

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°C to +85°C
- ◆Input/Output isolation 3000VDC
- ◆Pin compatible with multiple manufacturers

MODEL SELECTION

QF^①05^②03^③X^④MS^⑤

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

APPLICATIONS

1. Datasheets are updated as needed and as such, specifications 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.

PRODUCT PROGRAM

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	EQFQFiciency (%)
QF0503XMS	4.5-5.5	3.3	75.7	3000	100	66
QF0505XMS	4.5-5.5	5	50	3000	100	66
QF0507XMS	4.5-5.5	7.2	34.72	3000	100	66
QF0509XMS	4.5-5.5	9	27.77	3000	100	68
QF0512XMS	4.5-5.5	12	20.83	3000	100	68
QF0515XMS	4.5-5.5	15	16.67	3000	100	68
QF0518XMS	4.5-5.5	18	13.88	3000	100	68
QF0524XMS	4.5-5.5	24	10.41	3000	100	70
QF1203XMS	10.8-13.2	3.3	75.7	3000	100	66
QF1205XMS	10.8-13.2	5	50	3000	100	67
QF1207XMS	10.8-13.2	7.2	34.72	3000	100	68
QF1209XMS	10.8-13.2	9	27.77	3000	100	68
QF1212XMS	10.8-13.2	12	20.83	3000	100	68
QF1215XMS	10.8-13.2	15	16.67	3000	100	69
QF1218XMS	10.8-13.2	18	13.88	3000	100	70
QF1224XMS	10.8-13.2	24	10.41	3000	100	72
QF2403XMS	21.6-26.4	3.3	75.7	3000	100	67
QF2405XMS	21.6-26.4	5	50	3000	100	67
QF2407XMS	21.6-26.4	7.2	34.72	3000	100	67
QF2409XMS	21.6-26.4	9	27.77	3000	100	69
QF2412XMS	21.6-26.4	12	20.83	3000	100	69
QF2415XMS	21.6-26.4	15	16.67	3000	100	69
QF2418XMS	21.6-26.4	18	13.88	3000	100	69
QF2424XMS	21.6-26.4	24	10.41	3000	100	69



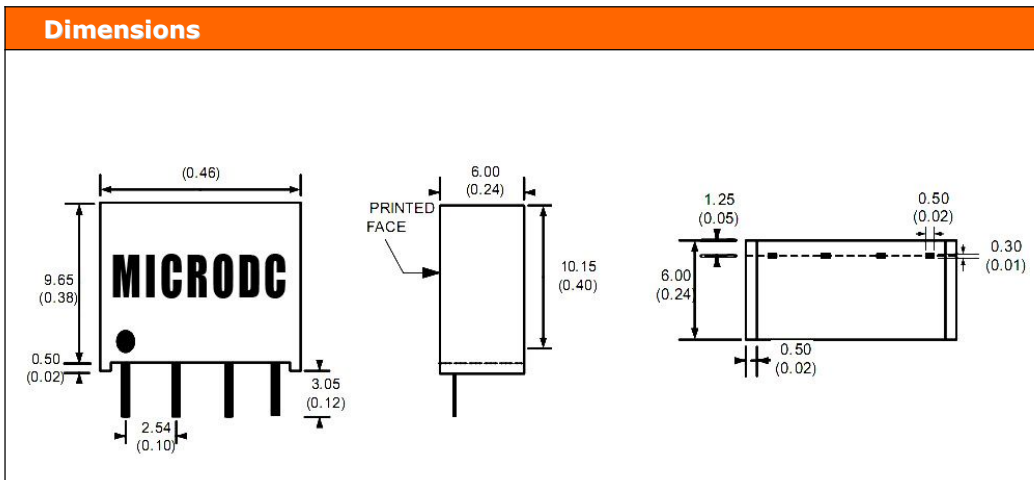
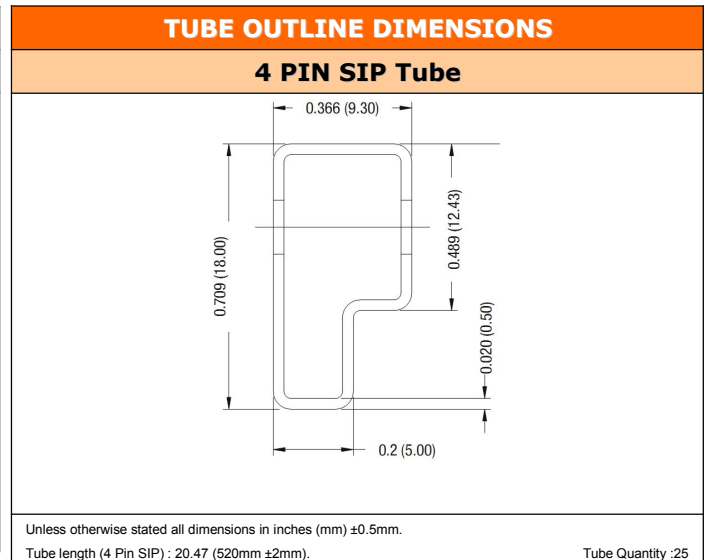
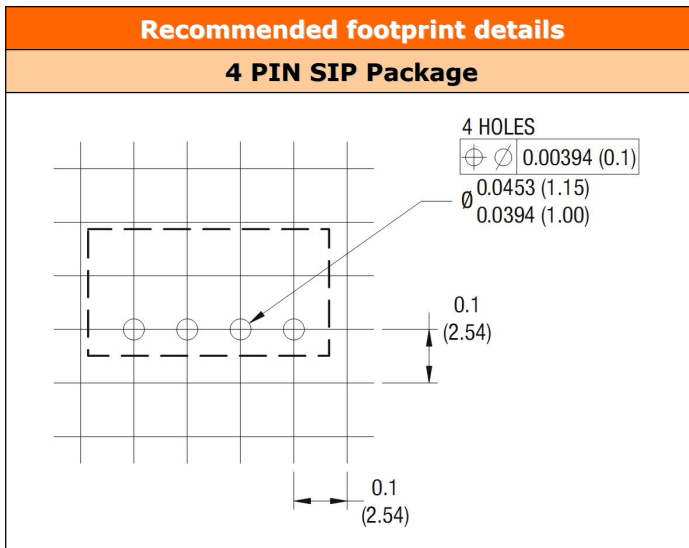
Input Specifications				
Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5		VDC
	12	10.8-13.2		
	15	13.5 - 16.5		
	24	21.6-26.4		
Filter	Capacitor			
Turn on transient process time			25	ms
Start up time		200		ms
Absolute maximum rating	5 Vin	7		VDC
	12 Vin	15		
	15 Vin	17		
	24 Vin	28		
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	°C
Storage temperature			-40~+125	°C
Maximum case temperature			100	°C
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 °C)			

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



Pin Out Specifications

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



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.