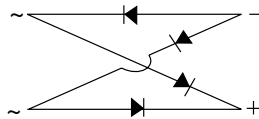


## Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers



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, LF max peak of 250 °C
- Solder Dip 260 °C, 40 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


**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.

**MECHANICAL DATA**

**Case:** DFS

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade

**Polarity:** As marked on body

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

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)									
PARAMETER	SYMBOL	DF005SA	DF01SA	DF02SA	DF04SA	DF06SA	DF08SA	DF10SA	UNIT
Device marking code		DFA005S	DFA01S	DFA02S	DFA04S	DFA06S	DFA08S	DFA10S	
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 <sup>(1)</sup>	$I_{F(AV)}$	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 <sup>2</sup> sec
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150							°C

**Note:**

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

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)											
PARAMETER	TEST CONDITIONS	SYMBOL	DF005SA	DF01SA	DF02SA	DF04SA	DF06SA	DF08SA	DF10SA	UNIT	
Maximum instantaneous forward voltage drop per diode	at 1.0 A	V <sub>F</sub>	1.1							V	
Maximum DC reverse current at rated DC blocking voltage per diode	T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>					5.0 500				μA
Typical junction capacitance per diode <sup>(1)</sup>		C <sub>J</sub>					25				pF

**Note:**

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

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	DF005SA	DF01SA	DF02SA	DF04SA	DF06SA	DF08SA	DF10SA	UNIT	
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>					40 15				°C/W

**Note:**

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

ORDERING INFORMATION				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
DF06SA-E3/45	0.386	45	50	Tube
DF06SA-E3/77	0.386	77	1500	13" Diameter Paper Tape & Reel

## RATINGS AND CHARACTERISTICS CURVES

(T<sub>A</sub> = 25 °C unless otherwise noted)

