

FDD05 SERIES

DC-DC CONVERTER 5 ~ 6W



FDD05 - 05 S 1

WATTAGE

03 : 3.3V OUT
05 : 5V OUT
12 : 12V OUT
15 : 15V OUT

1: 9~18V IN
2: 18~36V IN
3: 36~72V IN
4: 9~36V IN
5: 18~72V IN
*: 20~60V IN

S : SINGLE OUTPUT

D : DUAL OUTPUT

*=BLANK

MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (MIN.)	CASE
Single Output Models						
FDD05 - 05S	20~60 VDC	5 WATTS	+ 5 VDC	1000 mA	72%	FA
FDD05 - 12S	20~60 VDC	6 WATTS	+ 12 VDC	500 mA	72%	FA
FDD05 - 15S	20~60 VDC	6 WATTS	+ 15 VDC	400 mA	72%	FA
FDD05 - 05S1	9~18 VDC	5 WATTS	+ 5 VDC	1000 mA	63%	FA
FDD05 - 12S1	9~18 VDC	6 WATTS	+ 12 VDC	500 mA	68%	FA
FDD05 - 15S1	9~18 VDC	6 WATTS	+ 15 VDC	400 mA	68%	FA
FDD05 - 05S2	18~36 VDC	5 WATTS	+ 5 VDC	1000 mA	72%	FA
FDD05 - 12S2	18~36 VDC	6 WATTS	+ 12 VDC	500 mA	72%	FA
FDD05 - 15S2	18~36 VDC	6 WATTS	+ 15 VDC	400 mA	72%	FA
FDD05 - 05S3	36~72 VDC	5 WATTS	+ 5 VDC	1000 mA	72%	FA
FDD05 - 12S3	36~72 VDC	6 WATTS	+ 12 VDC	500 mA	72%	FA
FDD05 - 15S3	36~72 VDC	6 WATTS	+ 15 VDC	400 mA	72%	FA
FDD05 - 03S4	9~36 VDC	5 WATTS	+3.3 VDC	1500 mA	70%	FA
FDD05 - 05S4	9~36 VDC	5 WATTS	+ 5 VDC	1000 mA	72%	FA
FDD05 - 12S4	9~36 VDC	6 WATTS	+ 12 VDC	500 mA	72%	FA
FDD05 - 15S4	9~36 VDC	6 WATTS	+ 15 VDC	400 mA	72%	FA
FDD05 - 03S5	18~72 VDC	5 WATTS	+3.3 VDC	1500 mA	70%	FA
FDD05 - 05S5	18~72 VDC	5 WATTS	+ 5 VDC	1000 mA	72%	FA
FDD05 - 12S5	18~72 VDC	6 WATTS	+ 12 VDC	500 mA	72%	FA
FDD05 - 15S5	18~72 VDC	6 WATTS	+ 15 VDC	400 mA	72%	FA



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MODEL LIST

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

FEATURES

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

DESCRIPTION

THE FDD05 SERIES ARE 5WATTS & 6W WATTS SINGLE & DUAL OUTPUT DC/DC CONVERTERS. 4:1 & 3:1 & 2:1 WIDE INPUT RANGE WITH I/O ISOLATION AND SHORT CIRCUIT PROTECT FEATURES MAKE IT SUITABLE TO APPLICATION ON VARIABLE APPLICATIONS WITH LOW COST. ALL THE MODELS ARE PACKAGED IN L x W x H = 2" x 2" x 0.47". 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: >80KHz
- * Isolation voltage: 1,500VDC
- * Isolation resistance: 1G Ω (min.)
- * Operating ambient temperature: -25 to +71°C
- * Storage temperature: -40 to +100°C
- * Max. Case temperature: 90°C
- * M.T.B.F.: 661,000Hrs at @ GF40, according to MIL-HDBK-217F
- * Cooling: Free air convection
- * Temperature coefficient: $\pm 0.02\%$ / °C
- * Dimension: 50.8 x 50.8 x 12mm

INPUT SPECIFICATIONS

- * Input voltage range: 9 ~ 18VDC for 12V
9 ~ 36VDC for 24V
18 ~ 36VDC for 24V
18 ~ 72VDC for 48V
20 ~ 60VDC for 48V
36 ~ 72VDC for 48V
- * Input filter: Pi type
- * No load input current: 40mA for 12V in
25mA for 24V in
15mA for 48V in
- * Max. Input voltage: 20VDC for 12V in
40VDC for 24V in
75VDC for 48V in

