

Product Feature

1. Universal Input:85-305VAC/100-430VDC
2. Package Type: 1.6 x 1 x 0.9"
3. Operating temperature range: -40°C - +85°C
4. Isolation voltage: 4000VAC
5. High efficiency up to 85%
- 6.The mechanism has input undervoltage protection, output short circuit protection and over current protection
- 7.Safety Approval IEC/EN61558、IEC/EN60335


**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.
QM10-23B03R2	85-305	10	3.3	2600	74	3000
QM10-23B05R2		10	5	2000	79	3000
QM10-23B09R2		10	9	1100	81	1000
QM10-23B12R2		10	12	900	83	820
QM10-23B15R2		10	15	700	84	680
QM10-23B24R2		10	24	450	85	220

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage	AC Input	85	--	305	VAC
	DC Input	100	--	430	VDC
Input Frequency		47	--	63	Hz
Input Current	115VAC	--	--	0.23	A
	230VAC	--	--	0.15	
Fuse (A2S/A4S package series include fuse)		2A/300V, slow-blow, required			
Leakage Current	230VAC/50Hz	0.1mA RMS MAX.			
Hot Plug		Unavailable			

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy		--	±2.0	--	%
Linear Regulation	Vin=Min. to Max. @Full Load	--	±0.5	--	
Load Regulation	0%-100% load	--	±1.0	--	
Ripple & Noise	20MHz bandwidth, 5%-100% load	--	50	150	mVp-p
Temperature Coefficient		--	±0.02	--	%/°C
Stand-by Power Consumption	230VAC	--	0.10	--	W
Min. Load		0	--	--	%
Over Current Protection		110	--	--	%Io
Short-Circuit Protection		Continuous, Self-Recovery			
Hold-up Time	230VAC	--	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	-40°C - -10°C	2.2	--	--	%°C
	+55°C - +85°C	3.5	--	--	
	85VAC - 100VAC	1.0	--	--	%/VAC
Operating Temperature		-40	--	85	°C
Storage Temperature		-40	--	85	
Storage Humidity	Non-condensing	10	--	95	%RH
Soldering Profile	Wave-soldering	260 ± 5°C; time: 5 - 10s			
	Manual-welding	360 ± 10°C; time: 3 - 5s			
Safety Standard	Full load, nominal input voltage	IEC/UL62368-1			
Safety Class		CLASS II			
MTBF	MIL-HDBK-217F@25°C	>3000,000h			

Mechanical Specifications

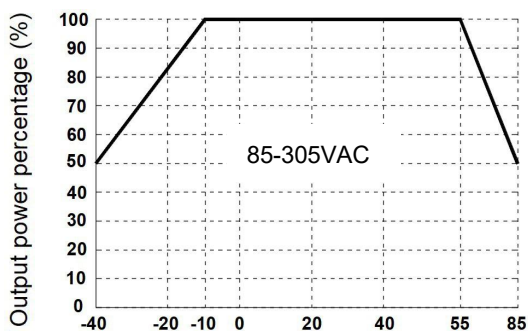
Case Material	Black plastic, flame-retardant and heat-resistant (UL94V-0)
Package Dimensions	40.0 x 25.4 x 21.5 mm
Weight	40.0g (TYP.)
Cooling Method	Free air convection

EMC Specifications

EMI	CE	CISPR32/EN55032	CLASS A/CLASS B
	RE	CISPR32/EN55032	CLASS A/CLASS B
EMS	ESD	IEC/EN61000-4-2 Contact $\pm 4\text{KV}$ / air $\pm 8\text{KV}$	perf. Criteria B
	RS	IEC/EN61000-4-3 10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4 $\pm 4\text{KV}$	perf. Criteria A
	Surge	IEC/EN61000-4-5 line to line $\pm 1\text{KV}$	perf. Criteria A
		IEC/EN61000-4-5 line to line $\pm 2\text{KV}$ (Figure 2)	perf. Criteria A
	CS	IEC/EN61000-4-6 10Vr.m.s	perf. Criteria A

