

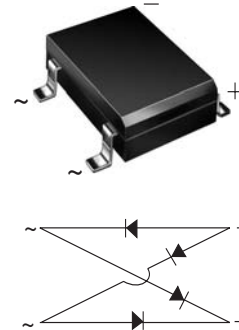


Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers

Major Ratings and Characteristics

$I_{F(AV)}$	1 A
V_{RRM}	50 V to 1000 V
I_{FSM}	30 A
I_R	5 μ A
V_F	1.1 V
T_j max.	150 °C

Case Style DFS



Features

- UL Recognition, file number E54214
- Ideal for automated placement
- Middle surge current capability
- Meets MSL level 1, per J-STD-020C
- Solder Dip 260 °C, 40 seconds



Mechanical Data

Case: DFS

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and JESD22-B102D

Polarity: As marked on body

Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for SMPS, Lighting Ballaster, Adapter, Battery Charger, Home Appliances, Office Equipment, and Telecommunication applications

Maximum Ratings

($T_A = 25$ °C unless otherwise noted)

Parameter	Symbol	DF 005SA	DF 01SA	DF 02SA	DF 04SA	DF 06SA	DF 08SA	DF 10SA	Unit
Device marking code		DFA 005S	DFA 01S	DFA 02S	DFA 04S	DFA 06S	DFA 08S	DFA 10S	
Maximum repetitive 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 output rectified current at $T_A = 40$ °C ⁽²⁾	$I_{F(AV)}$	1.0							A
Peak forward surge current single half sine-wave superimposed on rated load	I_{FSM}	30							A
Rating for fusing ($t < 8.3$ ms)	I^2t	4.5							A ² sec
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150							°C

Electrical Characteristics

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Test condition	Symbol	DF 005SA	DF 01SA	DF 02SA	DF 04SA	DF 06SA	DF 08SA	DF 10SA	Unit
Max. instantaneous forward voltage drop per leg	at 1.0 A	V_F	1.1							V
Maximum DC reverse current at rated DC blocking voltage per leg	$T_A = 25\text{ }^\circ\text{C}$	I_R	5.0							μA
	$T_A = 125\text{ }^\circ\text{C}$		500							
Typical junction capacitance per leg ⁽¹⁾		C_J	25							pF

Thermal Characteristics

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	DF 005SA	DF 01SA	DF 02SA	DF 04SA	DF 06SA	DF 08SA	DF 10SA	Unit
Typical thermal resistance per leg ⁽²⁾	$R_{\theta JA}$	40							$^\circ\text{C/W}$
	$R_{\theta JL}$	15							

Notes:

(1) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(2) Units mounted on P.C.B. with 0.51 x 0.51" (13 x 13 mm) copper pads

