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March 2015

# DFB20100F162

## Glass-Passivated Bridge Rectifier

### Features

- UL Certificate: # E258596
- Glass-Passivated Junction
- Ideal for Printed Circuit Board
- Reliable Low-Cost Construction
- Plastic Material has Underwriters Laboratory Flammability Classification 94V-0
- Surge Overload Rating to 250 A Peak
- High Case Dielectric Strength: 2000 V<sub>RMS</sub>
- Isolated Voltage from Case to Lead: > 2500 V



L Forming TS-6P

### Ordering Information

| Part Number  | Top Mark | Package  | Packing Method |
|--------------|----------|----------|----------------|
| DFB20100F162 | DFB20100 | TS-6P 4L | Bulk           |

### Absolute Maximum Ratings<sup>(1), (2)</sup>

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T<sub>A</sub> = 25°C unless otherwise noted.

| Symbol             | Parameter                                            | Value       | Unit |
|--------------------|------------------------------------------------------|-------------|------|
| V <sub>RRM</sub>   | Maximum Recurrent Peak Reverse Voltage               | 1000        | V    |
| V <sub>RMS</sub>   | Maximum RMS Voltage                                  | 700         | V    |
| V <sub>DC</sub>    | Maximum DC Blocking Voltage                          | 1000        | V    |
| I <sub>F(AV)</sub> | Maximum Average Forward Rectified Current            | 20          | A    |
| I <sub>FSM</sub>   | Peak Forward Surge Current (8.3 ms Single Half-Wave) | 250         | A    |
| R <sub>θJC</sub>   | Typical Thermal Resistance <sup>(2)</sup>            | 4.75        | °C/W |
| T <sub>J</sub>     | Operating Temperature Range                          | -55 to +150 | °C   |
| T <sub>STG</sub>   | Storage Temperature Range                            | -55 to +150 | °C   |

#### Notes:

1. Single-phase, half-wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.
2. Device mounted on 4 inch x 5 inch x 0.25 inch Al-plate heat sink.

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise specified.

| Symbol | Parameter                                               | Conditions                | Value | Unit                 |
|--------|---------------------------------------------------------|---------------------------|-------|----------------------|
| $V_F$  | Maximum Instantaneous Forward Voltage                   | $I_F = 10\text{ A}$       | 1.0   | V                    |
|        |                                                         | $I_F = 20\text{ A}$       | 1.1   |                      |
| $I_R$  | Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_A = 25^\circ\text{C}$  | 10    | $\mu\text{A}$        |
|        |                                                         | $T_A = 125^\circ\text{C}$ | 500   |                      |
| $I^2t$ | Rating for Fusing ( $t < 8.3\text{ ms}$ )               |                           | 259   | $\text{A}^2\text{s}$ |
| $C_J$  | Typical Junction Capacitance per Leg <sup>(3)</sup>     |                           | 140   | pF                   |

