

## Glass Passivated Ultrafast Rectifier

Reverse Voltage 50 to 600 V  
Forward Current 3.0 A

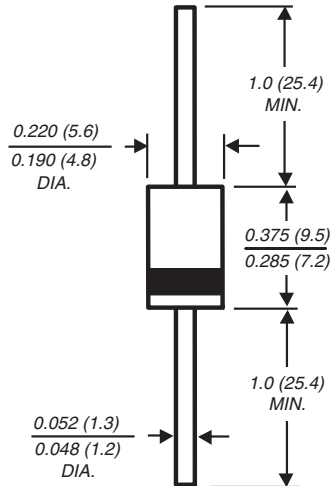
### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Cavity-free glass passivated junction
- Ultrafast recovery time for high efficiency
- Low forward voltage, high current capability
- Low leakage current
- High surge current capability
- High temperature metallurgically bonded construction
- High temperature soldering guaranteed:  
300°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### Mechanical Data

**Case:** Molded plastic over solid glass body  
**Terminals:** Axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.04 oz., 1.12g

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### Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF37G	SF38G	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_L = 55^\circ\text{C}$	$I_{F(AV)}$	3.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	125								A
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$	20 8.0								$^\circ\text{C}/\text{W}$
Operating and storage temperature range	$T_J, T_{STG}$	-65 to +150								$^\circ\text{C}$

### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF37G	SF38G	Unit
Maximum instantaneous forward voltage at 3.0A	$V_F$	0.95				1.25		1.7		V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 125^\circ\text{C}$	$I_R$	5				100				$\mu\text{A}$
Maximum reverse recovery time at $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{rr} = 0.25\text{A}$	$t_{rr}$	35								ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	85				75				pF

**Note:** (1) Thermal resistance from junction to ambient, and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted



## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

