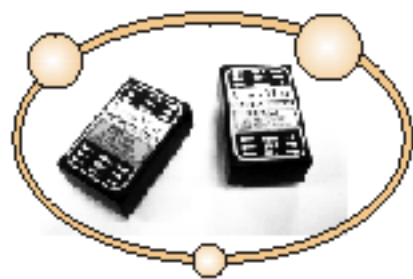




# 3Watt DC to DC Converters



## FEATURES

24-Pin DIP Package  
Efficiency to 80%  
2:1 & 4:1 Input Range  
Regulated Output

## SPECIFICATIONS

All Specifications are Typical at Nominal Line, Full Load and 25°C Unless Otherwise Noted.

- ◆ Input Voltage Range:.....See Note
- ◆ Input Filter:.....Pi Type
- ◆ Voltage Accuracy:..... $\pm 2\%$  max.
- ◆ Voltage Balance (Dual):..... $\pm 1\%$  max.
- ◆ Temperature Coefficient:..... $\pm 0.05\%/^{\circ}\text{C}$
- ◆ Ripple and Noise, 20MHz BW 5V/3.3V 100mVp-p max  
.....12/15V.....1%p-p max
- ◆ Short Circuit Protection:.....Continuous
- ◆ Line Regulation, Single/Dual:...(HL-LL)..... $\pm 0.5\%$  max
- ◆ Load Regulation, Single:...(FL-10%FL)..... $\pm 0.5\%$  max  
Dual...(FL-25%FL)..... $\pm 1.0\%$  max
- ◆ Efficiency:.....See Table
- ◆ Isolation Resistance:..... $10^9\Omega$  min
- ◆ Switching Frequency:.....100KHz, min
- ◆ Operating Temperature Range:.....-25°C to +71°C
- ◆ Storage Temperature Range:.....-40°C to +100°C
- ◆ EMI/RFI (optional).....EMI meet EN55022 Class B
- ◆ Dimension:.....(31.8x20.3x10.2mm)  
(Class B Models).....(31.8x20.3x12.7mm)
- ◆ Case Material..Standard Model.. Black Plastic Optional  
Black Coated Copper With Non-Conductiv Base.

Pi Input Filter

Continuous Short Circuit Protection

EMI meet En55022 Class B(Optional)

Remote On/off (Option)

## MODEL LIST

| MODEL NUMBER         | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | %EFF   | CASE |
|----------------------|---------------|----------------|----------------|--------|------|
| E03-X0(B/M/M1/P 3/T) | See Note      | 3.3VDC         | 600mA          | 64 min | D    |
| E03-X1(B/M/M1/P 3/T) | See Note      | 5VDC           | 600mA          | 73 min | D    |
| E03-X2(B/M/M1/P 3/T) | See Note      | 12VDC          | 250mA          | 78 min | D    |
| E03-X3(B/M/M1/P 3/T) | See Note      | 15VDC          | 200mA          | 78 min | D    |
| E03-X4(B/M/M1/P 3/T) | See Note      | $\pm 5$ VDC    | $\pm 300$ mA   | 73 min | D    |
| E03-X5(B/M/M1/P 3/T) | See Note      | $\pm 12$ VDC   | $\pm 125$ mA   | 78 min | D    |
| E03-X6(B/M/M1/P 3/T) | See Note      | $\pm 15$ VDC   | $\pm 100$ mA   | 78 min | D    |

Note:

Input Voltage "x":

1.X=0, Input Voltage: 5VDC  $\pm 10\%$

2.X=1, Input Voltage: 9~18VDC, Nominal=12VDC

3.X=2, Input Voltage: 18~36VDC, Nominal=24VDC

4.X=3, Input Voltage: 36~72VDC, Nominal=48VDC

5.X=4, Input Voltage: 9~36VDC, Nominal=24VDC

6.X=5, Input Voltage: 18~72VDC, Nominal=48VDC

Model Number Suffix

1."B": Optional for EN55022 Class B, For Input Range 2:1 Only.

2."M": Optional for 500V I/O Isolation With metal Case.

3."M1": Optional for 1.5KV I/O Isolation With metal Case.

4."P 3": Optional for 3KV I/O Isolation With Plastic Case.

5."T": Optional Remote On/Off For Class B version,

M1/P 3 Models Only.

6.Dual Output Models With Separate Output available.

7.UL Approved Models Optional For Input Range 2:1 & Class B

Version With Isolation 1.5KV/3KV Models Only.

## CASE D

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All Dimensions in Inches (mm)

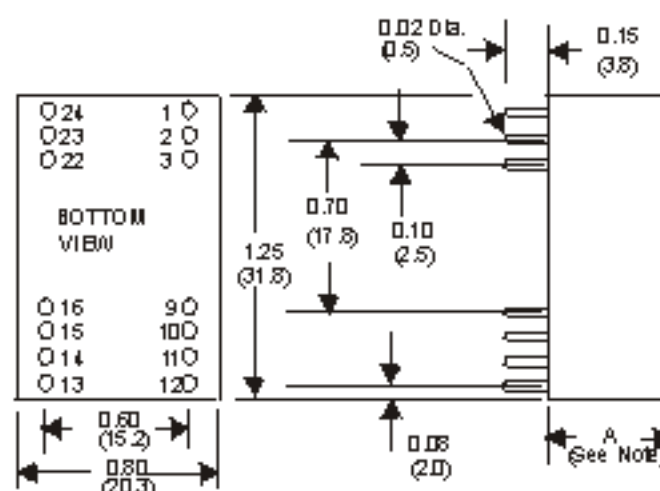
| PIN CONNECTION |           |           |
|----------------|-----------|-----------|
| 500VDC         |           |           |
| PIN            | SINGLE    | DUAL      |
| 1              | +V Input  | +V Input  |
| 2              | NC        | -V Output |
| 3              | NC        | Common    |
| 5              | NP        | NP        |
| 9              | NP        | NP        |
| 10             | -V Output | Common    |
| 11             | +V Output | +V Output |
| 12             | -V Input  | -V Input  |
| 13             | -V Input  | -V Input  |
| 14             | +V Output | +V Output |
| 15             | -V Output | Common    |
| 16             | NP        | NP        |
| 22             | NC        | Common    |
| 23             | NC        | -V Output |
| 24             | +V Input  | +V Input  |

| PIN CONNECTION |                     |           |
|----------------|---------------------|-----------|
| 1.5K/3K VDC    |                     |           |
| PIN            | SINGLE              | DUAL      |
| 1              | NP                  | NP        |
| 2              | -V Input            | -V Input  |
| 3              | -V Input            | -V Input  |
| 5              | NP or Remote On/Off |           |
| 9              | NC                  | Common    |
| 10             | NC                  | NC        |
| 11             | NC                  | -V Output |
| 12             | NP                  | NP        |
| 13             | NP                  | NP        |
| 14             | +V Output           | +V Output |
| 15             | NC                  | NC        |
| 16             | -V Output           | Common    |
| 22             | +V Input            | +V Input  |
| 23             | +V Input            | +V Input  |
| 24             | NP                  | NP        |

### Remote On/Off Control

Logic Compatibility..... CMOS or Open Collector TTL  
EC-On.....  $> +5.5$ VDC or Open Circuit  
EC-Off.....  $< 1.8$ VDC  
Shutdown Idle Current..... 10mA  
Input Resistance..... 100K ohms (Ein 0VDC to 9VDC)  
Control Common..... Referenced to Input Minus



Note:

A=0.40(10.2) For Standard or Input Range 4:1 Models.

A=0.50(12.7) For Class B Version.

All Dimensions in Inches (mm)