### Note:

3. Measured at 1 MHz and applied reverse bias of 4.0 V DC.

## Typical Performance Characteristics

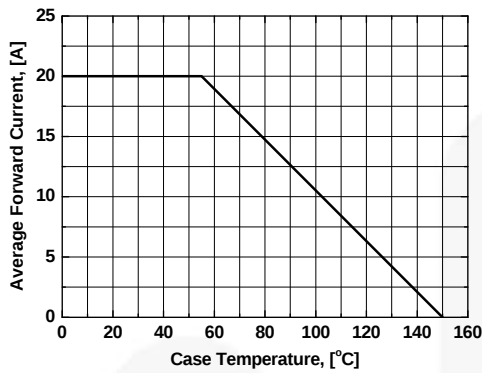


Figure 1. Maximum Derating Curve for Output Current

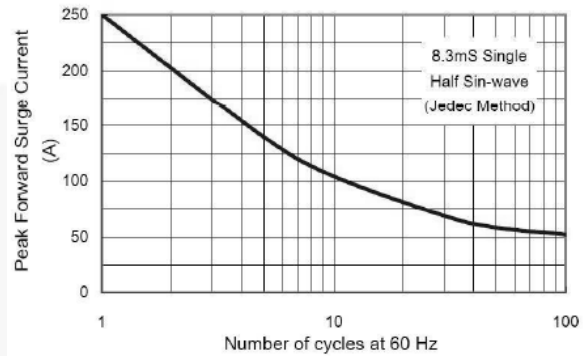


Figure 2. Maximum Forward Surge Current per Leg

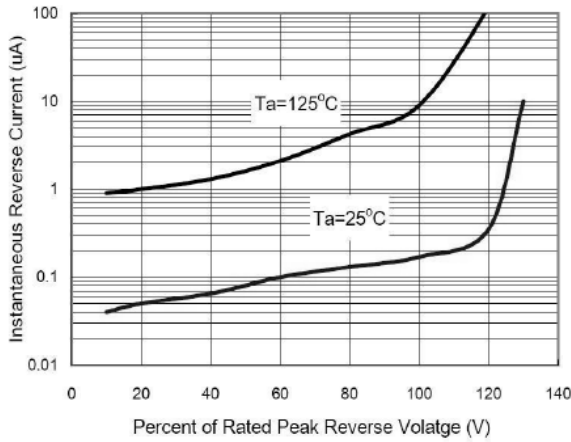


Figure 3. Typical Reverse Characteristics per Leg

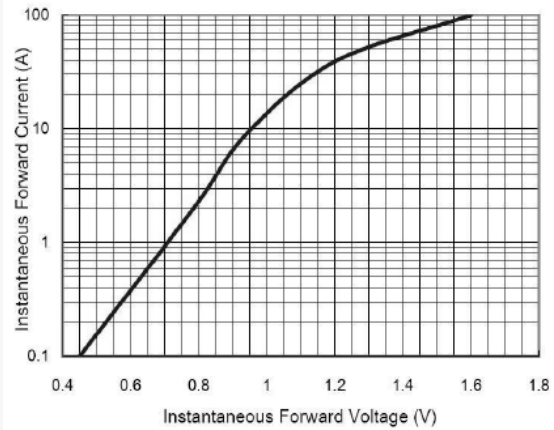


Figure 4. Typical Forward Characteristics per Leg

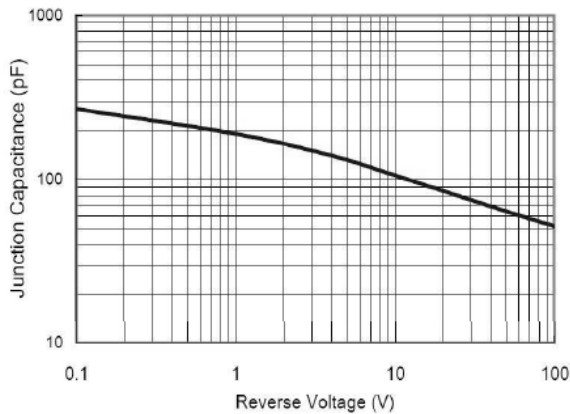
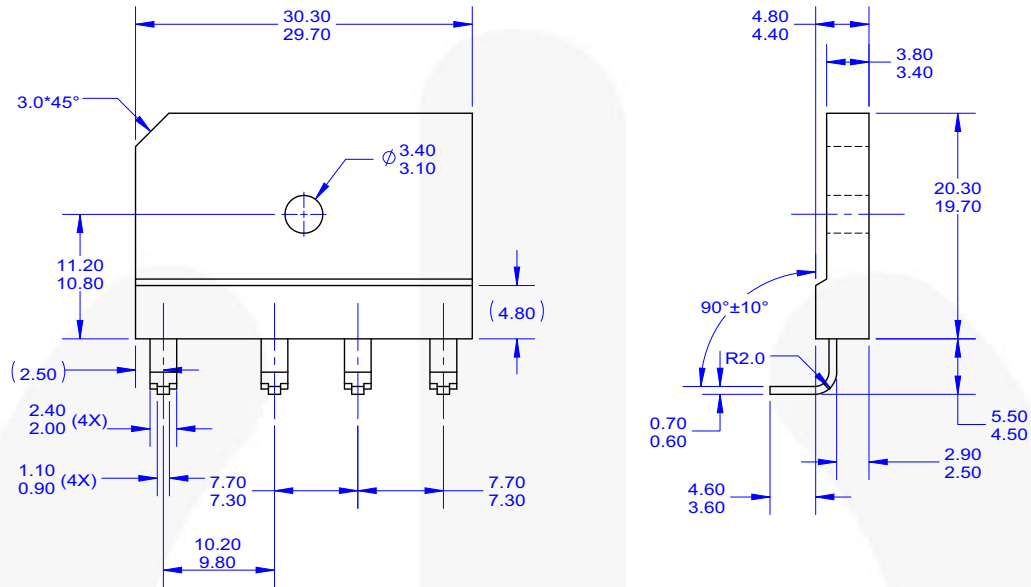


Figure 5. Typical Junction Capacitance

## Physical Dimensions



## NOTES:

- A. THIS PACKAGE DOES NOT CONFORM TO ANY STANDARDS.
- B. ALL DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- D. DRAWING FILE NAME: TS6P04BREV1



Figure 6. 4-LEAD, TS6P, THROUGH-HOLE, MOLDED PACKAGE



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