Product Feature

1. Ultra-wide input voltage range：90-528VAC（110-746VDC）
2. Operating temperature range：-40℃～+70℃
3. Small size, high efficiency
4. Isolation: 4000VAC
5. Stable voltage output, low ripple
6. Output short-circuit protection, overcurrent protection
7. Low power consumption, environmental protection
8. Industrial product technical design

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.
QM20-26B05	90-528	18	5	3600	79	10000
QM20-26B09		20	9	2230	79	7000
QM20-26B12		20	12	1660	82	5000
QM20-26B15		20	15	1330	83	3000
QM20-26B24		20	24	833	84	1000

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage	AC Input	90	--	528	VAC
	DC Input	100	--	745	VDC
Input Current	110VAC	--	0.3	--	A
	230VAC	--	0.22	--	
Input Frequency		47	--	63	Hz
Fuse		3.15A，slow-blow, required			
Leakage Current		0.25A RMS typ. 230VAC/50Hz			
Hot Plug		Unavailable			

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy	0% - 100%load	--	±2	--	%
Linear Regulation	Rated load	--	±0.5	--	
Load Regulation	0% - 100%load	--	±1.0	--	
Ripple & Noise	20MHz bandwidth, 10% - 100%load	--	100	150	mV
Temperature Coefficient		--	±0.02	--	%/℃
Stand-by Power Consumption	230VAC	--	--	0.75	W
Min. Load		0	--	--	%
Over Current Protection		120	--	--	%Io
Short-Circuit Protection		Continuous, Self-Recovery			
Hold-up Time	320VDC	--	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
Power Derating	+55℃ - +70℃	3.1	--	--	%℃
	-40℃ - -10℃	1.0	--	--	
	90VAC - 110VAC	2.0	--	--	%/VAC
	480VAC - 528VAC	0.4	--	--	
Operating Temperature		-25	--	+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℃	>3000,000h			

Mechanical Specification

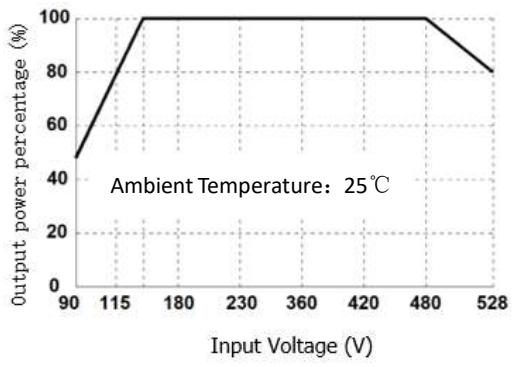
Package Dimensions	70.0 x 48.0 x23.5 mm
Weight	156g (TYP.)
Cooling Method	Free air convection

EMC Specifications

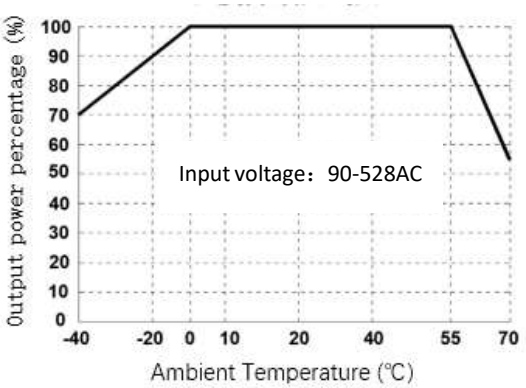
EMI	CE	CISPR32/EN55032 CLASS B	
	RE	CISPR32/EN55032 CLASS B	
EMS	RS	IEC/EN61000-4-3 10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4 ±2KV	perf. Criteria B
	Surge	IEC/EN61000-4-5 line to line ±1KV	perf. Criteria B
		IEC/EN61000-4-5 line to line ±2KV（application circuit 2）	perf. Criteria B
	CS	IEC/EN61000-4-6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

Typical Characteristic Curves

Input voltage Derating Curve

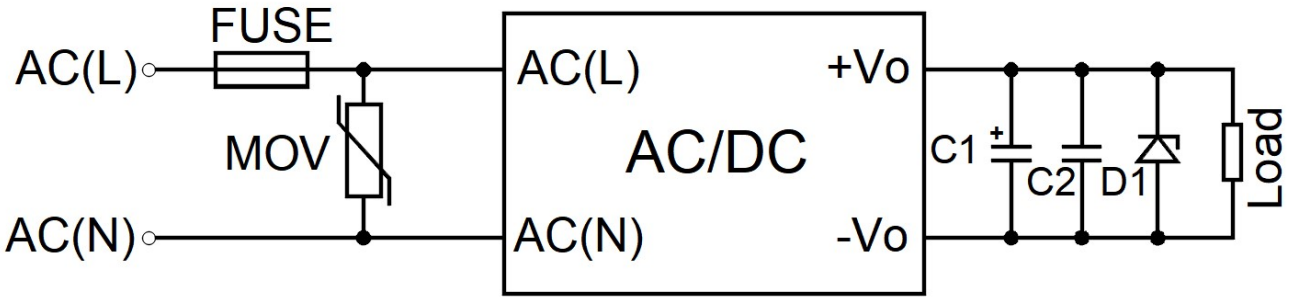


Temperature Derating Curve



Typical Circuit Design And Application

Application circuit（Figure 1）



Reference Table for Selection of Peripheral Devices					
Out Voltage	FUSE	MOV	C1	C2	D1
5VDC	3.15A/500VAC slow-blow, required	20D102K	330uF/25V	0.1uF/25V	See Note2
9/12VDC			330uF/25V	0.1uF/25V	
15/24VDC			220uF/35V	0.1uF/50V	

