



Isolated and Regulated 5 WATT Modular DC/DC Converters

**FDC05** series



Unit measures 1"W x 2"L x 0.375"H

- Wide 2 : 1 Input Range
- High Efficiency
- Regulated Outputs
- 1600V Isolation
- Full EMI Shielding
- Standard Pinouts



| Model Number | Output Voltage | Output Amps | Input Range |
|--------------|----------------|-------------|-------------|
|--------------|----------------|-------------|-------------|

#### SINGLE OUTPUT

|             |         |      |           |
|-------------|---------|------|-----------|
| FDC05-12S33 | 3.3 VDC | 1    | 9-18 VDC  |
| FDC05-24S33 |         | 1    | 18-36 VDC |
| FDC05-48S33 |         | 1    | 36-72 VDC |
| FDC05-12S05 | 5 VDC   | 1    | 9-18 VDC  |
| FDC05-24S05 |         | 1    | 18-36 VDC |
| FDC05-48S05 |         | 1    | 36-72 VDC |
| FDC05-12S12 | 12 VDC  | 0.47 | 9-18 VDC  |
| FDC05-24S12 |         | 0.47 | 18-36 VDC |
| FDC05-48S12 |         | 0.47 | 36-72 VDC |
| FDC05-12S15 | 15 VDC  | 0.4  | 9-18 VDC  |
| FDC05-24S15 |         | 0.4  | 18-36 VDC |
| FDC05-48S15 |         | 0.4  | 36-72 VDC |

#### DUAL OUTPUT

|             |           |         |           |
|-------------|-----------|---------|-----------|
| FDC05-12D05 | +/-5 VDC  | +/-0.5  | 9-18 VDC  |
| FDC05-24D05 |           | +/-0.5  | 18-36 VDC |
| FDC05-48D05 |           | +/-0.5  | 36-72 VDC |
| FDC05-12D12 | +/-12 VDC | +/-0.23 | 9-18 VDC  |
| FDC05-24D12 |           | +/-0.23 | 18-36 VDC |
| FDC05-48D12 |           | +/-0.23 | 36-72 VDC |
| FDC05-12D15 | +/-15 VDC | +/-0.19 | 9-18 VDC  |
| FDC05-24D15 |           | +/-0.19 | 18-36 VDC |
| FDC05-48D15 |           | +/-0.19 | 36-72 VDC |

**WWW.ASTRODYNE.COM**

ASTRODYNE USA: 1-800-823-8082  
ASTRODYNE PACIFIC: 886-2-26983458



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#### INPUT SPECIFICATIONS

|                       |                |           |
|-----------------------|----------------|-----------|
| Input Voltage Ranges: | 12 VDC Nominal | 9-18 VDC  |
|                       | 24 VDC Nominal | 18-36 VDC |
|                       | 48 VDC Nominal | 36-72 VDC |
| Input Filter          | Pi Type        |           |

#### OUTPUT SPECIFICATIONS

|                              |                             |
|------------------------------|-----------------------------|
| Voltage and Current          | See Selection Chart         |
| Load Regulation              | singles: +/- 0.2%           |
| 25% - FL                     | duals: +/-1%                |
| Line Regulation              | +/- 0.2%                    |
| Temperature Coefficient      | +/-0.02%/DegC               |
| Ripple/Noise(Single/Dual)    | 75mV Pk-Pk, typ             |
| Voltage Stability            | +/- 2%                      |
| Transient Response Recovery  | microSeconds                |
| Single, 25% Load Step Change | 200                         |
| Dual, FL-50% +/-1% Error     | 200                         |
| Short Circuit Protection     | Continuous, self-recovering |
| Voltage Balance, Dual        | +/-1%                       |

#### GENERAL SPECIFICATIONS

|                      |              |
|----------------------|--------------|
| Input-Out Isolation  | 1600VDC      |
| Isolation Resistance | 10000 M Ohms |
| In/Out Capacitance   | 1000 pF      |
| Efficiency           | 80%, typ     |
| Switching Frequency  | 300Khz       |

#### ENVIRONMENTAL SPECIFICATIONS

|                     |                         |
|---------------------|-------------------------|
| Oper. Temperature   | -25 to +71 DegC(FL)     |
| Storage Temperature | -55 to +125 DegC *      |
| Maximum Case Temp   | 110 DegC *              |
| MTBF                | 3.1 MHrs                |
|                     | MIL-HDBK-217F TA=25C FL |

