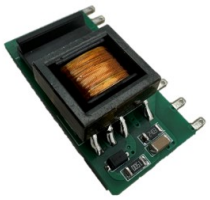
Product Feature

1. Universal Input：85-528VAC（110-745VDC）
2. Operating temperature range：-40℃ - +85℃
3. Small size, high efficiency
4. Output short-circuit protection
5. Low power consumption, environmental protection
6. Industrial product technical design



RoHS CE 3 years Warranty

Selection Guide

Part No.	Input Voltage (VAC)	Out Power（W)	Out Voltage (VDC)	Out Current (mA)MAX	Full Load Efficiency %（Typ.）	Capacitive Load(μF) Max.
QO10-26B05R3	85-528	10	5	1000	77	1500
QO10-26B09R3		10	9	550	79	1000
QO10-26B12R3		10	12	420	82	680
QO10-26B15R3		10	15	330	82	470
QO10-26B24R3		10	24	210	83	330

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage	AC Input	85	--	528	VAC
	DC Input	100	--	745	VDC
Input Current	110VAC	--	--	0.30	A
	230VAC	--	--	0.30	
Input Frequency		47	--	63	Hz
Fuse		1A，slow-blow, required			
Leakage Current		0.2mA RMS typ. 230VAC/50Hz			
Hot Plug		Unavailable			

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy	10% - 100%load	--	±5	--	%
Linear Regulation	Rated load	--	±1.5	--	
Load Regulation	10% - 100%load	--	±3.0	--	
Ripple & Noise	20MHz bandwidth, 10% - 100%load	--	100	180	mV
Temperature Coefficient		--	±0.2	--	%/℃

Stand-by Power Consumption	230VAC	--	0.10	0.3	W
Min. Load		10	--	--	%
Over Current Protection		110	--	--	%Io
Short-Circuit Protection		Continuous, Self-Recovery			
Hold-up Time	230VAC	--	36	--	ms

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Input-output, test time 1 minute, leakage current less than 5mA	4000	--	--	VAC
Insulation Resistance	Input-output, insulated voltage 500VDC	1000	--	--	MΩ
Power Derating	-40℃ - -25℃	1.5	--	--	%℃
	+55℃ - +85℃	1.8	--	--	
	85VAC - 100VAC	1.5	--	--	%/VAC
	277VAC - 305VAC	0.5	--	--	
Operating Temperature		-40	--	+85	℃
Storage Temperature		-40	--	+105	
Soldering Profile	Wave-soldering	260 ± 5℃; time：5 - 10s			
	Manual-welding	360 ± 5℃; time：3 - 5s			
Safety Standard	IEC/UL62368-1				
Safety Class		CLASS II			
MTBF	MIL-HDBK-217F@25℃	>500,000Kh			

Mechanical Specification

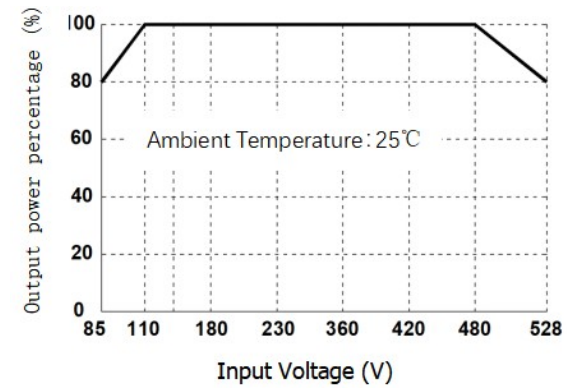
Package Dimensions	38.0 x 20.0 x 15.2 mm
Weight	11.2g (TYP.)
Cooling Method	Free air convection

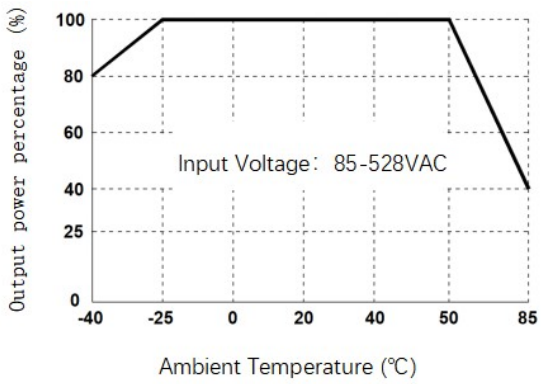
EMC Specifications

EMI	CE	CISPR32/EN55032 CLASS B	
	RE	CISPR32/EN55032 CLASS B	
EMS	RS	IEC/EN61000-4-3 10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4 ±2KV	perf. Criteria B
	Surge	IEC/EN61000-4-5 line to line ±1KV	perf. Criteria B
		IEC/EN61000-4-5 line to line ±2KV（application circuit 2）	perf. Criteria B
	CS	IEC/EN61000-4-6 10Vr.m.s	perf. Criteria A
	ESD	IEC/EN61000-4-2 Contact ±6KV	perf. Criteria B

