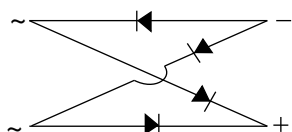
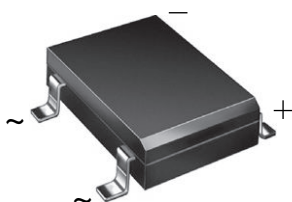




## Miniature Glass Passivated Single-Phase Surface-Mount Bridge Rectifiers



Case Style DFS

### LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1 A
$V_{RRM}$	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
$I_{FSM}$	30 A
$I_R$	5 $\mu$ A
$V_F$ at $I_F = 1.0$ A	1.1 V
$T_J$ max.	150 °C
Package	DFS
Circuit configuration	Quad

### FEATURES

- UL recognition, file number E54214
- Ideal for automated placement
- Middle surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

RoHS  
COMPLIANT

### 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

#### Case: DFS

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** as marked on body

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> s
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							°C

#### Note

<sup>(1)</sup> Units mounted on PCB with 0.51" x 0.51" (13 mm x 13 mm) copper pads

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

PARAMETER	TEST CONDITIONS	SYMBOL	DF005SA	DF01SA	DF02SA	DF04SA	DF06SA	DF08SA	DF10SA	UNIT
Maximum instantaneous forward voltage drop per diode	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	I <sub>R</sub>	5.0							μA
	T <sub>A</sub> = 125 °C		500							
Typical junction capacitance per diode <sup>(1)</sup>		C <sub>J</sub>	25							pF

**Note**<sup>(1)</sup> Measured at 1.0 MHz and applied reverse voltage of 4.0 V**THERMAL CHARACTERISTICS** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	DF005SA	DF01SA	DF02SA	DF04SA	DF06SA	DF08SA	DF10SA	UNIT
Typical thermal resistance (1)	R <sub>θJA</sub>	40							°C/W
	R <sub>θJL</sub>	15							

**Note**<sup>(1)</sup> Units mounted on PCB with 0.51" x 0.51" (13 mm x 13 mm) copper pads**ORDERING INFORMATION** (Example)

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 and reel

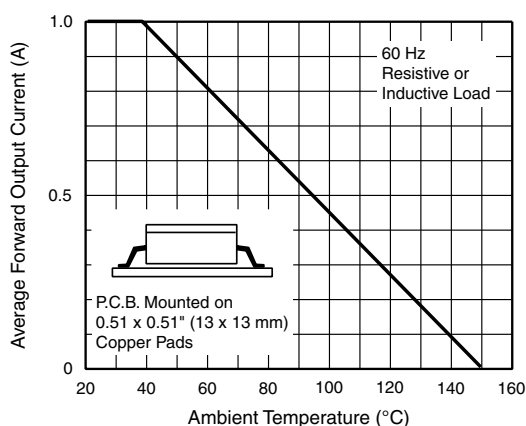
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Derating Curve Output Rectified Current

