

FDC20

SINGLE, DUAL AND TRIPLE OUTPUT, HIGH DENSITY 20 WATTS DC/DC CONVERTERS



FEATURES

- ▶ **2:1 INPUT RANGE**
- ▶ **INCLUDE 3.3VDC, TRIPLE OUTPUTS**
- ▶ **PI INPUT FILTER**
- ▶ **SIX-SIDED SHIELD**
- ▶ **2 YEAR WARRANTY**
- ▶ **HIGH EFFICIENCY UP TO 86%**
- ▶ **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 12V nominal.....9 to 18V
 24V nominal.....18 to 36V
 48V nominal.....36 to 72V

Input Filter.....PI Network

SAFETIES / EMI



OUTPUT SPECIFICATIONS

Voltage Accuracy

Single Output.....±2%

Dual Output.....±2%

Triple Output, 5V/3.3V.....±2%

±12V/±15V.....±5%

External Trim Adjustment Range...±10% typ.
 Ripple and Noise, 20MHz BW

Single Output.....75mV P-P, 20m V RMS

Dual Output.....75mV P-P, 20m V RMS

Triple Output, 5V/3.3V.....75mV P-P, 20m V RMS

±12V.....120mV P-P, 20m V RMS

±15V.....150mV P-P, 20m V RMS

Line Regulation, Full Line

Single/Dual.....±0.2%

Triple Output, 5V/3.3V.....±1%

±12V/±15V.....±5%

Load Regulation, FL-1/4FL.....±0.25% (Single)

±2% (Dual)

FL-NL.....±0.5% (Single)

±3% (Dual)

FL-1/10FL, 5V/3.3V.....±2% (Triple)

FL-1/10FL, ±12V/±15V.....±5% (Triple)

Temperature Coefficient.....±0.02%/°C

Transient Response Recovery Time.

25% Load Step Change.....500µsec

Short Circuit Protection.....Continuous

Overvoltage Protection Threshold:

3.3V Output.....3.9V

5V Output.....6.2V

12V Output.....15V

15V Output.....18V

Min. Load, Triple Output.....5V/3.3V.....10%

±12V/±15V.....10%

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.....10⁹ Ohms, min

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range.....-25°C to +70°C (See Fig.1)

Alternative Operating Temperature Suffix "M2"

.....-40°C to +70°C

Storage Temperature Range.....-55°C to +125°C

Cooling.....Free-air Convection

EMI/RFI.....Six-sided Continuous Shield

MTBF.....4.369x10⁵Hours

(MIL-HDBK-217F TA=25°C Full Load)

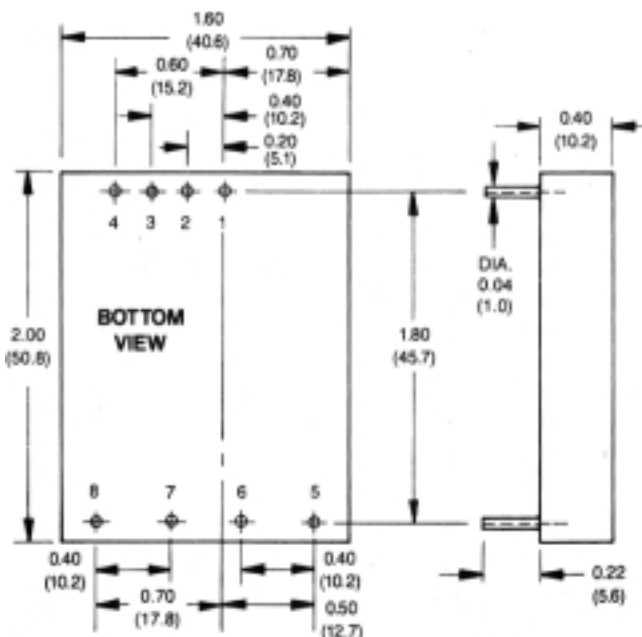
PHYSICAL SPECIFICATIONS

Case Material.....Nickel-Coated Copper with
 Non-Conductive Base

Dimensions.....2.0x1.6x0.4 Inches
 (50.8x40.6x10.2 mm)

Series

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	% typ. EFF
FDC20-12S33	9-18VDC	3.3VDC	4000mA	77
FDC20-12S05	9-18VDC	5VDC	4000mA	80
FDC20-12S12	9-18VDC	12VDC	1670mA	82
FDC20-12S15	9-18VDC	15VDC	1330mA	82
FDC20-12D05	9-18VDC	± 5VDC	±2000mA	80
FDC20-12D12	9-18VDC	±12VDC	± 833mA	82
FDC20-12D15	9-18VDC	±15VDC	± 666mA	82
FDC20-12T3312	9-18VDC	3.3VDC±12VDC	3000mA±300mA	78
FDC20-12T3315	9-18VDC	3.3VDC±15VDC	3000mA±250mA	78
FDC20-12T0512	9-18VDC	5VDC±12VDC	2000mA±300mA	80
FDC20-12T0515	9-18VDC	5VDC±15VDC	2000mA±250mA	80
FDC20-24S33	18-36VDC	3.3VDC	4000mA	78
FDC20-24S05	18-36VDC	5VDC	4000mA	81
FDC20-24S12	18-36VDC	12VDC	1670mA	83
FDC20-24S15	18-36VDC	15VDC	1330mA	83
FDC20-24D05	18-36VDC	± 5VDC	±2000mA	81
FDC20-24D12	18-36VDC	±12VDC	± 833mA	83
FDC20-24D15	18-36VDC	±15VDC	± 666mA	84
FDC20-24T3312	18-36VDC	3.3VDC±12VDC	3000mA±300mA	79
FDC20-24T3315	18-36VDC	3.3VDC±15VDC	3000mA±250mA	79
FDC20-24T0512	18-36VDC	5VDC±12VDC	2000mA±300mA	81
FDC20-24T0515	18-36VDC	5VDC±15VDC	2000mA±250mA	81
FDC20-48S33	36-72VDC	3.3VDC	4000mA	79
FDC20-48S05	36-72VDC	5VDC	4000mA	82
FDC20-48S12	36-72VDC	12VDC	1670mA	83
FDC20-48S15	36-72VDC	15VDC	1330mA	83
FDC20-48D05	36-72VDC	± 5VDC	±2000mA	81
FDC20-48D12	36-72VDC	±12VDC	± 833mA	85
FDC20-48D15	36-72VDC	±15VDC	± 666mA	86
FDC20-48T3312	36-72VDC	3.3VDC±12VDC	3000mA±300mA	80
FDC20-48T3315	36-72VDC	3.3VDC±15VDC	3000mA±250mA	80
FDC20-48T0512	36-72VDC	5VDC±12VDC	2000mA±300mA	82
FDC20-48T0515	36-72VDC	5VDC±15VDC	2000mA±250mA	82



Pin Connections

Pin#	Single	Dual	Triple
1	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin
3	No Pin	No Pin	No Pin
4	Ctrl	Ctrl	Ctrl
5	No Pin	+Vout	+Aux Out
6	+Vout	Common	+5V, +3.3V
7	-Vout	-Vout	Common
8	Trim	Trim	-Aux Out

ALL DIMENSIONS IN INCHES (mm)
PIN PITCH TOLERANCE ±0.5 mm