

3.0 A Single-Phase Glass Passivated Bridge Rectifiers

Rectifier Reverse Voltage 100 to 1000V

3A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

Features

- Glass passivated chip;
- Ideal for automated placement
- High surge current capability
- Low forward voltage drop
- Design for surface mount application

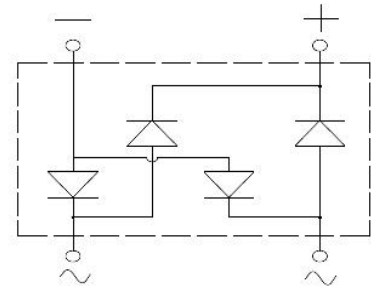
Typical Applications

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



Mechanical Data

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



Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	HDBF301	HDBF302	HDBF304	HDBF306	HDBF308	HDBF310	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	100	200	400	600	800	1000	V
Average Rectified Output Current at $T_c = 115\text{ }^\circ\text{C}$	I_O	3.0						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	80						A
Maximum Forward Voltage at 3.0 A	V_F	1.0		1.4		1.7		V
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	I_R	5.0 200						μA
Typical Junction Capacitance (Note1)	C_j	50						pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	40						$^\circ\text{C}/\text{W}$
Maximum Reverse Recovery Time (Note3)	t_{rr}	50			75			ns
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150						$^\circ\text{C}$

Note: 1. Measured at 1 MHz and applied reverse voltage of 4 V D.C

2. Mounted on glass epoxy PC board with 4×1.5"×1.5" (3.81×3.81 cm) copper pad.

3. Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.

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■ **Characteristics(Typical)**

