

# DF005 THRU DF10

## SINGLE-PHASE GLASS PASSIVATED SILICON BRIDGE RECTIFIER

Reverse Voltage – 50 to 1000 V

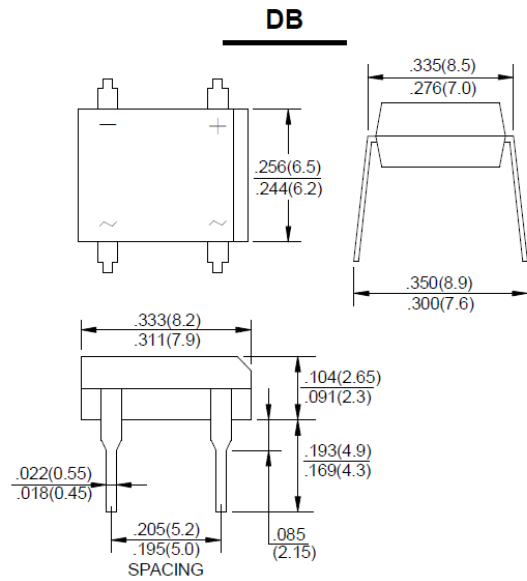
Forward Current – 1 A

### Features

- Glass passivated chip junction
- Low forward voltage drop
- High surge overload rating of 50 Amperes peak
- Ideal for printed circuit board

### Mechanical Data

- Case: Molded plastic, DB
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Leads solderable per MIL-STD-202, method 208 guaranteed
- Mounting position: Any



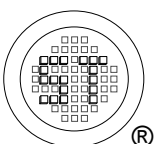
### Absolute Maximum Ratings and Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	DF005	DF01	DF02	DF04	DF06	DF08	DF10	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at $T_A = 40\text{ }^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half-sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	50							A
Maximum Forward Voltage at 1 A	$V_F$	1.1							V
Maximum Reverse Voltage at $T_A = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125\text{ }^\circ\text{C}$	$I_R$	5 500							$\mu\text{A}$
Typical Junction Capacitance <sup>1)</sup>	$C_j$	25							pF
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JA}$	40							$^\circ\text{C/W}$
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JL}$	15							$^\circ\text{C/W}$
Operating and storage temperature range	$T_j, T_{stg}$	- 55 to + 150							$^\circ\text{C}$

<sup>1)</sup> Measured at 1 MHz and applied reverse voltage of 4V.

<sup>2)</sup> Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.5 X 0.5" (13 X 13 mm) copper pads.



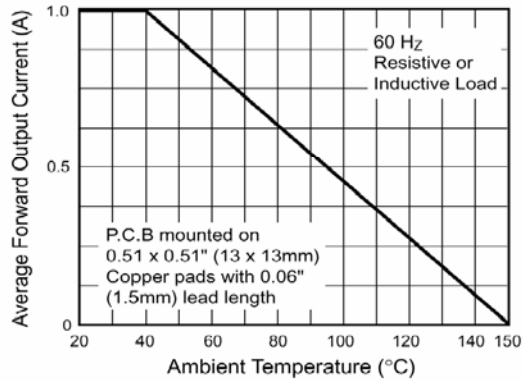
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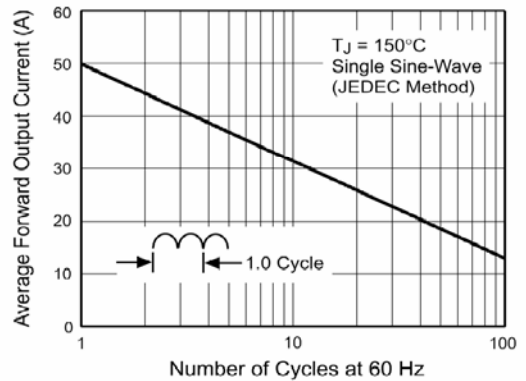
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## RATINGS AND CHARACTERISTIC CURVES

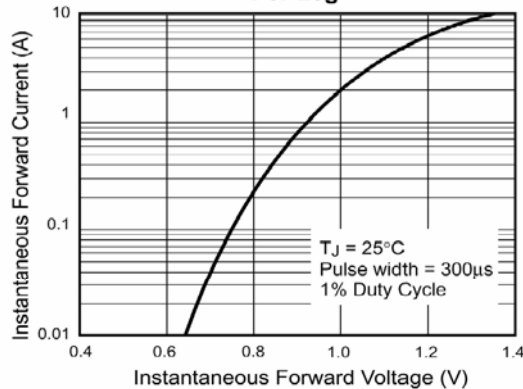
**Fig. 1 - Derating Curve Output Rectified Current**



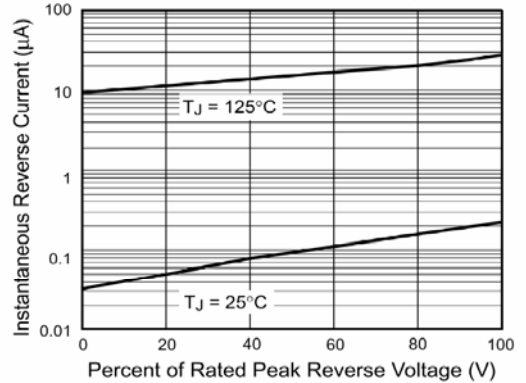
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg**



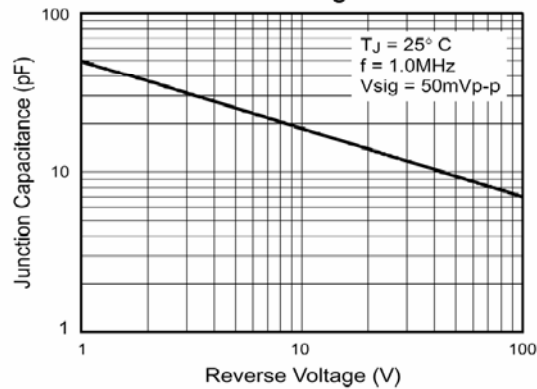
**Fig. 3 - Typical Forward Characteristics Per Leg**



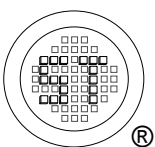
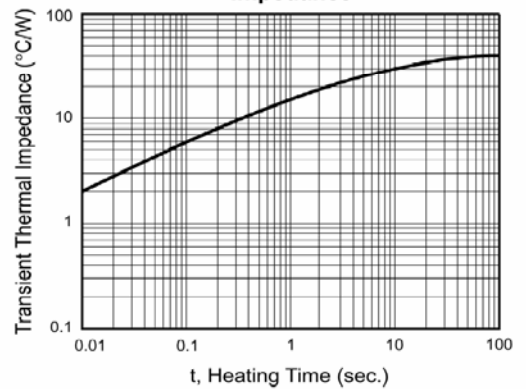
**Fig. 4 - Typical Reverse Leakage Characteristics Per Leg**



**Fig. 5 - Typical Junction Capacitance Per Leg**



**Fig. 6 - Typical Transient Thermal Impedance**



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