



# DF15005S thru DF1510S

New Product

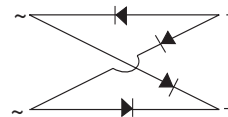
Vishay General Semiconductor

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

### Major Ratings and Characteristics

$I_{F(AV)}$	1.5 A
$V_{RRM}$	50 V to 1000 V
$I_{FSM}$	50 A
$I_R$	5 $\mu$ A
$V_F$	1.1 V
$T_j$ max.	150 °C

Case Style DFS



### Features

- UL Recognition, file number E54214
- Ideal for automated placement
- High 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

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

Parameter	Symbol	DF 15005S	DF 1501S	DF 1502S	DF 1504S	DF 1506S	DF 1508S	DF 1510S	Unit
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 $T_A = 40\text{ °C}^{(2)}$	$I_{F(AV)}$	1.5							A
Peak forward surge current single half sine-wave superimposed on rated load	$I_{FSM}$	50							A
Rating for fusing ( $t < 8.3\text{ ms}$ )	$I^2t$	10							$A^2\text{sec}$
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 15005S	DF 1501S	DF 1502S	DF 1504S	DF 1506S	DF 1508S	DF 1510S	Unit
Max. instantaneous forward voltage drop per leg	at 1.5 A	$V_F$	1.1							V
Maximum DC reverse current at rated DC blocking voltage per leg	$T_A = 25\text{ }^\circ\text{C}$ $T_A = 125\text{ }^\circ\text{C}$	$I_R$	5.0 500							$\mu\text{A}$
Typical junction capacitance per leg <sup>(1)</sup>		$C_J$	25							pF

## Thermal Characteristics

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

Parameter	Symbol	DF 15005S	DF 1501S	DF 1502S	DF 1504S	DF 1506S	DF 1508S	DF 1510S	Unit
Typical thermal resistance per leg <sup>(2)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	40 15							$^\circ\text{C/W}$

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)

