

# FDC20-W

## SINGLE AND DUAL OUTPUT, 4:1 WIDE INPUT RANGE 20 WATTS DC/DC CONVERTERS



### FEATURES

- 4:1 INPUT RANGE
- PI INPUT FILTER
- 2 YEAR WARRANTY
- HIGH EFFICIENCY
- LOW PROFILE CASE
- OVERVOLTAGE PROTECTION
- OVERCURRENT PROTECTION
- ON/OFF CONTROL

### ELECTRICAL SPECIFICATIONS

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted.

### INPUT SPECIFICATIONS

Input Voltage Range 24V nominal.....9 to 36V  
48V nominal.....18 to 72V  
Input Filter.....PI Network

### OUTPUT SPECIFICATIONS

Voltage Accuracy.....±2%  
External Trim Adjustment Range...±10% typ.  
Ripple and Noise, 20MHz BW  
Single Output.....75mV P-P, 20m V RMS  
Dual Output.....100mV P-P, 20m V RMS  
Line Regulation, Full Line.....±0.5%  
Load Regulation, FL-1/4FL.....±0.25% (Single)  
±2% (Dual)  
FL-NL.....±0.5% (Single)  
±3% (Dual)  
Temperature Coefficient.....±0.02%/°C  
Transient Response Recovery Time,  
25% Load Step Change.....500µsec  
Short Circuit Protection.....Continuous  
Overvoltage Protection Threshold:  
5V Output.....6.2V  
12V Output.....15V  
15V Output.....18V

### REMOTE ON/OFF CONTROL

Control Voltage Referenced to Negative (-) Input  
Compatibility.....CMOS, TTL  
On-Control.....4.8V min. or Open  
Off-Control.....0.4V max. or Short

### GENERAL SPECIFICATIONS

Switching Frequency.....300kHz, typ.  
Isolation Voltage.....1600VDC, min  
Isolation Resistance.....10<sup>9</sup> Ohms, min

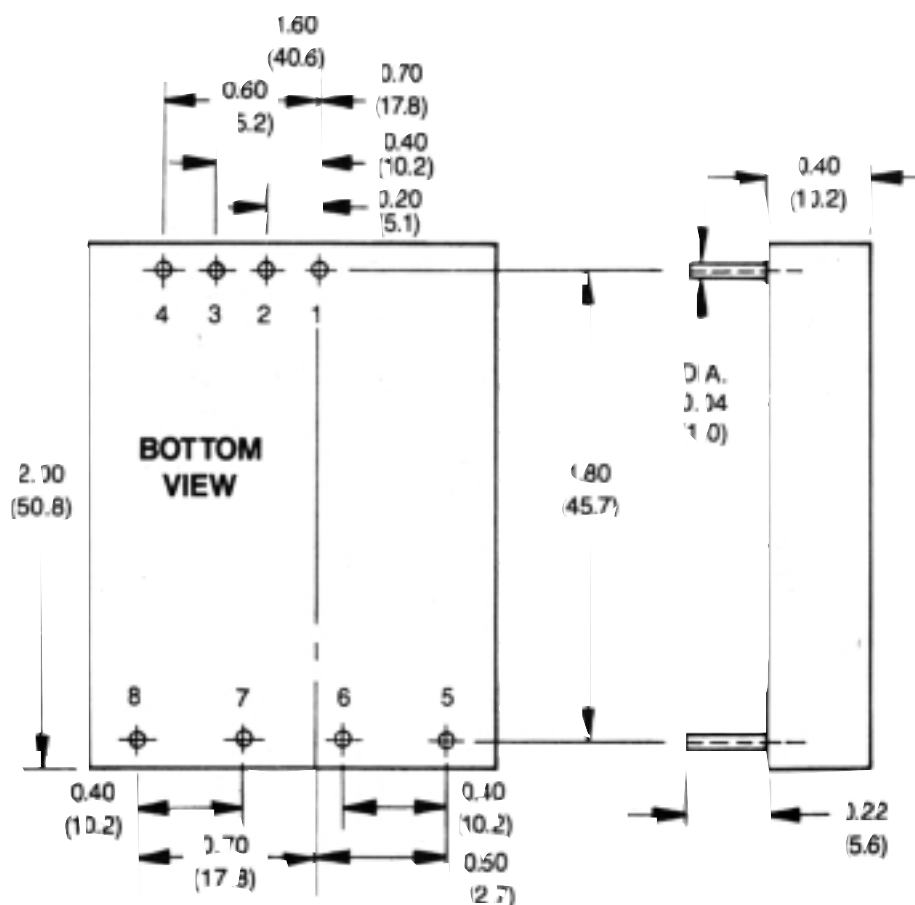
### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range.....-25°C to +60°C (See Fig.1)  
Alternative Operating Temperature Suffix "M2"  
.....-40°C to +60°C  
Storage Temperature Range.....-55°C to +125°C  
Cooling.....Free-air Convection  
EMI/RFI.....Six-sided Continuous Shield  
MTBF.....4.270x10<sup>5</sup> Hours  
(MIL-HDBK-217F TA=25°C Full Load)

### PHYSICAL SPECIFICATIONS

Case Material.....Nickel-Coated Copper with  
Non-Conductive Base  
Dimensions.....2.0x1.6x0.4 Inches  
(50.8x40.6x10.2 mm)

| MODEL               | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | % typ. EFF |
|---------------------|---------------|----------------|----------------|------------|
| <b>FDC20-24S05W</b> | 9-36VDC       | 5VDC           | 4000mA         | 79         |
| <b>FDC20-24S12W</b> | 9-36VDC       | 12VDC          | 1670mA         | 81         |
| <b>FDC20-24S15W</b> | 9-36VDC       | 15VDC          | 1330mA         | 81         |
| <b>FDC20-24D05W</b> | 9-36VDC       | ± 5VDC         | ±2000mA        | 79         |
| <b>FDC20-24D12W</b> | 9-36VDC       | ±12VDC         | ± 833mA        | 81         |
| <b>FDC20-24D15W</b> | 9-36VDC       | ±15VDC         | ± 666mA        | 82         |
| <b>FDC20-48S05W</b> | 18-72VDC      | 5VDC           | 4000mA         | 80         |
| <b>FDC20-48S12W</b> | 18-72VDC      | 12VDC          | 1670mA         | 81         |
| <b>FDC20-48S15W</b> | 18-72VDC      | 15VDC          | 1330mA         | 81         |
| <b>FDC20-48D05W</b> | 18-72VDC      | ± 5VDC         | ±2000mA        | 79         |
| <b>FDC20-48D12W</b> | 18-72VDC      | ±12VDC         | ± 833mA        | 83         |
| <b>FDC20-48D15W</b> | 18-72VDC      | ±15VDC         | ± 666mA        | 84         |



ALL DIMENSIONS IN INCHES (mm)  
PIN PITCH TOLERANCE  $\pm 0.5$  mm

## Pin Connections

| Pin#     | Single | Dual   |
|----------|--------|--------|
| <b>1</b> | +Vin   | +Vin   |
| <b>2</b> | -Vin   | -Vin   |
| <b>3</b> | No Pin | No Pin |
| <b>4</b> | Ctrl   | Ctrl   |
| <b>5</b> | No Pin | +Vout  |
| <b>6</b> | +Vout  | Common |
| <b>7</b> | -Vout  | -Vout  |
| <b>8</b> | Trim   | Trim   |