FDD03 SERIES

DC - DC CONVERTER
2.5 ~ 3W WITH REMOTE FUNCTION

FEATURES

- 4:1 WIDE INPUT RANGE
- DIP24 PACKAGE
- I/O, O/O ISOLATION
- SHORT CIRCUIT PROTECTION
- HIGH PERFORMANCE
- 2 YEARS WARRANTY

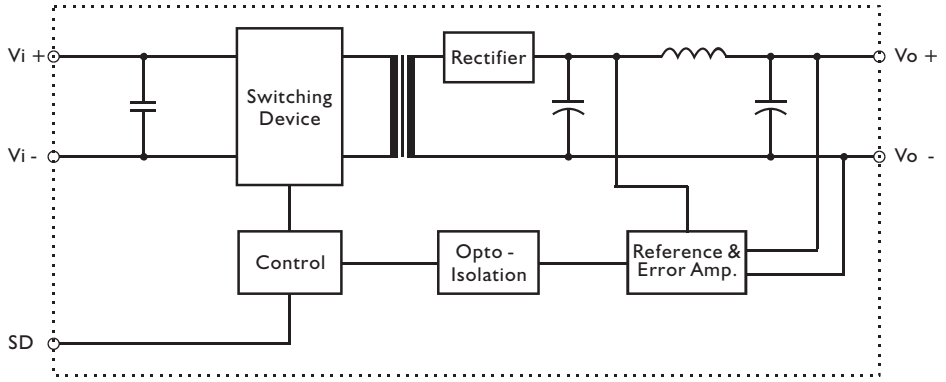
MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)
			Single Output Models		
FDD03 - 05S4A	9~36 VDC	2.5 WATTS	+ 5 VDC	500 mA	67%
FDD03 - 12S4A	9~36 VDC	3 WATTS	+ 12 VDC	250 mA	68%
FDD03 - 15S4A	9~36 VDC	3 WATTS	+ 15 VDC	200 mA	68%
FDD03 - 05S5A	18~72 VDC	2.5 WATTS	+ 5 VDC	500 mA	68%
FDD03 - 12S5A	18~72 VDC	3 WATTS	+ 12 VDC	250 mA	73%
FDD03 - 15S5A	18~72 VDC	3 WATTS	+ 15 VDC	200 mA	73%
			Dual Output Models		
FDD03 - 05D4A	9~36 VDC	2.5 WATTS	± 5 VDC	± 250 mA	66%
FDD03 - 12D4A	9~36 VDC	3 WATTS	± 12 VDC	± 125 mA	68%
FDD03 - 15D4A	9~36 VDC	3 WATTS	± 15 VDC	± 100 mA	68%
FDD03 - 05D5A	18~72 VDC	2.5 WATTS	± 5 VDC	± 250 mA	72%
FDD03 - 12D5A	18~72 VDC	3 WATTS	± 12 VDC	± 125 mA	72%
FDD03 - 15D5A	18~72 VDC	3 WATTS	± 15 VDC	± 100 mA	75%
			Double Output Models		
FDD03 - 0505D4A	9~36 VDC	2.5 WATTS	5 / 5 VDC	250 / 250 mA	66%
FDD03 - 1212D4A	9~36 VDC	3 WATTS	12 / 12 VDC	125 / 125 mA	68%
FDD03 - 1515D4A	9~36 VDC	3 WATTS	15 / 15 VDC	100 / 100 mA	68%
FDD03 - 0505D5A	18~72 VDC	2.5 WATTS	5 / 5 VDC	250 / 250 mA	72%
FDD03 - 1212D5A	18~72 VDC	3 WATTS	12 / 12 VDC	125 / 125 mA	72%
FDD03 - 1515D5A	18~72 VDC	3 WATTS	15 / 15 VDC	100 / 100 mA	75%

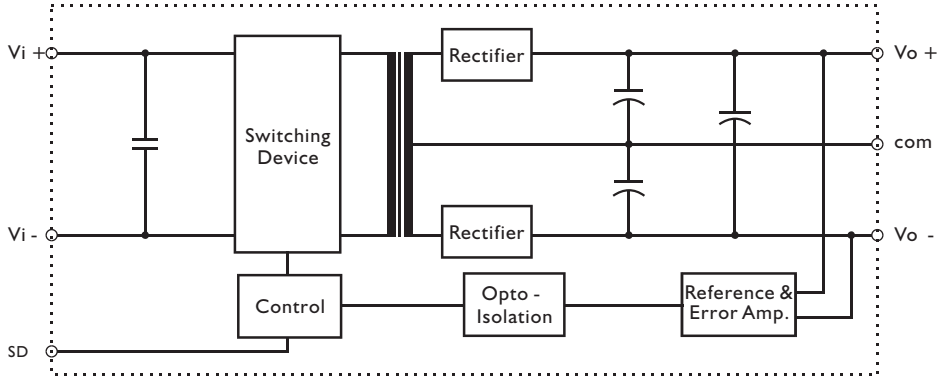
NOTE :
MAX. 80% LOAD WHEN INPUT VOLTAGE AT 9-11VDC FOR 9-36VDC INPUT MODELS &
18-21VDC FOR 18-72VDC INPUT MODELS.

