

FDD05 SERIES



DC - DC CONVERTER
5 ~ 6W SINGLE & DUAL OUTPUT

FEATURES

- LOW COST
- 4:1 & 3:1 & 2:1 WIDE INPUT RANGE
- I/O ISOLATION
- SHORT CIRCUIT PROTECTION
- HIGH PERFORMANCE

MODEL LIST

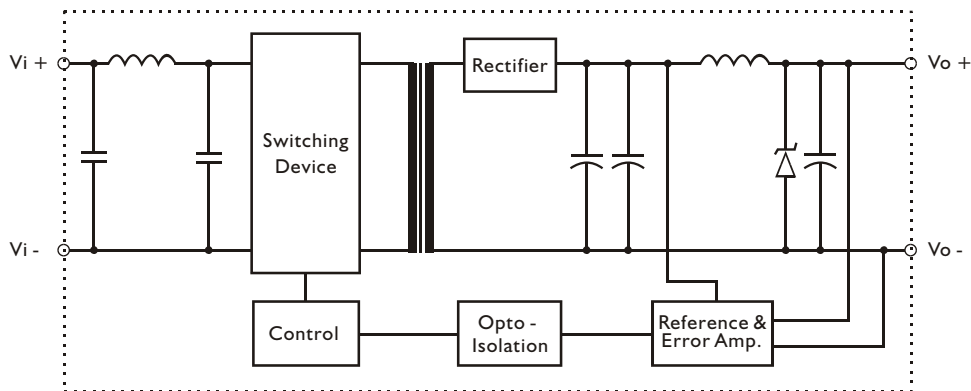
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)
Single Output Models					
FDD05 - 05S	20~60 VDC	5 WATTS	+ 5 VDC	1000 mA	72%
FDD05 - 12S	20~60 VDC	6 WATTS	+ 12 VDC	500 mA	72%
FDD05 - 15S	20~60 VDC	6 WATTS	+ 15 VDC	400 mA	72%
FDD05 - 05S1	9~18 VDC	5 WATTS	+ 5 VDC	1000 mA	63%
FDD05 - 12S1	9~18 VDC	6 WATTS	+ 12 VDC	500 mA	68%
FDD05 - 15S1	9~18 VDC	6 WATTS	+ 15 VDC	400 mA	68%
FDD05 - 05S2	18~36 VDC	5 WATTS	+ 5 VDC	1000 mA	72%
FDD05 - 12S2	18~36 VDC	6 WATTS	+ 12 VDC	500 mA	72%
FDD05 - 15S2	18~36 VDC	6 WATTS	+ 15 VDC	400 mA	72%
FDD05 - 05S3	36~72 VDC	5 WATTS	+ 5 VDC	1000 mA	72%
FDD05 - 12S3	36~72 VDC	6 WATTS	+ 12 VDC	500 mA	72%
FDD05 - 15S3	36~72 VDC	6 WATTS	+ 15 VDC	400 mA	72%
FDD05 - 05S4	9~36 VDC	5 WATTS	+ 5 VDC	1000 mA	72%
FDD05 - 12S4	9~36 VDC	6 WATTS	+ 12 VDC	500 mA	72%
FDD05 - 15S4	9~36 VDC	6 WATTS	+ 15 VDC	400 mA	72%
FDD05 - 05S5	18~72 VDC	5 WATTS	+ 5 VDC	1000 mA	72%
FDD05 - 12S5	18~72 VDC	6 WATTS	+ 12 VDC	500 mA	72%
FDD05 - 15S5	18~72 VDC	6 WATTS	+ 15 VDC	400 mA	72%

