

### Product Feature

1. Ultra-wide input voltage range: 90-528VAC (110-746VDC)
2. Operating temperature range: -25°C~+70°C
3. Small size, high efficiency
4. Output short-circuit protection
5. Low power consumption, environmental protection
6. Industrial product technical design


**3 years  
Warranty**

### Selection Guide

Part No.	Input Voltage (VAC)	Out Power (W)	Out Voltage (VDC)	Out Current (mA)MAX	Full Load Efficiency % (230VAC, Typ.)	Capacitive Load(μF) Max.
QM05-26B05R2	85-305	5	5	1000	76	4000
QM05-26B09R2		5	9	550	78	1000
QM05-26B12R2		5	12	420	80	820
QM05-26B15R2		5	15	330	81	680
QM05-26B24R2		5	24	210	79	330

### Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage	AC Input	90	--	528	VAC
	DC Input	110	--	746	VDC
Input Current	110VAC	--	0.11	--	A
	230VAC	--	0.07	--	
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	--	±2	--	%
Linear Regulation	Rated load	--	±0.5	--	
Load Regulation	10% - 100%load	--	±1.0	--	
Ripple & Noise	20MHz bandwidth, 10% - 100%load	--	100	300	mV
Temperature Coefficient		--	±0.02	--	%/°C
Stand-by Power Consumption	230VAC	--	0.1	0.25	W
Min. Load		0	--	--	%
Over Current Protection		110	--	--	%Io
Short-Circuit Protection		Continuous, Self-Recovery			
Hold-up Time	320VDC	--	40	--	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	100	--	--	MΩ	
Power Derating	+55°C - +85°C	5V/9V/24V	1.67	--	--	%°C
	+55°C - +85°C	12V/15V	1.72	--	--	
		90VAC - 115VAC	1.33	--	--	%/VAC
Operating Temperature		-25	--	+70	°C	
Storage Temperature		-40	--	+105		
Storage Humidity		--	--	85	%RH	
Soldering Profile	Wave-soldering	260 ± 5°C; time: 5 - 10s				
	Manual-welding	360 ± 5°C; time: 3 - 5s				
Safety Standard		IEC/UL62368-1				
Safety Class		CLASS II				
MTBF	MIL-HDBK-217F@25°C	>2000,000h				

**Mechanical Specification**

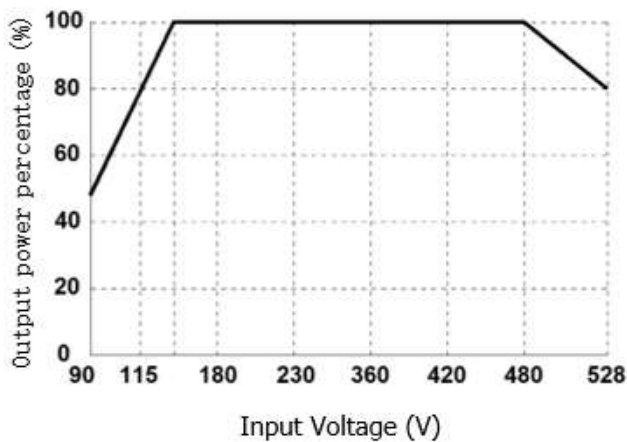
<b>Package Dimensions</b>	50.80 x 25.40 x 17.50 mm
<b>Weight</b>	41g (Typ.)
<b>Cooling Method</b>	Free air convection

**EMC Specifications**

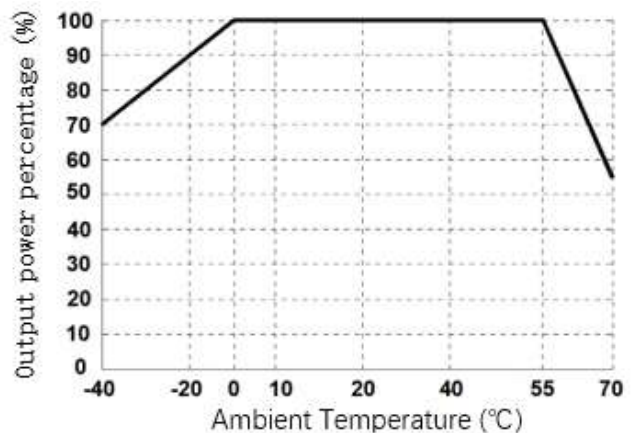
<b>EMI</b>	CE	CISPR32/EN55032 CLASS B		
	RE	CISPR32/EN55032 CLASS B		
<b>EMS</b>	RS	IEC/EN61000-4-3 10V/m	perf. Criteria A	
	EFT	IEC/EN61000-4-4 ±4KV	perf. Criteria B	
	Surge	IEC/EN61000-4-5 line to line ±1KV		perf. Criteria B
		IEC/EN61000-4-5 line to line ±2KV (application circuit 2)		perf. Criteria B
	CS	IEC/EN61000-4-6 10Vr.m.s	perf. Criteria A	
	ESD	IEC/EN61000-4-2 Contact ±6KV/±8KV	perf. Criteria B	