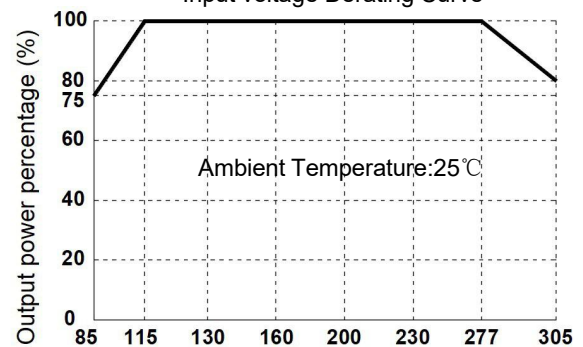
Typical Characteristic Curves

Temperature Derating Curve



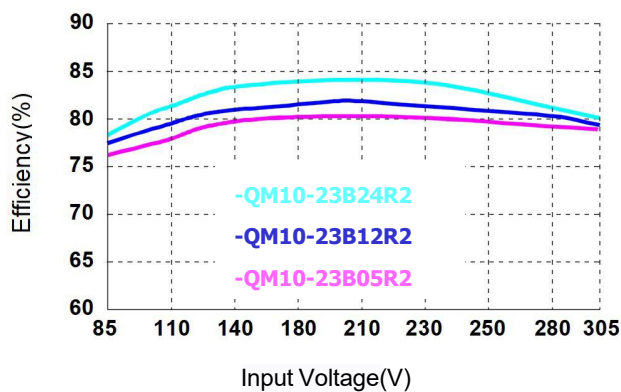
Ambient Temperature (°C)

Input voltage Derating Curve



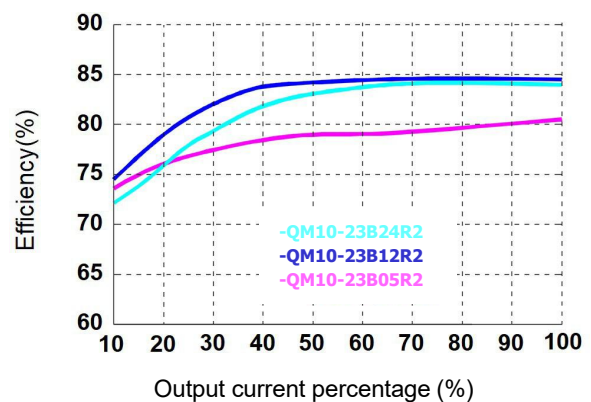
Input Voltage(V)

Efficiency VS input voltage (full load)



Input Voltage(V)

Efficiency VS out load (Vin=230VAC)



Output current percentage (%)

Typical Circuit Design And Application

Application circuit

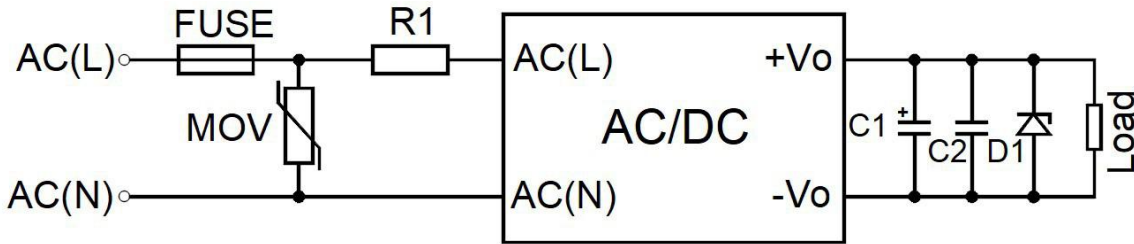


Figure 1

Out Voltage	FUSE	MOV	R1	C1	C2	D1
5VDC	2A/300V, slow-blow, required	14D561	6.8Ω/3W (wire-wound resistor, required)	220uF/16V	0.1uF/25	SMBJ7.0A
9/12VDC				150uF/25V		SMBJ20A
15/24VDC				100uF/35V	0.1uF/50	SMBJ30A

Note: Fuse, Mov and D1 Can be selected based on actual needs.

