

FEATURES

- ◆ Unregulated single output
- ◆ 1kVDC Isolation
- ◆ Operating Temperature: -40°C ~ +85°C
- ◆ High efficiency up to 80%
- ◆ DIP8 case
- ◆ Internal SMD construction
- ◆ Power density up to 0.85W/cm³
- ◆ No Extern. Components Required
- ◆ 3.3V,5V,7.2V,9V,12V,15V,18V,24V Output
- ◆ No heatsink required
- ◆ Custom Solutions Available
- ◆ UL 94V-0 package material
- ◆ No external components required
- ◆ Industry standard pinout
- ◆ Low ripple and noise
- ◆ MTTF up to 3.4 million hours

MODEL SELECTION

B^①05^②05^③X^④D^⑤-1W5(300)^⑥

- ① Product Series
- ② Input Voltage
- ③ Output Voltage
- ④ Fixed Input Range
- ⑤ DIP8 Package style
- ⑥ Rated Power(Output current)

APPLICATIONS

The B-XD-1W5 series is a family of cost effective 1.5W single output DC/DC converters. These converters are in an ultra miniature DIP8 case. Devices are encapsulated. High performance features: 1000VDC input/output isolation, high efficiency operation, output voltage accuracy of ±3% maximum, input range of ±10% tolerance and low output ripple and noise.



CE REACH

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SELECTION GUIDE

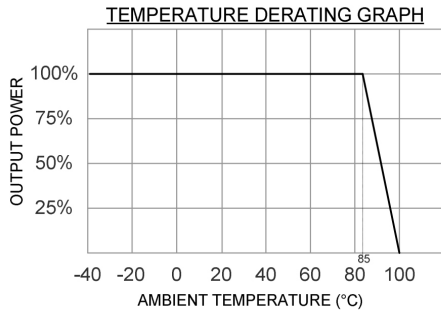
Order code	Input Voltage (V)	Output Voltage (V)	Input Current No Load (MA)	Input Current 100% Load (MA)	Output Current Full load (MA)	Efficiency (%)	Capacitor Load (uF)
B0503XD-1W5	05	3.3	30	361	400	73	220
B0505XD-1W5	05	05	30	400	300	75	220
B0507XD-1W5	05	7.2	30	400	208	75	220
B0509XD-1W5	05	09	30	400	167	75	220
B0512XD-1W5	05	12	30	384	125	78	220
B0515XD-1W5	05	15	30	384	100	78	220
B0518XD-1W5	05	18	30	384	83	78	220
B0524XD-1W5	05	24	30	379	62.5	79	220
B1203XD-1W5	12	3.3	15	148	400	74	220
B1205XD-1W5	12	05	15	168	300	74	220
B1207XD-1W5	12	7.2	15	166	208	75	220
B1209XD-1W5	12	09	15	166	167	75	220
B1212XD-1W5	12	12	15	166	125	75	220
B1215XD-1W5	12	15	15	162	100	77	220
B1218XD-1W5	12	18	15	162	83	77	220
B1224XD-1W5	12	24	15	162	62.5	75	220
B2403XD-1W5	24	3.3	10	73	400	75	220
B2405XD-1W5	24	05	10	83	300	75	220
B2407XD-1W5	24	7.2	10	83	208	75	220
B2409XD-1W5	24	09	10	83	167	75	220
B2412XD-1W5	24	12	10	82	125	76	220
B2415XD-1W5	24	15	10	82	100	76	220
B2418XD-1W5	24	18	10	82	83	76	220
B2424XD-1W5	24	24	10	79	62.5	79	220

