680	83
AMEOFL10-15S277HAJZ	85~305/47~63	90~430	10	15	0.67	470	83
AMEOFL10-24S277HAJZ	85~305/47~63	90~430	10	24	0.42	330	84
AMEOFL10-3SL277HAJZ	85~305/47~63	90~430	6.6	3.3	2	1500	70
AMEOFL10-5SL277HAJZ	85~305/47~63	90~430	10	5	2	1500	77
AMEOFL10-9SL277HAJZ	85~305/47~63	90~430	10	9	1.1	1000	80
AMEOFL10-12SL277HAJZ	85~305/47~63	90~430	10	12	0.83	680	83
AMEOFL10-15SL277HAJZ	85~305/47~63	90~430	10	15	0.67	470	83
AMEOFL10-24SL277HAJZ	85~305/47~63	90~430	10	24	0.42	330	84

Input Specifications				
Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC		300	mA
	230VAC		150	mA
Inrush current	115VAC	15		A
	230VAC	30		A
External fuse	Slow blow type	1		A

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	10% - 100% load	± 2.5	± 5	%
Line regulation	Full load	± 0.75	± 1.5	%
Load regulation	10% - 100% load	± 1.5	± 3	%
Ripple & Noise	20MHz bandwidth, 10% - 100% load	80	150	mV p-p

NOTE: Performance may not meet all the specifications when operating at <10% load.

Isolation Specifications				
Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec, 5mA max		3600	VAC
			5000	VDC

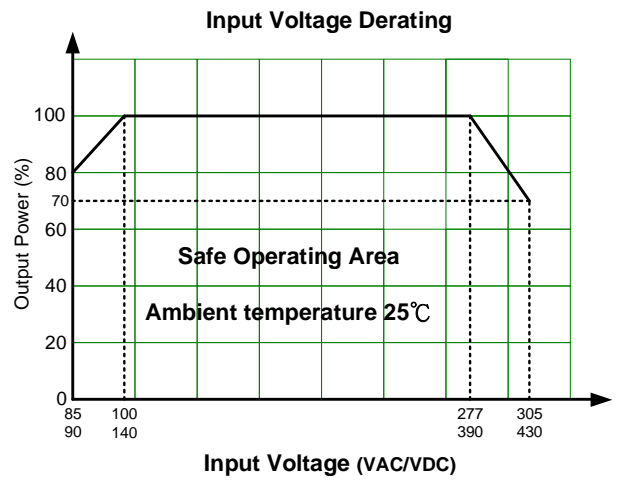
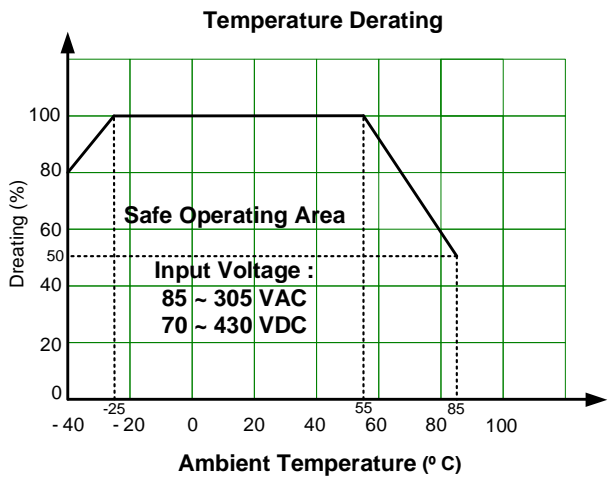
General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Safety class		Class II		

