

1.0A SURFACE-MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

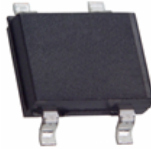
Features

- 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](https://www.diodes.com) or your local Diodes representative.**
<https://www.diodes.com/quality/product-definitions/>

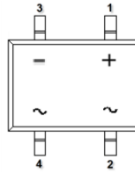
Mechanical Data

- 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 @3
- Polarity: As Marked on Package
- Weight: 0.38 grams (Approximate)

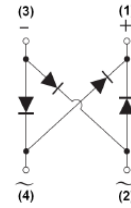
DF-S



Top View



Pin Diagram



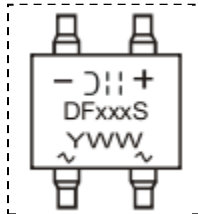
Internal Schematic

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



DII = 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	V _{RMM}								
Working Peak Reverse Voltage	V _{RWM}	50	100	200	400	600	800	1000	V
DC Blocking Voltage	V _R								
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	I _{FSM}	50							A
Single Half Sine Wave Superimposed on Rated Load									

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 _{θJA}	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 @ T _A = +25°C	I _{RM}	10							μA
DC Blocking Voltage (Per Element) @ T _A = +125°C		500							
I ² t Rating for Fusing (t < 8.3ms)	I ² t	10.4							A ² s
Typical Total Capacitance (Per Element) (Note 6)	C _T	25							pF

Notes: 5. Thermal resistance, junction to ambient, measured on PC board with 5.0mm² (0.03mm thick) land areas.
6. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

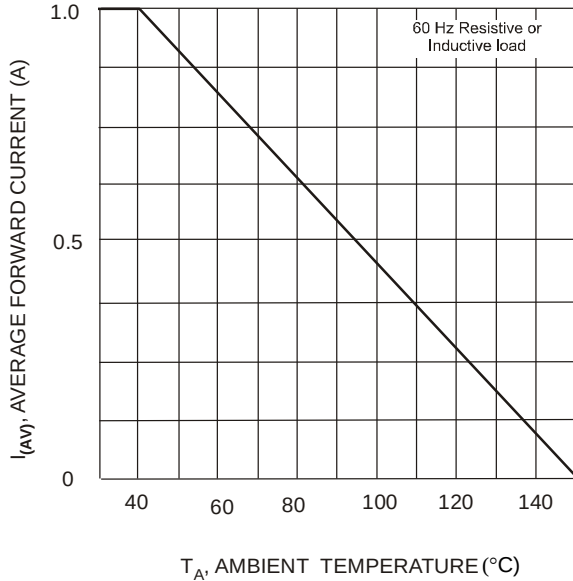


Fig. 1 Output Current Derating Curve

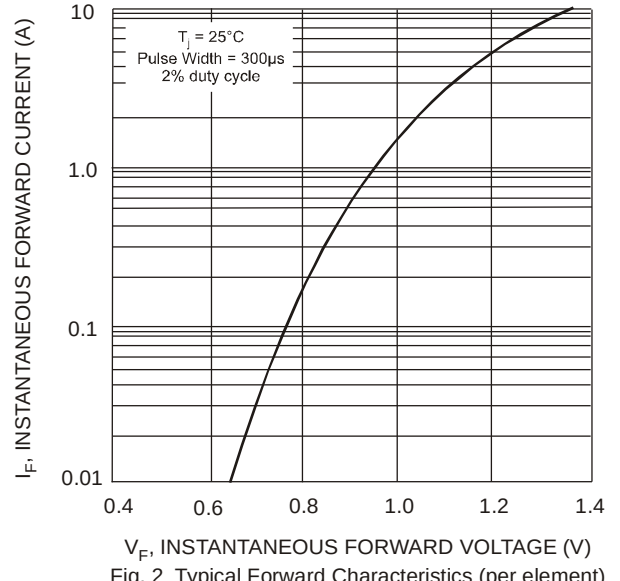


Fig. 2 Typical Forward Characteristics (per element)

