



# DFB2505 - DFB25100

## Glass Passivated Bridge Rectifiers

### Features

- UL certificate # E326243
- 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 350 amperes peak
- High case dielectric strength of 2500  $V_{RMS}$
- Isolated voltage from case to lead over 2500 volts



### Absolute Maximum Ratings\* $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol          | Parameter                                           | Value          |                |                |             |             |                |                 | Units              |
|-----------------|-----------------------------------------------------|----------------|----------------|----------------|-------------|-------------|----------------|-----------------|--------------------|
|                 |                                                     | DFB25<br>05*** | DFB25<br>10*** | DFB25<br>20*** | DFB25<br>40 | DFB25<br>60 | DFB25<br>80*** | DFB25<br>100*** |                    |
| $V_{RRM}$       | 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 (8.3mS Single Half-wave) | 350            |                |                |             |             |                |                 | A                  |
| $R_{\theta JC}$ | Typical Thermal Resistance**                        | 4.75           |                |                |             |             |                |                 | $^\circ\text{C/W}$ |
| $T_J$           | Operating Temperature Range                         | -55 to +150    |                |                |             |             |                |                 | $^\circ\text{C}$   |
| $T_{STG}$       | Storage Temperature Range                           | -55 to +150    |                |                |             |             |                |                 | $^\circ\text{C}$   |

\* Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

\*\* Device mounted on 4" x 6" x 0.25" Al-plate heat sink.

\*\*\* In development. Please contact Fairchild Semiconductor for more information.

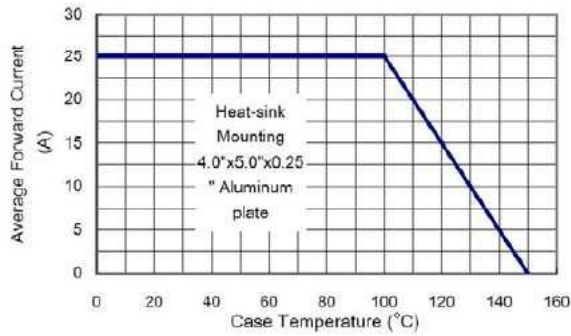
### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise specified

| Symbol | Parameter                                               | Test condition                                            | Value      | Unit                 |
|--------|---------------------------------------------------------|-----------------------------------------------------------|------------|----------------------|
| $V_F$  | Maximum Instantaneous Forward Voltage                   | @ 12.5A<br>@ 25A                                          | 1.0<br>1.1 | V                    |
| $I_R$  | Maximum DC Reverse Current at Rated DC Blocking Voltage | @ $T_A = 25^\circ\text{C}$<br>@ $T_A = 125^\circ\text{C}$ | 10<br>500  | $\mu\text{A}$        |
| $I^2t$ | Rating for fusing ( $t < 8.3\text{mS}$ )                |                                                           | 508        | $\text{A}^2\text{S}$ |
| $C_j$  | Typical Junction Capacitance per leg*                   |                                                           | 110        | pF                   |

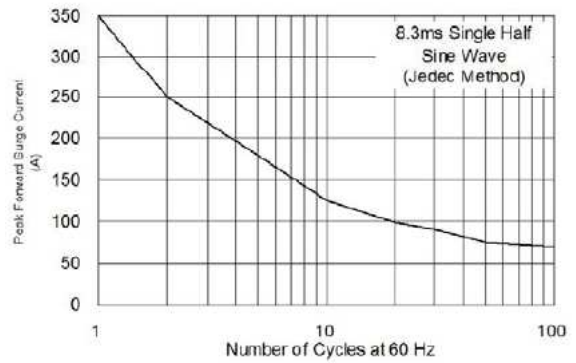
\* Measured at 1MHz and applied Reverse bias of 4.0V DC.

## Typical Performance Characteristics

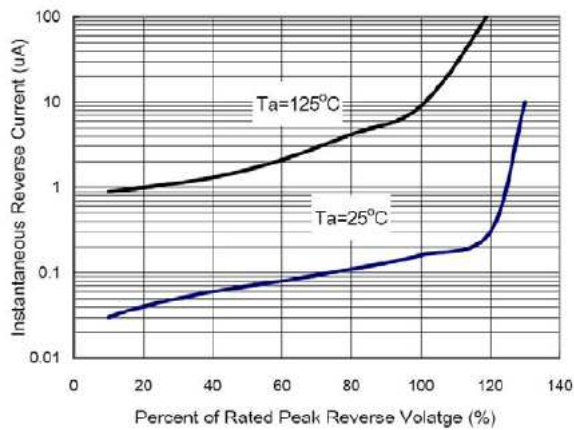
**Figure 1. Maximum Derating Curve for Output Current**