EMS Solutions - Recommended Circuits

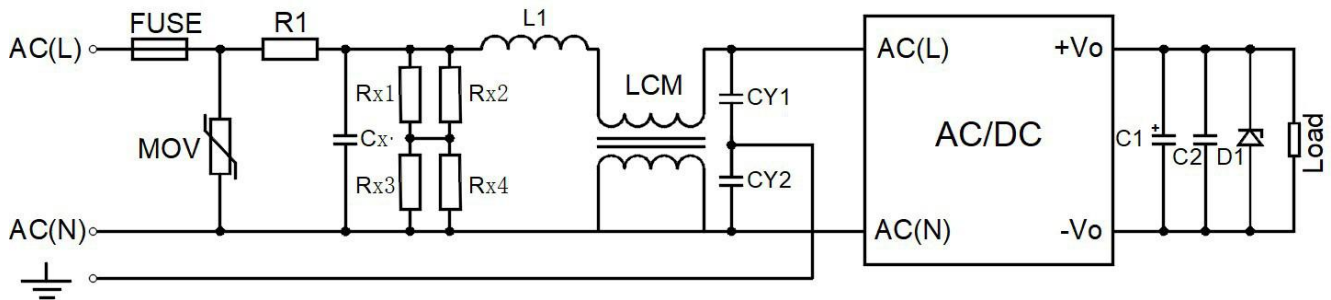
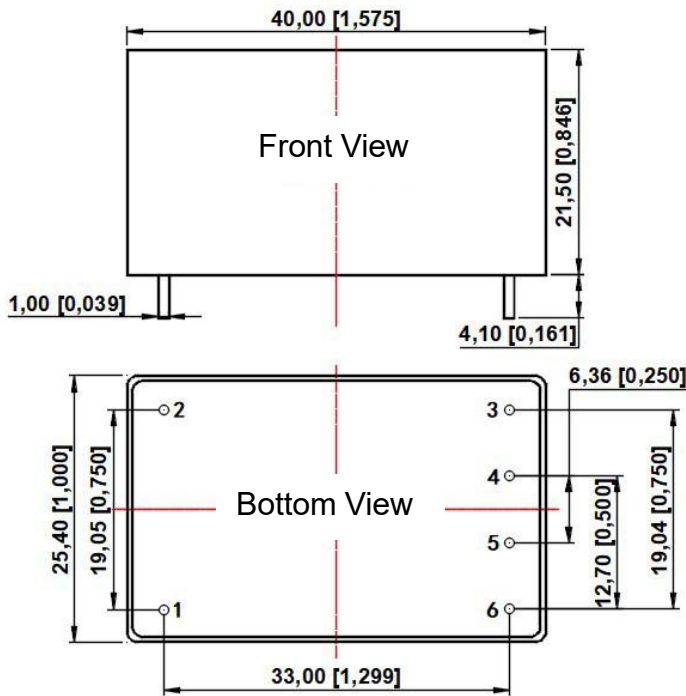


Figure 2

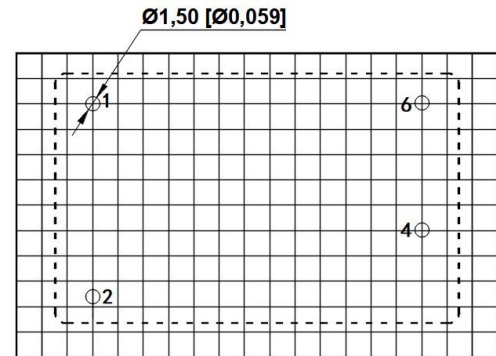
Model	Recommended value
FUSE	2A/300V, slow-blow, required
MOV	14D561K
Cx	0.1uF/275VAC
L1	4.7uH/2A
CY1、CY2	1nF/400VAC
LCM	2.2mH Common mode Choke
Rx1,Rx2,Rx3,Rx4	2MΩ/1206
R1,C1,C2,D1	Refer to Figure 1

Dimensions and Recommended Layout

Dimensions



PCB Printing Layout & Pin Definition Table



Note: The grid distance is 2.54*2.54mm

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

Note:

Unit: mm[inch]

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

Note:

- 1.If the product works under the minimum required load, it cannot guarantee that the performance of the product complies with all the performance indicators in this manual;
2. The maximum capacitive load is tested under the input voltage range and full load condition;
3. Unless otherwise stated, all indexes in this manual are measured at $T_a=25^{\circ}\text{C}$, humidity $<75\%\text{RH}$, nominal input voltage and rated output load;
4. All index testing methods in this manual are based on the enterprise standards of the company;
5. Our company can provide product customization, specific needs can directly contact our technical staff;

GUANGZHOU AMCHARD-POWER TECHNOLOGY CO., LTD.

www.amchard-power.com

Mail: info@amchard-power.com