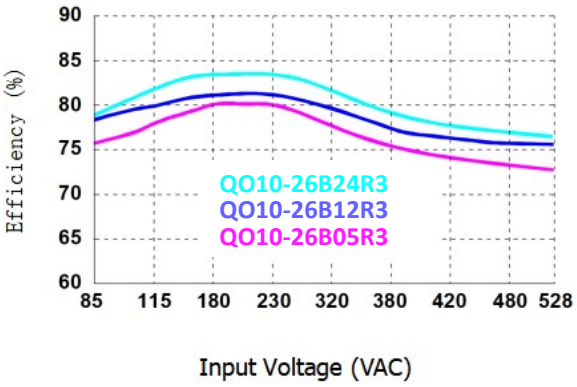
Typical Characteristic Curves

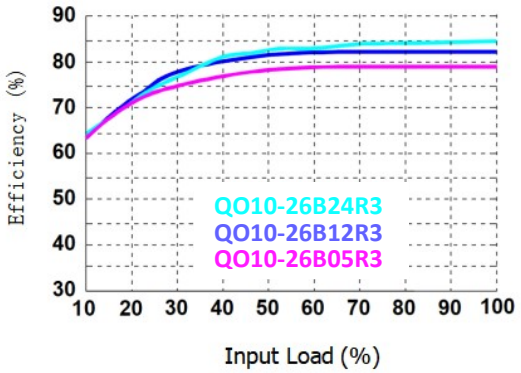
Input voltage Derating Curve	Temperature Derating Curve





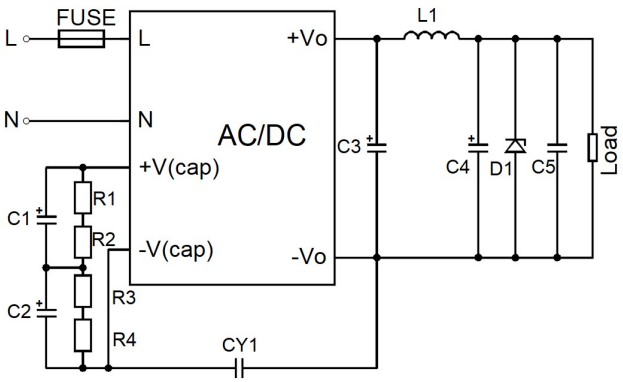
Efficiency VS Input Voltage（Full Load）	Efficiency VS Output Load （Vin=230VAC）





Typical Circuit Design And Application

Application circuit



Reference Table for Selection of Peripheral Devices				
Output voltage	C1（required)	C2（required)	R1，R2，R3，R4	CY1
5VDC	47uF/400V	47uF/400V	1MΩ/1206（required)	1nF/400VAC
9/12VDC	47uF/400V	47uF/400V	1MΩ/1206（required)	
15/24VDC	33uF/400V	33uF/400V	1MΩ/1206（required)	

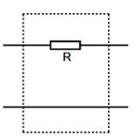
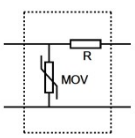
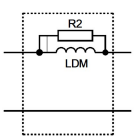
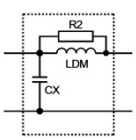
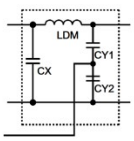
Reference Table for Selection of Peripheral Devices						
Output voltage	FUSE	L1	C3	C4	C5	D1
5VDC	1A/500VAC, slow-blow, required	2.2uH/6A	820uF/16V	680uF/25V	0.1uF/25	D1 is a TVS transistor that can protect the downstream circuit in case of module abnormalities. It is recommended to choose a model that is 1.2 times the output voltage
9/12VDC			470uF/16V	330uF/25V	0.1uF/25	
15/24VDC			470uF/35V	100uF/35V	0.1uF/50	

Note:

1. FUSE, EMC protection, and EMI protection are selected based on actual application needs;
2. C1，C2 is a filtering electrolytic capacitor, which is a required component. It is recommended to use ripple current> 400mA@100KHz Electrolytic capacitors.
3. C3, C4, and L1 form a Pi type filtering circuit, and it is recommended to use high-frequency low resistance electrolytic capacitors or solid-state capacitors.
4. When selecting L1, ripple requirements can be considered, while paying attention to current and internal resistance values.