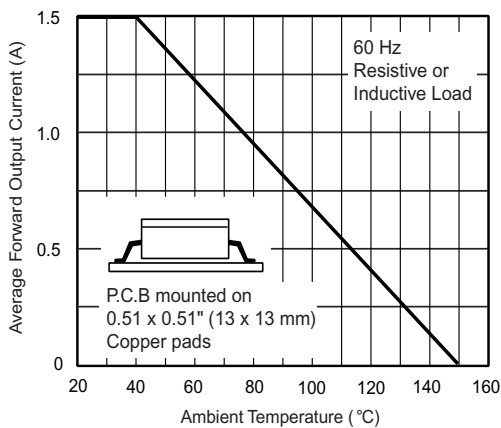


Figure 1. Derating Curve Output Rectified Current

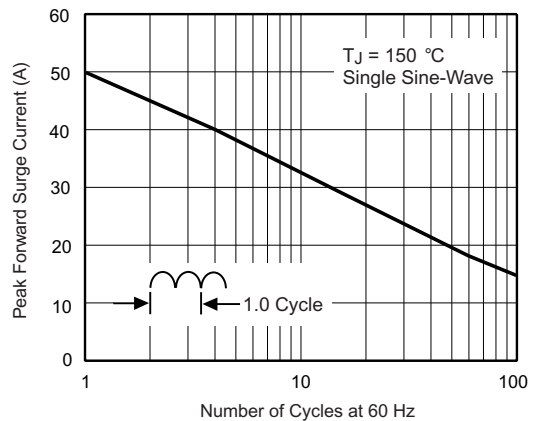


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

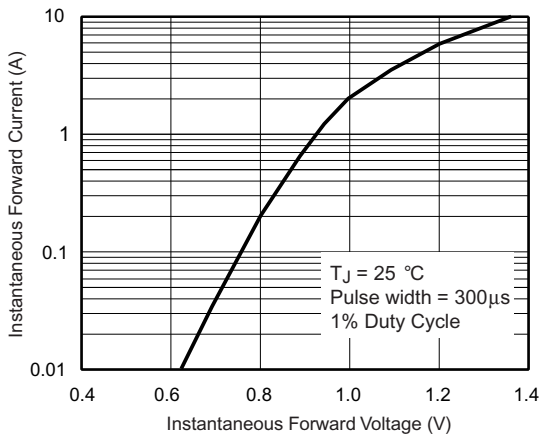


Figure 3. Typical Forward Characteristics Per Leg

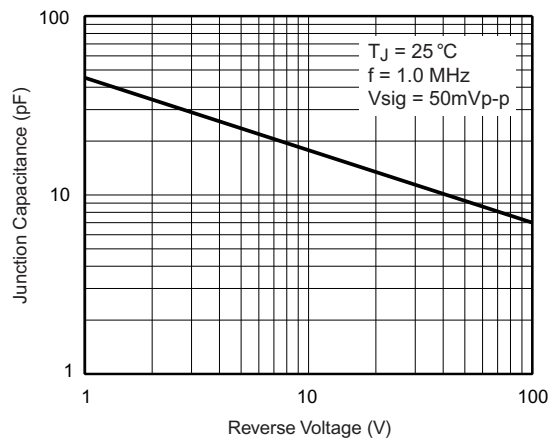


Figure 5. Typical Junction Capacitance Per Leg

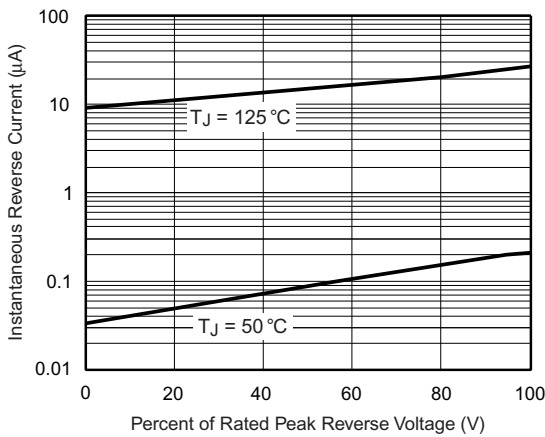


Figure 4. Typical Reverse Leakage Characteristics Per Leg

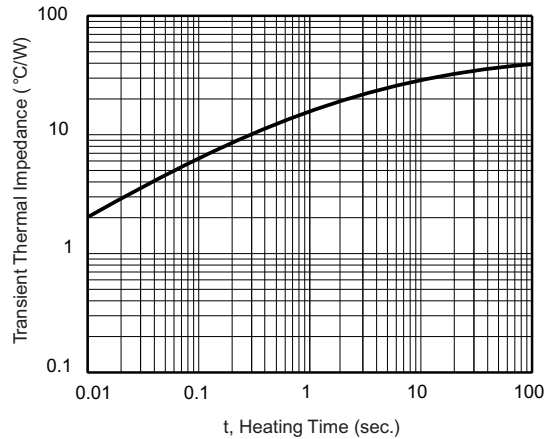
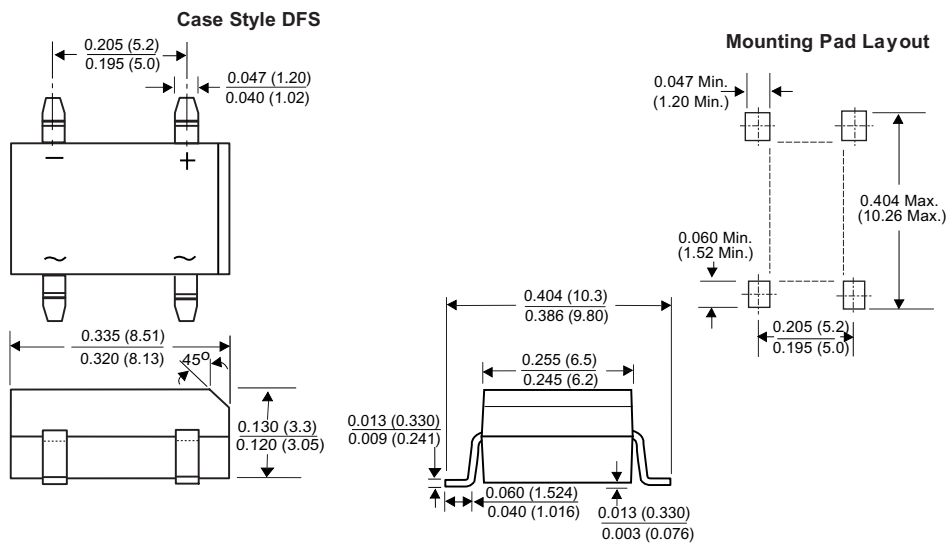


Figure 6. Typical Transient Thermal Impedance

## Package outline dimensions in inches (millimeters)





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