Fig.1 Average Rectified Output Current Derating Curve

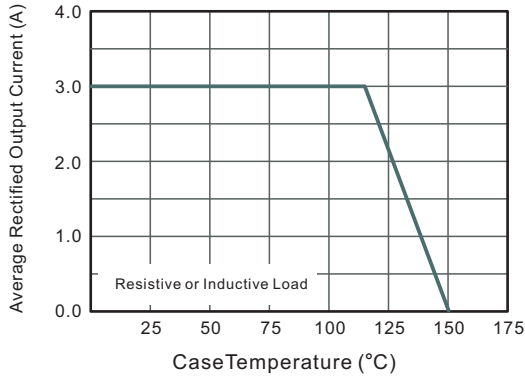


Fig.2 Typical Reverse Characteristics

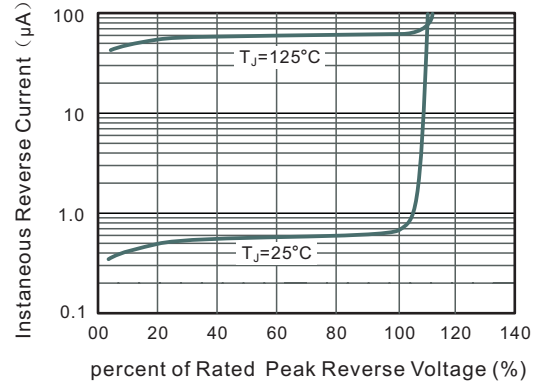


Fig.3 Typical Instantaneous Forward Characteristics

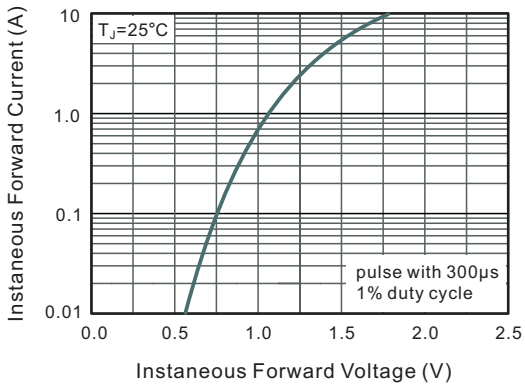


Fig.4 Typical Junction Capacitance

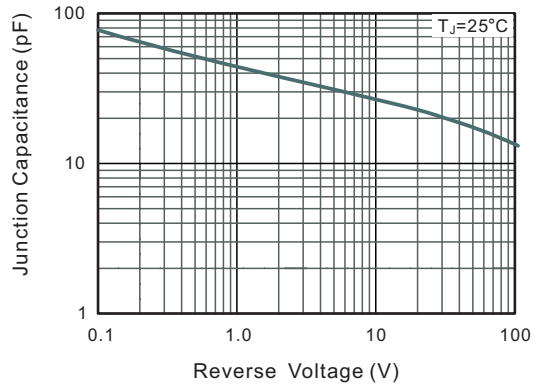
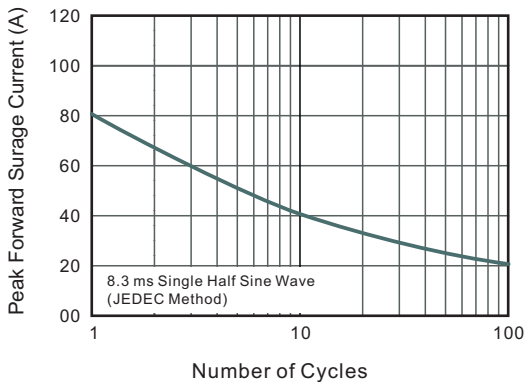


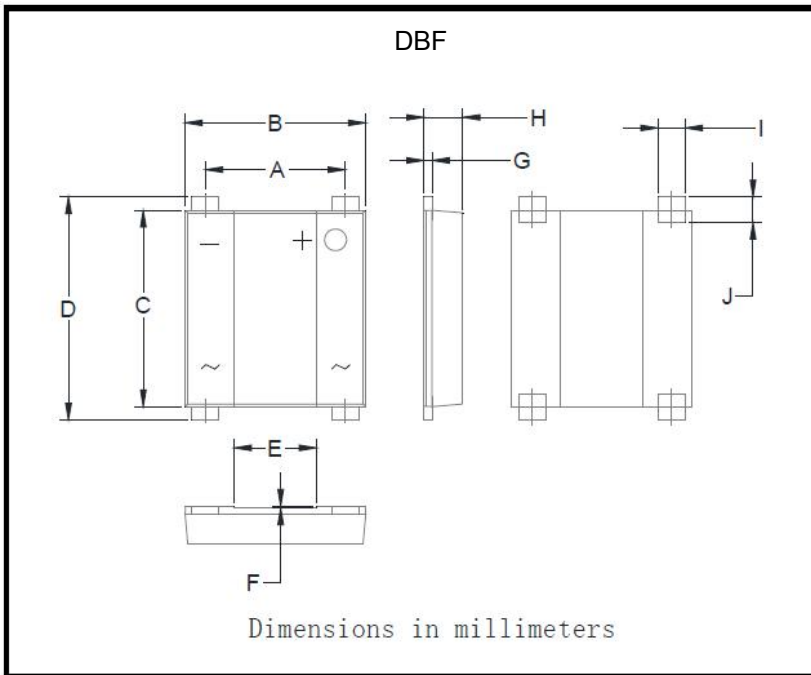
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



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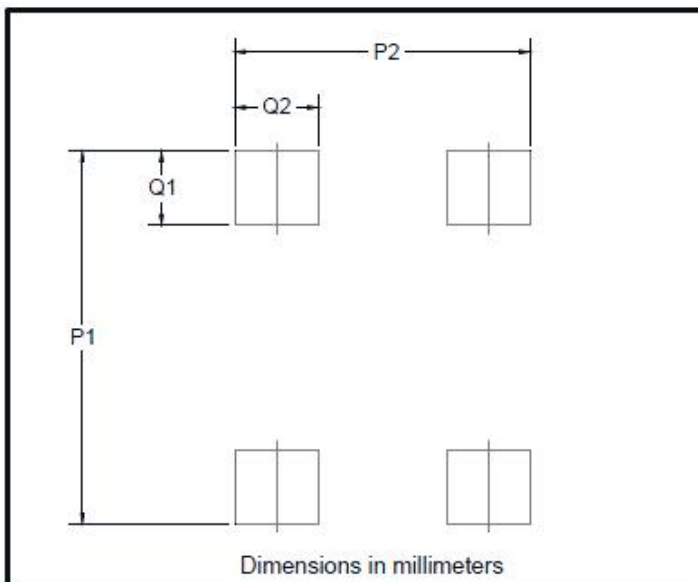
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■ **Outline Dimensions**



DBF		
Dim	Min	Max
A	4.90	5.20
B	6.50	6.70
C	7.20	7.40
D	7.90	8.60
E	2.90	3.10
F	0.04	0.08
G	0.20	0.40
H	1.30	1.50
I	0.95	1.15
J	0.70	1.05

■ **Suggested pad layout**



Dim	Min
P1	9.15
P2	7.10
Q1	1.80
Q2	2.00