



Unit measures 2.76"W x 3.94"L x 0.75"H

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



UL E193009;  
TUV R2054535;  
CB JPTUV-001393

| Model Number         | Output Voltage | Output Amps | Input Range |
|----------------------|----------------|-------------|-------------|
| <b>SINGLE OUTPUT</b> |                |             |             |
| FDC60-12S33          | 3.3 VDC        | 15          | 9-18 VDC    |
| FDC60-24S33          |                | 15          | 18-36 VDC   |
| FDC60-48S33          |                | 15          | 36-72 VDC   |
| FDC60-12S05          | 5 VDC          | 12          | 9-18 VDC    |
| FDC60-24S05          |                | 12          | 18-36 VDC   |
| FDC60-48S05          |                | 12          | 36-72 VDC   |
| FDC60-12S12          | 12 VDC         | 5           | 9-18 VDC    |
| FDC60-24S12          |                | 5           | 18-36 VDC   |
| FDC60-48S12          |                | 5           | 36-72 VDC   |
| FDC60-12S15          | 15 VDC         | 4           | 9-18 VDC    |
| FDC60-24S15          |                | 4           | 18-36 VDC   |
| FDC60-48S15          |                | 4           | 36-72 VDC   |
| <b>DUAL OUTPUT</b>   |                |             |             |
| FDC60-12D3305        | 3.3 / 5 VDC    | 6 / 6       | 9-18 VDC    |
| FDC60-24D3305        |                | 6 / 6       | 18-36 VDC   |
| FDC60-48D3305        |                | 6 / 6       | 36-72 VDC   |
| FDC60-12D05          | +/-5 VDC       | +10 / -2    | 9-18 VDC    |
| FDC60-24D05          |                | +10 / -2    | 18-36 VDC   |
| FDC60-48D05          |                | +10 / -2    | 36-72 VDC   |
| FDC60-12D12          | +/-12 VDC      | +/-2.5      | 9-18 VDC    |
| FDC60-24D12          |                | +/-2.5      | 18-36 VDC   |
| FDC60-48D12          |                | +/-2.5      | 36-72 VDC   |
| FDC60-12D15          | +/-15 VDC      | +/-2        | 9-18 VDC    |
| FDC60-24D15          |                | +/-2        | 18-36 VDC   |
| FDC60-48D15          |                | +/-2        | 36-72 VDC   |

**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 (10%-FL)          | singles/duals: +/-0.5%      |          |
| xxD3305 Models                    | 3.3V output min load=800mA  |          |
| Line Regulation                   | singles/duals: +/-0.5%      |          |
| Temperature Coefficient           | +/-0.02%/DegC               |          |
| Ripple/Noise                      | 1% Pk-Pk of Vout, typ       |          |
| Voltage Stability                 | +/- 2%                      |          |
| 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) |
|                      | Logic "1"/Open=ON    |
|                      | Logic "0"/GND=OFF    |
| Input-Out Isolation  | 1600VDC              |
| Isolation Resistance | 10000 M Ohms         |
| Efficiency           | 83%, typ             |
| Switching Frequency  | 200Khz, typ          |

**ENVIRONMENTAL SPECIFICATIONS**

|                     |                             |
|---------------------|-----------------------------|
| Oper. Temperature   | -25 to +71 DegC(see derate) |
| Storage Temperature | -55 to +125 DegC *          |
| Maximum Case Temp   | 100 DegC *                  |
| MTBF                | 1.53 Mhrs                   |
|                     | MIL-HDBK-217F TA=25C FL     |

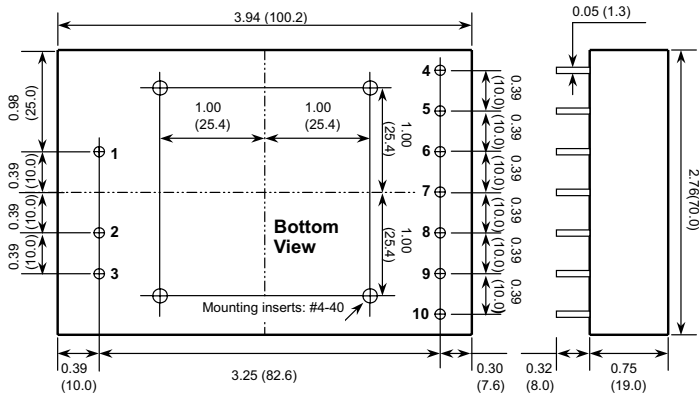
**PHYSICAL SPECIFICATIONS**

|               |                      |
|---------------|----------------------|
| Case Material | Nickel-Coated Copper |
|               | Non-Conductive Base  |
| Construction  | Fully Encapsulated   |
| Weight        | 9.71 oz, (272g)      |

*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.

**MECHANICAL DIMENSIONS**



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

All dimensions in Inches (mm)  
Pin Pitch tolerance  $\pm 0.014$  (0.35)

**OUTPUT DERATING CURVE**

