

# RDD05 SERIES

## DC-DC CONVERTER 5 ~ 6W



RDD05 - 03 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: 35~75V 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 |               |                |                |                |             |      |
| RDD05 - 03S1         | 9~18 VDC      | 5 WATTS        | +3.3 VDC       | 1500 mA        | 74%         | FC   |
| RDD05 - 05S1         | 9~18 VDC      | 5 WATTS        | + 5 VDC        | 1000 mA        | 77%         | FC   |
| RDD05 - 12S1         | 9~18 VDC      | 6 WATTS        | + 12 VDC       | 500 mA         | 81%         | FC   |
| RDD05 - 15S1         | 9~18 VDC      | 6 WATTS        | + 15 VDC       | 400 mA         | 82%         | FC   |
| RDD05 - 03S2         | 18~36 VDC     | 5 WATTS        | +3.3 VDC       | 1500 mA        | 77%         | FC   |
| RDD05 - 05S2         | 18~36 VDC     | 5 WATTS        | + 5 VDC        | 1000 mA        | 80%         | FC   |
| RDD05 - 12S2         | 18~36 VDC     | 6 WATTS        | + 12 VDC       | 500 mA         | 84%         | FC   |
| RDD05 - 15S2         | 18~36 VDC     | 6 WATTS        | + 15 VDC       | 400 mA         | 85%         | FC   |
| RDD05 - 03S3         | 35~75 VDC     | 5 WATTS        | +3.3 VDC       | 1500 mA        | 78%         | FC   |
| RDD05 - 05S3         | 35~75 VDC     | 5 WATTS        | + 5 VDC        | 1000 mA        | 81%         | FC   |
| RDD05 - 12S3         | 35~75 VDC     | 6 WATTS        | + 12 VDC       | 500 mA         | 85%         | FC   |
| RDD05 - 15S3         | 35~75 VDC     | 6 WATTS        | + 15 VDC       | 400 mA         | 86%         | FC   |
| Dual Output Models   |               |                |                |                |             |      |
| RDD05 - 05D1         | 9~18 VDC      | 5 WATTS        | ± 5 VDC        | ± 500 mA       | 76%         | FC   |
| RDD05 - 12D1         | 9~18 VDC      | 6 WATTS        | ± 12 VDC       | ± 250 mA       | 80%         | FC   |
| RDD05 - 15D1         | 9~18 VDC      | 6 WATTS        | ± 15 VDC       | ± 200 mA       | 81%         | FC   |
| RDD05 - 05D2         | 18~36 VDC     | 5 WATTS        | ± 5 VDC        | ± 500 mA       | 78%         | FC   |
| RDD05 - 12D2         | 18~36 VDC     | 6 WATTS        | ± 12 VDC       | ± 250 mA       | 83%         | FC   |
| RDD05 - 15D2         | 18~36 VDC     | 6 WATTS        | ± 15 VDC       | ± 200 mA       | 84%         | FC   |
| RDD05 - 05D3         | 35~75 VDC     | 5 WATTS        | ± 5 VDC        | ± 500 mA       | 79%         | FC   |
| RDD05 - 12D3         | 35~75 VDC     | 6 WATTS        | ± 12 VDC       | ± 250 mA       | 84%         | FC   |
| RDD05 - 15D3         | 35~75 VDC     | 6 WATTS        | ± 15 VDC       | ± 200 mA       | 85%         | FC   |



### FEATURES

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

### DESCRIPTION

THE RDD05 SERIES ARE 5/6 WATTS SINGLE & DUAL OUTPUT DC/DC CONVERTER. 2:1 WIDE INPUT RANGE, I/O ISOLATION, GOOD EFFICIENCY WITH EXCELLENT LINE/LOAD REGULATION WITH SHORT CIRCUIT PROTECT FEATURES. IT MAKES RDD05 SUITABLE TO POWER COMMERCIAL & INDUSTRIAL TYPES OF ELECTRONIC CIRCUITS AT VERY LOW COST. ALL RDD05 MODELS ARE PACKAGED IN  $1.25 \times 0.8 \times 0.5$ " NON-CONDUCTIVE BLACK PLASTIC CASE. CONFIGURATION AND PCB MOUNTABLE DIRECTLY.



### SPECIFICATION

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

#### GENERAL SPECIFICATION

- \* Switching frequency: ..... >150KHz
- \* Isolation voltage: ..... 1,500VDC
- \* Isolation resistance: ..... >1G  $\Omega$ (min.)
- \* Operating ambient temperature: ..... -25 to +71°C
- \* Storage temperature: ..... -40 to +100°C
- \* Max. Case temperature: ..... 90°C
- \* Cooling: ..... Free air convection
- \* Transient recovery time: ..... 500 $\mu$ S, 25% load step change
- \* Temperature coefficient: .....  $\pm 0.02\%$  / °C
- \* Dimension: ..... 31.8 x 20.3 x 12.7mm

