

# WDD20 SERIES

## DC-DC CONVERTER 15 ~ 20W



WDD20 - 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: 36~72V IN

S : SINGLE OUTPUT

D : DUAL OUTPUT

### MODEL LIST

| MODEL NO.            | INPUT VOLTAGE | OUTPUT WATTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | EFF. (TYP.) | EFF. (MIN.) | CASE |
|----------------------|---------------|----------------|----------------|----------------|-------------|-------------|------|
| Single Output Models |               |                |                |                |             |             |      |
| WDD20 - 03S1         | 9~18 VDC      | 15 WATTS       | +3.3 VDC       | 4500 mA        | 80%         | 77%         | FF   |
| WDD20 - 05S1         | 9~18 VDC      | 20 WATTS       | + 5 VDC        | 4000 mA        | 83%         | 81%         | FF   |
| WDD20 - 12S1         | 9~18 VDC      | 20 WATTS       | + 12 VDC       | 1670 mA        | 86%         | 84%         | FF   |
| WDD20 - 15S1         | 9~18 VDC      | 20 WATTS       | + 15 VDC       | 1330 mA        | 87%         | 85%         | FF   |
| WDD20 - 03S2         | 18~36 VDC     | 15 WATTS       | +3.3 VDC       | 4500 mA        | 80%         | 78%         | FF   |
| WDD20 - 05S2         | 18~36 VDC     | 20 WATTS       | + 5 VDC        | 4000 mA        | 85%         | 83%         | FF   |
| WDD20 - 12S2         | 18~36 VDC     | 20 WATTS       | + 12 VDC       | 1670 mA        | 86%         | 84%         | FF   |
| WDD20 - 15S2         | 18~36 VDC     | 20 WATTS       | + 15 VDC       | 1330 mA        | 88%         | 86%         | FF   |
| WDD20 - 03S3         | 36~72 VDC     | 15 WATTS       | +3.3 VDC       | 4500 mA        | 80%         | 78%         | FF   |
| WDD20 - 05S3         | 36~72 VDC     | 20 WATTS       | + 5 VDC        | 4000 mA        | 85%         | 83%         | FF   |
| WDD20 - 12S3         | 36~72 VDC     | 20 WATTS       | + 12 VDC       | 1670 mA        | 87%         | 85%         | FF   |
| WDD20 - 15S3         | 36~72 VDC     | 20 WATTS       | + 15 VDC       | 1330 mA        | 88%         | 86%         | FF   |
| Dual Output Models   |               |                |                |                |             |             |      |
| WDD20 - 12D1         | 9~18 VDC      | 20 WATTS       | ± 12 VDC       | ± 830 mA       | 85%         | 83%         | FF   |
| WDD20 - 15D1         | 9~18 VDC      | 20 WATTS       | ± 15 VDC       | ± 670 mA       | 87%         | 85%         | FF   |
| WDD20 - 12D2         | 18~36 VDC     | 20 WATTS       | ± 12 VDC       | ± 830 mA       | 87%         | 85%         | FF   |
| WDD20 - 15D2         | 18~36 VDC     | 20 WATTS       | ± 15 VDC       | ± 670 mA       | 88%         | 86%         | FF   |
| WDD20 - 12D3         | 36~72 VDC     | 20 WATTS       | ± 12 VDC       | ± 830 mA       | 87%         | 85%         | FF   |
| WDD20 - 15D3         | 36~72 VDC     | 20 WATTS       | ± 15 VDC       | ± 670 mA       | 89%         | 87%         | FF   |

### FEATURES

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

### DESCRIPTION

THE WDD20 SERIES ARE 15 WATTS AND 20 WATTS SINGLE & DUAL OUTPUT DC/DC CONVERTERS, 2:1 WIDE INPUT RANGE WITH I/O ISOLATION AND SHORT CIRCUIT PROTECTION FEATURES MAKES IT SUITABLE USED ON VARIABLE APPLICATIONS WITH LOW COST. ALL WDD20 MODELS CONTAIN PI INPUT FILTER TO MINIMIZE REFLECTED RIPPLE & NOISE. ALL MODELS ARE PACKAGED IN 2" x 1.6" x 0.4" BLACK COATED METAL CASE, 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: ..... 180KHz
- \* 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.: ..... 277,000Hrs at @ GF40, according to MIL-HDBK-217F
- \* Cooling: ..... Free air convection
- \* Temperature coefficient: .....  $\pm 0.02\%$  / °C
- \* Dimension: ..... 50.8 x 40.6 x 10.2mm