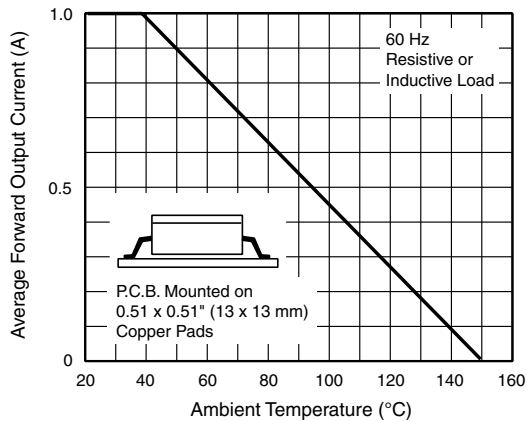


Figure 1. Derating Curve Output Rectified Current

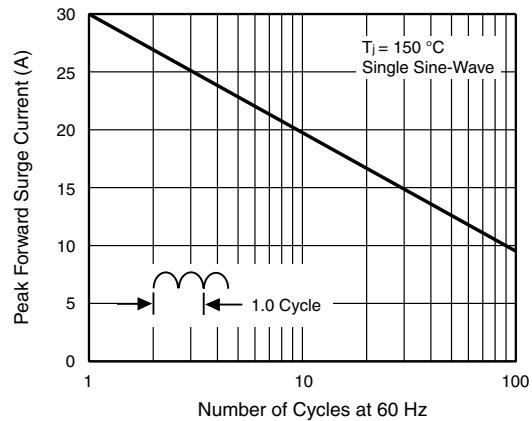


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode

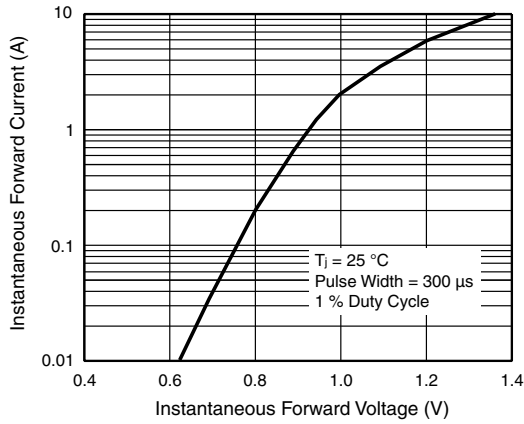


Figure 3. Typical Forward Characteristics Per Diode

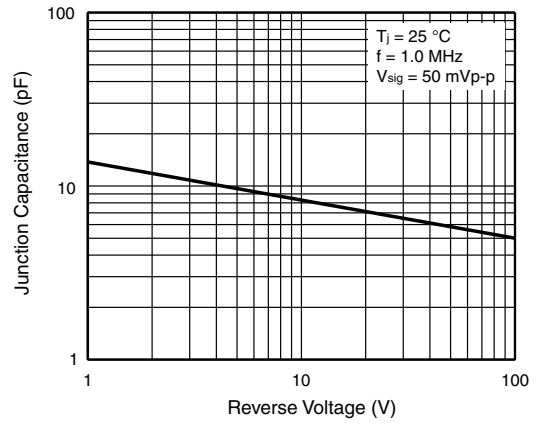


Figure 5. Typical Junction Capacitance Per Diode

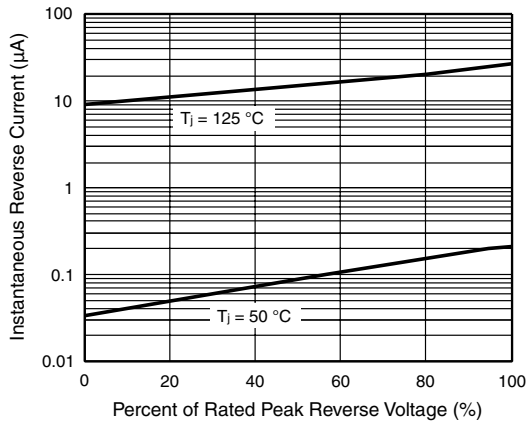


Figure 4. Typical Reverse Leakage Characteristics Per Diode

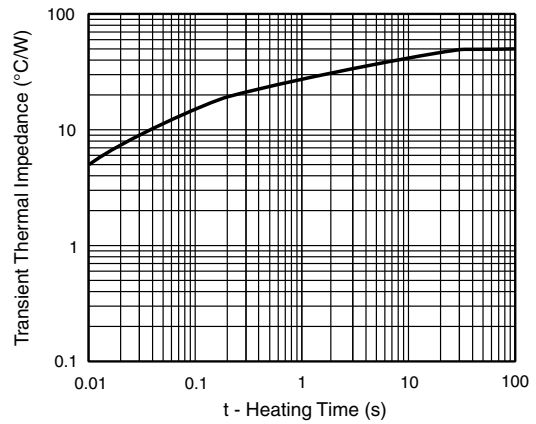
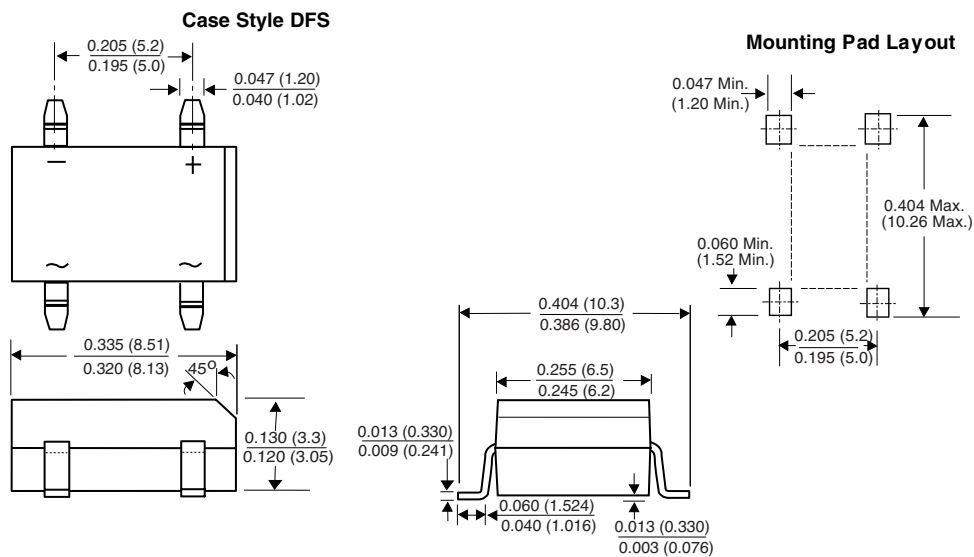


Figure 6. Typical Transient Thermal Impedance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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