Over Current protection	Auto recovery	≥ 110		% of I _{out}
Short circuit protection	Hiccup, Continuous, Auto recovery			
Power consumption	230VAC	0.1	0.15	W
Power derating	-40 °C to -25 °C	1.33		% / °C
	+55 °C to +85 °C	1.67		% / °C
	85VAC ~ 100VAC	1.33		% /VAC
	277VAC ~ 305VAC	1		% /VAC
Operating temperature	-40 to +85			°C
Storage temperature	-40 to +105			°C
Temperature coefficient			±0.2	% / °C
Cooling	Free air convection			
Storage Humidity			95	% RH
Weight	S277HAJZ series	8.2		g
	SL277HAJZ series	9.0		g
Dimensions (L x W x H)	S277HAJZ series	1.14 x 0.68 x 0.55 inches (28.84 x 17.20 x 14.05 mm)		
	SL277HAJZ series	1.22 x 0.79 x 0.59 inches (31.00 x 20.00 x 14.75 mm)		
MTBF	> 1 000 000 hrs (MIL-HDBK -217F, t=+25°C)/Full Load			

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

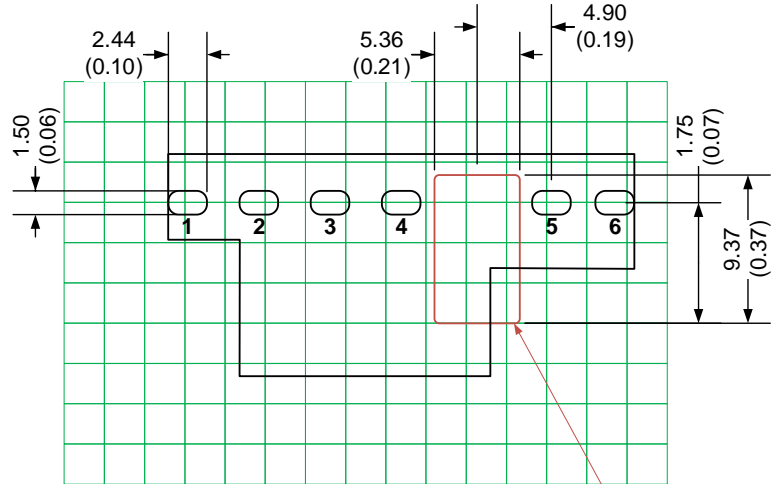
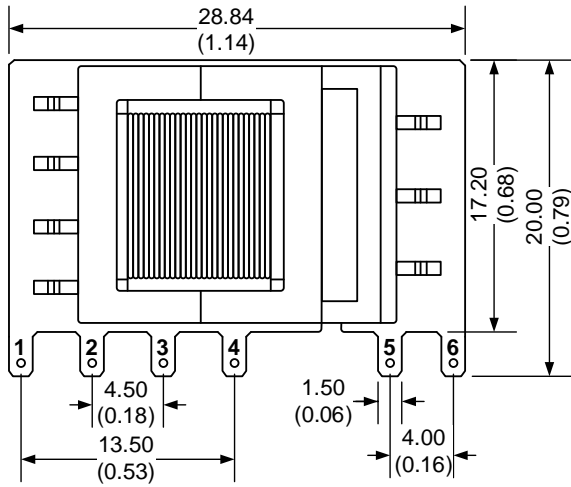
Safety Specifications		
Parameters		
Standards	Design to meet IEC/EN60335, IEC/EN61558, IEC/EN/UL62368	
	EMC - Conducted and radiated emission	CISPR32 / EN55032, Class A (With EMI class A recommended circuit) CISPR32 / EN55032, Class B (With EMI class B recommended circuit)
	Electrostatic Discharge Immunity	IEC 6300-4-2 Contact ±6KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 6300-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 6300-4-4 ±2KV, Criteria B (With EMS Class III recommended circuit) IEC 6300-4-4 ±4KV, Criteria B (With EMS Class IV recommended circuit)
	Surge Immunity	IEC 6300-4-5 L-L ±1KV, Criteria B (With EMS Class III recommended circuit) IEC 6300-4-5 L-L ±2KV, Criteria B (With EMS Class IV recommended circuit)
	RF, Conducted Disturbance Immunity	IEC 6300-4-6 10Vr.m.s, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 6300-4-11 0%, 70%, Criteria B

