

Features

1. Universal input: 85~305VAC, 47~63Hz
2. Regulated single output Isolation voltage 4000VAC Typical efficiency 74 ... 81%
3. Energy saving, standby power only less than 0.1W
4. Operating temperature range:-40~+85°C
5. No external components required for operating
6. Over voltage, over current and short circuit protection
7. Meet to IEC/EN/UL62368-1, OVC III, EN60335-1, EN61558-1, FCC, UKCA, CISPR32, EN55032 , Class B with NO externals
8. 3 year warranty



3 years
Warranty

Selection Guide

Model Number	Input Voltage [VAC]	Output Voltage [VDC]	Output Current [mA] Max.	Ripple & Noise [mVp-p] Max.	Efficiency [%] Typ.	Capacitive Load [uF] Max.
QM05-23B03R2-M	85~305VAC 100~430VDC	3.3	1250	200	74	4000
QM05-23B05R2-M		5	1000	200	78	3000
QM05-23B09R2-M		9	555	200	79	1200
QM05-23B12R2-M		12	416	200	80	1200
QM05-23B15R2-M		15	333	200	80	680
QM05-23B24R2-M		24	208	200	81	220

Input & Output Specification

Parameters	Condition	Min.	Typ.	Max.	Unit	Note
Input voltage range	AC in DC in	85 100	-	305 430	VAC VDC	
Input frequency		47	-	63	Hz	
Nominal input voltage		100	-	277	VAC	
Input current	115VAC 230VAC	-	-	0.13 0.07	A	
Inrush current Cold start	115VAC 230VAC	-	35 70	-	A	
Leakage current	230VAC, 50Hz	-	0.25	0.6	mA RMS	
Output voltage accuracy		-	±3	-	%	
Line regulation Full load		-	±0.5	-	%	
Load regulation $I_{OUT}=0\%\sim 100\%$ of $I_{OUT, rated}$		-	±1.0	-	%	
Ripple and noise 20MHz bandwidth, peak to peak		-	150	200	mV	
Temperature coefficient		-	±0.03	-	%/°C	
Standby power consumption		-	0.10	-	W	
Hold up time Full load	115VAC 230VAC	-	10 50	-	mS	
Over load protection		115	-	190	% $I_{OUT, rated}$	
Over voltage protection	$V_{OUT}=3.3, 5V$ $V_{OUT}=9, 12V$ $V_{OUT}=15V$ $V_{OUT}=24V$	-	-	8.5 20 24 34	VDC	
Short circuit protection		Hiccup mode, automatic recovery				
Internal fuse		2A, 300V, slow blow				
Minimum load		No minimum load is required				

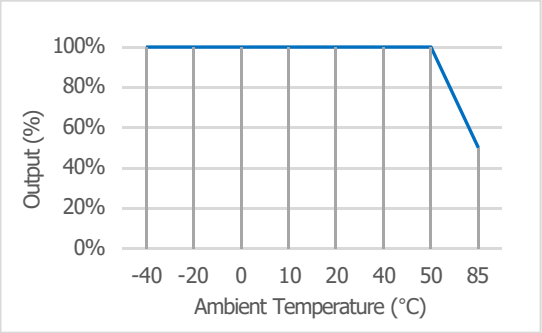
* Ripple and noise measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.

General Specifications

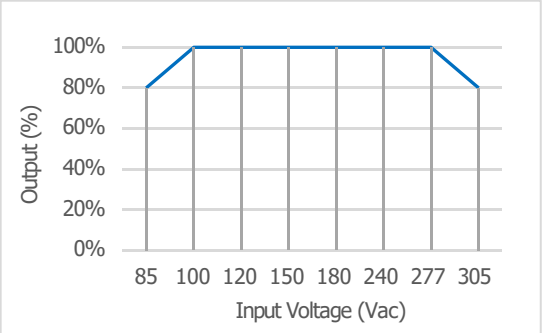
Parameters	Condition	Min.	Typ.	Max.	Unit	Note
Isolation voltage Tested for 1 minute	I/P to O/P	4000	-	-	VAC	
Isolation resistance 500VDC, 25°C, 70%RH	I/P to O/P	100	-	-	M Ohm	
Switching frequency		-	65	-	KHz	
Operating temperature range	See "Derating Curve"	-40	-	85	°C	
Storage temperature		-40	-	105	°C	
Storage humidity		10	-	95	%RH	
Maximum case temperature		-	-	95	°C	
Soldering temperature	5 seconds	-	260	-	°C	
Case material		Black plastic UL94-V0				
Cooling method		Free air convection				
Class II power		Yes, no FG				
Vibration		10Hz to 55Hz, 5G, 30 minutes along X, Y and Z axis				
MTBF	MIL-HDBK-217F	> 1,000,000 Hours, 25°C				
Design based on standards		RoHS & REACH directives, IEC/EN/UL 62368-1, OVC II, EN 60335-1, EN 61558-1, UKCA				
Safety certifications		IEC/EN/UL 62368-1, EN 60335-1, EN 61558-1, UKCA				
EMC	CE ESD RS EFT Surge CS	CISPR32, EN55032 Class B with "NO External Circuit" IEC/EN61000-4-2, Contact ±8kV, Air ±15kV, Criteria B IEC/EN61000-4-3, 10V/m, Criteria A IEC/EN61000-4-4, ±2kV, Criteria B IEC/EN61000-4-5, Line to Line ±2kV, Criteria B IEC/EN61000-4-6, 10Vrms, Criteria A				
Size, and Weight		45.7x25.4x21.5mm, 37g				
Packing		350pcs/carton, size: 460x350x285mm, 14Kg G.W.				