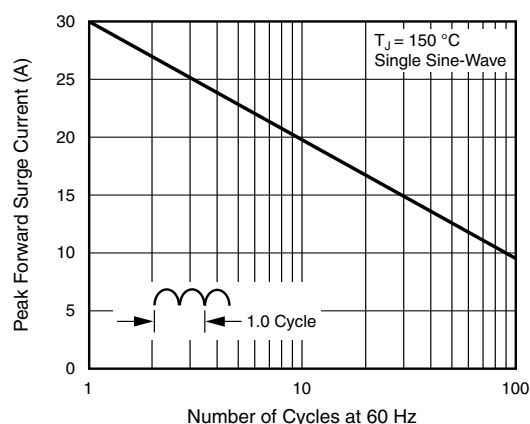


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

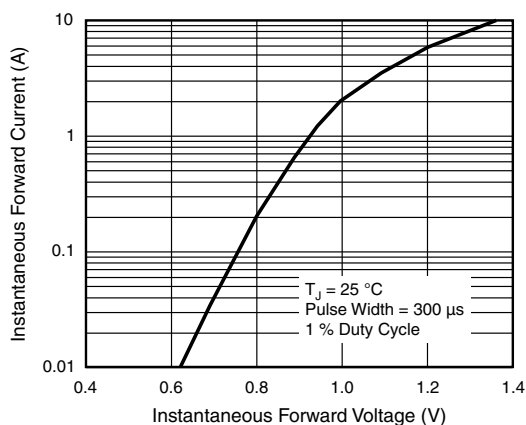


Fig. 3 - Typical Forward Characteristics Per Diode

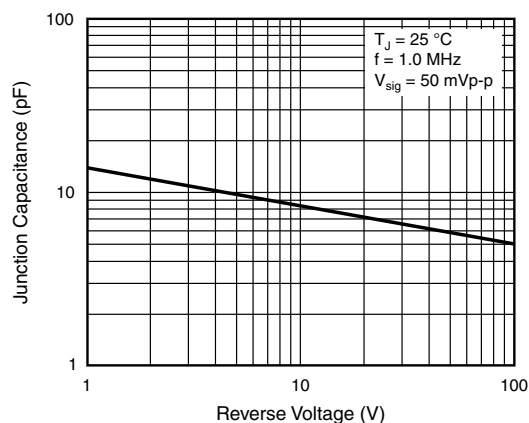


Fig. 5 - Typical Junction Capacitance Per Diode

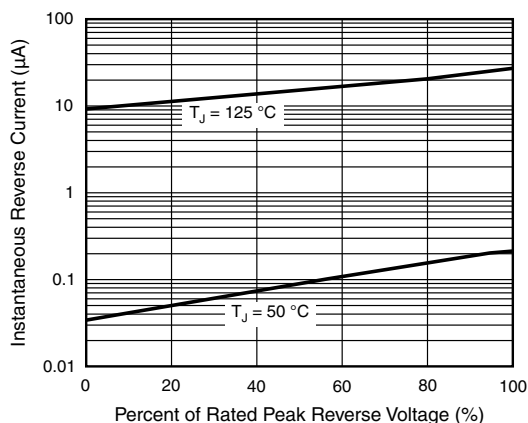


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

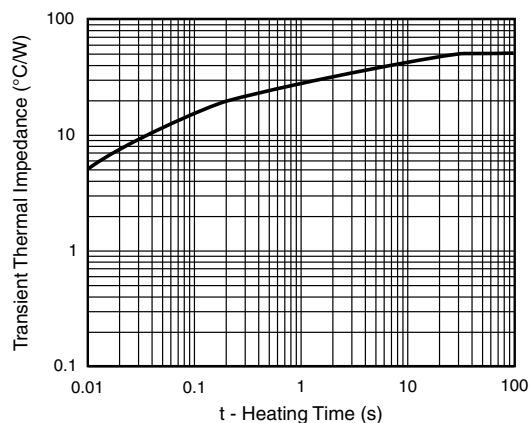
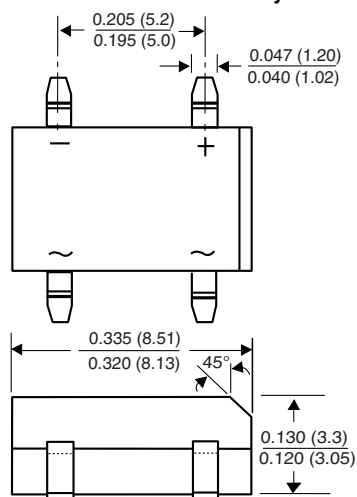


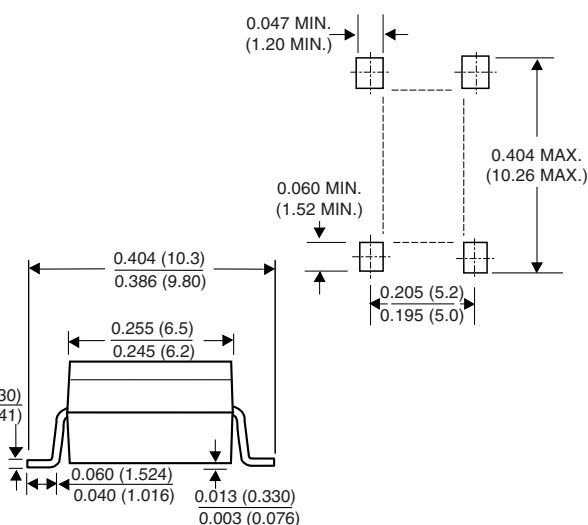
Fig. 6 - Typical Transient Thermal Impedance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### Case Style DFS



### Mounting Pad Layout





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