

FEATURES

- ◆RoHS Compliant
- ◆SMD Package
- ◆Low ripple and noise
- ◆High efficiency up to 68%
- ◆Operating temperature -40°C to +85°C
- ◆Input / Output Isolation 1000 VDC
- ◆Pin compatible with multiple Manufacturers
- ◆UL94-VO Package

MODEL SELECTION

QB^①05^②05^③X^④T^⑤

- ① Product Series
- ② Input Voltage
- ③ Output Voltage
- ④ Fixed Input
- ⑤ SMD 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.
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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 than the ones listed in this datasheet.
7. Warranty is in accordance with MICRODC's standard Terms of Sale available at www.microdc.cn.

Models Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
QB0303XT	3-3.6	3.3	75	1000	60
QB0305XT	3-3.6	5	50	1000	60
QB0312XT	3-3.6	12	20	1000	63
QB0315XT	3-3.6	15	16	1000	64
QB0503XT	4.5-5.5	3.3	75	1000	61
QB0505XT	4.5-5.5	5	50	1000	64
QB0509XT	4.5-5.5	9	27	1000	65
QB0512XT	4.5-5.5	12	20	1000	66
QB0515XT	4.5-5.5	15	16	1000	67
QB0524XT	4.5-5.5	24	10	1000	64
QB1203XT	10.8-13.2	3.3	75	1000	60
QB1205XT	10.8-13.2	5	50	1000	65
QB1212XT	10.8-13.2	12	20	1000	66
QB2405XT	21.6-26.4	5	50	1000	60
QB2412XT	21.6-26.4	12	20	1000	64
QB2415XT	21.6-26.4	15	16	1000	63

Models Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
QA0505XT	4.5-5.5	±5	±25	1000	63
QA0512XT	4.5-5.5	±12	±11	1000	65
QA0515XT	4.5-5.5	±15	±9	1000	67
QA0524XT	4.5-5.5	±24	±5	1000	64
QA1205XT	10.8-13.2	±5	±25	1000	66
QA1212XT	10.8-13.2	±12	±11	1000	67
QA1215XT	10.8-13.2	±15	±9	1000	67
QA2405XT	21.6-26.4	±5	±25	1000	62
QA2412XT	21.6-26.4	±12	±11	1000	68
QA2415XT	21.6-26.4	±15	±9	1000	67



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Input Specifications				
Parameters	Nominal	Typical	Maximum	Units
Voltage range	3	3-3.6		VDC
	5	4.5-5.5		
	12	10.8-13.2		
	14	21.6-26.4		
Filter	Capacitor			

Isolation Specifications				
Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1000	VDC
Resistance		> 1000		MOhm
Capacitance		6		pF

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	See the tolerance graph	±5		%
Voltage balance	Dual Output	±2		%
Line voltage regulation (Single)	For 1% change of Vin	±1.2		%
Line voltage regulation (Dual)	For 1% change of Vin	±1.2		%
Load voltage regulation (Single)	Load 10 – 100%	10		%
Load voltage regulation (Dual)	Load 10 – 100%	10		%
Temperature coefficient		±0.03		%/°C
Ripple & Noise	At 20MHz Bandwidth	75		mV p-p

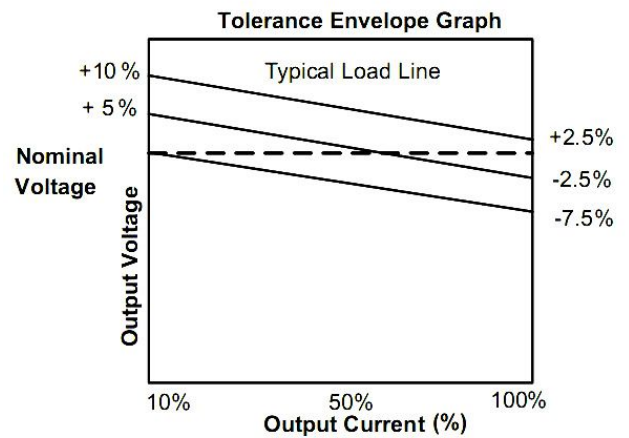
General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load single	100		KHz
	100% load dual	150		KHz
Short circuit protection		Momentary (1sec)		
Operating temperature	Without derating	-40 to +85		°C
Storage temperature		-55 to +125		°C
Cooling	Free air convection			
Humidity			95	%
Case material	Plastic UL94-VO			
Weight		1.5		g
Dimensions (L x W x H)	Single 1000VDC	0.50 x 0.44 x 0.26 inch	12.70 x 11.20 x 6.70 mm	
	Dual 1000VDC	0.60 x 0.44 x 0.26 inch	15.24 x 11.20 x 6.70 mm	
MTBF	>3 500 000hrs (MIL-HDBK -217F, Ground Benign, t=+25 C)			
Max Case Temperature			95	°C