MODEL LIST

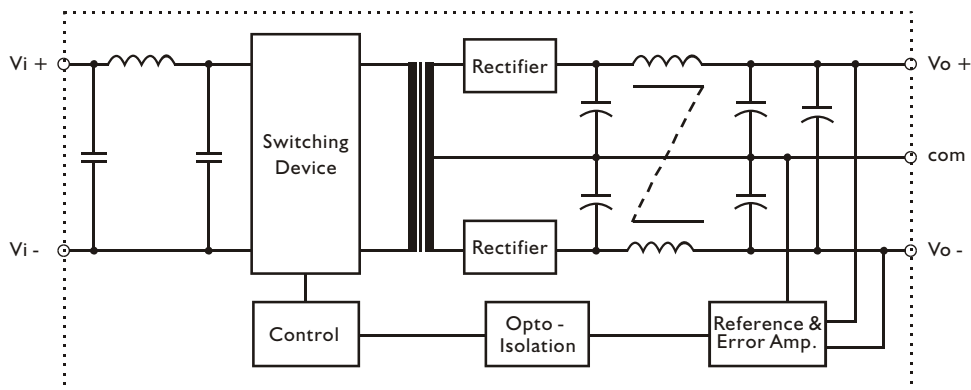
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)
Dual Output Models					
FDD05 - 05D	20~60 VDC	5 WATTS	± 5 VDC	± 500 mA	73%
FDD05 - 12D	20~60 VDC	6 WATTS	± 12 VDC	± 250 mA	75%
FDD05 - 15D	20~60 VDC	6 WATTS	± 15 VDC	± 200 mA	75%
FDD05 - 05D1	9~18 VDC	5 WATTS	± 5 VDC	± 500 mA	67%
FDD05 - 12D1	9~18 VDC	6 WATTS	± 12 VDC	± 250 mA	70%
FDD05 - 15D1	9~18 VDC	6 WATTS	± 15 VDC	± 200 mA	70%
FDD05 - 05D2	18~36 VDC	5 WATTS	± 5 VDC	± 500 mA	73%
FDD05 - 12D2	18~36 VDC	6 WATTS	± 12 VDC	± 250 mA	75%
FDD05 - 15D2	18~36 VDC	6 WATTS	± 15 VDC	± 200 mA	75%
FDD05 - 05D3	36~72 VDC	5 WATTS	± 5 VDC	± 500 mA	73%
FDD05 - 12D3	36~72 VDC	6 WATTS	± 12 VDC	± 250 mA	75%
FDD05 - 15D3	36~72 VDC	6 WATTS	± 15 VDC	± 200 mA	75%
FDD05 - 05D4	9~36 VDC	5 WATTS	± 5 VDC	± 500 mA	73%
FDD05 - 12D4	9~36 VDC	6 WATTS	± 12 VDC	± 250 mA	75%
FDD05 - 15D4	9~36 VDC	6 WATTS	± 15 VDC	± 200 mA	75%
FDD05 - 05D5	18~72 VDC	5 WATTS	± 5 VDC	± 500 mA	73%
FDD05 - 12D5	18~72 VDC	6 WATTS	± 12 VDC	± 250 mA	75%
FDD05 - 15D5	18~72 VDC	6 WATTS	± 15 VDC	± 200 mA	75%

CIRCUIT SCHEMATIC

• Block diagram for FDD05 series with single output



• Block diagram for FDD05 series with dual output



SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

GENERAL

Characteristics	Conditions	min.	typ.	max.	unit
Switching frequency	Vi nom, Io nom	80			KHz
Isolation voltage	Input / Output	1,500			VDC
Isolation resistance	Input / Output, @ 500VDC	1G			Ω
Ambient temperature	Operating at Vi nom, Io nom	-25		+ 71	°C
Case temperature	Operating at Vi nom, Io nom			+ 90	°C
Derating	Vi nom	See derating curve			% / °C
Storage temperature	Non operational	-40		+ 100	°C
M.T.B.F.	According to MIL-HDBK-217F, GF40		661,000		Hrs
Dimension	L50.8 x W50.8 x H11.9				mm
Cooling	Free air convection				
Case material	Plastic				

INPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Input voltage range	Ta min... Ta max, Io nom	2:1 models	9	12	18	VDC
			18	24	36	VDC
			36	48	72	VDC
	3:1 models	20	48	60	VDC	
	4:1 models	9	24	36	VDC	
No load input current	Vi nom, Io = 0	12V models			40	mA
		24V models			25	mA
		48V models			15	mA
		Input voltage w/o damage	Io nom	12V models		20
24V models		40		VDC		
48V models		75		VDC		
Input filter	Pi type					

OUTPUT SPECIFICATIONS

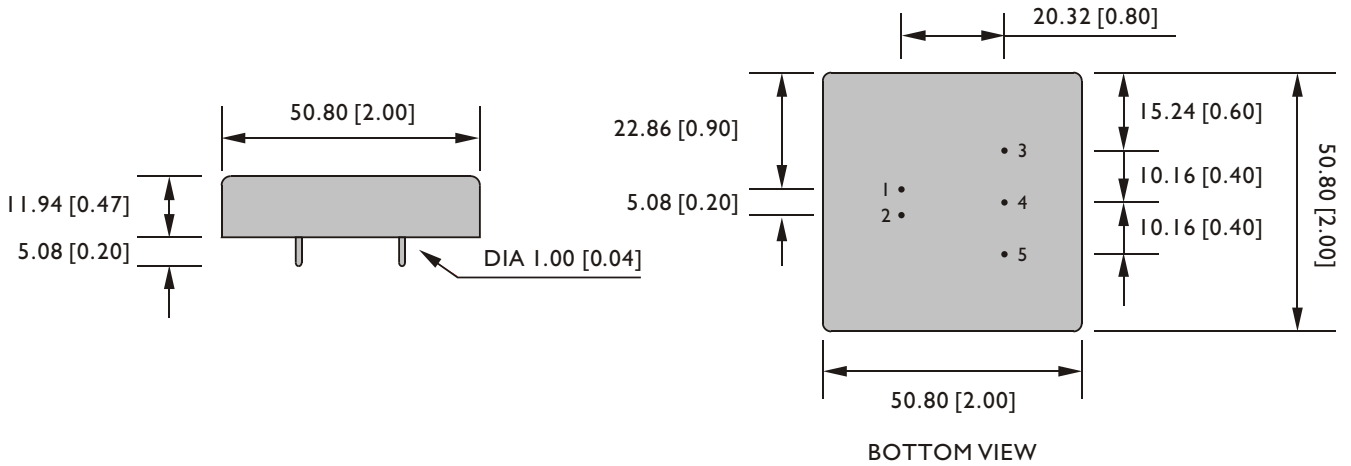
Characteristics	Conditions		min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom				± 2	%
Minimum load	Vi nom	single output models	0			%
		dual output models (each output)	20			%
Line regulation	Io nom, Vi min ... Vi max				± 1	%
Load regulation	Vi nom, Io 0 ... Io nom, single output models				± 2	%
	Vi nom, Io min ... Io nom, dual output models				± 5	%
Temperature coefficient	Vi nom, Io nom				± 0.02	% / °C
Ripple & noise	Vi nom, Io nom, BW = 20MHz				150	mV
Efficiency	Vi nom, Io nom, Po / Pi		Up to 75%, See model list			

CONTROL AND PROTECTION

Input reversed	Shunt diode built in, external fuse recommended
Output short circuit	Continuous

MECHANISM & PIN CONFIGURATION

mm [inch]



PHYSICAL CHARACTERISTICS

CASE SIZE	50.8 x 50.8 x 11.9 mm 2 x 2 x 0.47 inches
CASE MATERIAL	Plastic
WEIGHT	45 g

PIN ASSIGNMENT

GENERAL					
PIN NO.	1	2	3	4	5
SINGLE	Vi+	Vi-	Vo+	NO PIN	Vo-
DUAL	Vi+	Vi-	Vo+	com	Vo-

DERATING