Ratings and Characteristics Curves

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

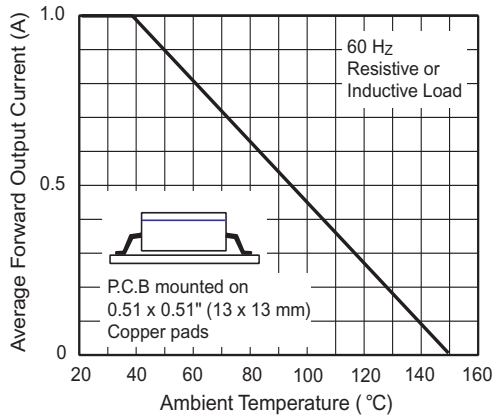


Figure 1. Derating Curve Output Rectified Current

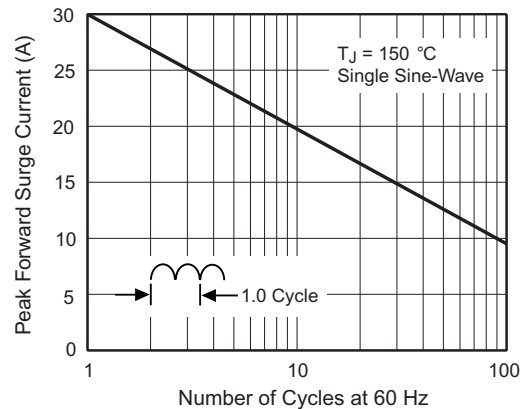


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

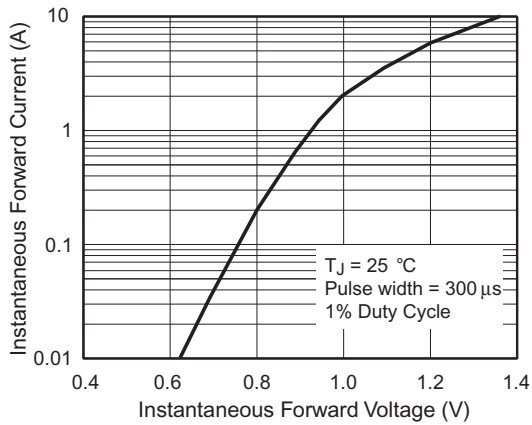


Figure 3. Typical Forward Characteristics Per Leg

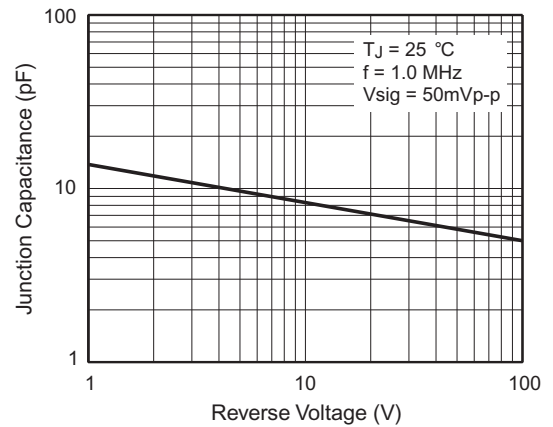


Figure 5. Typical Junction Capacitance Per Leg

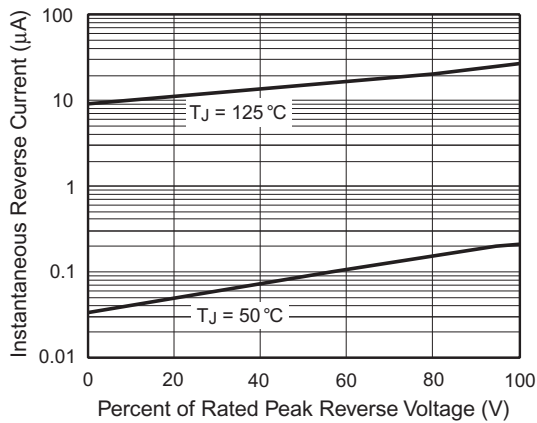


Figure 4. Typical Reverse Leakage Characteristics Per Leg

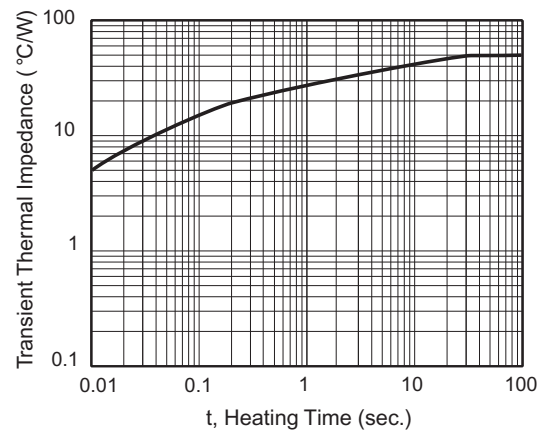
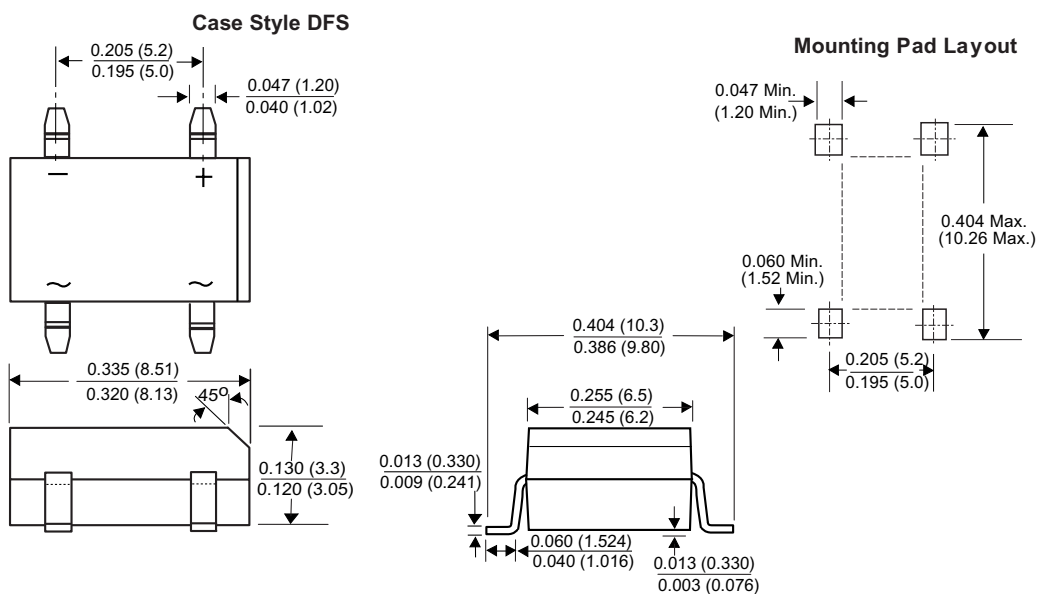


Figure 6. Typical Transient Thermal Impedance

Package outline dimensions in inches (millimeters)





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