MICRODC
Industry Power Family

# 3B-XESR&3F-XESR&3H-XESR Series

**Isolated 3W Single Output DC/DC Converters**




## FEATURES

- ◆REGULATED SINGLE OUTPUT
- ◆12 PIN SIP PACKAGE
- ◆LOW RIPPLE & NOISE
- ◆HIGH EFFICIENCY UP TO 75%
- ◆INPUT/OUTPUT ISOLATION: 1000, 3000 & 6000VDC
- ◆OPERATING TEMPERATURE: -25°C~ +71°C
- ◆PIN-COMPATIBLE WITH MULTIPLE MANUFACTURERS

## MODEL SELECTION

3B①24②05③X④ES⑤R⑥

①Product Series ②Input Voltage
③Output Voltage ④3Fixed Input
⑤EXTEND SIP ⑥ Regulated Output

## APPLICATIONS

Our series is a 3Family o3F cost e3F3Fective 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 ±2 maximum. Standard features include an input range of ±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℃ to +71℃ with no derating required. Cooling is by free-air convection.

RoHS MICRODC Green Technology

CE REACH

MICRODC RESERVES THE COPYRIGHT

## MODELS Single output

| Models | | | Input Voltage | Ouput Voltage | Ouput Current max. |
|---|---|---|---|---|---|
| Isolation 1000VDC | Isolation 3000VDC | Isolation 6000VDC | | | |
| 3B0503XESR | 3F0503XESR | 3H0503XESR | 5V±10% | 3.3VDC | 800mA |
| 3B0505XESR | 3F0505XESR | 3H0505XESR | | 5VDC | 600mA |
| 3B0507XESR | 3F0507XESR | 3H0507XESR | | 7.2VDC | 417mA |
| 3B0509XESR | 3F0509XESR | 3H0509XESR | | 9VDC | 333mA |
| 3B0512XESR | 3F0512XESR | 3H0512XESR | | 12VDC | 250mA |
| 3B0515XESR | 3F0515XESR | 3H0515XESR | | 15VDC | 200mA |
| 3B0518XESR | 3F0518XESR | 3H0518XESR | | 18VDC | 167mA |
| 3B0524XESR | 3F0524XESR | 3H0524XESR | | 24VDC | 125mA |
| 3B1203XESR | 3F1203XESR | 3H1203XESR | 12V±10 % | 3.3VDC | 800mA |
| 3B1205XESR | 3F1205XESR | 3H1205XESR | | 5VDC | 600mA |
| 3B1207XESR | 3F1207XESR | 3H1207XESR | | 7.2VDC | 417mA |
| 3B1209XESR | 3F1209XESR | 3H1209XESR | | 9VDC | 333mA |
| 3B1212XESR | 3F1212XESR | 3H1212XESR | | 12VDC | 250mA |
| 3B1215XESR | 3F1215XESR | 3H1215XESR | | 15VDC | 200mA |
| 3B1218XESR | 3F1218XESR | 3H1218XESR | | 18VDC | 167mA |
| 3B1224XESR | 3F1224XESR | 3H1224XESR | | 24VDC | 125mA |
| 3B2403XESR | 3F2403XESR | 3H2403XESR | 24V±10 % | 3.3VDC | 800mA |
| 3B2405XESR | 3F2405XESR | 3H2405XESR | | 5VD | 600mA |
| 3B2407XESR | 3F2407XESR | 3H2407XESR | | 7.2VD | 417mA |
| 3B2409XESR | 3F2409XESR | 3H2409XESR | | 9VDC | 333mA |
| 3B2412XESR | 3F2412XESR | 3H2412XESR | | 12VDC | 250mA |
| 3B2415XESR | 3F2415XESR | 3H2415XESR | | 15VDC | 200mA |
| 3B2418XESR | 3F2418XESR | 3H2418XESR | | 18VDC | 167mA |
| 3B2424XESR | 3F2424XESR | 3H2424XESR | | 24VDC | 125mA |

## ELECTRICAL SPECIFICATIONS

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

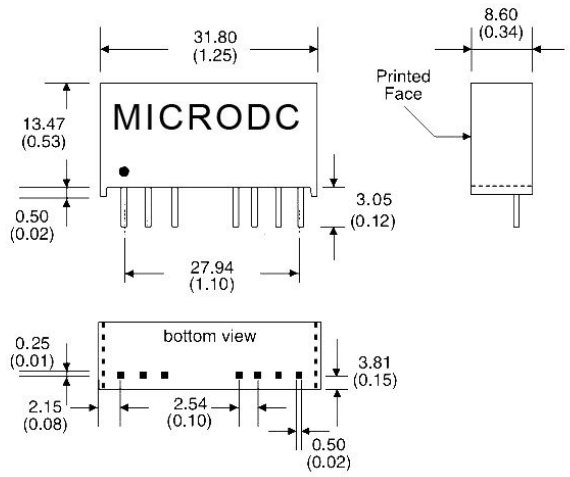
| | |
|---|---|
| Input Specifications: | |
| Voltage range | ±10% |
| Filter | p (Pi) Network |
| Isolation Specifications: | |
| Rated voltage (60 sec) | 1000, 3000, 6000VDC |
| Resistance | > 1000MOhm |
| Capacitance | 60pF, typ. |
| Output Specifications: | |
| Voltage accuracy | ±2%, max |
| Ripple & noise (at 20MHz BW) | 75mVp-p, max. |
| Short circuit protection | Continuous |
| Short circuit restart | Automatic |
| Line voltage regulation | ±0.5%, max. |
| Load voltage regulation | ±0.5%, max |
| Temperature coefficient | ±0.02%/℃, typ |

## ELECTRICAL SPECIFICATIONS

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

| | |
|---|---|
| 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 |

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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.