**Typical Characteristic Curves**

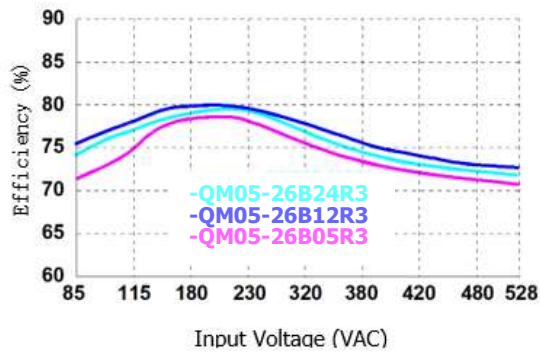
**Input voltage Derating Curve**



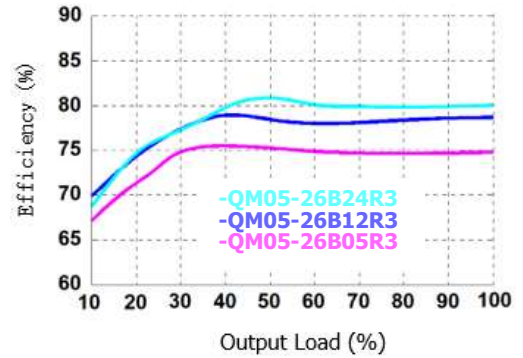
**Temperature Derating Curve**



### Efficiency VS input voltage (Full load)

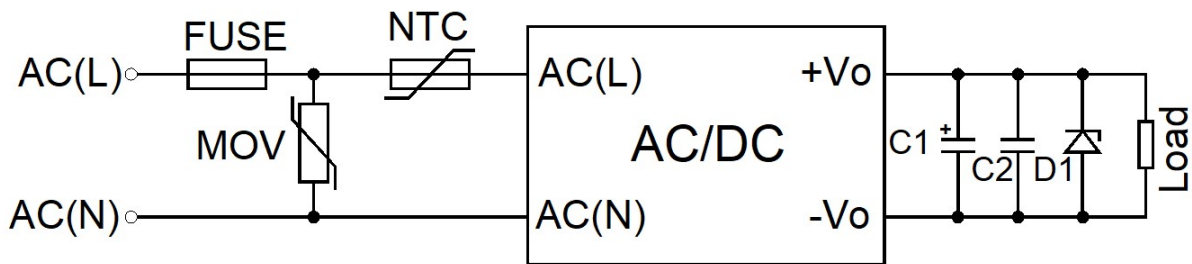


### Efficiency VS out load (Vin=230VAC)



## Typical Circuit Design And Application

### Application circuit (Figure 1)



### Reference Table for Selection of Peripheral Devices

Out Voltage	FUSE	MOV	NTC	C1	C2	D1
5VDC	1A/500VAC slow-blow, required	14D561K	12D-5	150uF/25V	0.1uF/25V	See Note2
9/12VDC				150uF/25V	0.1uF/25V	
15/24VDC				100uF/35V	0.1uF/50V	

**Note:**

- FUSE, Mov and NTC Can be selected based on actual needs.
- 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.

**EMS Solutions - Recommended Circuits**

**EMS Solutions - Recommended Circuits (Figure 2)**

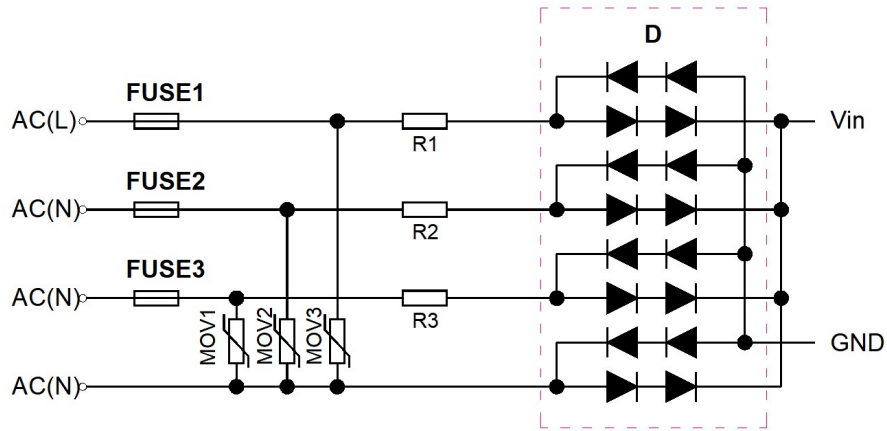


Figure 2: Recommended circuits for 4KV differential mode surge--full-wave rectification

