

# FDD15 SERIES



DC - DC CONVERTER  
10 ~ 15W SINGLE & DUAL OUTPUT

## FEATURES

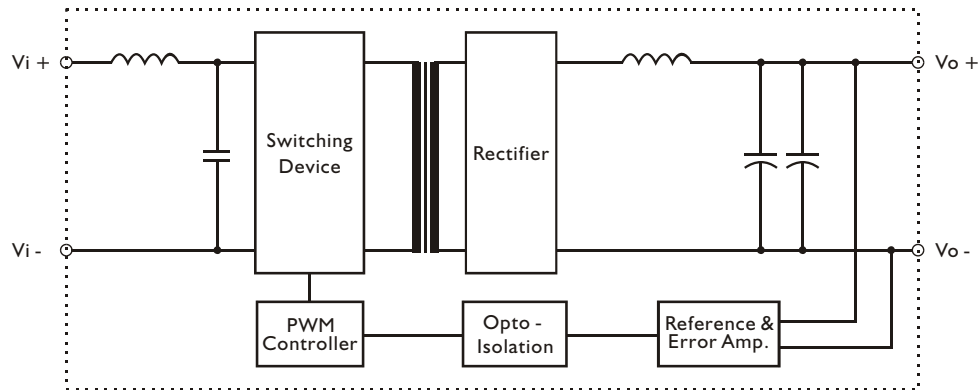
- LOW COST
- 2:1 WIDE INPUT RANGE
- I/O ISOLATION
- LC INPUT FILTER
- SHORT CIRCUIT PROTECTION
- HIGH PERFORMANCE
- 2 YEARS WARRANTY

## MODEL LIST

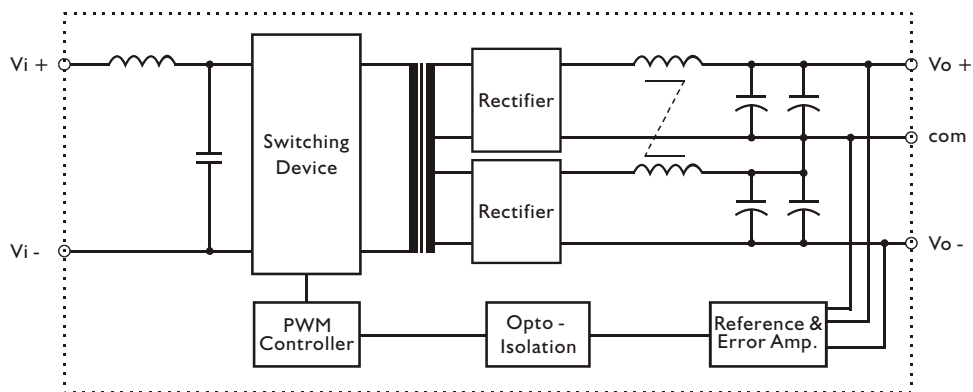
MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)
<b>Single Output Models</b>					
FDD15 - 03S1	9~18 VDC	10 WATTS	+ 3.3 VDC	3000 mA	75%
FDD15 - 05S1	9~18 VDC	10 WATTS	+ 5 VDC	2000 mA	65%
FDD15 - 12S1	9~18 VDC	10 WATTS	+ 12 VDC	834 mA	65%
FDD15 - 15S1	9~18 VDC	10 WATTS	+ 15 VDC	667 mA	65%
FDD15 - 05S2	18~36 VDC	15 WATTS	+ 5 VDC	3000 mA	70%
FDD15 - 12S2	18~36 VDC	15 WATTS	+ 12 VDC	1250 mA	76%
FDD15 - 15S2	18~36 VDC	15 WATTS	+ 15 VDC	1000 mA	78%
FDD15 - 03S3	36~72 VDC	10 WATTS	+ 3.3 VDC	3000 mA	80%
FDD15 - 05S3	36~72 VDC	15 WATTS	+ 5 VDC	3000 mA	70%
FDD15 - 12S3	36~72 VDC	15 WATTS	+ 12 VDC	1250 mA	76%
FDD15 - 15S3	36~72 VDC	15 WATTS	+ 15 VDC	1000 mA	78%
<b>Dual Output Models</b>					
FDD15 - 12D1	9~18 VDC	10 WATTS	± 12 VDC	± 417 mA	73%
FDD15 - 15D1	9~18 VDC	10 WATTS	± 15 VDC	± 334 mA	75%
FDD15 - 12D2	18~36 VDC	15 WATTS	± 12 VDC	± 625 mA	80%
FDD15 - 15D2	18~36 VDC	15 WATTS	± 15 VDC	± 500 mA	80%
FDD15 - 12D3	36~72 VDC	15 WATTS	± 12 VDC	± 625 mA	80%
FDD15 - 15D3	36~72 VDC	15 WATTS	± 15 VDC	± 500 mA	80%