CIRCUIT SCHEMATIC

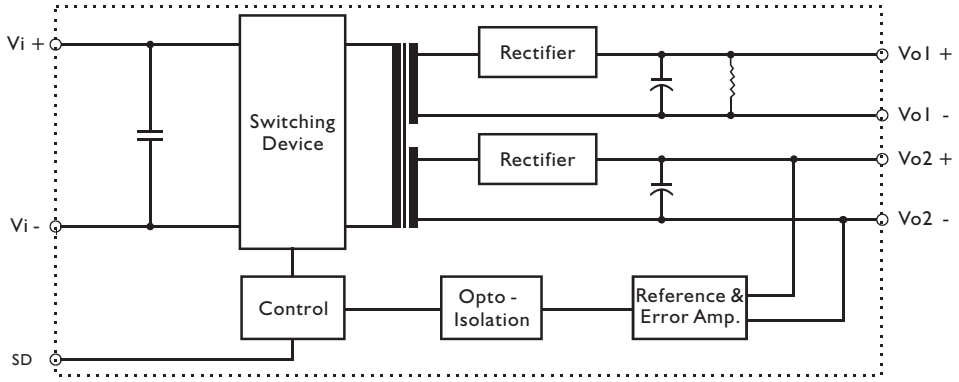
• Block diagram for FDD03A series with single output



• Block diagram for FDD03A series with dual output



• Block diagram for FDD03A series with double 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	50			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
Dimension	L20.3 x W31.8 x H12.7				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		9	24	36	VDC
			18	48	72	VDC
No load input current	Io = 0	24V models			12	mA
		48V models			8	mA
Input voltage w/o damage	Io nom	24V models			40	VDC
		48V models			75	VDC

OUTPUT SPECIFICATIONS

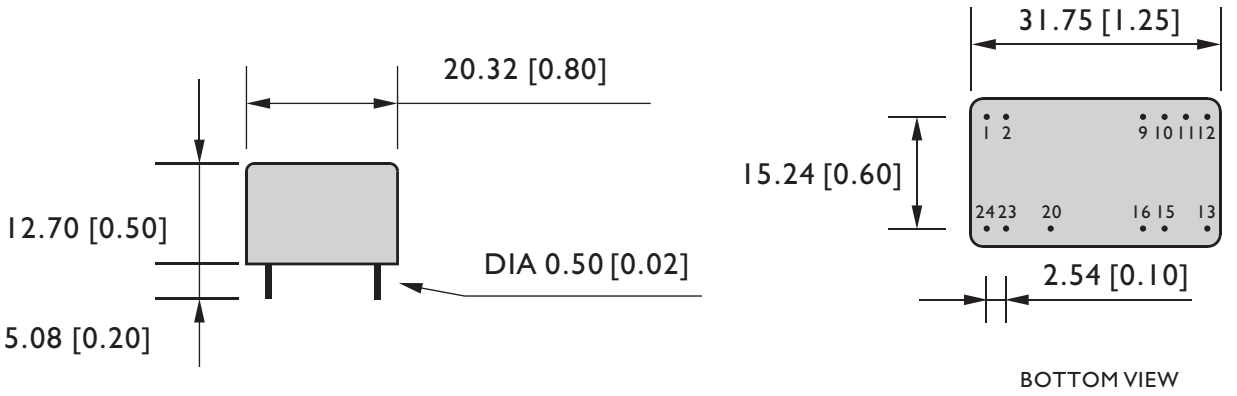
Characteristics	Conditions		min.	typ.	max.	unit
Output voltage accuracy	Vi nom, Io nom				±2	%
Minimum load	Vi nom	single output models	0			%
		dual output models (each output)	20			%
Line regulation	Io nom, Vi min ...Vi max				±1	%
Load regulation	Vi nom, Io 0 ...Io nom, single output models				±2	%
	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

Remote ON / OFF	ON: opened or 5 ~ 10VDC applied, reference to input GND
	OFF: -0.3 ~ 2VDC applied, reference to input GND
Input reversed	Shunt diode built in, external fuse recommended
Output short circuit	Continuous

MECHANISM & PIN CONFIGURATION

mm [inch]



PHYSICAL CHARACTERISTICS

CASE SIZE	20.3 x 31.8 x 12.7 mm 0.8 x 1.25 x 0.5 inches
CASE MATERIAL	Plastic
WEIGHT	15 g

PIN ASSIGNMENT

GENERAL

PIN NO.	1&2	9	10&11	12	13	15	16	20	23&24
SINGLE	Vi+	NO PIN	NO PIN	com	Vo +	NO PIN	NO PIN	S. D.	Vi -
DUAL	Vi+	NO PIN	com	NO PIN	Vo -	Vo+	NO PIN	S. D.	Vi -
DOUBLE	Vi+	Vo1-	NO PIN	Vo1+	Vo2+	NO PIN	Vo2-	S. D.	Vi -

S.D. : REMOTE ON/OFF

DERATING