



# FDC40

## SINGLE, DUAL AND TRIPLE OUTPUT, HIGH DENSITY 40 WATTS DC/DC CONVERTERS



### FEATURES

- ▶ **2:1 INPUT RANGE**
- ▶ **INCLUDE 3.3/5.0 VDC, TRIPLE OUTPUT**
- ▶ **PI INPUT FILTER**
- ▶ **SIX-SIDED SHIELD**
- ▶ **2 YEAR WARRANTY**
- ▶ **EFFICIENT UP TO 88%**
- ▶ **LOW PROFILE CASE 0.375 INCH**
- ▶ **OVER VOLTAGE PROTECTION**
- ▶ **OVER CURRENT PROTECTION**
- ▶ **INHIBIT/SYNC INPUT**
- ▶ **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 .....See model Selection Guide  
 Input Filter.....PI Network  
 Overvoltage Shutdown.....20, 38 or 78VDC  
 Undervoltage Shutdown.....8, 17 or 34 VDC  
 Reflected Ripple Current.....75mA, Pk -Pk

### OUTPUT SPECIFICATIONS

Voltage Accuracy  
 Single, Dual Output Models.....±2%, Max.  
 Triple Output Models; Primary.....±2%, Max. (Adj. to Zero)

Voltage Balance  
 Dual Output Models.....±2%, Max.  
 Triple Output Models.....±10%, TYP  
 Ripple & Noise, 20 MHz BW.....1% Pk-Pk of Vout  
 Line Regulation  
 Single Output Models.....±0.5%, Max.  
 Dual Output Models.....±1.0%, Max.  
 Triple Output Models; Primary.....±2.0%, Max.  
 Auxiliaries.....±5.0%, Max.  
 Load Regulation  
 Single Output Models.....±0.5%, Max.  
 Dual Output Models.....±1.0%, Max.  
 Triple Output Models; Primary.....±2.0%, Max.  
 Auxiliaries.....±5.0%, Max.  
 Minimum Output Current % Iout rated (Main Output)  
 xxD3305 Models.....20%  
 Dual and Triple Output Models.....10%  
 Temperature Coefficient.....±0.02%/°C  
 Temp. Coefficient Balance.....±1%/°C  
 Output Short Circuit Duration.....Continuous  
 Overvoltage Protection Threshold:  
 3.3V Output.....3.9V  
 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.....185kHz, typ.  
 Isolation Voltage.....1600VDC, min  
 Isolation Resistance.....10<sup>9</sup> Ohms, min

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range.....-25°C to +85°C (CASE)  
 Storage Temperature Range.....-55°C to +125°C  
 Cooling.....Free-air Convection  
 EMI/RFI.....Six-sided Continuous Shield  
 MTBF.....2.294x10<sup>5</sup>Hours  
 (MIL-HDBK-217F TA=25°C Full Load)

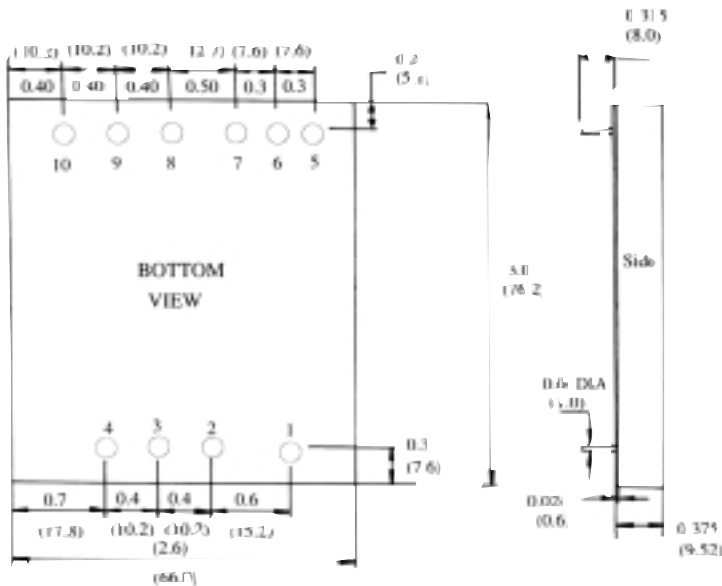
### PHYSICAL SPECIFICATIONS

Case Material.....Nickel-Coated Copper with  
 Non-Conductive Base  
 Dimensions.....2.6x3.0x0.375 Inches  
 (66x76.2x9.5 mm)

# Series

MODEL NUMBER	INPUT RANGE	OUTPUT VOLTAGE	OUTPUT CURRENT	% typ. EFF
FDC40-12S33	9-18VDC	3.3VDC	10A	78
FDC40-12S05	9-18VDC	5VDC	8A	82
FDC40-12S12	9-18VDC	12VDC	3.4A	84
FDC40-12S15	9-18VDC	15VDC	2.7A	84
FDC40-12D05	9-18VDC	± 5VDC	7A/-1A	81
FDC40-12D12	9-18VDC	±12VDC	±1.8A	83
FDC40-12D15	9-18VDC	±15VDC	±1.4A	83
FDC40-12D3305	9-18VDC	3.3VDC/5VDC	4A/4A	78
FDC40-24S33	18-36VDC	3.3VDC	10A	81
FDC40-24S05	18-36VDC	5VDC	8A	83
FDC40-24S12	18-36VDC	12VDC	3.4A	88
FDC40-24S15	18-36VDC	15VDC	2.7A	88
FDC40-24D05	18-36VDC	± 5VDC	7A/-1A	82
FDC40-24D12	18-36VDC	±12VDC	±1.8A	84
FDC40-24D15	18-36VDC	±15VDC	±1.4A	84
FDC40-24D3305	18-36VDC	3.3VDC/5VDC	4A/4A	78
FDC40-48S33	36-72VDC	3.3VDC	10A	81
FDC40-48S05	36-72VDC	5VDC	8A	83
FDC40-48S12	36-72VDC	12VDC	3.4A	88
FDC40-48S15	36-72VDC	15VDC	2.7A	88
FDC40-48D05	36-72VDC	± 5VDC	7A/-1A	82
FDC40-48D12	36-72VDC	±12VDC	±1.8A	84
FDC40-48D15	36-72VDC	±15VDC	±1.4A	84
FDC40-48D3305	36-72VDC	3.3VDC/5VDC	4A/4A	78

## Triple Output Available



Pin Connections				
Pin#	Single Output	Dual Output	Triple Output	3.3VDC/5.0VDC
1	Remote On/Off	Remote On/Off	Remote On/Off	Remote On/Off
2	+Input	+Input	+Input	+Input
3	-Input	-Input	-Input	-Input
4	Sync	Sync	Sync	Sync
5	+Output Sense/Trim(Down)	+Output	+Output (Aux)	+3.3VDC
6	Output Trim	Common	Common(Aux)	Common
7	-Output Sense/Trim (Up)	-Output	-Output (Aux)	+ 5.0VDC
8	+Output*	Output Trim	+Output (Primary)	Trim
9	-Output*	NC	-Output (Primary)	NC
10	No Pin	NC	Output Trim (Primary)	NC

Connections for single output models without sensing or external trimming:  
For proper operation, externally connect Pin5(+Output Sense) to Pin8(+output) and Pin7(-output Sense) to Pin9(-Output).

\*NC: NO Connection.

NOTES: 1. ALL DIMENSIONS IN INCHES (mm)  
PIN PITCH TOLERANCE ±0.5 mm