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

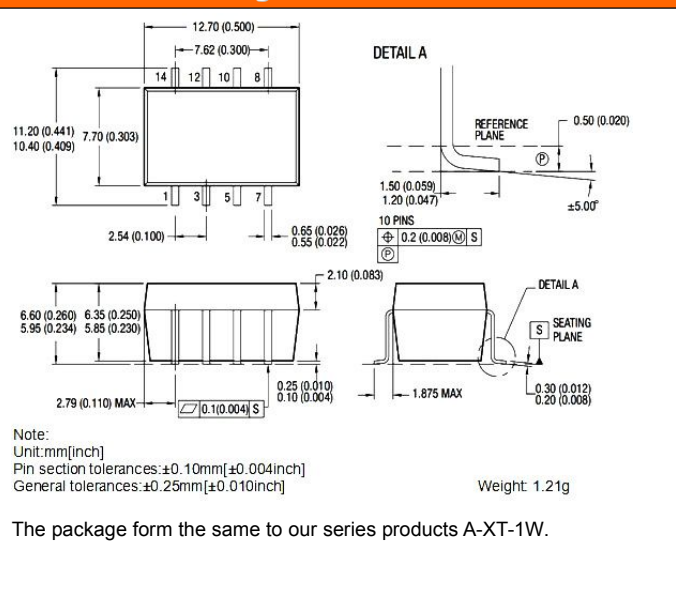
Pin Out Specifications

Pin	Single	Pin	Dual
1	-V Input	1	-V Input
3	+V Input	3	+V Input
5	N.C.	5	N.C.
7	- V Output	7	Common
8	+ V Output	9	-V Output
10	N.C.	10	N.C.
12	N.C.	12	+V Output
14	N.C.	14	N.C.
		16	N.C.
		18	N.C.

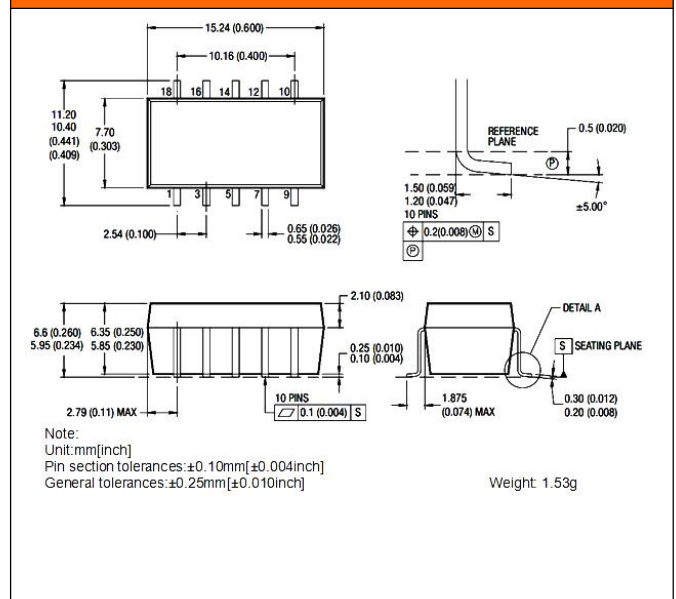
Typical characteristics



Dimensions Single 1000VDC



Dimensions Dual 1000VDC



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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.