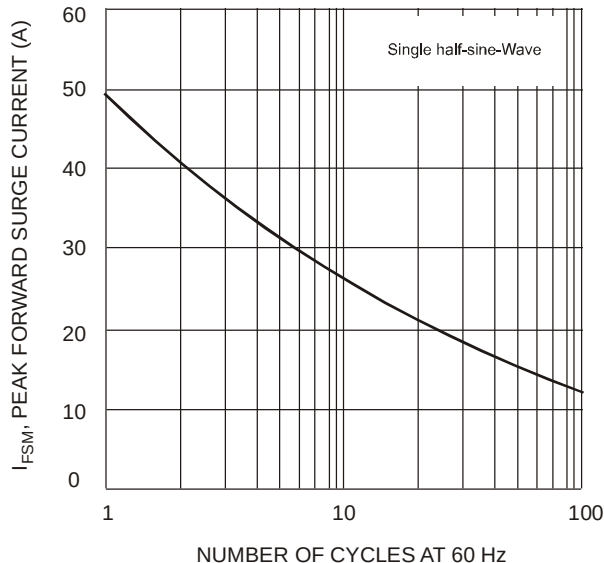


Fig. 3 Max Non-Repetitive Peak Forward Surge Current

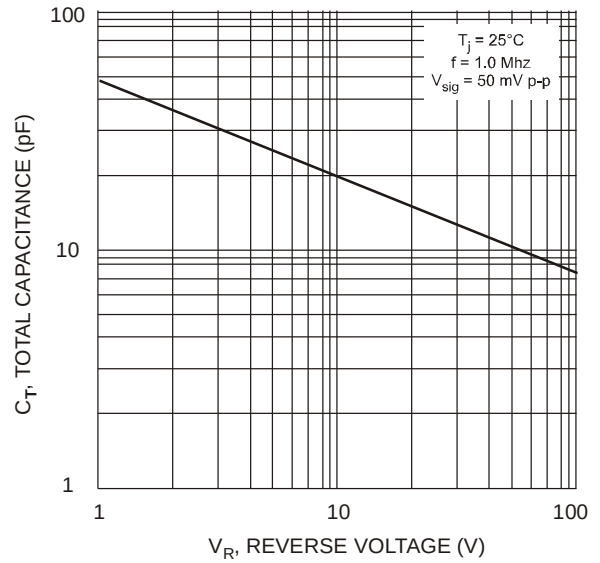


Fig. 4 Typical Total Capacitance (per element)

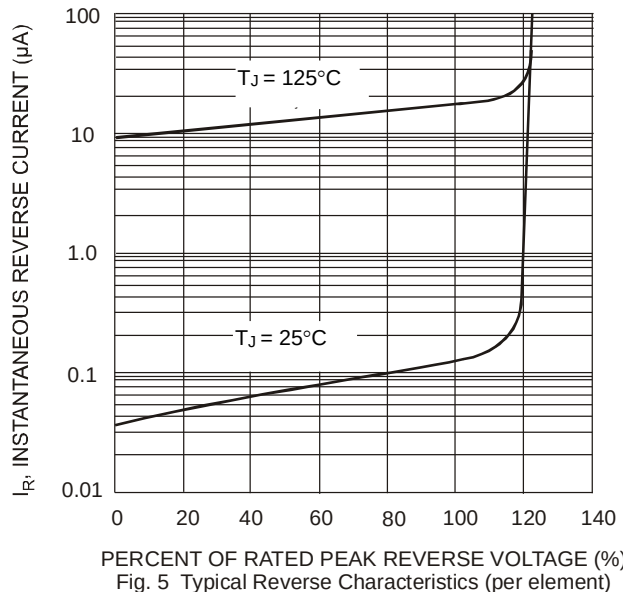
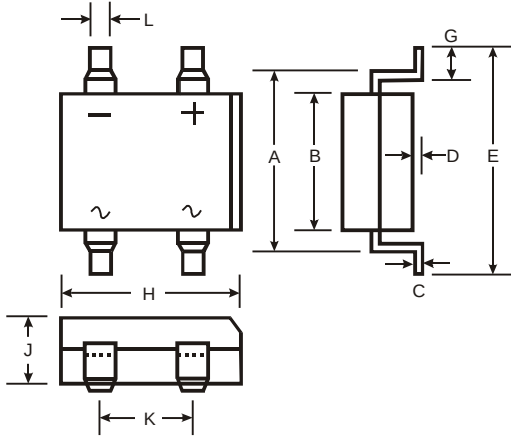


Fig. 5 Typical Reverse Characteristics (per element)

Package Outline Dimensions

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

DF-S

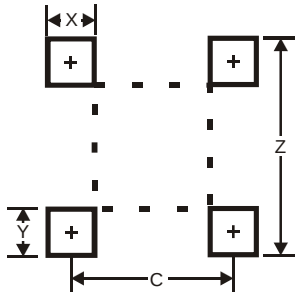


DF-S		
Dim	Min	Max
A	7.40	7.90
B	6.20	6.50
C	0.22	0.30
D	0.076	0.33
E	-	10.40
G	1.02	1.53
H	8.13	8.51
J	2.40	2.60
K	5.00	5.20
L	1.00	1.20
All Dimensions in mm		

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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