



# THE DATASHEET OF SF30BG-T

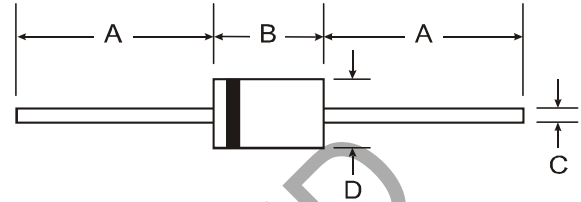


# SF30AG - SF30JG

## 3.0A SUPER-FAST GLASS PASSIVATED RECTIFIER

### Features

- Glass Passivated Die Construction
- Diffused Junction
- Super-Fast Switching for High Efficiency
- Surge Overload Rating to 125A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 4)**
- 



### Mechanical Data

- Case: DO-201AD
- 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: 1.12 grams (approximate)

DO-201AD		
Dim	Min	Max
A	25.40	—
B	7.20	9.50
C	1.20	1.30
D	4.80	5.30
<b>All Dimensions in mm</b>		

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

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

Characteristic	Symbol	SF30 AG	SF30 BG	SF30 CG	SF30 DG	SF30 FG	SF30 GG	SF30 HG	SF30 JG	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$									V
Working Peak Reverse Voltage	$V_{RWM}$	50	100	150	200	300	400	500	600	V
DC Blocking Voltage (Note 5)	$V_R$									V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	100	140	210	280	350	420	V
Average Rectified Output Current (Note 1)	$I_O$	3.0								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load	$I_{FSM}$	125								A
Forward Voltage @ $I_F = 3.0A$	$V_{FM}$	0.95			1.3		1.5			V
Peak Reverse Current @ $T_A = 25^\circ C$ at Rated DC Blocking Voltage (Note 5) @ $T_A = 100^\circ C$	$I_{RM}$	5.0 100								$\mu A$
Reverse Recovery Time (Note 3)	$t_{rr}$	35			40		50			ns
Typical Total Capacitance (Note 2)	$C_T$	75						50		pF
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	32								$^\circ C/W$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150								$^\circ C$

- 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  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{rr} = 0.25A$ . See figure 5.
  4. RoHS revision 13.2.2003. High temperature solder exemption applied, see *EU Directive Annex Notes 5 and 7*.
  5. Short duration pulse test used to minimize self-heating effect.

