MICRODC
Industry Power Family

QF-XMS Series

0.25W, FIXED INPUT, ISOLATED&UNREGULATED SINGLE OUTPUT DC-DC CONVERTER

FEATURES

- RoHS compliant
- 4 Pin SIP Package
- Low ripple and noise
- High efficiency up to 72%
- Operating temperature -40℃ to +85℃
- Input/Output isolation 3000VDC
- Pin compatible with multiple manufacturers

MODEL SELECTION

QF①05②03③X④ M⑤

①Product Series ②Input Voltage
③Output Voltage ④Fixed Input
⑤Mini SIP4 Package

APPLICATIONS

1. Datasheets are updated as needed and as such, pecifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by microdc; refer to www.microdc.cn for the most current product specifications.
2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured.
3. Mechanical drawings and specifications are for reference only.
4. All specifications are measured at an ambient temperature of 25°C, humidity<75%,nominal input voltage and at rated output load unless otherwise specified.
5. microdc may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release.
6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet.
7. Warranty is in accordance with microdc's Standard Terms of Sale available at www.microdc.cn.

RoHS MICRODC Green Technology

CE REACH

PRODUCT PROGRAM

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (MA)	Isolation (VDC)	Max Capacitive Load (uF)	EQFQFiciency (%)
QF0503XM	4.5-5.5	3.3	75.7	3000	100	66
QF0505XM	4.5-5.5	5	50	3000	100	66
QF0507XM	4.5-5.5	7.2	34.72	3000	100	66
QF0509XM	4.5-5.5	9	27.77	3000	100	68
QF0512XM	4.5-5.5	12	20.83	3000	100	68
QF0515XM	4.5-5.5	15	16.67	3000	100	68
QF0518XM	4.5-5.5	18	13.88	3000	100	68
QF0524XM	4.5-5.5	24	10.41	3000	100	70
QF1203XM	10.8-13.2	3.3	75.7	3000	100	66
QF1205XM	10.8-13.2	5	50	3000	100	67
QF1207XM	10.8-13.2	7.2	34.72	3000	100	68
QF1209XM	10.8-13.2	9	27.77	3000	100	68
QF1212XM	10.8-13.2	12	20.83	3000	100	68
QF1215XM	10.8-13.2	15	16.67	3000	100	69
QF1218XM	10.8-13.2	18	13.88	3000	100	70
QF1224XM	10.8-13.2	24	10.41	3000	100	72
QF2403XM	21.6-26.4	3.3	75.7	3000	100	67
QF2405XM	21.6-26.4	5	50	3000	100	67
QF2407XM	21.6-26.4	7.2	34.72	3000	100	67
QF2409XM	21.6-26.4	9	27.77	3000	100	69
QF2412XM	21.6-26.4	12	20.83	3000	100	69
QF2415XM	21.6-26.4	15	16.67	3000	100	69
QF2418XM	21.6-26.4	18	13.88	3000	100	69
QF2424XM	21.6-26.4	24	10.41	3000	100	69

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5		VDC
	12	10.8-13.2		
	15	13.5－16.5		
	24	21.6-26.4		
Filter	Capacitor			
Turn on transient process time			25	ms
Start up time		200		ms
Absolute maximum rating	5 Vin	7		VDC
	12 Vin	15		
	15 Vin	17		
	24 Vin	28		
Peak input voltage time		100		ms

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	80		KHz
Operating temperature	Without derating	-40～+85		℃
Storage temperature		-40～+125		℃
Maximum case temperature			100	℃
Cooling	Free air convection			
Humidity			95	%
Case material	Non-conductive black plastic			
Weight		1.5	F	g
Dimensions (Lx W x H)	0.46 x 0.24 x 0.38 inches 11.68 x 6.00 x 9.65 mm			
MTBF	>2 010 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25 ℃)			

NOTE: All specifications in this data sheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Output Specifications

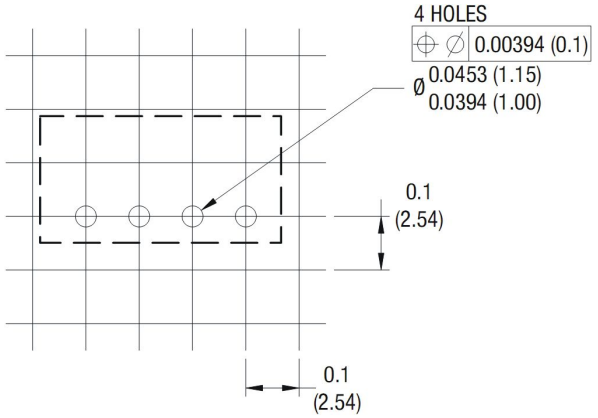
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±3		%
Short circuit protection	Momentary (1sec)			
Line voltage regulation	For 1% change of Vin	±1.2		% of Vin
Load voltage regulation	Load 20 – 100%	±10		%
Load voltage regulation 3.3V output model	Load 20 – 100%	±20		%
Temperature coefficient		±0.02		%/ C
Ripple & noise	At 20MHz Bandwidth	100		mV p-p
Capacitive load			100	μF
Rising time		50		ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		3000	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

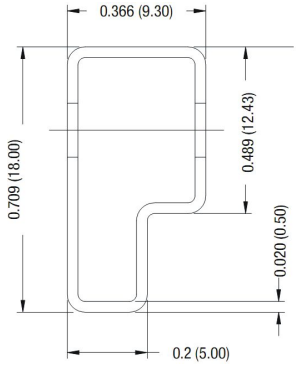
Recommended footprint details

4 PIN SIP Package



TUBE OUTLINE DIMENSIONS

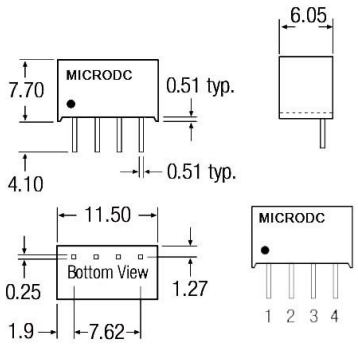
4 PIN SIP Tube



Unless otherwise stated all dimensions in inches (mm) ±0.5mm.

Tube length (4 Pin SIP) : 20.47 (520mm ±2mm). Tube Quantity :25

Dimensions



Pin Out Specifications

Pin	Single
1	- V Input
2	+V Input
3	- V Output
4	+V Output

MICRODC Industry Power Family

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RoHS COMPLIANT INFORMATION

This series is compatible with RoHS soldering systems with a peak wave solder temperature of 300°C for 10 seconds. The pin termination finish on the SIP package type is Tin Plate, Hot Dipped over Matte Tin with Nickel Preplate. The DIP types are Matte Tin over Nickel Preplate. Both types in this series are backward compatible with Sn/Pb soldering systems.

REACH COMPLIANT INFORMATION

This series has proven that this product does not contain harmful chemicals, it also has harmful chemical substances through the registration, inspection and approval.