#### PHYSICAL SPECIFICATIONS

|               |                      |
|---------------|----------------------|
| Case Material | Nickel-Coated Copper |
|               | Non-Conductive Base  |
| Construction  | Fully Encapsulated   |
| Weight        | 0.9 oz, (26g)        |

All specifications are typical at nominal input, full load, and 25DegC unless otherwise noted

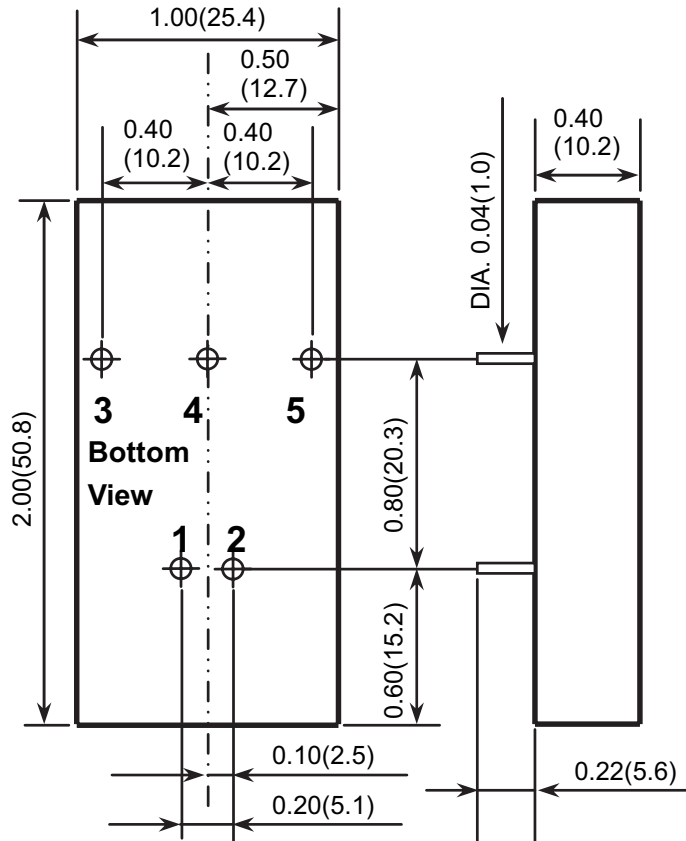
\* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Proper operation under conditions other than the standard operating conditions is neither warranted nor implied.

**Astrodyne products are not authorized or warranted for use as critical components in life support systems, equipment used in hazardous environments, nuclear controls systems, or other mission-critical applications.**

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## MECHANICAL DIMENSIONS

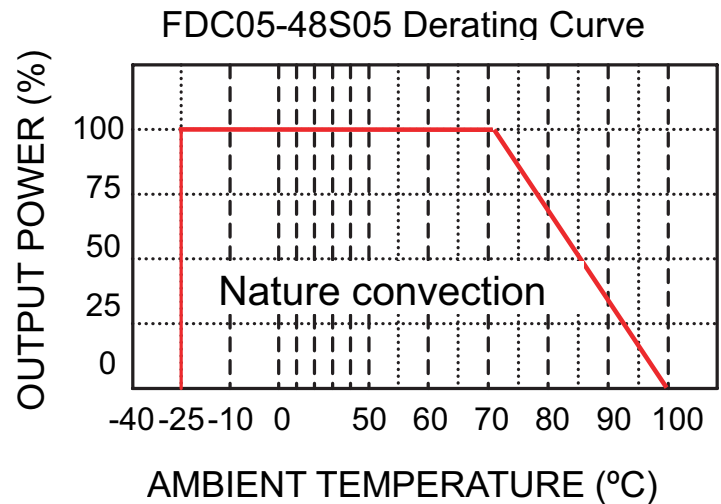


1. All dimensions in Inches (mm)

Tolerance  $x.xx \pm 0.02 (x.x \pm 0.5)$

2. Pin Pitch tolerance  $\pm 0.014(0.35)$

### OUTPUT DERATING CURVE



| Pin # | Single Outputs | Dual Outputs |
|-------|----------------|--------------|
| 1     | + Input        | + Input      |
| 2     | - Input        | - Input      |
| 3     | + Output       | + Output     |
| 4     | No Pin         | Common       |
| 5     | - Output       | - Output     |