Derating



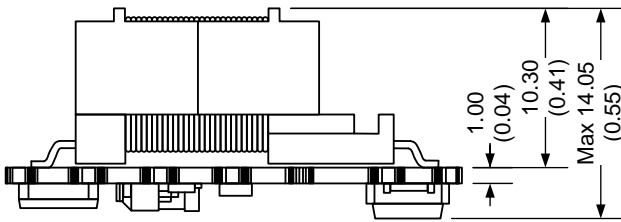
Dimensions

S277HAJZ series



Note : Grid 2.54*2.54 mm

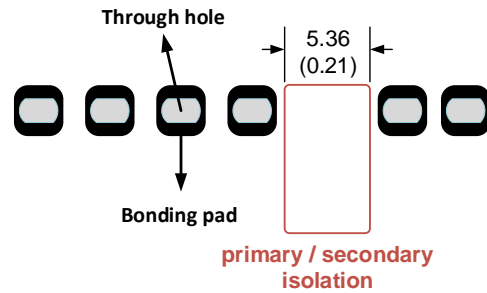
Cutting area



Note:

Unit: mm [inch]

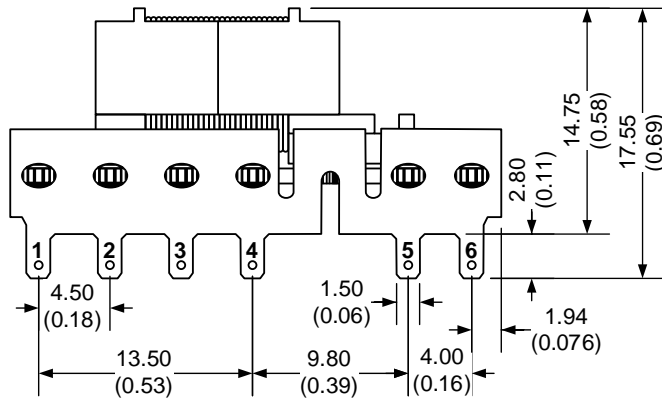
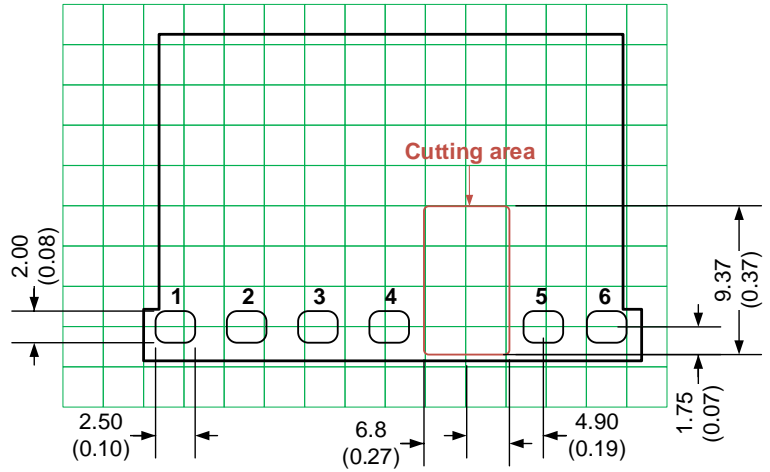
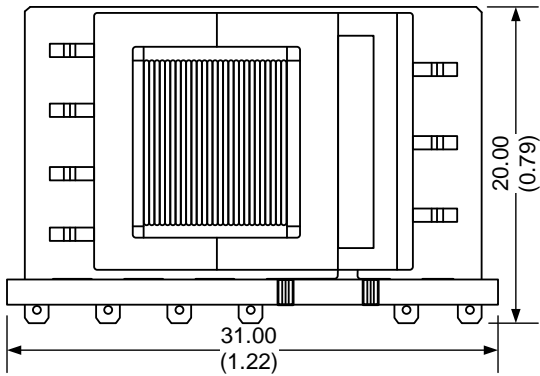
General tolerances: ± 1.00 [± 0.040]