#### INPUT SPECIFICATIONS

- \* Input voltage range / frequency: ..... 9 ~ 18VDC for 12V  
18 ~ 36VDC for 24V  
36 ~ 72VDC for 48V
- \* Input filter: ..... Pi type
- \* No load input current: ..... 20mA for 12V in  
15mA for 24V in  
10mA for 48V in
- \* Max. Input voltage: ..... 20VDC for 12V in  
40VDC for 24V in  
75VDC for 48V in
- \* Startup voltage: ..... 8.5VDC for 12V in  
15VDC for 24V in  
33VDC for 48V in

#### OUTPUT SPECIFICATIONS

- \* Output voltage accuracy: .....  $\pm 2\%$  at  $V_{o\_nom}$
- \* Minimum load: ..... No load for single output models  
 $\pm 10\%$  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 89%, see model list
- \* Voltage trim range: .....  $V_{out} \times 10\%$   
 $V_{out} \times 5\%$  for 3.3  $V_{out}$
- \* Derating: ..... See table 1
- \* Case material: ..... Metal

#### CONTROL AND PROTECTION

- \* Remote on/off: ..... ON : open or 8 ~ 10VDC  
OFF : -0.3 ~ 2VDC
- \* Input reversed: ..... Shunt diode use external fuse
- \* Output short circuit: ..... Continuous



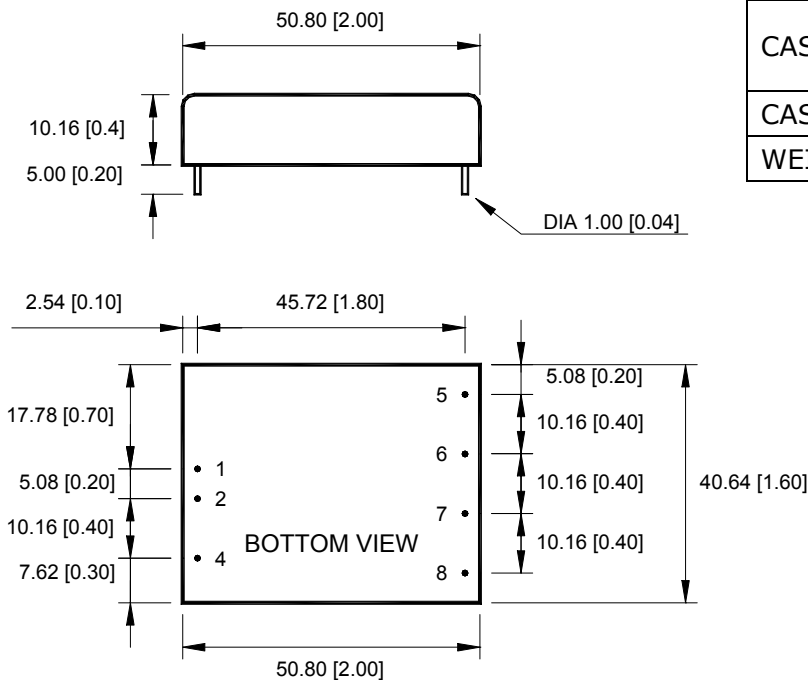
# WDD20 SERIES

# DC-DC CONVERTER

## 15 ~ 20W

### MECHANISM & PIN CONFIGURATION

mm [inch]



### PHYSICAL CHARACTERISTICS

|               |                                             |
|---------------|---------------------------------------------|
| CASE SIZE     | 50.8 x 40.6 x 10.2mm<br>2 x 1.6 x 0.4inches |
| CASE MATERIAL | Metal                                       |
| WEIGHT        | 60 g                                        |

### PIN ASSIGNMENT

| PIN NO. | 1   | 2   | 4    | 5      | 6   | 7   | 8    |
|---------|-----|-----|------|--------|-----|-----|------|
| SINGLE  | Vi+ | Vi- | S.D. | NO PIN | Vo+ | Vo- | Trim |
| DUAL    | Vi+ | Vi- | S.D. | Vo+    | com | Vo- | Trim |

S.D. : REMOTE ON/OFF

### Derating:

[TABLE 1]