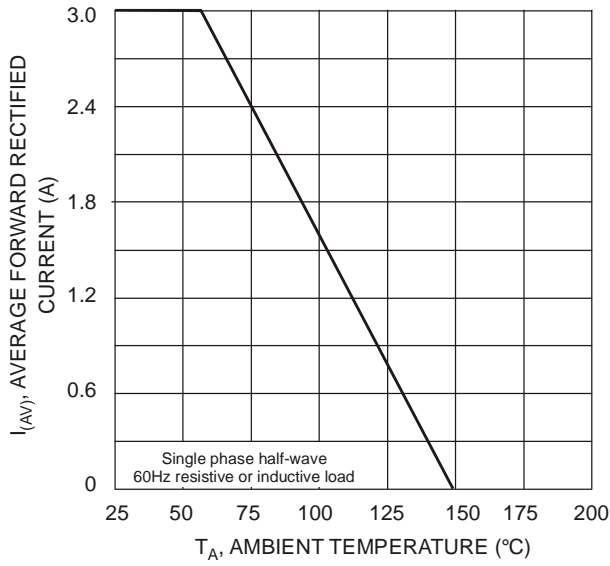


Fig. 1 Forward Current Derating Curve

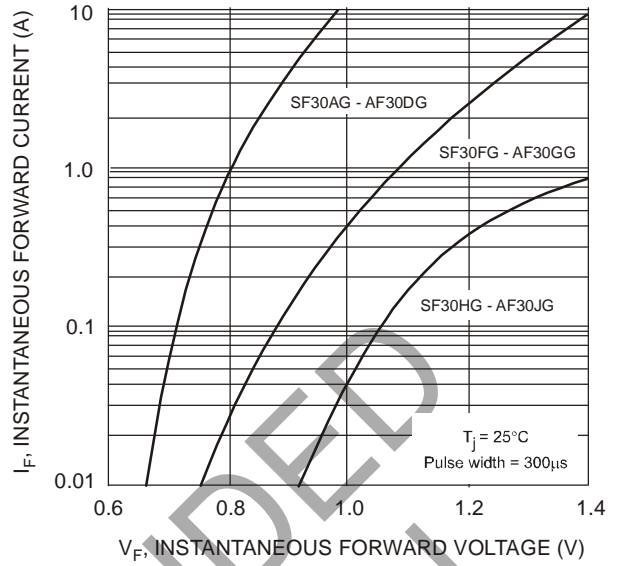


Fig. 2 Typical Forward Characteristics

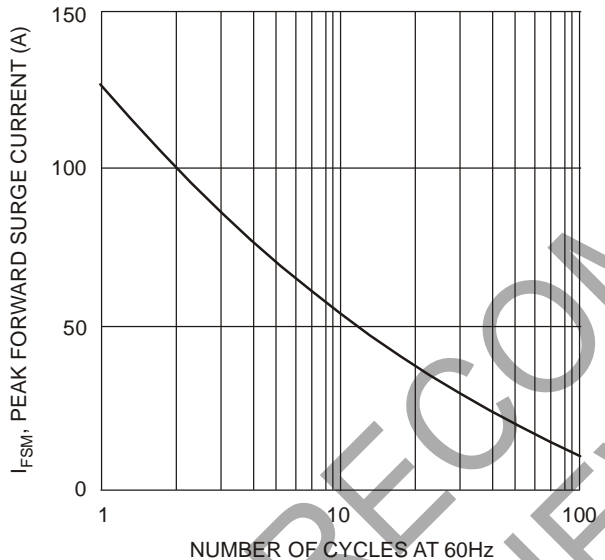


Fig. 3 Peak Forward Surge Current

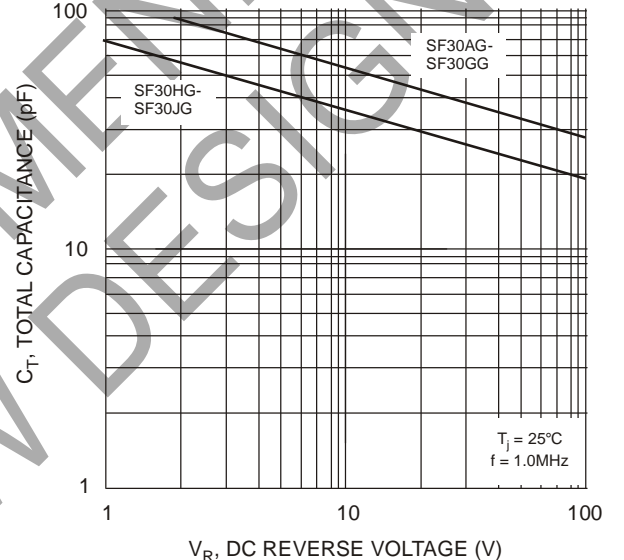
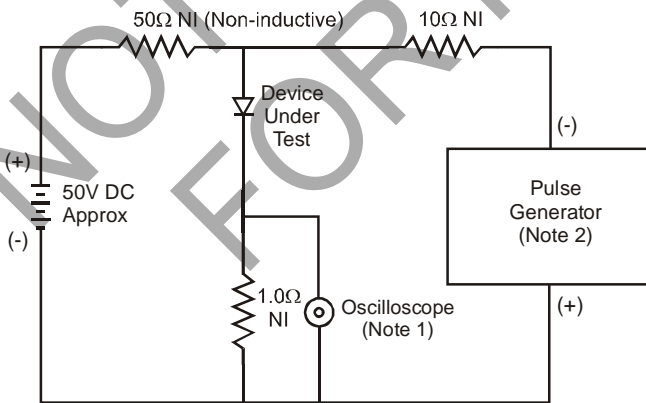
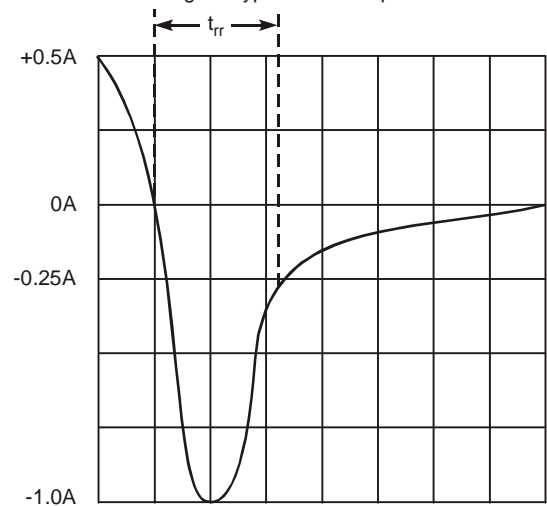


Fig. 4 Typical Total Capacitance



- 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
SF30AG-B	DO-201AD	500/Bulk
SF30AG-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SF30BG-B	DO-201AD	500/Bulk
SF30BG-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SF30CG-B	DO-201AD	500/Bulk
SF30CG-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SF30DG-B	DO-201AD	500/Bulk
SF30DG-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SF30FG-B	DO-201AD	500/Bulk
SF30FG-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SF30GG-B	DO-201AD	500/Bulk
SF30GG-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SF30HG-B	DO-201AD	500/Bulk
SF30HG-T	DO-201AD	1.2K/Tape & Reel, 13-inch
SF30JG-B	DO-201AD	500/Bulk
SF30JG-T	DO-201AD	1.2K/Tape & Reel, 13-inch

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

NOT RECOMMENDED FOR NEW DESIGN

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