1.0A SURFACE-MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

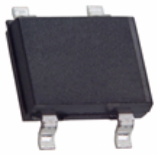
Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop, High Current Capability
- Surge Overload Rating to 50A Peak
- Designed for Surface-Mount Application
- UL Listed Under Recognized Component Index, File Number E525394
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/**

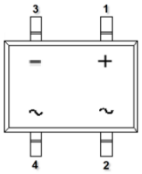
Mechanical Data

- Package: DF-S
- Package Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Tin. Solderable per MIL-STD-202, Method 208 e3
- Polarity: As Marked on Package
- Weight: 0.38 grams (Approximate)

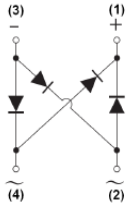
DF-S



Top View



Pin Diagram



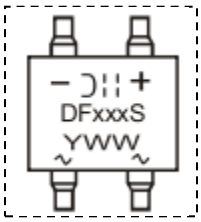
Internal Schematic

Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
DFxS	DF-S	50	Tube
DFxS-T	DF-S	1500	Tape & Reel, 13-inch

Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



⊃|| = Manufacturer's Code Marking
DFxxxS = Product Type Marking Code (ex: DF10S)
YWW = Date Code Marking
Y = Last Digit of Year (ex: 3 for 2023)
WW = Week Code (01 to 52)

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	DF 005S	DF 01S	DF 02S	DF 04S	DF 06S	DF 08S	DF 10S	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RMM} V_{RWM} V_R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Average Forward Rectified Current @ T_A = +40°C	I_O	1.0							A
Non-Repetitive Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	50							A

Thermal Characteristics

Characteristic	Symbol	DF 005S	DF 01S	DF 02S	DF 04S	DF 06S	DF 08S	DF 10S	Unit
Typical Thermal Resistance, Junction to Ambient (Note 5)	$R_{\theta JA}$	40							°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150							°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	DF 005S	DF 01S	DF 02S	DF 04S	DF 06S	DF 08S	DF 10S	Unit
Forward Voltage (Per Element)	@ I_F = 1.0A	V_{FM}	1.1							V
Peak Reverse Current at Rated DC Blocking Voltage (Per Element)	@ T_A = +25°C @ T_A = +125°C	I_{RM}	10 500							µA
I^2t Rating for Fusing (t < 8.3ms)		I^2t	10.4							A^2s
Typical Total Capacitance (Per Element) (Note 6)		C_T	25							pF

Notes: 5. Thermal resistance, junction to ambient, measured on PC board with 5.0mm^2 (0.03mm thick) land areas.
6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

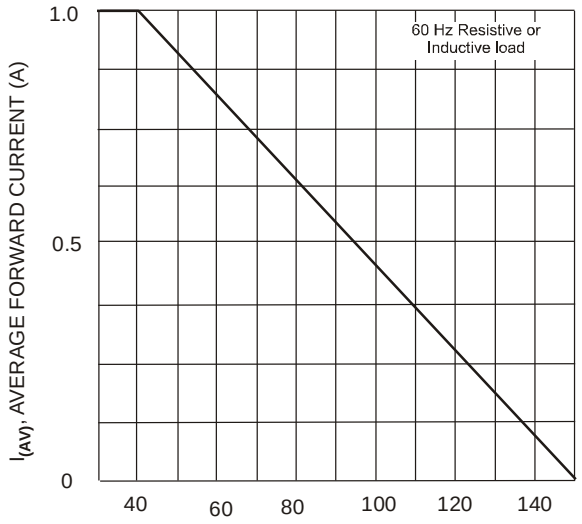


Fig. 1 Output Current Derating Curve

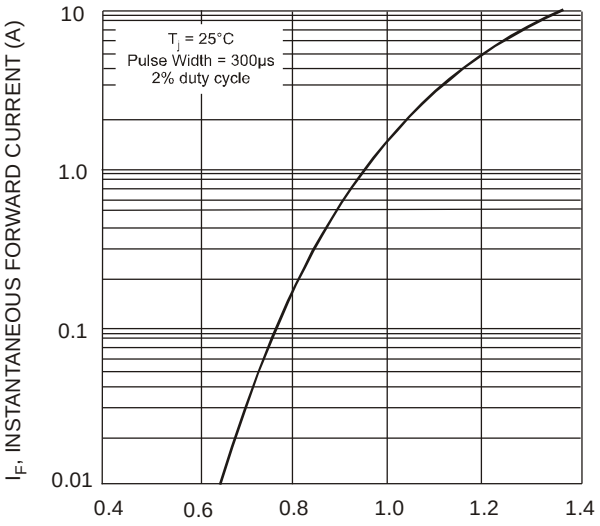


Fig. 2 Typical Forward Characteristics (per element)