Note: All specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

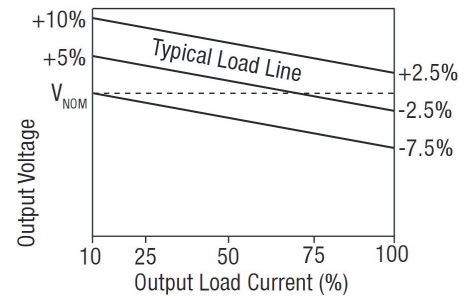
Specifications

Input Voltage Range	±10%
Input Filter	Capacitor Type
Output Voltage Accuracy	±3%
Line Voltage Regulation	±1,2%/1% V Input Change
Load Voltage Regulation	20%-100% ±10% (3.3Vout Models: ±20%)
Ripple and Noise	(20MHz bandwidth) 100mVp-p max.
Temperature Coefficient	±0.02%/°C
Efficiency at Full Load	See table
I/O Isolation Voltage (3 sec.)	1000 VDC
I/O Isolation Capacity	60 pF, typ.
I/O Isolation Resistance	1000 MOhm
Short Circuit Protection	Short term(1 seconds)
Switching Frequency	80 kHz (Variable)
Humidity	95% rel H
Reliability Calculated MTBF	(MIL-HDBK-217F) > 1.121 Mhrs
Case Material	Non Conductive Black Plastic (UL94V-0 rated)
Weight	~ 1.8g, typ.
Operating Temperature	-40 to +85°C (ambient)
Maximum Case Temperature	100° C
Storage Temperature	-40°C to +125°C
Cooling	Free Air Convection
RoHS Conform	Soldering 260°C, max. (1.5mm from

Temperature derating graph



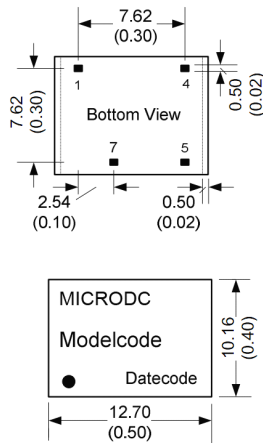
Load derating graph



OUTLINE DIMENSIONS & FOOTPRINT DETAILS

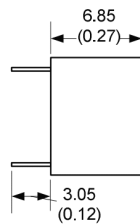
MECHANICAL DIMENSIONS

8 PIN DIP Package



All dimensions are typical in millimeters (inches).
 - Pin diameter: 1.0 \pm 0.05 (0.04 \pm 0.002)
 - Pin pitch tolerance: \pm 0.35 (\pm 0.014)
 - Case tolerance \pm 0.5 (\pm 0.02)
 Specification may change without notice.

DIP 8 – PLASTIC CASE



All dimensions in inches \pm 0.01 (mm \pm 0.25mm). All pins on a 0.1 (2.54) pitch and within \pm 0.01 (0.25) of true position.

FOOTPRINT DETAILS

Single

Pin	Function
1	-Vin
4	+Vin
5	+Vout
7	-Vout
Others	NC

NC: no connect

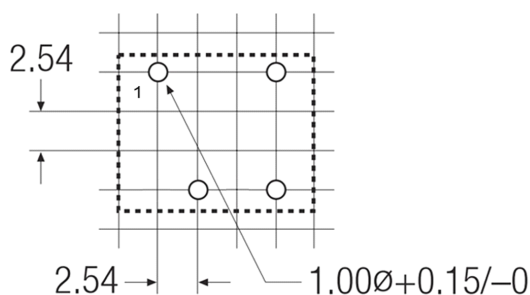
Specifications can be changed any time without notice.

No parallel connection or plug and play.

Note:

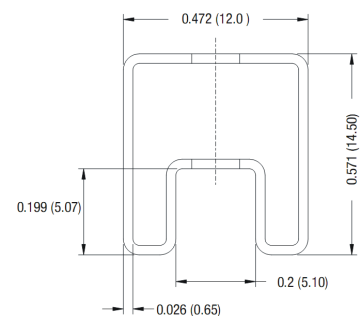
- The load shouldn't be less than 10%, otherwise ripple will increase dramatically.
- Operation under 10% load will not damage the converter; However, they may not meet all specification listed.
- All specifications measured at $T_a=25^\circ\text{C}$, humidity < 75%, nominal input voltage and rated output load unless otherwise specified.
- In this data sheet, all the test methods of indications are based on corporate standards.

Recommended footprint details



TUBE OUTLINE DIMENSIONS

8 PIN DIP Tube



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

MICRODC

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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.