Product Feature

1. Ultra-wide input voltage range：90 - 528VAC/100 - 745VDC
2. Operating temperature range：-40℃ - +70℃
3. Isolation voltage：4000VAC
4. DIP standard package
5. Output short circuit protection and over current protection, over voltage protection
6. Design meet IEC/ EN62368 standards

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.
QM03-26B03R2	90-528	2.97	3.3	900	74	1500
QM03-26B05R2		3	5	600	76	1500
QM03-26B09R2		3	9	334	78	1500
QM03-26B12R2		3	12	250	78	470
QM03-26B15R2		3	15	200	79	470

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage	AC Input	90	--	528	VAC
	DC Input	100	--	745	VDC
Input Current	110VAC	--	--	0.12	A
	230VAC	--	--	0.08	
Input Frequency		47	--	63	Hz
Fuse		1A，slow-blow, required			
Leakage Current		0.25mA RMS typ. 230VAC/50Hz			
Hot Plug		Unavailable			

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	10% - 100% load		--	±3	--	%
Linear Regulation	Rated load	3.3V	--	±1.0	--	
		Other put	--	±0.5	--	
Load Regulation	10% - 100% load		--	±1.0	--	
	3.3DC output					
Ripple & Noise	20MHz bandwidth, 10% - 100%load		--	50	150	mV
Temperature Coefficient			--	±0.15	--	%/℃
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	230VAC		--	35	--	ms
	400VAC		--	100	--	

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℃ - +85℃	3.3V/5V/9V/24V	2.1	--	--	%℃
	+55℃ - +85℃	12V/15V	1.3	--	--	
	85VAC - 100VAC		1.33	--	--	%/VAC
Operating Temperature			-40	--	70	℃
Storage Temperature			-40	--	85	
Storage Humidity			--	--	95	%RH
Soldering Profile	Wave-soldering		260 ± 5℃; time：5 - 10s			
	Manual-welding		360 ± 5℃; time：3 - 5s			
Safety Standard			IEC/UL62368-1			
Safety Class			CLASS ‖			
MTBF	MIL-HDBK-217F@25℃		>300,000h			

Mechanical Specification

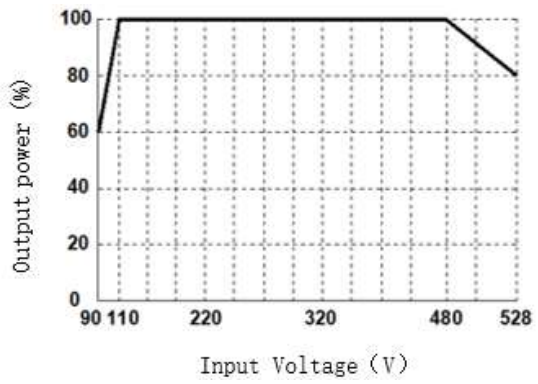
Package Dimensions	51.6 x 25.60 x 15.60mm
Weight	32.5g（Typ.）
Cooling Method	Free air convection

EMC Specifications

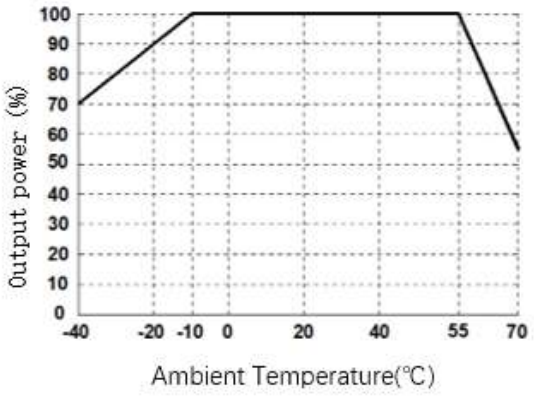
EMI	CE	CISPR32/EN55032 CLASS B	
	RE	CISPR32/EN55032 CLASS B	
EMS	RS	IEC/EN61000-4-3 10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4 ±4KV	perf. Criteria B
	Surge	IEC/EN61000-4-5 line to line ±2KV	perf. Criteria B
		IEC/EN61000-4-5 line to line ±4KV（application circuit 2、3）	perf. Criteria B
	CS	IEC/EN61000-4-6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

Typical Characteristic Curves

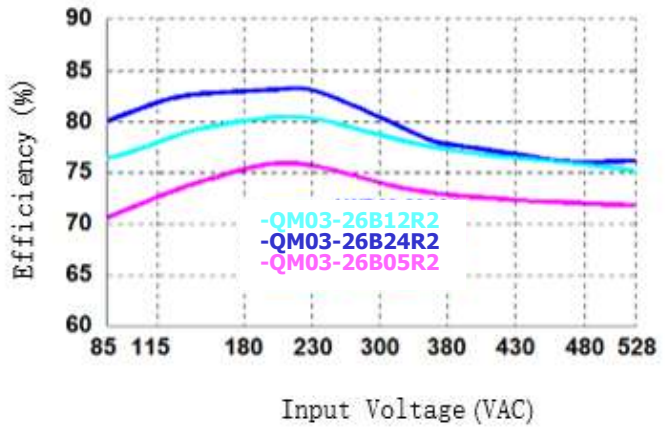
Input voltage Derating Curve



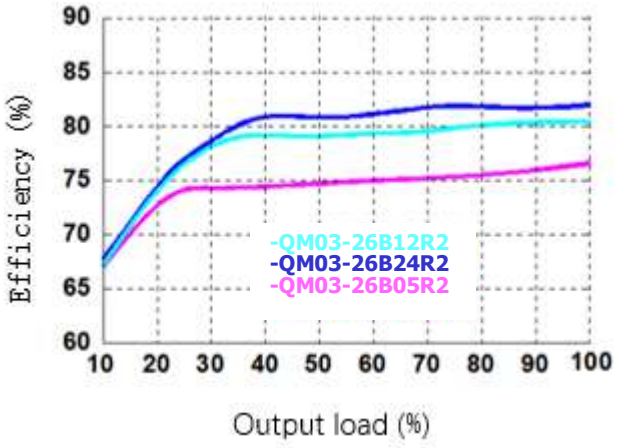
Temperature Derating Curve



Efficiency VS input voltage (Full load)

