

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

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## FDC40 Series



Unit measures 2.6"W x 3"L x 0.375"H

### MODEL SELECTIONS

| Output Voltage       | Output Amps | Input Range | Model Number  |
|----------------------|-------------|-------------|---------------|
| <b>SINGLE OUTPUT</b> |             |             |               |
| 3.3 VDC              | 10          | 9-18 VDC    | FDC40-12S33   |
|                      | 10          | 18-36 VDC   | FDC40-24S33   |
|                      | 10          | 36-72 VDC   | FDC40-48S33   |
| 5 VDC                | 8           | 9-18 VDC    | FDC40-12S05   |
|                      | 8           | 18-36 VDC   | FDC40-24S05   |
|                      | 8           | 36-72 VDC   | FDC40-48S05   |
| 12 VDC               | 3.4         | 9-18 VDC    | FDC40-12S12   |
|                      | 3.4         | 18-36 VDC   | FDC40-24S12   |
|                      | 3.4         | 36-72 VDC   | FDC40-48S12   |
| 15 VDC               | 2.7         | 9-18 VDC    | FDC40-12S15   |
|                      | 2.7         | 18-36 VDC   | FDC40-24S15   |
|                      | 2.7         | 36-72 VDC   | FDC40-48S15   |
| <b>DUAL OUTPUT</b>   |             |             |               |
| 3.3 / 5 VDC          | 4 / 4       | 9-18 VDC    | FDC40-12D3305 |
|                      | 4 / 4       | 18-36 VDC   | FDC40-24D3305 |
|                      | 4 / 4       | 36-72 VDC   | FDC40-48D3305 |
| +/-5 VDC             | +7 / -1     | 9-18 VDC    | FDC40-12D05   |
|                      | +7 / -1     | 18-36 VDC   | FDC40-24D05   |
|                      | +7 / -1     | 36-72 VDC   | FDC40-48D05   |
| +/-12 VDC            | +/-1.8      | 9-18 VDC    | FDC40-12D12   |
|                      | +/-1.8      | 18-36 VDC   | FDC40-24D12   |
|                      | +/-1.8      | 36-72 VDC   | FDC40-48D12   |
| +/-15 VDC            | +/-1.4      | 9-18 VDC    | FDC40-12D15   |
|                      | +/-1.4      | 18-36 VDC   | FDC40-24D15   |
|                      | +/-1.4      | 36-72 VDC   | FDC40-48D15   |

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## FDC40 Series Continued

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### MODEL SELECTIONS

| Output Voltage       | Output Amps | Input Range | Model Number  |
|----------------------|-------------|-------------|---------------|
| <b>TRIPLE OUTPUT</b> |             |             |               |
| 5, +/-12 VDC         | 4, +/-0.85  | 9-18 VDC    | FDC40-12T0512 |
|                      | 4, +/-0.85  | 18-36 VDC   | FDC40-24T0512 |
|                      | 4, +/-0.85  | 36-72 VDC   | FDC40-48T0512 |
| 5, +/-15 VDC         | 4, +/-0.68  | 9-18 VDC    | FDC40-12T0515 |
|                      | 4, +/-0.68  | 18-36 VDC   | FDC40-24T0515 |
|                      | 4, +/-0.68  | 36-72 VDC   | FDC40-48T0515 |

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

## 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 Load Regulation         | See Selection Chart<br>singles: +/-0.5%<br>duals: +/-1%<br>triples: 5 V: +/-2%, Aux: +/-5% |
| Line Regulation                             | singles: +/-0.5%<br>duals: +/-1%<br>triples: 5V: +/-2%, Aux: +/-5%                         |
| Temperature Coefficient                     | +/-0.02%/DegC                                                                              |
| Ripple/Noise                                | 1% Pk-Pk of Vout, typ                                                                      |
| Voltage Stability (singles/duals) (triples) | +/- 2%<br>5 V: +/-2%, Aux: +/-5%                                                           |
| Short Circuit Protection                    | Continuous, self-recovering                                                                |
| Overvoltage Protection Threshold:           |                                                                                            |
| 3.3V Output                                 | 3.9Volts                                                                                   |
| 5V Output                                   | 6.2Volts                                                                                   |
| 12V Output                                  | 15Volts                                                                                    |
| 15V Output                                  | 18Volts                                                                                    |

