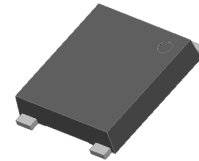


## Features

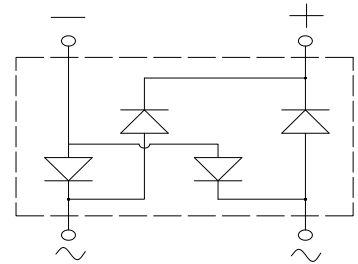
- UL recognition, file #E313149
- Glass passivated chip junction
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C



DBF

## Typical Applications

General purpose use in AC/DC bridge full wave rectification for SMPS, lighting ballaster, adapter, battery charger, home appliances, office equipment, and telecommunication applications.



Schematic Diagram

## Mechanical Data

- Package: DBF
- Molding compound meets UL 94 V-0 flammability rating
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: As marked on body

## Absolute Maximum Ratings (T<sub>A</sub>=25°C Unless otherwise specified)

Parameter	Symbol	GSDBF 30005A	GSDBF 3001A	GSDBF 3002A	GSDBF 3004A	GSDBF 3006A	GSDBF 3008A	GSDBF 3010A	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Average Rectified Output Current @ 60Hz Sine Wave, R-load, T <sub>C</sub> =110°C	I <sub>O</sub>	3.0							A
Forward Surge Current (Non-Repetitive) @ 60Hz Half Sine Wave, 1 Cycle, T <sub>J</sub> =25°C	I <sub>FSM</sub>	120							A
Forward Surge Current (Non-Repetitive) @ 1ms Square Wave, 1 Cycle, T <sub>J</sub> =25°C		240							
Current Squared Time @ 1ms ≤ t ≤ 8.3ms, T <sub>J</sub> =25°C, Rating per Diode	I <sup>2</sup> t	59.8							A <sup>2</sup> S
Typical Thermal Resistance, Between Junction and Ambient	R <sub>θJA</sub>	55							°C/W
Typical Thermal Resistance, Between Junction and Lead	R <sub>θJL</sub>	15							
Typical Thermal Resistance, Between Junction and Case	R <sub>θJC</sub>	10							
Junction Temperature	T <sub>J</sub>	-55 to +150							°C
Storage Temperature	T <sub>STG</sub>	-55 to +150							°C

Note:

Device mounted on P.C.B with 35mm\*25mm\*1.7mm.

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

Parameter	Symbol	Test Conditions	GSDBF 30005A	GSDBF 3001A	GSDBF 3002A	GSDBF 3004A	GSDBF 3006A	GSDBF 3008A	GSDBF 3010A	Unit
Maximum Instantaneous Forward Voltage Drop Per Diode	$V_F$	$I_{FM}=1.5\text{A}$	1.0							V
Maximum DC Reverse Current at Rated DC Blocking Voltage Per Diode	$I_R$	$T_J=25^\circ\text{C}$	5							$\mu\text{A}$
		$T_J=125^\circ\text{C}$	100							
Typical Junction Capacitance	$C_J$	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	40							pF