#### INPUT SPECIFICATIONS

- \* Input voltage range / frequency: ..... 9 ~ 18VDC for 12V  
18 ~ 36VDC for 24V  
35 ~ 75VDC for 48V
- \* Input filter: ..... Pi type

#### OUTPUT SPECIFICATIONS

- \* Output voltage accuracy: .....  $\pm 2\%$  at Vo\_nom
- \* Minimum load: ..... No load for single output models  
 $\pm 20\%$  for dual output models
- \* Line regulation: .....  $\pm 1\%$  at Vo\_nom
- \* Load regulation: .....  $\pm 2\%$  (NL ~ FL) at Vo\_nom for single output models  
 $\pm 3\%$  (20% ~ FL) at Vo\_nom for dual output models
- \* Ripple & noise: ..... 20MHZ BW, 100 mV p-p (max.)
- \* Efficiency: ..... Up to 86%, see model list
- \* Derating: ..... See table 1
- \* Case material: ..... Plastic

#### CONTROL AND PROTECTION

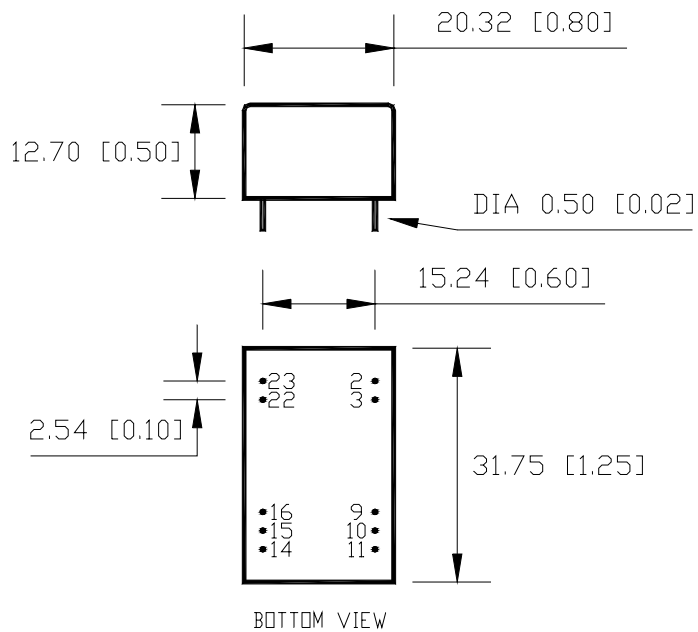
- \* Output short circuit: ..... Continuous

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## DC-DC CONVERTER 5 ~ 6W

### MECHANISM & PIN CONFIGURATION

mm [inch]



### PHYSICAL CHARACTERISTICS

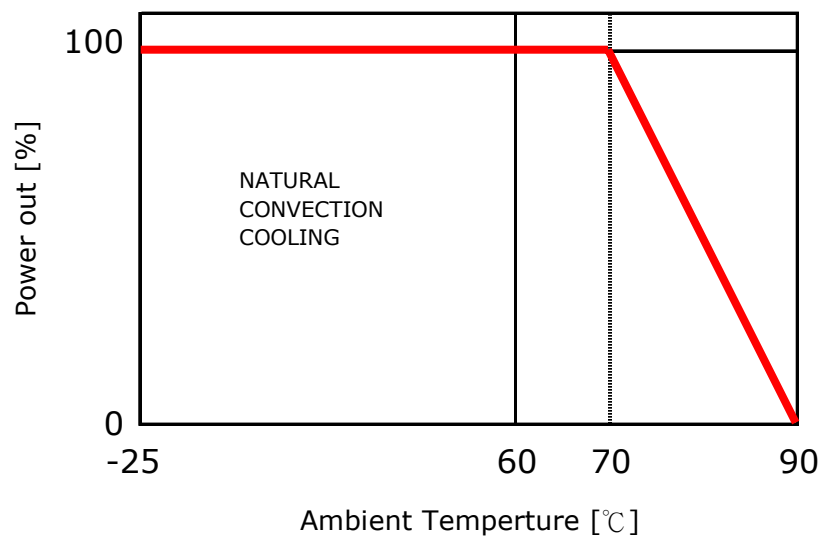
|               |                                                |
|---------------|------------------------------------------------|
| CASE SIZE     | 31.8 x 20.3 x 12.7mm<br>1.25 x 0.8 x 0.5inches |
| CASE MATERIAL | Plastic                                        |
| WEIGHT        | 16 g                                           |

### PIN ASSIGMENT

| PIN NO. | 2&3 | 9      | 11   | 14  | 16  | 22&23 |
|---------|-----|--------|------|-----|-----|-------|
| SINGLE  | Vi- | NO PIN | N.C. | Vo+ | Vo- | Vi+   |
| DUAL    | Vi- | com    | Vo-  | Vo+ | com | Vi+   |

### Derating:

[TABLE 1]



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[www.chinfa.com](http://www.chinfa.com)  
[sales@chinfa.com](mailto:sales@chinfa.com)