

## FEATURES:

- 3 Watt SIP Package
- Efficiency to 86%
- 100% Burned In
- No-Load Input Current as Low as 8mA
- UL 94V-0 Package Material
- Custom Solutions Available
- Unregulated Output Types
- UL Recognized



## 3 Watt DC-DC Converter EC4-24D103P

3 Watt Dual O/P  
Isolated DC/DC Converter



### Input Specifications

|                      |       |
|----------------------|-------|
| Input Voltage:       | 24Vdc |
| Input Voltage Range: | ±10%  |

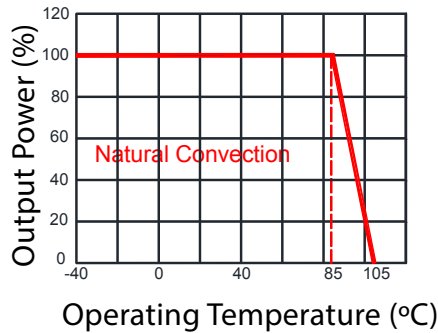
### Output Specifications

|                           |                            |                                |
|---------------------------|----------------------------|--------------------------------|
| Output Voltage:           | ±10Vdc                     |                                |
| Output Voltage Accuracy:  | ±5%                        | @Vout= ±9.5~±10.5Vdc@Vin=24Vdc |
| Output Current:           | ±150mA                     |                                |
| Efficiency:               | 86% TYP                    |                                |
| Ripple / Noise:           | 100mVp-p TYP, 150mVp-p MAX | @20MHz bandwidth               |
| Short Circuit Protection: | Continuous                 |                                |
| Line Regulation:          | ±1.2% TYP                  | @For 1.0% OF Vin               |
| Load Regulation:          | ±10% TYP                   | @10% to 100% full load         |
| Capacitive Load:          | ±100uF MAX                 |                                |

### General Specifications

|                              |                     |                                                             |
|------------------------------|---------------------|-------------------------------------------------------------|
| Operating Temperature Range: | -40°C ~ +85°C       |                                                             |
| Storage Temperature:         | -55°C ~ +125°C      |                                                             |
| Switching Frequency:         | 250KHz TYP          |                                                             |
| Humidity:                    | 95% MAX             |                                                             |
| Isolation Voltage:           | 1500Vdc             | @Input to Output (60 sec/ 0.5mA)                            |
| Isolation Resistance:        | 1000MΩ MIN          | @ 500Vdc                                                    |
| Cooling:                     | Free air convection |                                                             |
| MTBF:                        | >3,500,000 Hours    | MIL-HDBK-217F@25°C, Ground Benign                           |
| Case Material:               | DAP                 |                                                             |
| Weight:                      | 2.7g TYP            |                                                             |
| EMI                          | CE                  | CISPR32/EN55032 CLASS B (see Fig.1 for recommended circuit) |
|                              | RE                  | CISPR32/EN55032 CLASS B (see Fig.1 for recommended circuit) |
| EMS                          | ESD                 | IEC/EN61000-4-2 Air ±8kV, Contact ±4kV perf. Criteria B     |

## Temperature Derating Graph

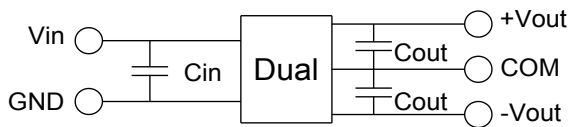


## Part Number

$$\frac{EC4}{A} - \frac{24}{B} \frac{D}{C} \frac{10}{D} \frac{3}{E} \frac{P}{F}$$

A: Series  
B: Input Voltage  
C: Dual Output (D)  
D: Output Voltage  
E: Output Power  
F: Protection (P)

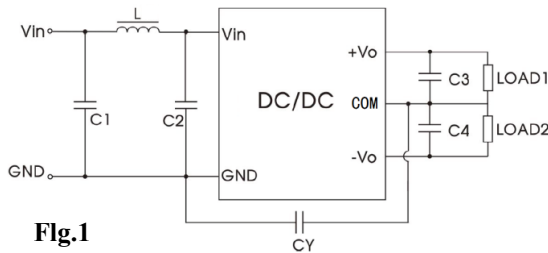
## Recommended Test Circuit



| Vin   | Cin     | Single Vout | Cout     |
|-------|---------|-------------|----------|
| 24Vdc | 1μF/50V | ±10Vdc      | ±1μF/25V |