## Ratings and Characteristics Curves

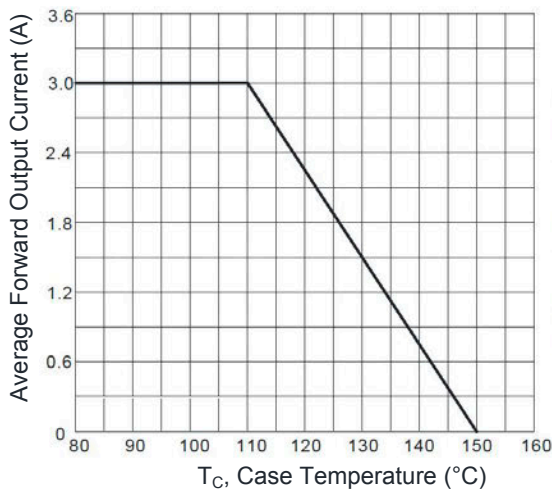


Figure 1.  $I_o$ - $T_C$  Curve

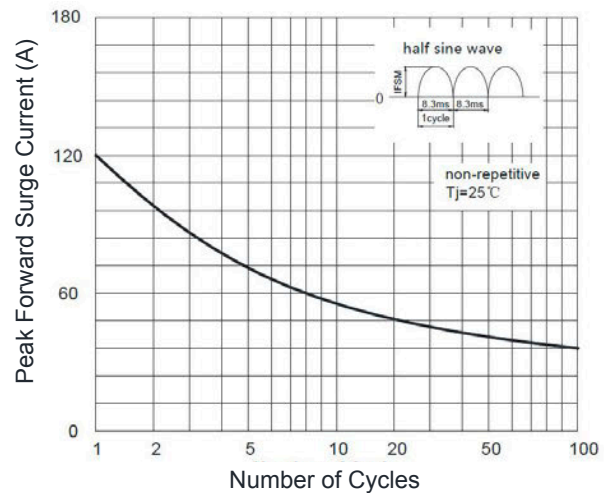


Figure 2. Surge Forward Current Capability

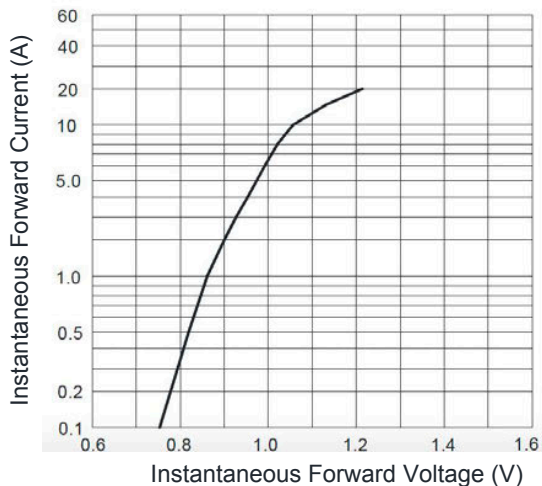


Figure 3. Typical Forward Voltage

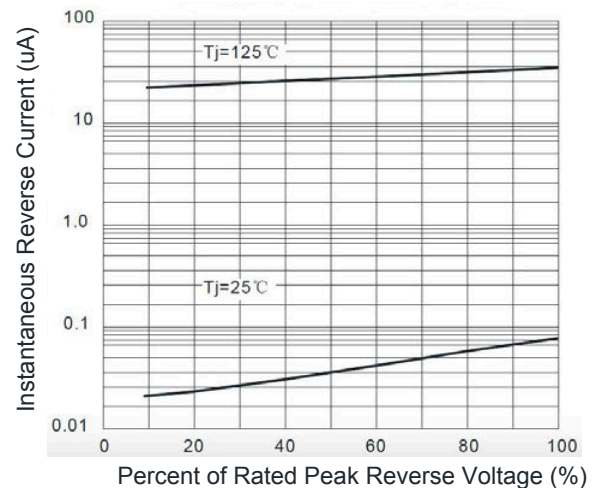
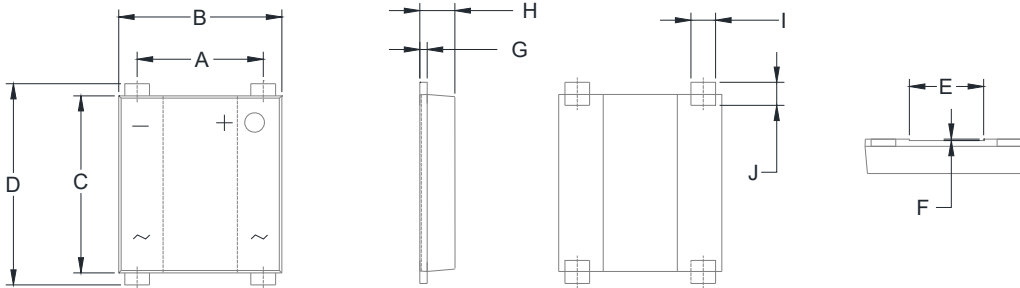


Figure 4. Typical Reverse Characteristics

## Package Outline Dimensions (DBF)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	5.000	5.200	0.197	0.205
B	6.500	6.700	0.256	0.264
C	7.200	7.400	0.283	0.291
D	7.900	8.600	0.311	0.339
E	2.900	3.100	0.114	0.122
F	0.040	0.080	0.002	0.003
G	0.270	0.400	0.011	0.016
H	1.300	1.500	0.051	0.059
I	0.950	1.150	0.037	0.045
J	0.700	1.050	0.028	0.041

## Recommended Pad layout