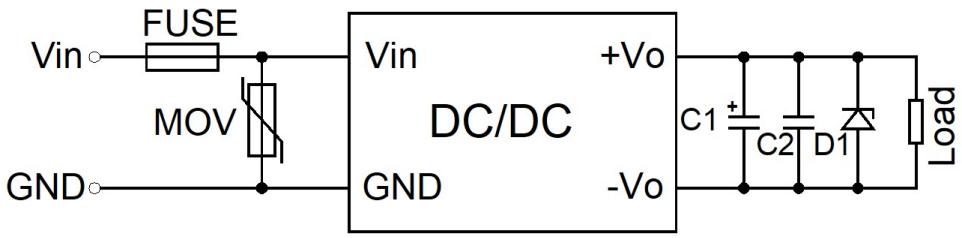


Efficiency VS output load (Vin=230VAC)



Typical Circuit Design and Application

Application circuit（Figure 1）



Reference Table for Selection of Peripheral Devices						
Out Voltage	FUSE	MOV	R1	C1	C2	D1
3.3/5VDC	1A/500VAC slow-blow, required	10D561K	150uF/25V	150uF/25V	0.1uF/25V	See Note2
9/12VDC			150uF/25V	150uF/25V	0.1uF/25V	
15/24VDC			100uF/35V	100uF/35V	0.1uF/50V	

Note：

1. Mov and FUSE Can be selected based on actual needs.

1. 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）

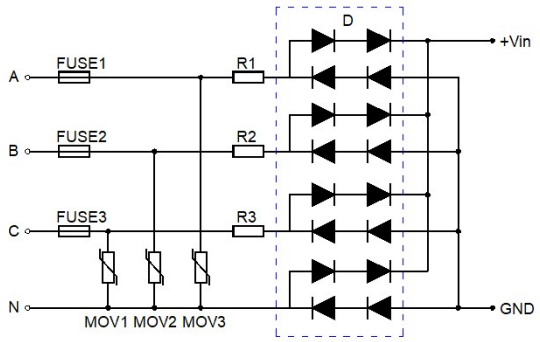


Figure 2：Recommended circuits for 4KV differential mode surge--full-wave rectification

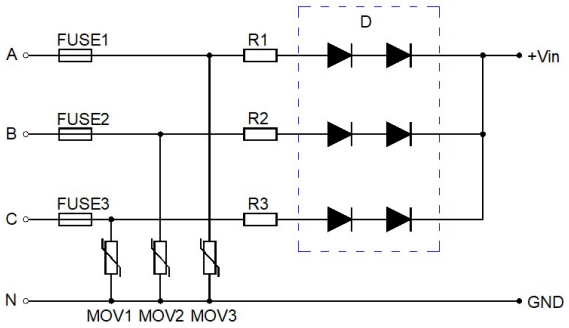


Figure 3：Recommended circuits for 4KV differential mode surge--half-wave rectification

Recommended parameter values for EMC solution circuits	
Model	Recommended value
FUSE1, FUSE2, FUSE3	1A/500VAC，slow-blow, required
MOV1, MOV2, MOV3	10D561K
D	1000V/1A
Rx1, Rx2, Rx3	24Ω/55W (wire-wound resistor)

Dimensions and Recommended Layout

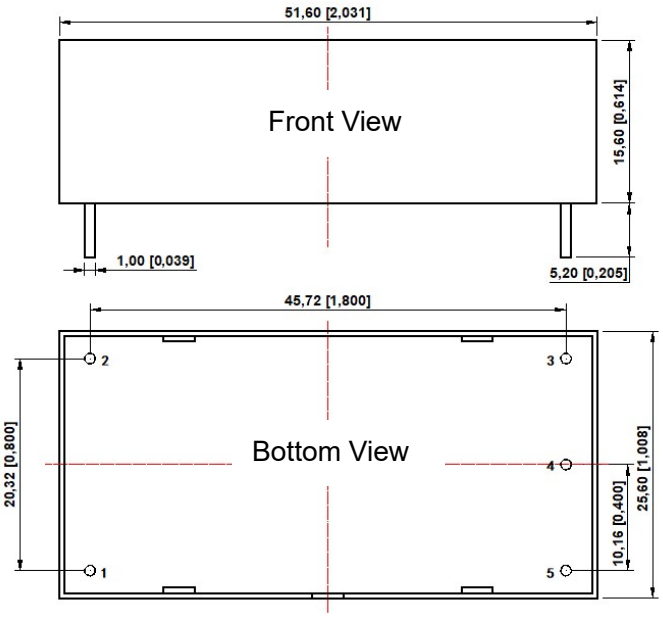
Dimensions

Note:

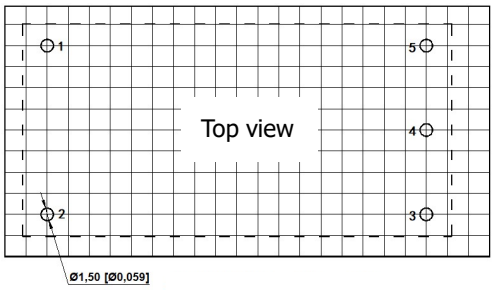
Unit: mm[inch]

Pin section tolerances: ±0.10[±0.004]

General tolerances: ±0.50[±0.020]



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：

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.