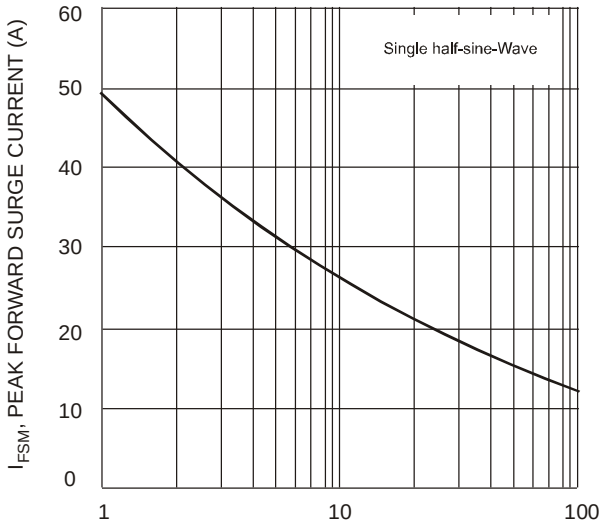


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

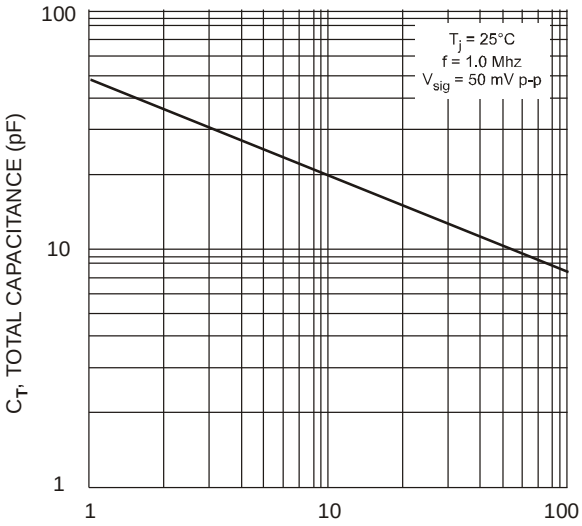


Fig. 4 Typical Total Capacitance (per element)

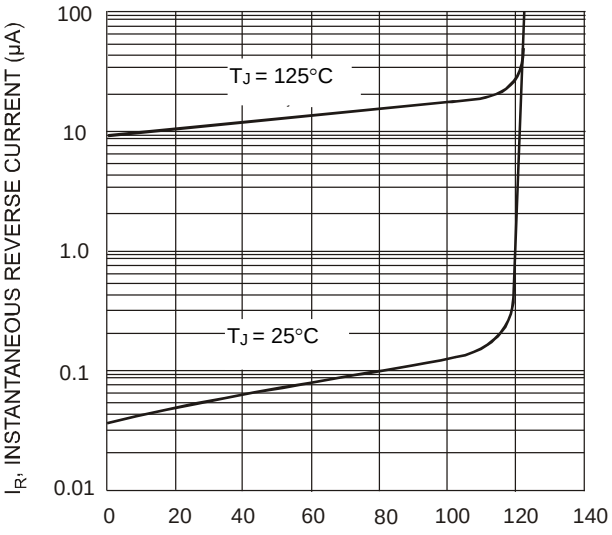
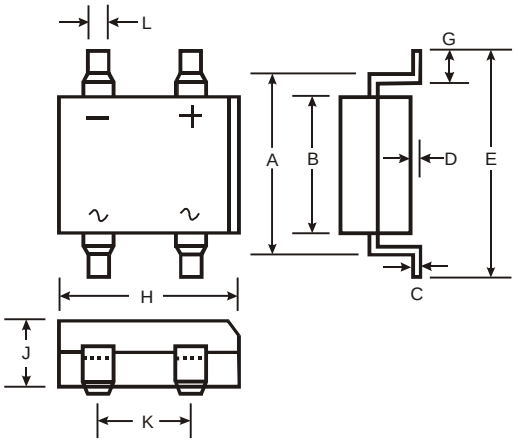


Fig. 5 Typical Reverse Characteristics (per element)

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

DF-S

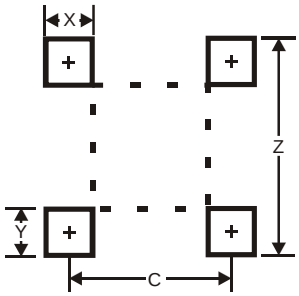


DF-S		
Dim	**Min**	**Max**
A	7.40	7.90
B	6.20	6.50
C	0.22	0.30
D	0.076	0.33
E	-	10.40
G	1.02	1.53
H	8.13	8.51
J	2.40	2.60
K	5.00	5.20
L	1.00	1.20
All Dimensions in mm		

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

DF-S



Dimensions	DF-S
Z	10.26
X	1.2
Y	1.52
C	5.2

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