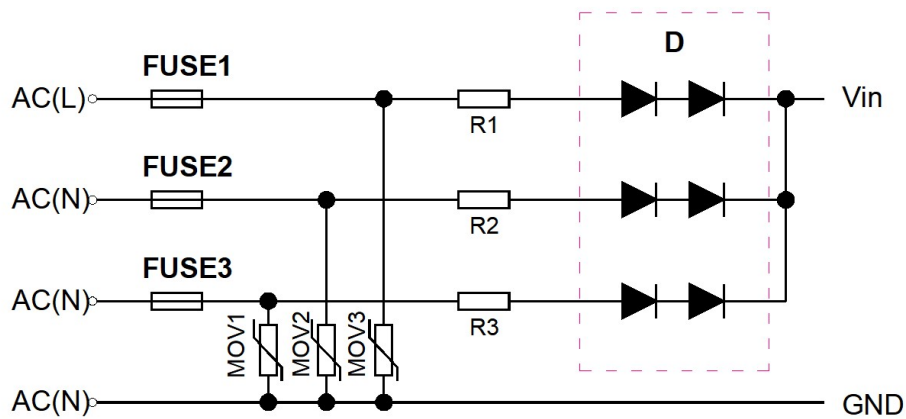
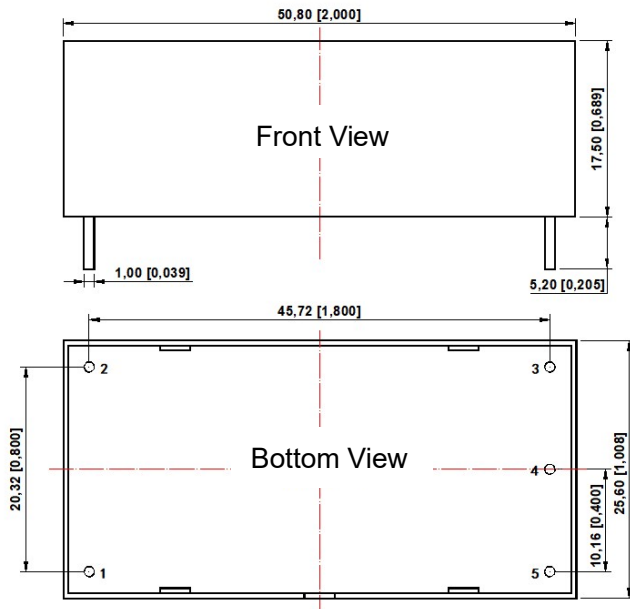


Figure 3: Recommended circuits for 4KV differential mode surge--half-wave rectification

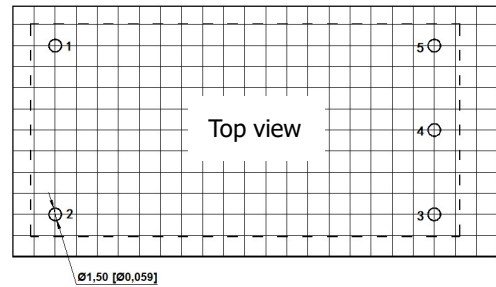
Recommended parameter values for EMC solution circuits	
Model	Recommended value
FUSE1, FUSE2, FUSE3	2A/500VAC, slow-blow, required
MOV1, MOV2, MOV3	14D561K
R1, R2, R3	6.8 Ω /3W
D	2A/1000V

## Dimensions and Recommended Layout

### Dimensions



### PCB Printing Layout



Grid size: 2.54\*2.54mm

### Pin Function Table

Pin	Function
1	AC(N)
2	AC(L)
3	No Pin
4	-Vo
5	+Vo

**Note:**

Unit: mm[inch]  
 Pin section tolerances:  $\pm 0.10 [\pm 0.004]$   
 General tolerances:  $\pm 0.50 [\pm 0.020]$

**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°C, 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.

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