



# THE DATASHEET OF SF10GG-A



# SF10AG - SF10JG

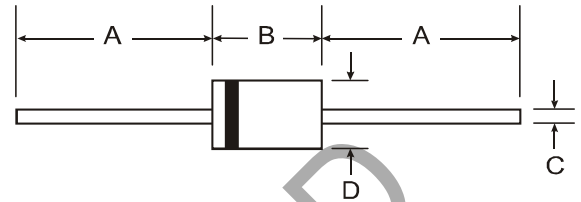
## 1.0A SUPER-FAST GLASS PASSIVATED RECTIFIER

### Features

- Glass Passivated Die Construction
- Super-Fast Switching for High Efficiency
- Surge Overload Rating to 30A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 4)**

### Mechanical Data

- Case: DO-41
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Tin. Plated Leads Solderable per MIL-STD-202, Method 208 (3)
- Polarity: Cathode Band
- Marking: Type Number
- Ordering Information: See Page 3
- Weight: 0.3 grams (approximate)



DO-41		
Dim	Min	Max
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

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

Characteristic	Symbol	SF10 AG	SF10 BG	SF10 CG	SF10 DG	SF10 FG	SF10 GG	SF10 HG	SF10 JG	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
Working Peak Reverse Voltage	V <sub>RWM</sub>									
DC Blocking Voltage (Note 5)	V <sub>R</sub>									
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	105	140	210	280	350	420	V
Average Rectified Output Current (Note 1)	I <sub>O</sub>	1.0								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load	I <sub>FSM</sub>	30								A
Forward Voltage @ I <sub>F</sub> = 1.0A	V <sub>FM</sub>	0.95			1.3		1.5			V
Peak Reverse Current @ T <sub>A</sub> = 25°C at Rated DC Blocking Voltage (Note 5) @ T <sub>A</sub> = 100°C	I <sub>RM</sub>	10 100								μA
Reverse Recovery Time (Note 3)	t <sub>rr</sub>	35			40		50			ns
Typical Total Capacitance (Note 2)	C <sub>T</sub>	75						50		pF
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	75								°C/W
Operating and Storage Temperature Range	T <sub>j, TSTG</sub>	-65 to +150								°C

- Notes:
1. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A. See figure 5.
  4. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Note 7*.
  5. Short duration pulse test used to minimize self-heating effect.