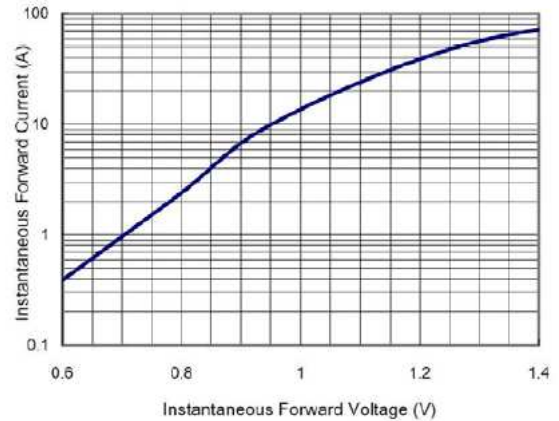
**Figure 2. Maximum Forward Surge Current**



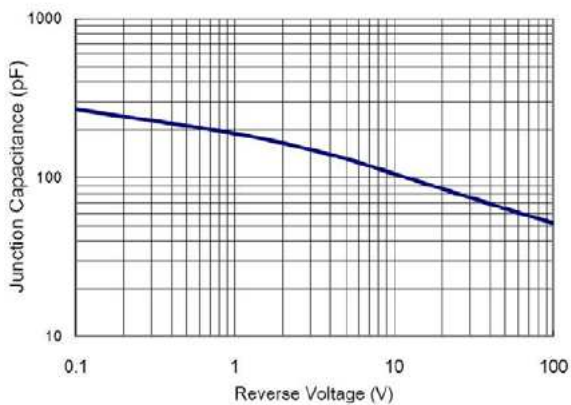
**Figure 3. Typical Reverse Characteristics per Leg**



**Figure 4. Typical Forward Characteristics per Leg**

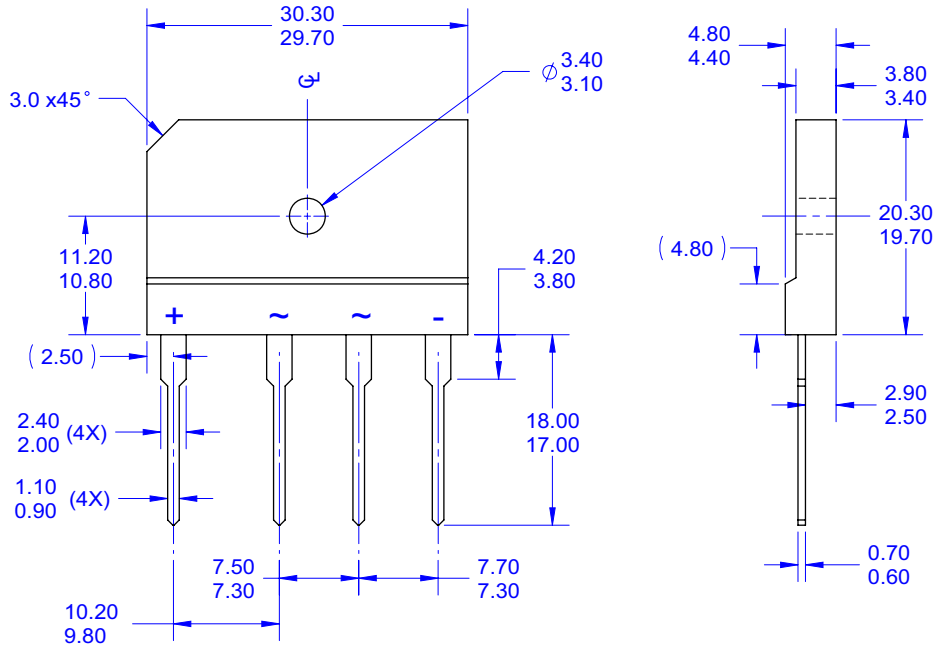


**Figure 5. Typical Junction Capacitance**



# Physical Dimensions

## TS-6P



### NOTES:

- THIS PACKAGE DOES NOT CONFORM TO ANY STANDARDS.
- ALL DIMENSIONS ARE IN MILLIMETERS.
- DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- DRAWING FILE NAME: TS6P04AREV1

Dimensions in Millimeters



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|                          |                                                                                     |                                                                                     |                                                                                       |
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| AX-CAP™*                 | FRFET®                                                                              | PowerXS™                                                                            | the                                                                                   |
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| CROSSVOLT™               | GTO™                                                                                | RapidConfigure™                                                                     | TinyCalc™                                                                             |
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| EcoSPARK®                | MicroFET™                                                                           | SMART START™                                                                        | TinyWire™                                                                             |
| EfficientMax™            | MicroPak™                                                                           | SPM®                                                                                | TranSiC®                                                                              |
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