Note：

1. FUSE, Mov and NTC 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）

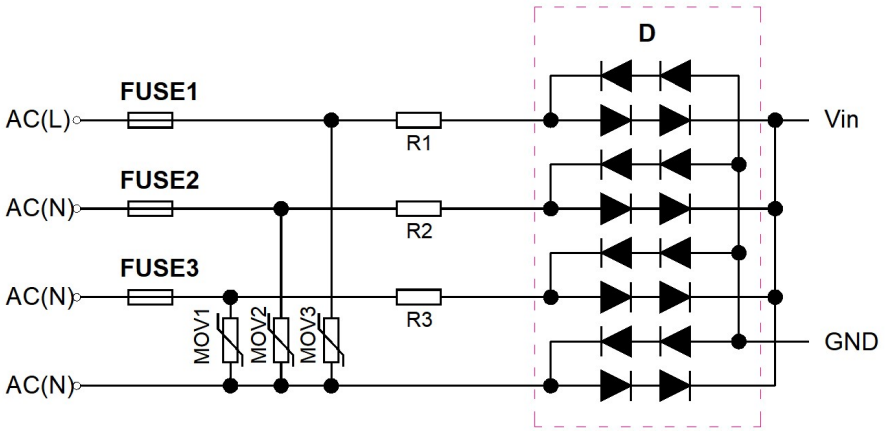


Figure 2：Recommended circuits for 4KV differential mode surge--full-wave rectification

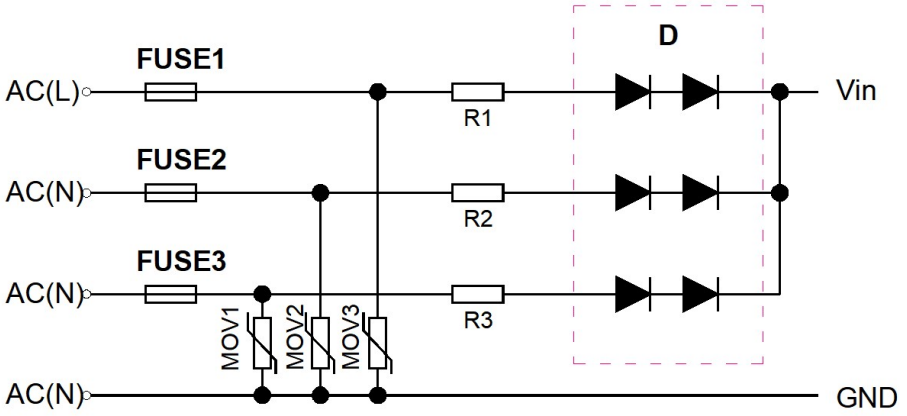
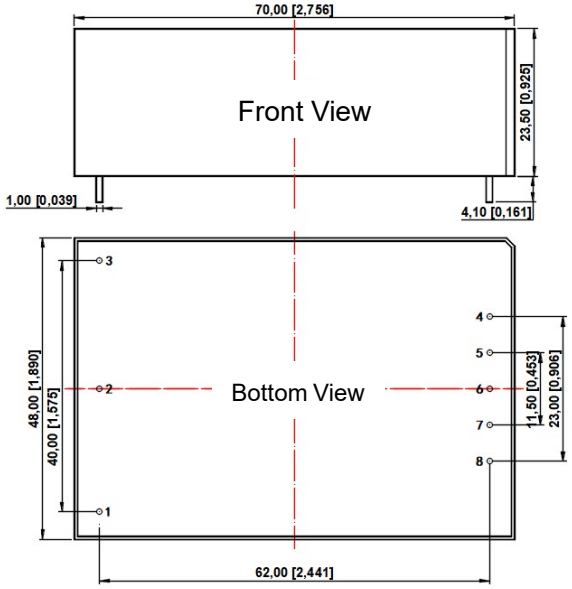


Figure 3：Recommended circuits for 4KV differential mode surge--half-wave rectification

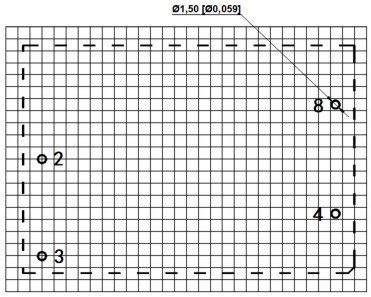
Recommended parameter values for EMC solution circuits	
Model	Recommended value
FUSE1, FUSE2, FUSE3	3.15A/500VAC，slow-blow, required
MOV1，MOV2，MOV3	20D821K
R1，R2，R3	10Ω/5W
D	2A/1000V

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: ±0.10[±0.004]
General tolerances: ±0.50[±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℃, 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.