### CIRCUIT SCHEMATIC

• Block diagram for FDD15 series with single output



• Block diagram for FDD15 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		200		KHz
Isolation voltage	Input / Output	1,500			VDC
Isolation resistance	Input / Output, @ 500VDC	100			MΩ
Ambient temperature	Operating at Vi nom, Io nom	-10		+ 50	°C
Case temperature	Operating at Vi nom, Io nom			+ 85	°C
Derating	Vi nom	See derating curve			% / °C
Storage temperature	Non operational	-25		+100	°C
M.T.B.F.	According to MIL-HDBK-217F, GF40		695,900		Hrs
Dimension	L50.8 x W50.8 x H11.9				mm
Cooling	Free air convection				
Case material	Metal				

#### INPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Input voltage range	Ta min ... Ta max, Io nom	9	12	18	VDC
		18	24	36	VDC
		36	48	72	VDC
No load input current	Vi nom, Io = 0	12V models		35	mA
		24V models		26	mA
		48V models		26	mA
Input voltage w/o damage	Io nom	12V models		22	VDC
		24V models		40	VDC
		48V models		75	VDC
Input filter	LC type				

#### OUTPUT SPECIFICATIONS

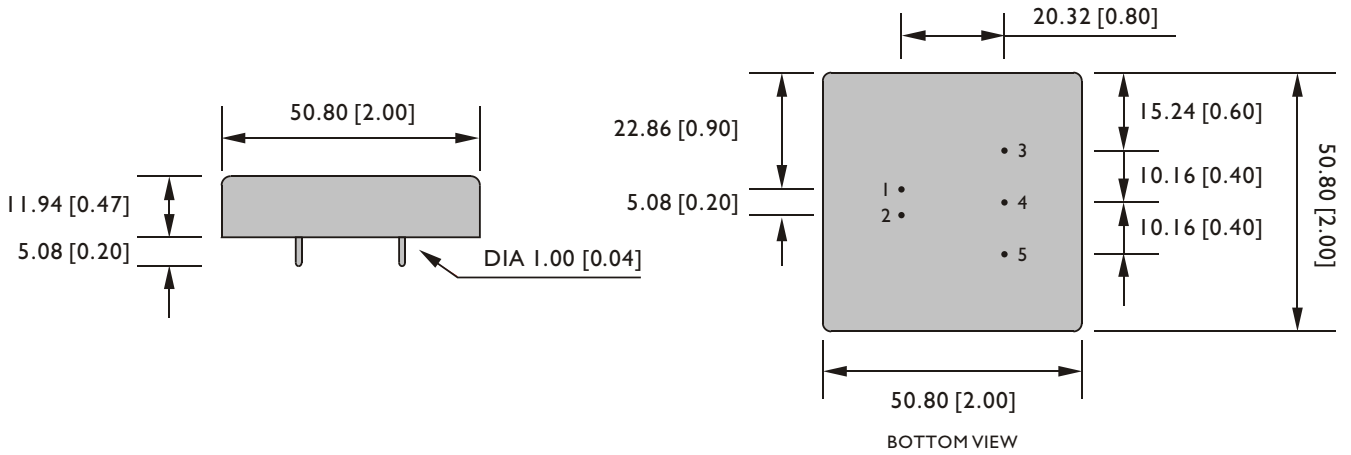
Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom			± 2	%
Minimum load	Vi nom single output models	0			%
	Vi nom dual output models (each output)	20			%
Line regulation	Io nom, Vi min ... Vi max			± 1	%
Load regulation	Vi nom, Io 0 ... Io nom, single output models			± 2	%
	Vi nom, Io min ... Io nom, dual output models			± 5	%
Transient recovery time	Vi nom, Io nom ... 1/2 Io nom		500		μs
Temperature coefficient	Vi nom, Io nom			± 0.02	% / °C
Ripple & noise	Vi nom, Io nom, BW = 20MHz			100	mV
	3.3V output models 5V, 12V, 15V & dual			Vout x ± 1%	mV
Efficiency	Vi nom, Io nom, Po / Pi	Up to 80%, 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	Metal
WEIGHT	65 g (typ.)

### PIN ASSIGNMENT

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

### DERATING

