

## FEATURES

- ◆ REGULATED SINGLE OUTPUT
- ◆ 12 PIN SIP PACKAGE
- ◆ LOW RIPPLE & NOISE
- ◆ HIGH EFFICIENCY UP TO 70%
- ◆ INPUT/OUTPUT ISOLATION: 1000, 3000 & 6000VDC
- ◆ OPERATING TEMPERATURE: -25°C~+71°C
- ◆ PIN-COMPATIBLE WITH MULTIPLE MANUFACTURERS

## MODEL SELECTION

**B<sup>①</sup>24<sup>②</sup>05<sup>③</sup>X<sup>④</sup>ES<sup>⑤</sup>-3W<sup>⑥</sup>**

- ① Product Series
- ② Input Voltage
- ③ Output Voltage
- ④ Fixed Input
- ⑤ EXTEND SIP
- ⑥ Rated Power

## APPLICATIONS

Our series is a family of cost effective 3W single output DC-DC converters. These converters combine miniature package in a 12-pin SIP compatible case with high performance features such as 1000, 3000 & 6000VDC input/output isolation voltage, continuous short circuit protection with automatic restart and tight line / load regulation. Seventy two models operate from input voltages of 5, 12 & 24VDC with producing output voltage levels of 3.3, 5, 7.2, 9, 12, 15, 18, 24VDC.

High performance features include high efficiency operation up to 70% and output voltage accuracy of  $\pm 2\%$  maximum. Standard features include an input range of  $\pm 10\%$  tolerance and low output noise and ripple. All models are package in a low profile 31.80x8.60x13.47mm 12 pin SIP non-conductive black plastic case. Operation is specified over the full operating temperature range of -25°C to +71°C with no derating required. Cooling is by free-air convection.



**CE REACH**  
MICRODC RESERVES THE COPYRIGHT

## MODELS Single output

Models			Input Voltage	Output Voltage	Output Current max.
Isolation 1000VDC	Isolation 3000VDC	Isolation 6000VDC			
B0503XES-3W	F0503XES-3W	H0503XES-3W	5V $\pm 10\%$	3.3VDC	800mA
B0505XES-3W	F0505XES-3W	H0505XES-3W		5VDC	600mA
B0507XES-3W	F0507XES-3W	H0507XES-3W		7.2VDC	417mA
B0509XES-3W	F0509XES-3W	H0509XES-3W		9VDC	333mA
B0512XES-3W	F0512XES-3W	H0512XES-3W		12VDC	250mA
B0515XES-3W	F0515XES-3W	H0515XES-3W		15VDC	200mA
B0518XES-3W	F0518XES-3W	H0518XES-3W		18VDC	167mA
B0524XES-3W	F0524XES-3W	H0524XES-3W		24VDC	125mA
B1203XES-3W	F1203XES-3W	H1203XES-3W	12V $\pm 10\%$	3.3VDC	800mA
B1205XES-3W	F1205XES-3W	H1205XES-3W		5VDC	600mA
B1207XES-3W	F1207XES-3W	H1207XES-3W		7.2VDC	417mA
B1209XES-3W	F1209XES-3W	H1209XES-3W		9VDC	333mA
B1212XES-3W	F1212XES-3W	H1212XES-3W		12VDC	250mA
B1215XES-3W	F1215XES-3W	H1215XES-3W		15VDC	200mA
B1218XES-3W	F1218XES-3W	H1218XES-3W		18VDC	167mA
B1224XES-3W	F1224XES-3W	H1224XES-3W		24VDC	125mA
B2403XES-3W	F2403XES-3W	H2403XES-3W	24V $\pm 10\%$	3.3VDC	800mA
B2405XES-3W	F2405XES-3W	H2405XES-3W		5VDC	600mA
B2407XES-3W	F2407XES-3W	H2407XES-3W		7.2VDC	417mA
B2409XES-3W	F2409XES-3W	H2409XES-3W		9VDC	333mA
B2412XES-3W	F2412XES-3W	H2412XES-3W		12VDC	250mA
B2415XES-3W	F2415XES-3W	H2415XES-3W		15VDC	200mA
B2418XES-3W	F2418XES-3W	H2418XES-3W		18VDC	167mA
B2424XES-3W	F2424XES-3W	H2424XES-3W		24VDC	125mA

## ELECTRICAL SPECIFICATIONS

Specifications typical at +25°C, nominal input voltage, rated output current unless otherwise specific

### Input Specifications:

Voltage range	$\pm 10\%$
Filter	p (Pi) Network

### Isolation Specifications:

Rated voltage (60 sec)	1000, 3000, 6000VDC
Resistance	> 1000M $\Omega$ m
Capacitance	60pF, typ.

### Output Specifications:

Voltage accuracy	$\pm 2\%$ , max
Ripple & noise (at 20MHz BW)	75mVp-p, max.
Short circuit protection	Continuous
Short circuit restart	Automatic
Line voltage regulation	$\pm 0.5\%$ , max.
Load voltage regulation	$\pm 0.5\%$ , max
Temperature coefficient	$\pm 0.02\%/^{\circ}\text{C}$ , typ

### ELECTRICAL SPECIFICATIONS

Specifications typical at +25° C, nominal input voltage, rated output current unless otherwise specific

#### General Specifications:

Efficiency	64% to 70%
Switching frequency	125KHz, typ. 100%load

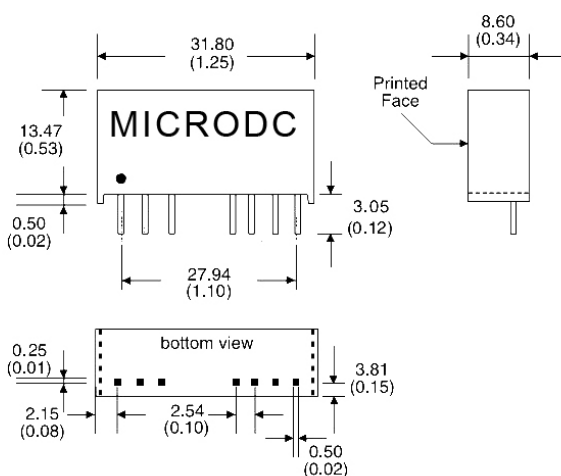
#### Environmental Specifications:

Operating temperature (ambient)	-25°C~ +71°C
Storage temperature	-40°C~ +125
Case temperature	+90°C, max.
Derating	None required
Humidity (non-condensing)	Up to 90%
Cooling	Free-air Convection

#### Physical Specifications:

Dimensions	31.80x8.60x13.47mm 1.25x0.34x0.53inches
Weight	10.7g
Case material	Non-conductive black plastic

### OUTLINE DIMENSIONS & PIN CONNECTIONS



Pin	1000, 3000 & 6000VDC
	Single
1	+V Input
2	N.C.
3	N.C.
9	N.C.
10	-V output
11	+V output
12	-V input

#### 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.

