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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_{RMS}
- 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^{(1), (2)}

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_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
V _{RRM}	Maximum Recurrent Peak Reverse Voltage	1000	V
V _{RMS}	Maximum RMS Voltage	700	V
V _{DC}	Maximum DC Blocking Voltage	1000	V
I _{F(AV)}	Maximum Average Forward Rectified Current	20	A
I _{FSM}	Peak Forward Surge Current (8.3 ms Single Half-Wave)	250	A
R _{θJC}	Typical Thermal Resistance ⁽²⁾	4.75	°C/W
T _J	Operating Temperature Range	-55 to +150	°C
T _{STG}	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	μA
		$T_A = 125^\circ\text{C}$	500	
I^2t	Rating for Fusing ($t < 8.3\text{ ms}$)		259	A^2s
C_J	Typical Junction Capacitance per Leg ⁽³⁾		140	pF

Note:

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

Typical Performance Characteristics

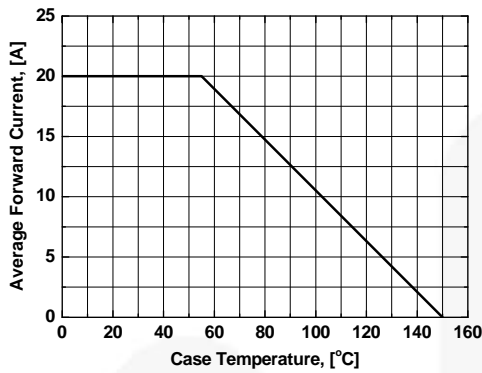


Figure 1. Maximum Derating Curve for Output Current

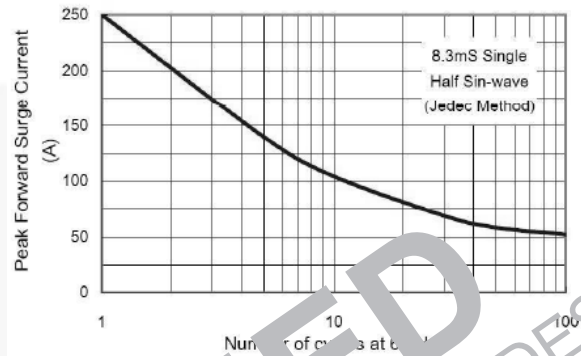


Figure 2. Maximum Forward Surge Current per Leg

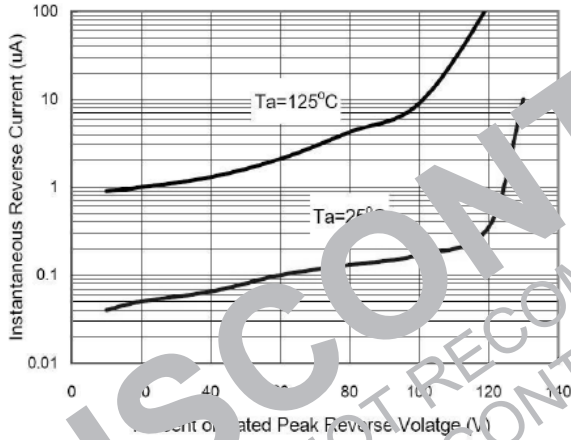


Figure 3. Typical Reverse Characteristics per Leg

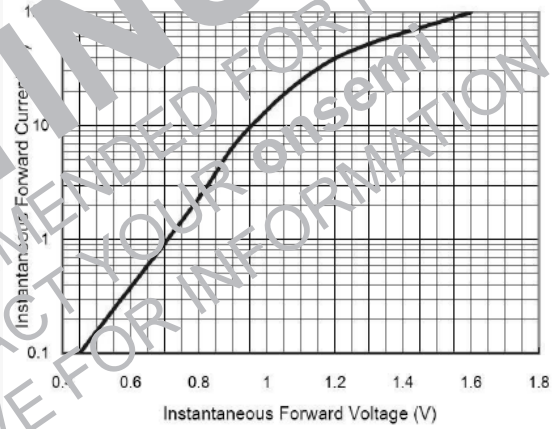


Figure 4. Typical Forward Characteristics per Leg

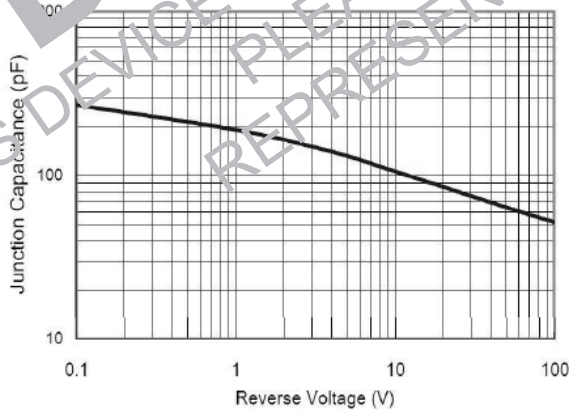
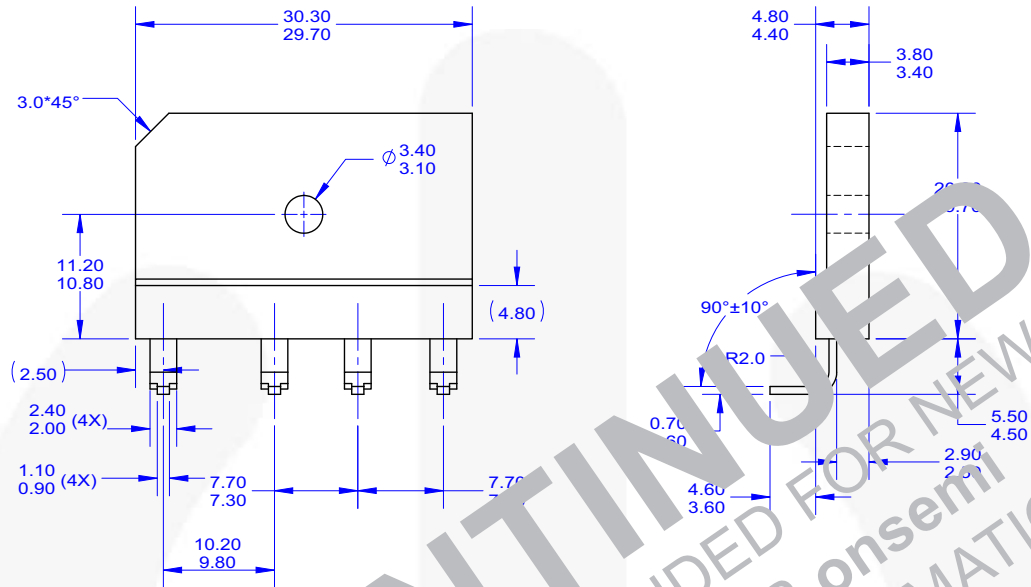


Figure 5. Typical Junction Capacitance

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, TQFP, THROUGH-HOLE, MOLDED PACKAGE



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Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

Rev. 173

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