

DFB2505, DFB2510, DFB2520, DFB2540, DFB2560, DFB2580, DFB25100

Glass-Passivated Bridge Rectifiers

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: 350 A Peak
- High Case Dielectric Strength: 2500 V_{RMS}
- Isolated Voltage from Case to Lead: > 2500 V
- Screw Torque Specification: 8.17 in-lbs Maximum
- These Devices are Pb-Free and are RoHS Compliant

ORDERING INFORMATION

| Part Number | Marking | Package | Packing Method |
|-------------|----------|----------|----------------|
| DFB2505 | DFB2505 | TS-6P 4L | Rail |
| DFB2510 | DFB2510 | | |
| DFB2520 | DFB2520 | | |
| DFB2540 | DFB2540 | | |
| DFB2560 | DFB2560 | | |
| DFB2580 | DFB2580 | | |
| DFB25100 | DFB25100 | | |



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TS-6P
CASE 127EP

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ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, Unless otherwise specified) (Note 1)

| Symbol | Parameter | Value | | | | | | | Unit |
|-----------------|--|-------------|---------|---------|---------|---------|---------|----------|---------------------------|
| | | DFB2505 | DFB2510 | DFB2520 | DFB2540 | DFB2560 | DFB2580 | DFB25100 | |
| V_{RRM} | Maximum Recurrent Peak Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| V_{RMS} | Maximum RMS Voltage | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| V_{DC} | Maximum DC Blocking Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| $I_{(AV)}$ | Maximum Average Forward Rectified Current | 25 | | | | | | | A |
| I_{FSM} | Peak Forward Surge Current (8.3 ms Single Half-wave) | 350 | | | | | | | A |
| $R_{\theta JC}$ | Typical Thermal Resistance (Note 2) | 4.75 | | | | | | | $^\circ\text{C}/\text{W}$ |
| T_J | Operating Temperature Range | -55 to +150 | | | | | | | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature Range | -55 to +150 | | | | | | | $^\circ\text{C}$ |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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 6 inch x 0.25 inch Al-plate heat sink.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Test Conditions | Value | Unit |
|--------|---|---------------------------|-------|----------------------|
| V_F | Maximum Forward Voltage | 12.5 A | 1.0 | V |
| | Instantaneous Forward Voltage | 25 A | 1.1 | |
| I_R | Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_A = 25^\circ\text{C}$ | 10 | μA |
| | | $T_A = 125^\circ\text{C}$ | 500 | |
| I^2t | Rating for Fusing ($t < 8.3$ ms) | | 508 | A^2s |
| C_J | Typical Junction Capacitance per Leg (Note 3) | | 110 | pF |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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

TYPICAL PERFORMANCE CHARACTERISTICS

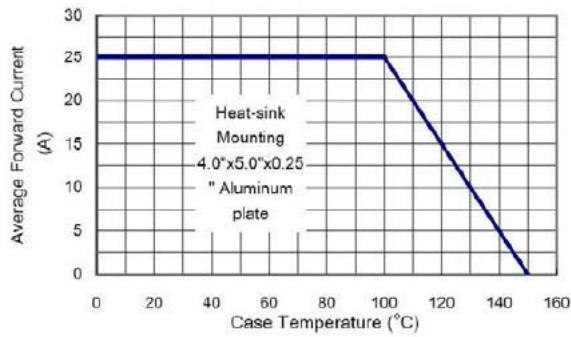


Figure 1. Maximum Derating Curve for Output Current

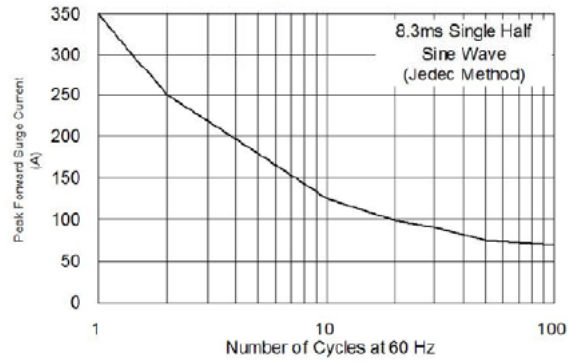


Figure 2. Maximum Forward Surge Current per Leg

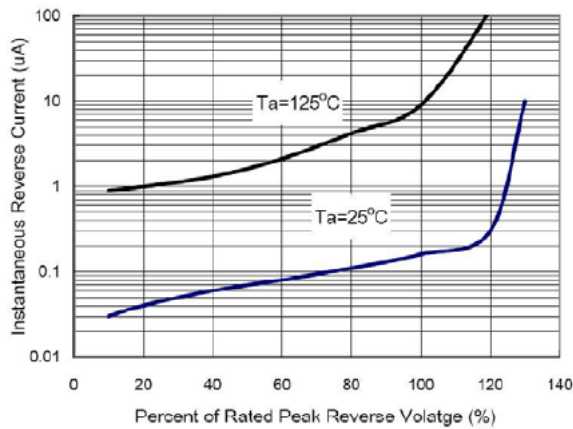


Figure 3. Typical Reverse Characteristics per Leg

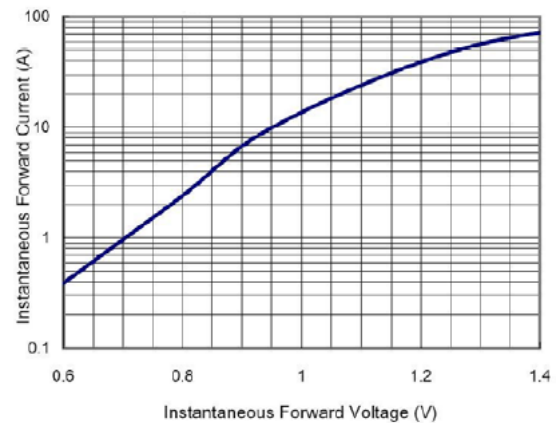


Figure 4. Typical Forward Characteristics per Leg

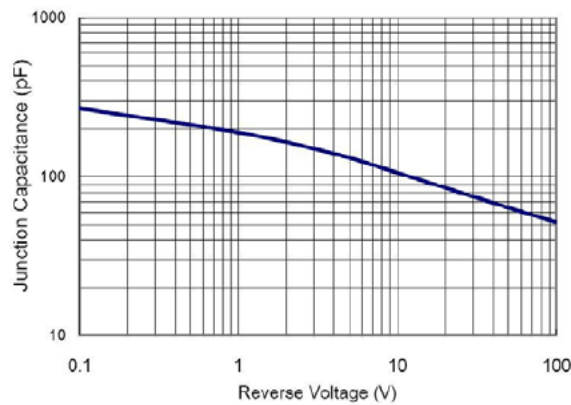


Figure 5. Typical Junction Capacitance

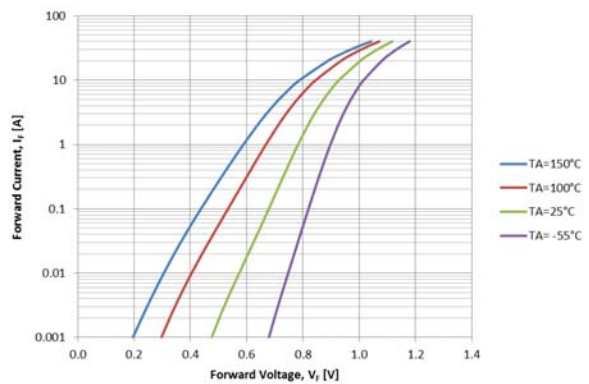


Figure 6. Forward Voltage Characteristics

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