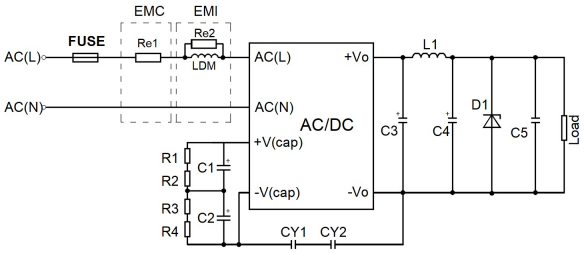
EMS Solutions - Recommended Circuits

Environmental Application - EMC Solution Selection Table						
Recommended circuit	Application environment	Application industry	Input Voltage	Ambient Temperature	EMI	EMS
1	Basic applications	-	85-305VAC	-40℃ - +85℃	Class A	III level
2	Indoor ordinary	Intelligent building/Intelligent agriculture		-25℃ - +55℃	Class B	IV level
3	Indoor industry	Manufacturing workshop		-25℃ - +55℃	Class B	IV level
4	Outdoor ordinary	ITS/Charging point/Communication/Security and protection		-40℃ - +85℃	Class A	IV level
5	Outdoor industry	Electricity/Grid		-40℃ - +85℃	Class B	IV level
6	Strong lightning surge	Electricity dedicated		-40℃ - +85℃	Class B	IV level

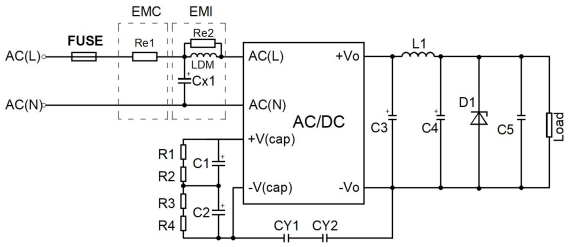
EMS protection circuit design reference		EMI protection circuit design reference		
III level	IV level	Basic applications Outdoor ordinary	Indoor ordinary Indoor industry	Outdoor industry
				

EMC Solutions - Recommended Circuits

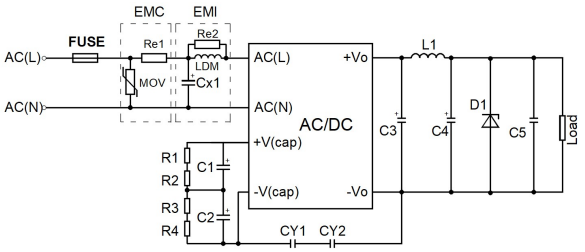
Recommended circuit 1



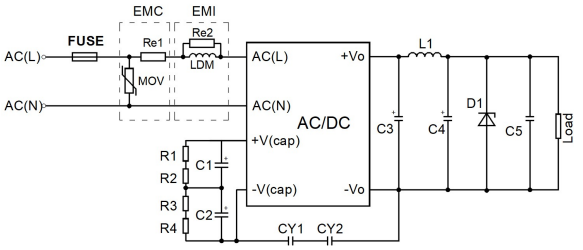
Recommended circuit 2



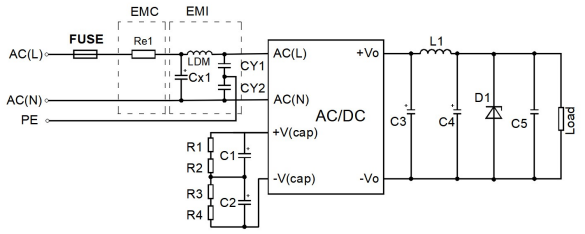
Recommended circuit 3



Recommended circuit 4



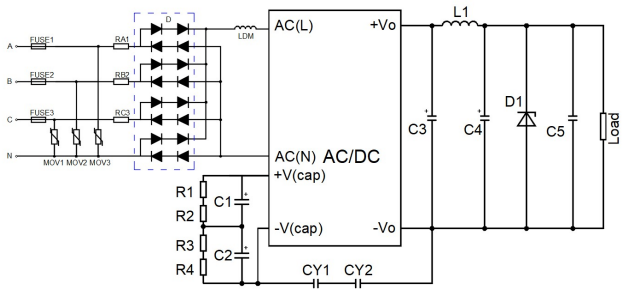
Recommended circuit 5



EMC Recommended Circuit Device Selection Reference Table					
Components		Recommended circuit 1	Recommended circuit 2	Recommended circuit 3	Recommended circuit 4
FUSE（required）		1A/500V，Slow melting		2A/500V，Slow melting	
Re1(wire-wound resistor, required)		6.8Ω/3W			
MOV		14D911K			
LDM1		2.2mH/Max: 4Ω/Min:0.24A			
Re2	5V,9V,12V	10K/1206(1/4W)			
	15V,24V	4.7K/1206(1/4W)			
LDM		2.2mH/Max: 4.8Ω/Min:0.35A			
CX1		0.1uF/480VAC			