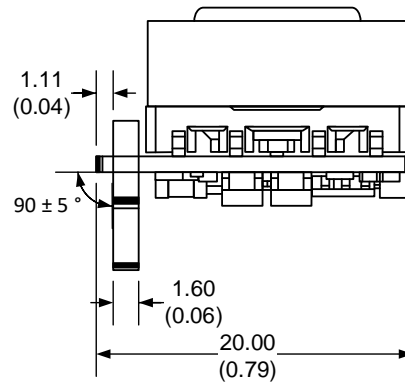
Pin Output Specifications	
Pin	Function
1	+V Input (L)
2	-V Input (N)
3	+V_Cap
4	-V_Cap
5	-V Output
6	+V Output

1. It is necessary to add C1 between pin3 to pin4
2. It is necessary to add circuit to the output as shown in recommended circuit
3. The layout of the device is for reference only, please refer to the actual product
4. The slots between pin 4 and pin 5 are required for creepage distance consideration.
5. For primary and secondary side external components, >6.4mm creepage is required.

SL277HAJZ series

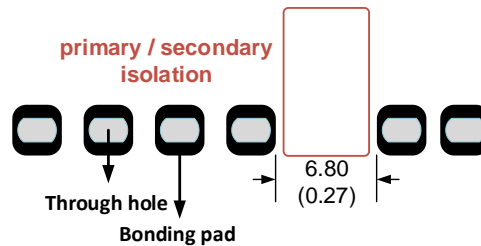


Note : Grid 2.54*2.54 mm



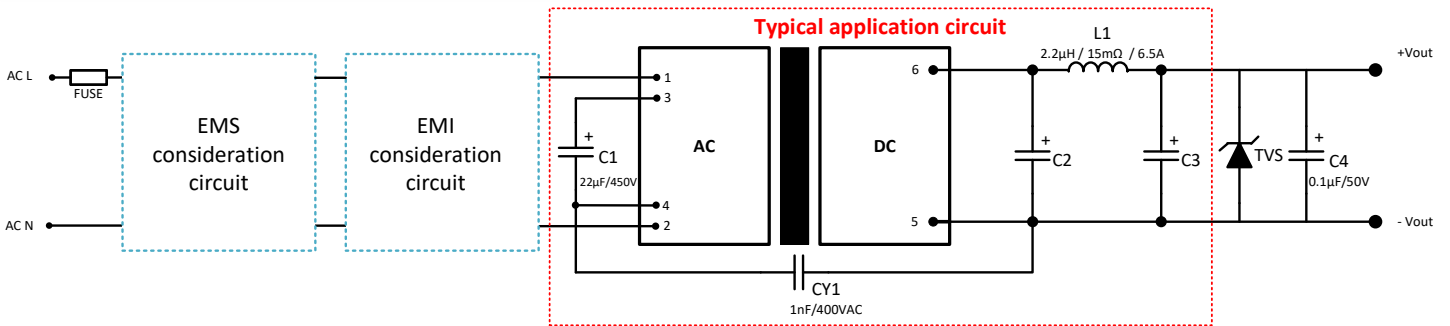
Pin Output Specifications	
Pin	Function
1	+V Input (L)
2	-V Input (N)
3	+V_Cap
4	-V_Cap
5	-V Output
6	+V Output

