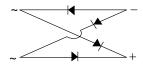




Vishay General Semiconductor

Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers





PRIMARY CHARACTERISTICS							
I _{F(AV)} 1.5 A							
V _{RRM}	50 V to 1000 V						
I _{FSM}	50 A						
I _R	5 μΑ						
V _F	1.1 V						
T _J max.	150 °C						

FEATURES

• UL recognition, file number E54214



• Ideal for automated placement



· High surge current capability

 Meets MSL level 1, per J-STD-020, LF maximum peak of 250 °C

• Solder dip 260 °C, 40 s

 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-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class

1A whisker test

Polarity: As marked on body

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	DF15005S	DF1501S	DF1502S	DF1504S	DF1506S	DF1508S	DF1510S	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	٧
Maximum average forward output rectified current at $T_A = 40 ^{\circ}C^{(1)}$	I _{F(AV)}	1.5						Α	
Peak forward surge current single half sine-wave superimposed on rated load	I _{FSM}	50					Α		
Rating for fusing (t < 8.3 ms)	I ² t	10						A ² s	
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

DF15005S thru DF1510S

Vishay General Semiconductor



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	DF15005S	DF1501S	DF1502S	DF1504S	DF1506S	DF1508S	DF1510S	UNIT
Maximum instantaneous forward voltage drop per diode	1.5 A	V _F	1.1				V			
Maximum DC reverse current at rated DC blocking voltage per diode	T _A = 25 °C T _A = 125 °C	I _R	5.0 500				μΑ			
Typical junction capacitance per diode (1)		СЈ				25				pF

Note:

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

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL DF15005S DF1501S DF1502S DF1504S DF1506S DF1508S DF1510S					UNIT	
Typical thermal resistance (1)	$egin{array}{c} {\sf R}_{ heta {\sf JA}} \ {\sf R}_{ heta {\sf JL}} \end{array}$	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 (Example)									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
DF1506S-E3/45	0.399	45	50	Tube					
DF1506S-E3/77	0.399	77	1500	13" diameter paper tape and reel					

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

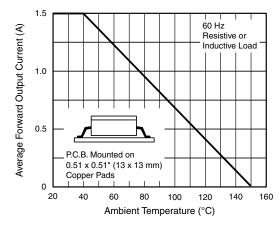


Figure 1. Derating Curve Output Rectified Current

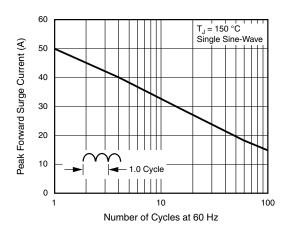


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Diode





Vishay General Semiconductor

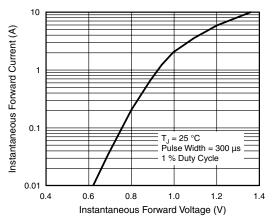


Figure 3. Typical Forward Characteristics Per Diode

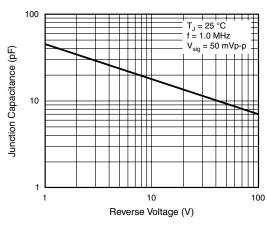


Figure 5. Typical Junction Capacitance Per Diode

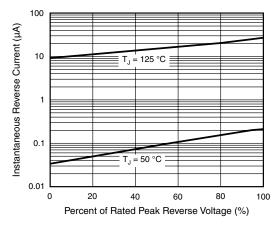


Figure 4. Typical Reverse Leakage Characteristics Per Diode

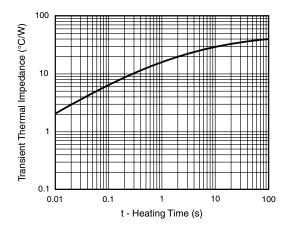
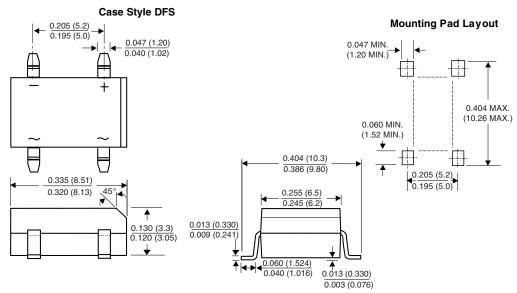


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





Vishay

Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Revision: 18-Jul-08

Document Number: 91000