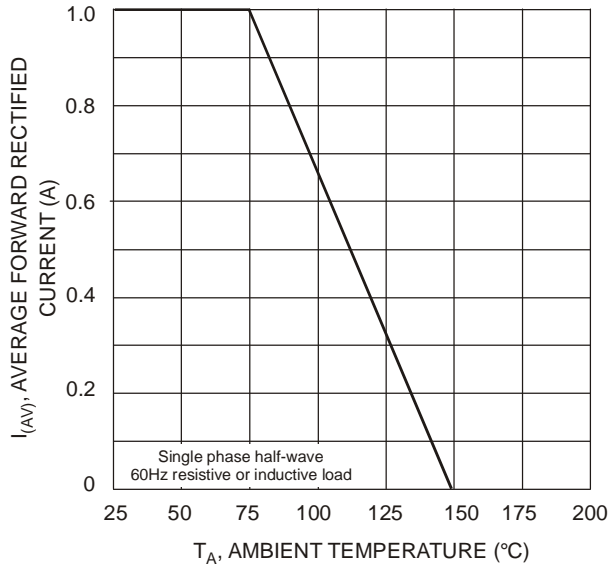


Fig. 1 Forward Current Derating Curve

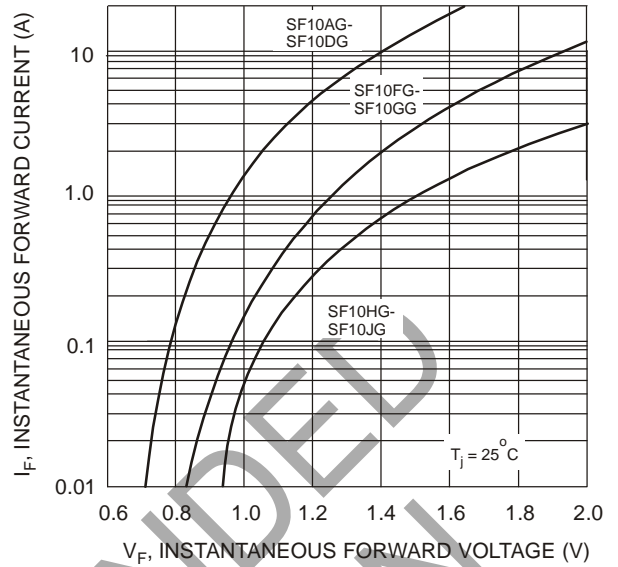


Fig. 2 Typical Forward Characteristics

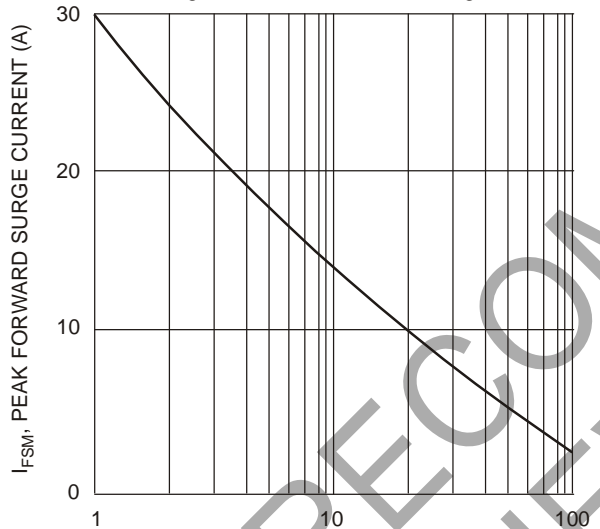


Fig. 3 Peak Forward Surge Current

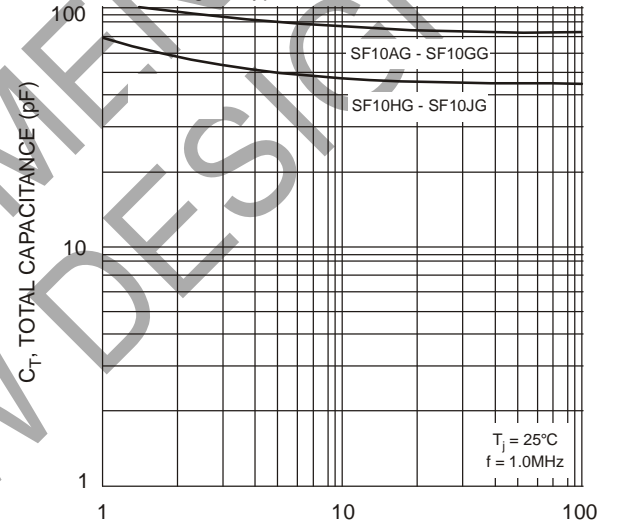
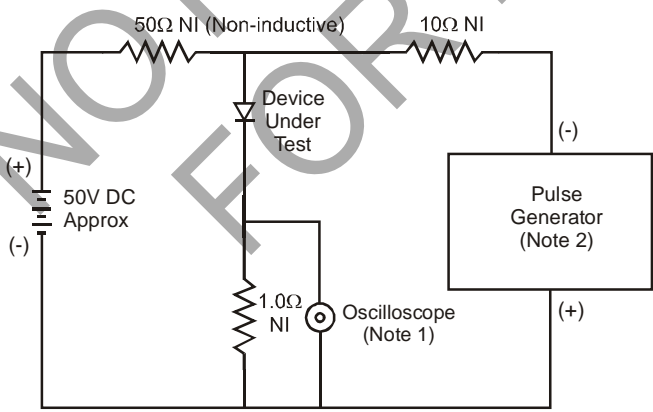
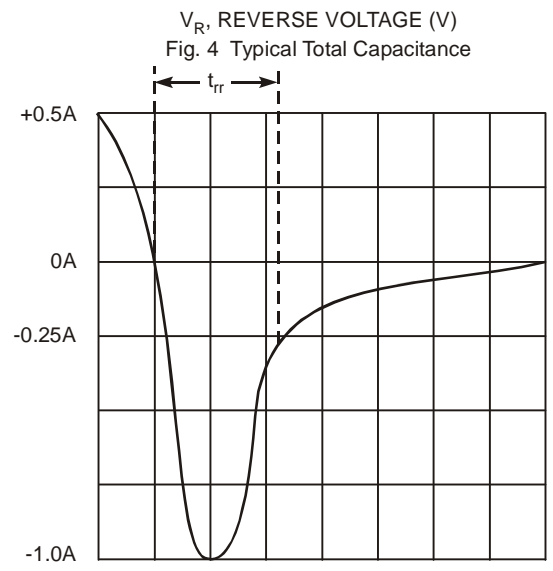


Fig. 4 Typical Total Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

**Ordering Information** (Note 6)

Device	Packaging	Shipping
SF10AG-A	DO-41	5K/Ammo Pack
SF10AG-B	DO-41	1K/Bulk
SF10AG-T	DO-41	5K/Tape & Reel, 13-inch
SF10BG-A	DO-41	5K/Ammo Pack
SF10BG-B	DO-41	1K/Bulk
SF10BG-T	DO-41	5K/Tape & Reel, 13-inch
SF10CG-A	DO-41	5K/Ammo Pack
SF10CG-B	DO-41	1K/Bulk
SF10CG-T	DO-41	5K/Tape & Reel, 13-inch
SF10DG-A	DO-41	5K/Ammo Pack
SF10DG-B	DO-41	1K/Bulk
SF10DG-T	DO-41	5K/Tape & Reel, 13-inch
SF10FG-A	DO-41	5K/Ammo Pack
SF10FG-B	DO-41	1K/Bulk
SF10FG-T	DO-41	5K/Tape & Reel, 13-inch
SF10GG-A	DO-41	5K/Ammo Pack
SF10GG-B	DO-41	1K/Bulk
SF10GG-T	DO-41	5K/Tape & Reel, 13-inch
SF10HG-A	DO-41	5K/Ammo Pack
SF10HG-B	DO-41	1K/Bulk
SF10HG-T	DO-41	5K/Tape & Reel, 13-inch
SF10JG-A	DO-41	5K/Ammo Pack
SF10JG-B	DO-41	1K/Bulk
SF10JG-T	DO-41	5K/Tape & Reel, 13-inch

Notes: 6. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

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