

# 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 |
|----------------------|---------------|----------------|----------------|----------------|-------------|------|
| Single Output Models |               |                |                |                |             |      |
| 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   |
| Dual Output Models   |               |                |                |                |             |      |
| 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.



CHINFA ELECTRONICS IND., CO. LTD.  
ISO 9001 Certified

www.chinfa.com  
sales@chinfa.com

### 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  $\Omega$ (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: ..... 500 $\mu$ S, 25% load step change
- \* Temperature coefficient: .....  $\pm 0.02\%$  / °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: .....  $\pm 2\%$  at Vo\_nom
- \* Minimum load: ..... No load for single output models  
.....  $\pm 20\%$  at Vo\_nom for dual output models
- \* Line regulation: .....  $\pm 1\%$  at Vo\_nom
- \* Load regulation: .....  $\pm 2\%$  at Vo\_nom for single output models  
.....  $\pm 5\%$  at Vo\_nom for dual output models
- \* Ripple & noise: .....  $\pm 1\%$  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

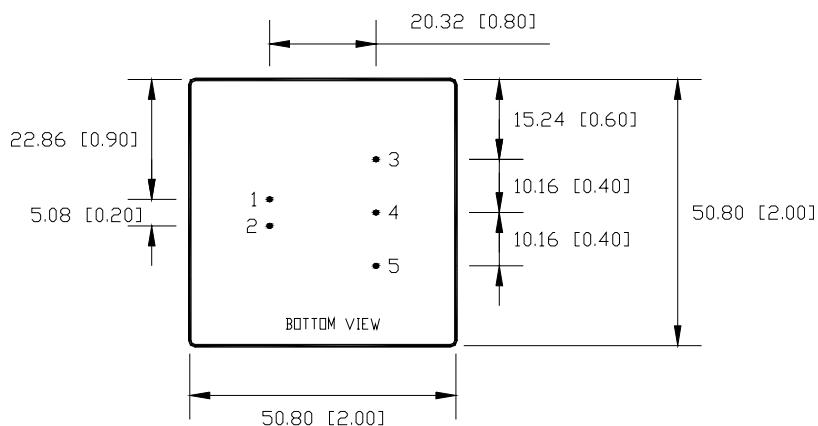
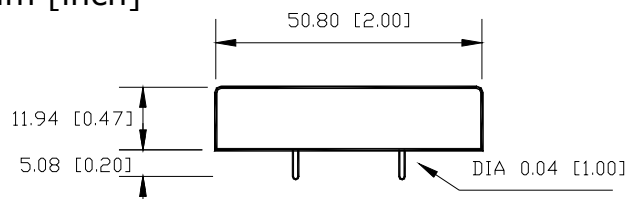


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### MECHANISM & PIN CONFIGURATION

mm [inch]



### PHYSICAL CHARACTERISTICS

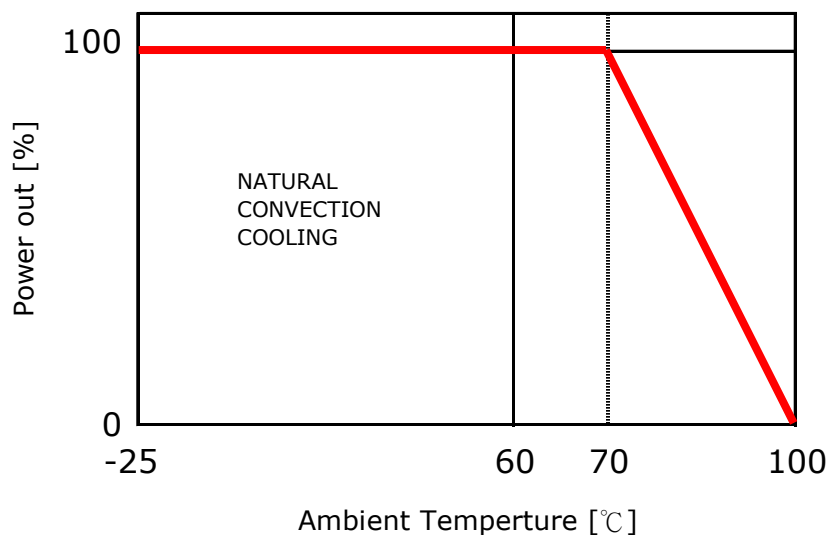
|               |                                          |
|---------------|------------------------------------------|
| CASE SIZE     | 50.8 x 50.8 x 12mm<br>2 x 2 x 0.47inches |
| CASE MATERIAL | Metal                                    |
| WEIGHT        | 65 g (typ.)                              |

### 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]



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