OUTPUT SPECIFICATIONS

- * Output voltage accuracy: $\pm 2\%$ at V_{o_nom}
- * Minimum load: No load for single output models
 $\pm 2\%$ at V_{o_nom} for dual output models
- * Line regulation: $\pm 1\%$ at V_{o_nom}
- * Load regulation: $\pm 2\%$ at V_{o_nom} for single output models
 $\pm 5\%$ at V_{o_nom} for dual output models
- * Ripple & noise: 150mV (max.)
- * Efficiency: Up to 75%, see model list
- * Derating: See table 1
- * Case material: Plastic

CONTROL AND PROTECTION

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



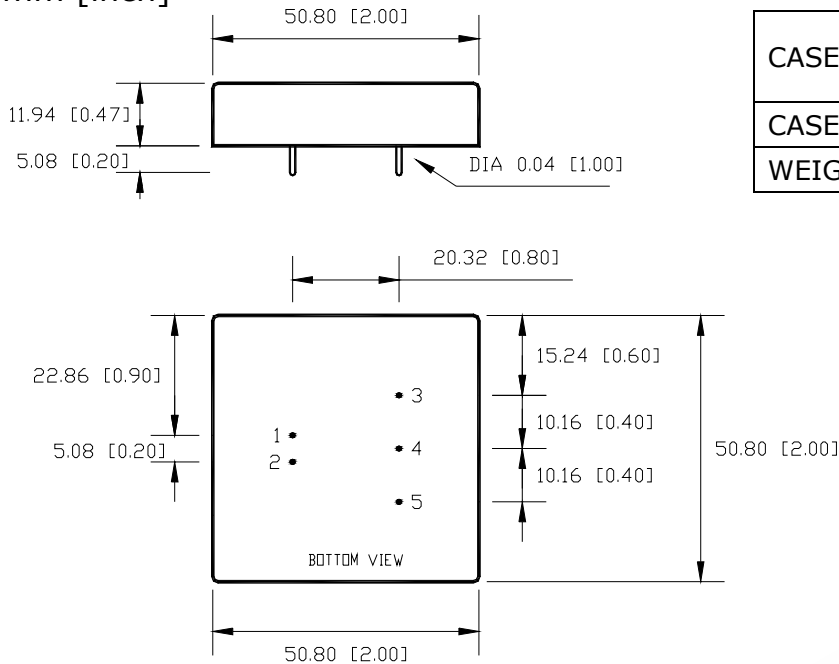
FDD05 SERIES

DC-DC CONVERTER

5 ~ 6W

MECHANISM & PIN CONFIGURATION

mm [inch]



PHYSICAL CHARACTERISTICS

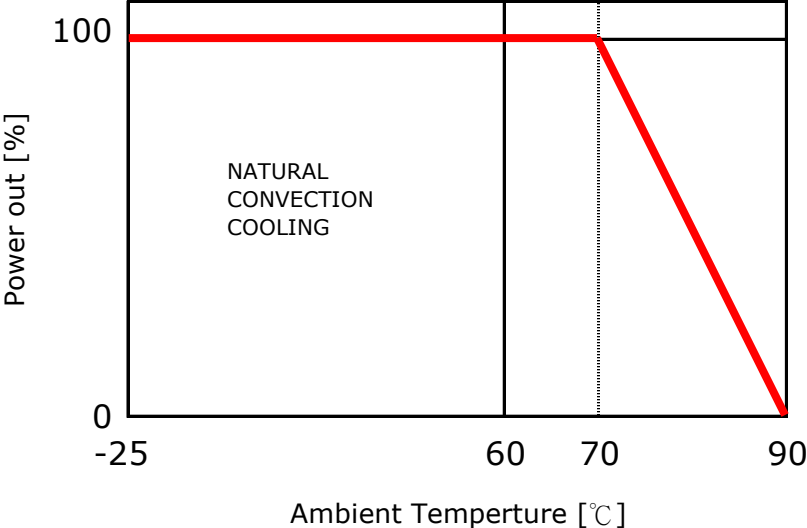
CASE SIZE	50.8 x 50.8 x 12mm 2 x 2 x 0.47inches
CASE MATERIAL	Plastic
WEIGHT	45 g

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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