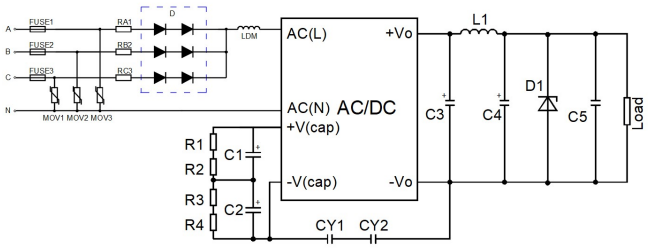
EMC Solutions for Strong Lightning Surge Environments - Recommended Circuits

Recommended circuit 6



Recommended circuits for 4KV differential mode surge--full-wave rectification

Recommended circuit 7

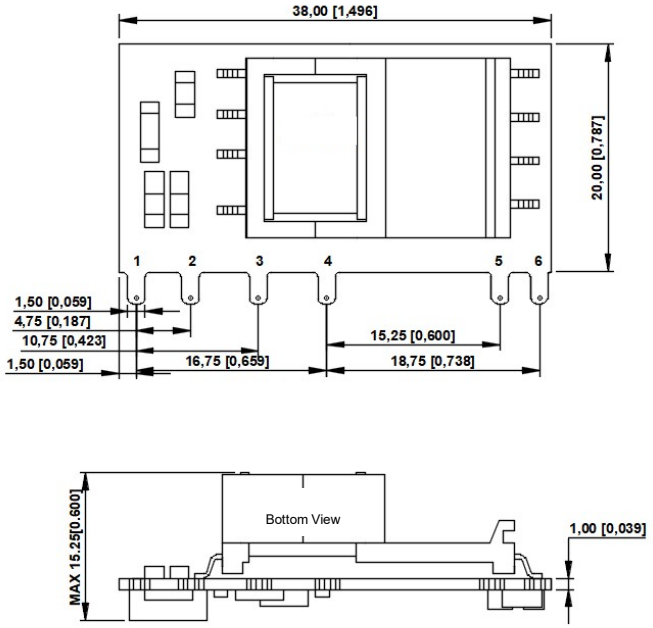


Recommended circuits for 4KV differential mode surge--half-wave rectification

Recommended parameter values for EMC solution circuits		
Model	Recommended circuit 6	Recommended circuit 7
FUSE1，FUSE2，FUSE3(required）	6.8A/500VAC，slow-blow, required	
MOV1，MOV2，MOV3	14D911K	
RA1，RB2，RC3（slow-blow, required）	12Ω/5W	
LDM	2.2mH/Max: 4.8Ω/Min:0.35A	
D	2A/1000V	

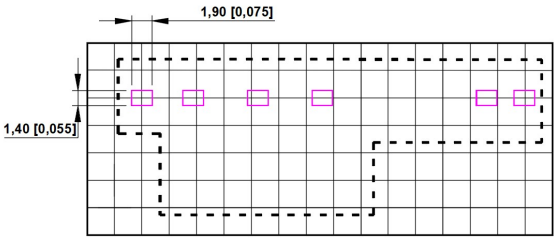
Dimensions and Recommended Layout

Dimensions	PCB Printing Layout



Note:
Unit: mm[inch]
Pin section tolerances:±0.10[±0.004]
General tolerances:±0.50[±0.020]

Grid size：2.54 x 2.54 mm



Pin FunctionTable	
Pin	Function
1	AC(L)
2	AC(N)
3	+V(CAP)
4	-V(CAP)
5	-Vo
6	+Vo

Note：

1. The input voltage cannot exceed the specified range value, otherwise permanent and irreparable damage may be caused;
2. Unless otherwise specified, the parameters in this datasheet were measured at 25℃, humidity 40%~75%, input nominal voltage and output pure resistance mode under full load;
3. All index test methods are based on our company's enterprise standards.