## GENERAL SPECIFICATIONS

|                      |                                                                |
|----------------------|----------------------------------------------------------------|
| On/Off Control       | (Ref to - Input pin)<br>Logic "1"/Open=ON<br>Logic "0"/GND=OFF |
| Input-Out Isolation  | 1600VDC                                                        |
| Isolation Resistance | 10000 M Ohms                                                   |
| Efficiency           | 82%, typ                                                       |
| Switching Frequency  | 185Khz, typ                                                    |

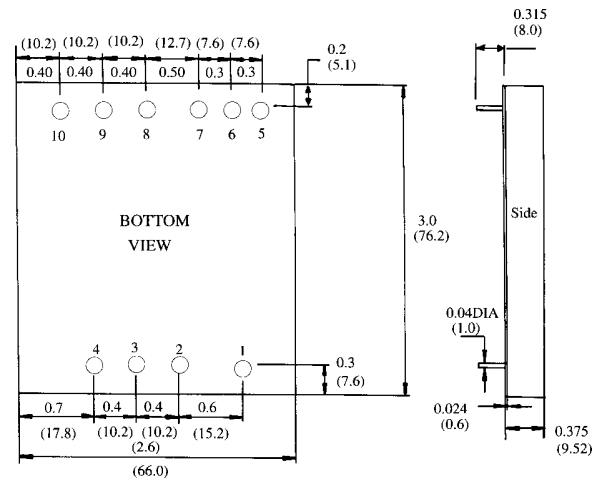
## ENVIRONMENTAL SPECIFICATIONS

|                          |                                      |
|--------------------------|--------------------------------------|
| Oper. Temperature (Case) | -25 to +85 DegC(see derate)          |
| Storage Temperature      | -55 to +125 DegC *                   |
| Maximum Case Temp        | 100 DegC *                           |
| MTBF                     | 1.61 Mhrs<br>MIL-HDBK-217F TA=25C FL |

## PHYSICAL SPECIFICATIONS

|               |                                      |
|---------------|--------------------------------------|
| Case Material | Nickel-Coated Copper                 |
| Construction  | Non-Conductive Base                  |
| Weight        | Fully Encapsulated<br>4.5 oz, (126g) |

## MECHANICAL DIMENSIONS

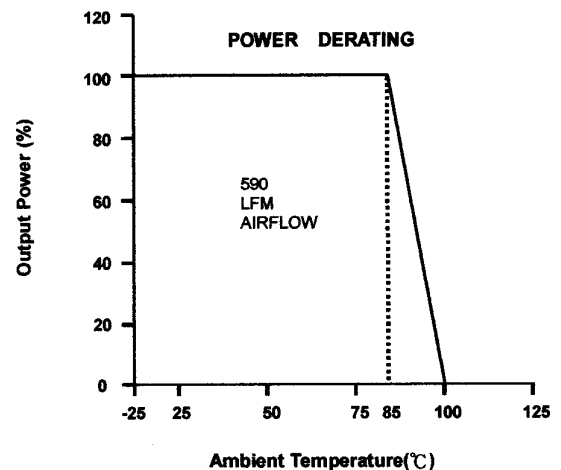


Notes: 1. All dimensions are typical in inches (mm).

**PIN PITCH TOLERANCE  $\pm 0.5\text{mm}$**

| Pin # | Single | Dual              | Triple |
|-------|--------|-------------------|--------|
| 1     | Ctrl   | Ctrl              | Ctrl   |
| 2     | + Vin  | + Vin             | + Vin  |
| 3     | - Vin  | - Vin             | - Vin  |
| 4     | Sync   | Sync              | Sync   |
| 5     | + OutS | + Vout or 3.3 out | + Vout |
| 6     | Trim   | Com               | Com    |
| 7     | - OutS | - Vout or 5 out   | - Vout |
| 8     | + Vout | Trim              | +5 Out |
| 9     | - Vout | No Pin            | -5 Out |
| 10    | No Pin | No Pin            | Trim   |

## OUTPUT DERATING CURVE



*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.*

\* 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.