



# 5 Watt Wide Input DC to DC Converters



## FEATURES

5-6W Isolated Output  
24-Pin DIP Package  
2:1 Input Range  
(Optional) Conductive EMI Meet EN55022 Class B

Regulated Outputs  
Continuous Short Circuit Protection  
High Efficiency Up To 82%

## SPECIFICATIONS

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

- ◊ Input Filter..... PI Type
- ◊ Voltage Accuracy.....  $\pm 2\%$  max.
- ◊ Voltage Balance (Dual).....  $\pm 1\%$  max.
- ◊ Temperature Coefficient.....  $\pm 0.05\%/^{\circ}\text{C}$
- ◊ Ripple & Noise (20MHz BW)..... (5V)..... 100mVp-p max.  
(12/15V)..... 1%Vp-p max.
- ◊ Short Circuit Protection..... Continuous
- ◊ Line Regulation, Single/Dual .....(LL-HL).....  $\pm 0.5\%$
- ◊ Load Regulation, Single.....(10%FL-FL).....  $\pm 0.5\%$   
Dual.....(25%FL-FL).....  $\pm 1\%$
- ◊ I/O Isolation.....(Standard Models)..... 500VDC min.
- ◊ Switching Frequency..... 100KHz min.
- ◊ Operating Temperature Range..... -25°C To +71°C
- ◊ Storage Temperature Range..... -40°C To +100°C
- ◊ Dimensions Case D..... 1.25 x 0.8 x 0.4 inches  
(31.8 x 20.3 x 10.2mm)
- ◊ Case Material:  
Standard Models..... Non-Conductive Black Plastic  
Suffix "M/M1" Models..... Black Coated Copper with  
Non-Conductive Base

## MODEL LIST

| Model Number        | Input Voltage | Output Voltage     | Output Current     | %EFF. | CASE |
|---------------------|---------------|--------------------|--------------------|-------|------|
| E05-X0(B/M/M1/P3/T) | See Note "X"  | 3.3VDC             | 1000mA             | 70min | D    |
| E05-X1(B/M/M1/P3/T) | See Note "X"  | 5VDC               | 1000mA             | 76min | D    |
| E05-X2(B/M/M1/P3/T) | See Note "X"  | 12VDC              | 470mA              | 80min | D    |
| E05-X3(B/M/M1/P3/T) | See Note "X"  | 15VDC              | 400mA              | 80min | D    |
| E05-X4(B/M/M1/P3/T) | See Note "X"  | $\pm 5\text{VDC}$  | $\pm 500\text{mA}$ | 76min | D    |
| E05-X5(B/M/M1/P3/T) | See Note "X"  | $\pm 12\text{VDC}$ | $\pm 230\text{mA}$ | 80min | D    |
| E05-X6(B/M/M1/P3/T) | See Note "X"  | $\pm 15\text{VDC}$ | $\pm 190\text{mA}$ | 80min | D    |

Note:

Input Voltage "X":

x=1, Input Voltage = 9~18VDC, Nominal=12VDC

x=2, Input Voltage = 18~36VDC, Nominal=24VDC

x=3, Input Voltage = 36~72VDC, Nominal=48VDC

x=4, Input Voltage = 9~36VDC, Nominal=24VDC

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. "P3": Optional for 3KV I/O Isolation with plastic case.
5. "T": Optional Remote On/Off for class B version Isolation 3KV & Input Range 2:1 Model Only.
6. UL Approved Models optional for Input Range 2:1 & Class B Version with Isolation 1.5KV/3KV Models only.

| Pin Connections                                  |        |      |      |        |      |      |        |      |
|--|--------|------|------|--------|------|------|--------|------|
| Standard Models 500VDC Suffix "M" For Metal Case |        |      |      |        |      |      |        |      |
| Pin#   | Single | Dual | Pin# | Single | Dual | Pin# | Single | Dual |
| 1  | Vi+    | Vi+  | 11   | Vo+    | Vo+  | 16   | N.P.   | N.P. |
| 2  | N.C.   | Vo-  | 12   | Vi-    | Vi-  | 22   | N.C.   | Com. |
| 3  | N.C.   | Com. | 13   | Vi-    | Vi-  | 23   | N.C.   | Vo-  |
| 9  | N.P.   | N.P. | 14   | Vo+    | Vo+  | 24   | Vi+    | Vi+  |
| 10   | Vo-    | Com. | 15   | Vo-    | Com. |      |        |      |

| Pin Connections                       |        |      |      |        |      |      |        |      |
|---------------------------------------|--------|------|------|--------|------|------|--------|------|
| 1.5KVDC SUFFIX "M1" 3KVDC SUFFIX "P3" |        |      |      |        |      |      |        |      |
| Pin#                                  | Single | Dual | Pin# | Single | Dual | Pin# | Single | Dual |
| 1                                     | N.P.   | N.P. | 11   | N.C.   | Vo-  | 16   | Vo-    | Com. |
| 2                                     | Vi-    | Vi-  | 12   | N.P.   | N.P. | 22   | Vi+    | Vi+  |
| 3                                     | Vi-    | Vi-  | 13   | N.P.   | N.P. | 23   | Vi+    | Vi+  |
| 9                                     | N.C.   | Com. | 14   | Vo+    | Vo+  | 24   | N.P.   | N.P. |
| 10                                    | N.C.   | N.C. | 15   | N.C.   | N.C. |      |        |      |

## CASE D

[Click to enlarge](#)

All Dimensions In Inches (mm)