Characteristic Curves

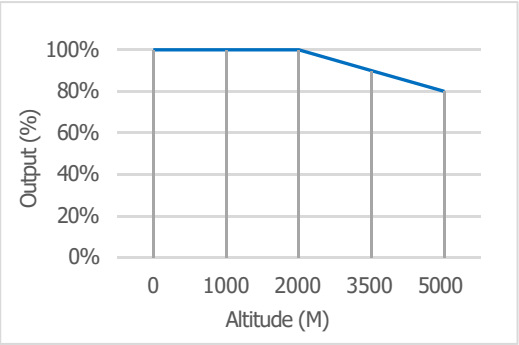
Output vs Ambient Temperature



Output vs Input Voltage



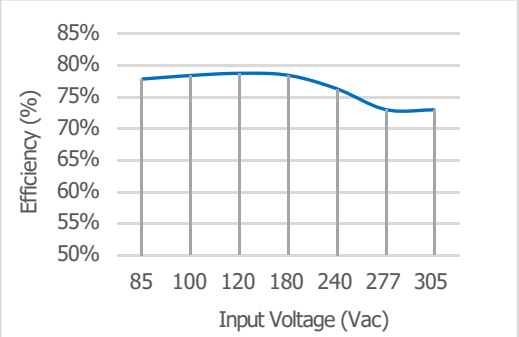
Output vs Altitude



Efficiency Curve

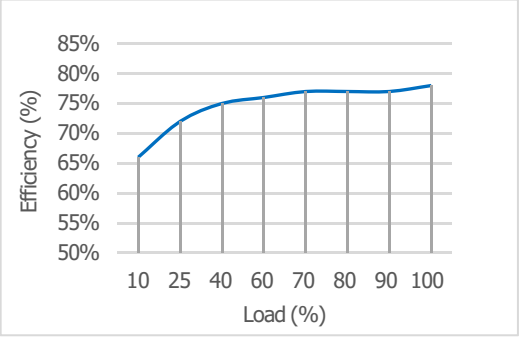
Efficiency vs Input Voltage

QM05-23B05R2, Full load

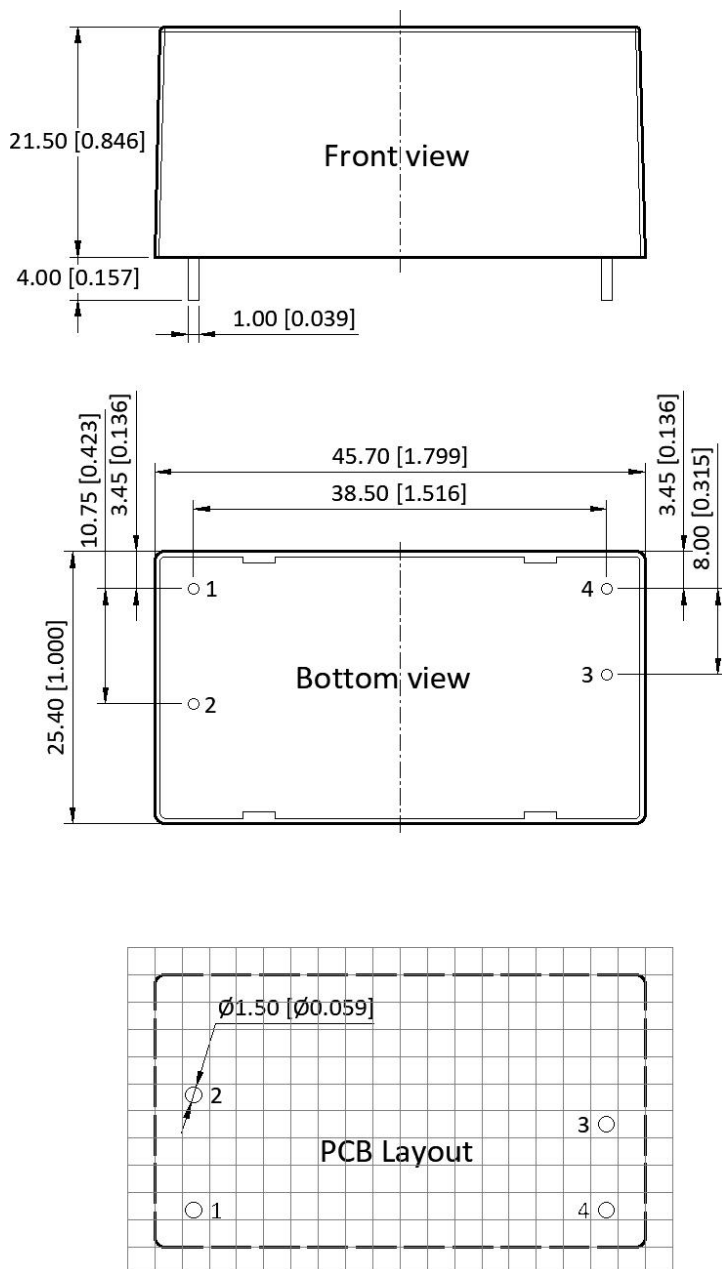


Efficiency vs Load

QM05-23B05R2, 230VAC



Mechanical Specifications



Pin Definition

Pin #	Single Out
1	AC (L)
2	AC (N)
3	+V _{OUT}
4	-V _{OUT}

* Unless otherwise specified unit: mm [inch]

* General tolerance: ± 1.00 [± 0.040]

* Pin thickness: ± 0.15 [± 0.006]

* Pin distance: ± 0.50 [± 0.020]

* Footprint grid 2.54 x 2.54 mm

Notes & Instructions

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 Ta=25°C, humidity <75%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;
6. AMCHARD reserves the right to make changes to the product at any time without notice.

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