Note:
Unit: mm [inch]
General tolerances: $\pm 1.00 [\pm 0.040]$



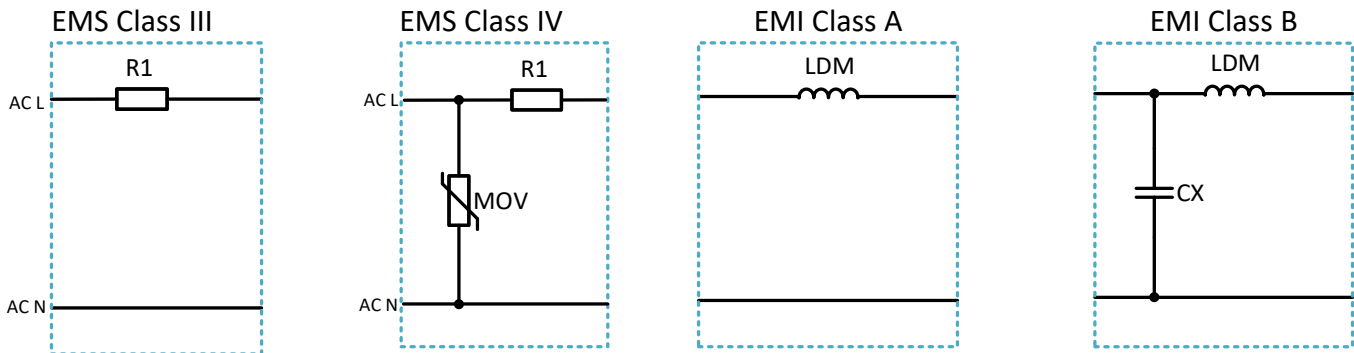
1. It is necessary to add C1 between pin3 to pin4
2. It is necessary to add circuit to the output as shown in recommended circuit
3. The layout of the device is for reference only, please refer to the actual product
4. The slots between pin 4 and pin 5 are required for creepage distance consideration.
5. For primary and secondary side external components, >6.4mm creepage is required.

Recommended EMC external circuit



- With the variable combination of below EMS and EMI circuits which offer the different level of protection.
- The components are the must for typical application circuit in red framed area.
- A suppressor diode (TVS) is recommended to protect the application in case of a converter failure and specification should be 1.2 times of the output voltage.

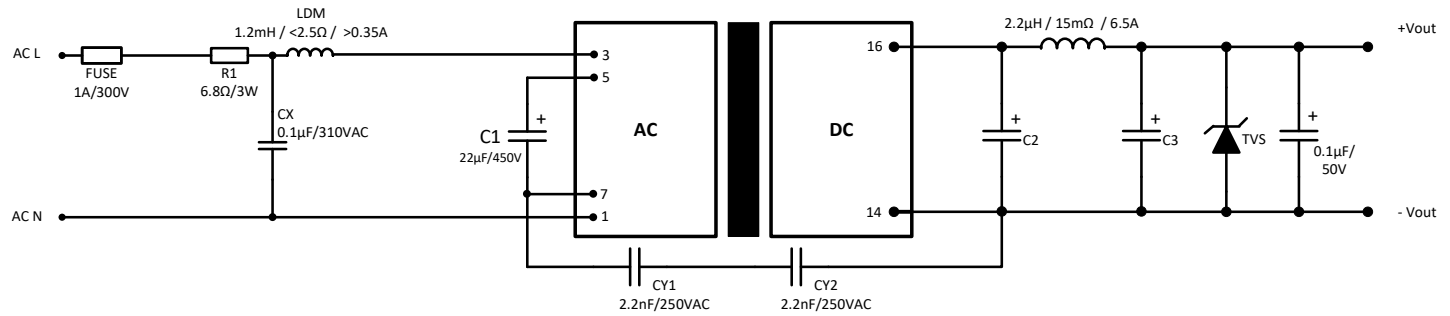
EMI & EMS Recommended Circuit



Component	EMS		EMI	
	Class III	Class IV	CLASS A	CLASS B
MOV	-	S14K350	-	-
R1 (Wire-wound resistor)	6.8Ω/3W	6.8Ω/3W	-	-
CX	-	-	-	0.1µF/310VAC
LDM	-	-	1.2mH / <2.5Ω / >0.35A	1.2mH / <2.5Ω / >0.35A
FUSE	1A/300V slow blow	2A/300V slow blow	-	-

Model name	C2	C3	TVS
AMEOFL10-3S(L)277HAJZ	1500µF/6.3V solid-state capacitor	330µF/25V	7V
AMEOFL10-5S(L)277HAJZ	820µF/16V solid-state capacitor	330µF/25V	7V
AMEOFL10-9S(L)277HAJZ	470µF/16V solid-state capacitor	150µF/35V	12V
AMEOFL10-12S(L)277HAJZ	470µF/16V solid-state capacitor	150µF/35V	20V
AMEOFL10-15S(L)277HAJZ	470µF/35V	220µF/35V	20V
AMEOFL10-24S(L)277HAJZ	470µF/35V	47µF/50V	30V

Recommended EMC circuit for EN60335



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