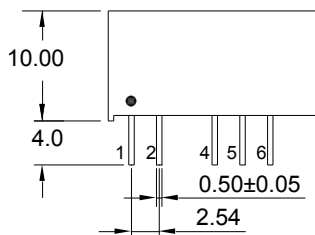
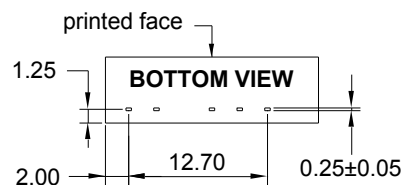
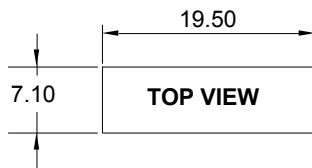
To make sure the product works at perfect operation status, a full loading external capacitor is necessary and it is recommended to use a high frequency low resistance electrolytic capacitor.

## EMC (CLASS B) Compliance Circuit



| EMC Recommended Circuit Value Table |        |                          |
|-------------------------------------|--------|--------------------------|
| EMI                                 | C1     | 10μF /50V                |
|                                     | C2     | 10μF /50V                |
|                                     | CY     | 1nF/4kV                  |
|                                     | C3, C4 | Recommended Test Circuit |
|                                     | L      | 6.8μH                    |

## Outline Dimensions



| Pin  | 1    | 2    | 4     | 5   | 6     |
|------|------|------|-------|-----|-------|
| Dual | +Vin | -Vin | -Vout | COM | +Vout |

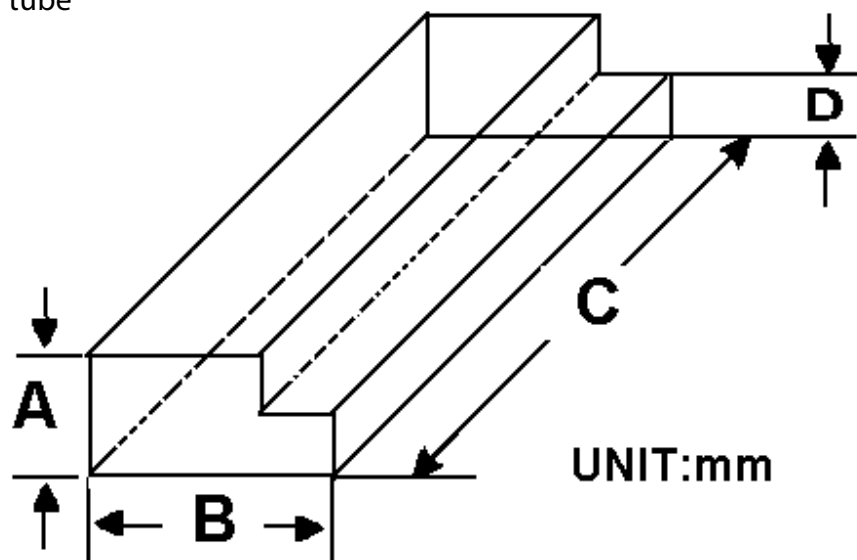
UNIT: mm unless otherwise specified, all tolerances are ±0.25

**Packaging Information**

Weight: 2.7 grams/pcs

TUBE: 25 pcs

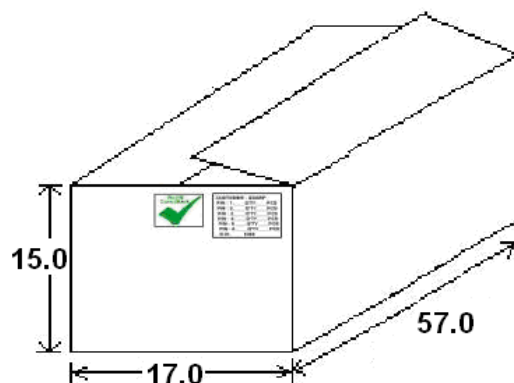
Weight: 80g per tube



| Size (mm) |       |     |      |
|-----------|-------|-----|------|
| A         | B     | C   | D    |
| 9.50      | 16.50 | 522 | 5.00 |

Outer carton unit: 2500pcs/100Tubes/box

Weight: 8.5 kg per carton



# Mouser Electronics

Authorized Distributor

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[EC4-24D103P](#)