

# FDD12 SERIES

# DC-DC CONVERTER 10 ~ 12W



FDD12 - 03 S 4

WATTAGE

03 : 3.3V OUT

05 : 5V OUT

12 : 12V OUT

15 : 15V OUT

4: 10~36V IN  
5: 18~72V IN

S : SINGLE OUTPUT

D : DUAL OUTPUT

## MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (MIN.)	CASE
<b>Single Output Models</b>						
FDD12 - 03S4	10~36 VDC	10 WATTS	+3.3 VDC	3000 mA	75%	FB
FDD12 - 05S4	10~36 VDC	12 WATTS	+ 5 VDC	2400 mA	77%	FB
FDD12 - 12S4	10~36 VDC	12 WATTS	+ 12 VDC	1000 mA	77%	FB
FDD12 - 15S4	10~36 VDC	12 WATTS	+ 15 VDC	800 mA	77%	FB
FDD12 - 03S5	18~72 VDC	10 WATTS	+3.3 VDC	3000 mA	77%	FB
FDD12 - 05S5	18~72 VDC	12 WATTS	+ 5 VDC	2400 mA	77%	FB
FDD12 - 12S5	18~72 VDC	12 WATTS	+ 12 VDC	1000 mA	77%	FB
FDD12 - 15S5	18~72 VDC	12 WATTS	+ 15 VDC	800 mA	77%	FB
<b>Dual Output Models</b>						
FDD12 - 05D4	10~36 VDC	12 WATTS	± 5 VDC	± 1200 mA	77%	FB
FDD12 - 12D4	10~36 VDC	12 WATTS	± 12 VDC	± 500 mA	77%	FB
FDD12 - 15D4	10~36 VDC	12 WATTS	± 15 VDC	± 400 mA	77%	FB
FDD12 - 05D5	18~72 VDC	12 WATTS	± 5 VDC	± 1200 mA	77%	FB
FDD12 - 12D5	18~72 VDC	12 WATTS	± 12 VDC	± 500 mA	77%	FB
FDD12 - 15D5	18~72 VDC	12 WATTS	± 15 VDC	± 400 mA	77%	FB

## FEATURES

- \* LOW COST
- \* 4:1 WIDE INPUT RANGE
- \* I/O ISOLATION
- \* INPUT Pi FILTER
- \* SHORT CIRCUIT PROTECTION
- \* HIGH PERFORMANCE
- \* 2 YEARS WARRANTY

## DESCRIPTION

THE FDD12 SERIES ARE 12 WATTS SINGLE & DUAL OUTPUT DC/DC CONVERTERS. 4:1 WIDE INPUT RANGE WITH I/O ISOLATION, GOOD EFFICIENCY WITH EXCELLENT LINE / LOAD REGULATION WITH SHORT CIRCUIT PROTECTION FEATURES. MAKE FDD12 ARE SUITABLE TO POWERING COMMERCIAL & INDUSTRIAL TYPES OF ELECTRONIC CIRCUITS WITH VERY LOW COST. ALL FDD12 MODELS ARE PACKAGED IN L x W x H = 2" x 2" x 0.47" BLACK COATED METAL CASE WITH NON-CONDUCTIVE PLASTIC BASE. CONFIGURATION, AND PCB MOUNTABLE DIRECTLY.



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### SPECIFICATION

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

#### GENERAL SPECIFICATION

- \* Switching frequency: ..... 200KHz (typ.)
- \* Isolation voltage: ..... 1,500VDC
- \* Isolation resistance: ..... 100M Ω(min.)
- \* Operating ambient temperature: ..... -25 to +71°C
- \* Storage temperature: ..... -40 to +100°C
- \* Max. Case temperature: ..... 100°C
- \* M.T.B.F.: ..... 661,000Hrs at @ GF40, according to MIL-HDBK-217F
- \* Cooling: ..... Free air convection
- \* Transient recovery time: ..... 500μS, 25% load step change
- \* Temperature coefficient: ..... ±0.02% / °C
- \* Dimension: ..... 50.8 x 50.8 x 12mm

#### INPUT SPECIFICATIONS

- \* Input voltage range : ..... 10 ~ 36VDC for 24V  
18 ~ 72VDC for 48V
- \* Input filter: ..... Pi type
- \* No load input current: ..... 20mA for 24V in  
15mA for 48V in
- \* Max. Input voltage: ..... 40VDC for 24V in  
75VDC for 48V in

#### OUTPUT SPECIFICATIONS

- \* Output voltage accuracy: ..... ±2% at Vo\_nom
- \* Minimum load: ..... No load for single output models  
±20% at Vo\_nom for dual output models
- \* Line regulation: ..... ±1% at Vo\_nom
- \* Load regulation: ..... ±2% at Vo\_nom for single output models  
±5% at Vo\_nom for dual output models
- \* Ripple & noise: ..... ±1% Vout  
100mV (max.) for 3.3 Vout
- \* Efficiency: ..... Up to 77%, see model list
- \* Derating: ..... See table 1
- \* Case material: ..... Metal

#### CONTROL AND PROTECTION

- \* Input reversed: ..... Shunt diode use external fuse
- \* Output short circuit: ..... Continuous

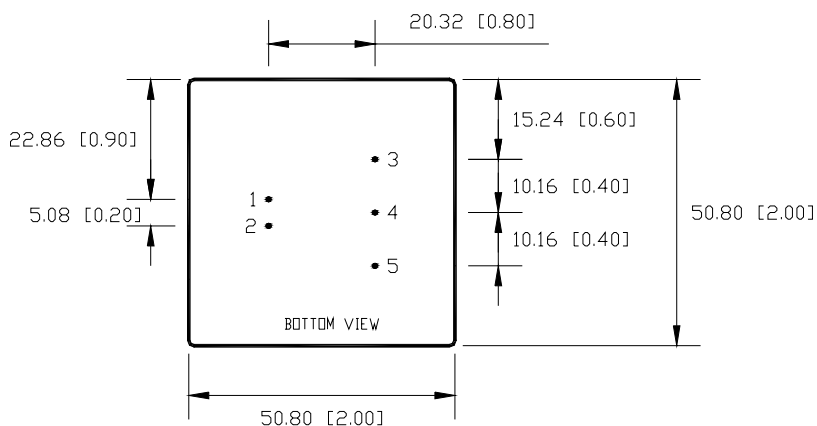
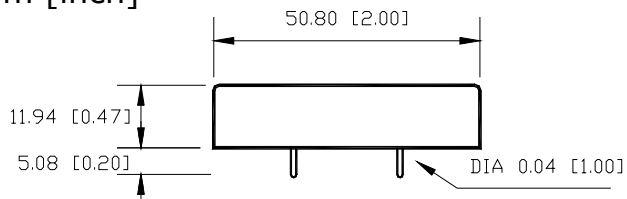


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## MECHANISM & PIN CONFIGURATION

mm [inch]



## PHYSICAL CHARACTERISTICS

CASE SIZE	50.8 x 50.8 x 12mm 2 x 2 x 0.47inches
CASE MATERIAL	Metal
WEIGHT	65 g (typ.)

## PIN ASSIGNMENT

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

## Derating:

[TABLE 1]

