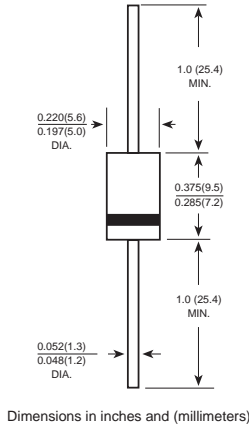


# SF31G THRU SF38G

## SUPER FAST GLASS PASSIVATED RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 3.0 Amperes

### DO-201AD



### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Super fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension
- ◆ Glass passivated junction

### MECHANICAL DATA

Case: JEDEC DO-201AD molded plastic body  
 Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026  
 Polarity: Color band denotes cathode end  
 Mounting Position: Any  
 Weight: 0.04 ounce, 1.10 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

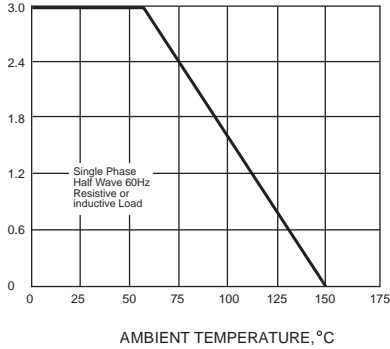
	SYMBOLS	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF38G	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	VOLTS
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	125							Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	0.95			1.25		1.7		Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	10.0 50.0							$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	35							ns
Typical junction capacitance (NOTE 2)	$C_J$	100.0			50.0				pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	30.0							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

Note: 1. Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$   
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES SF31G THRU SF38G

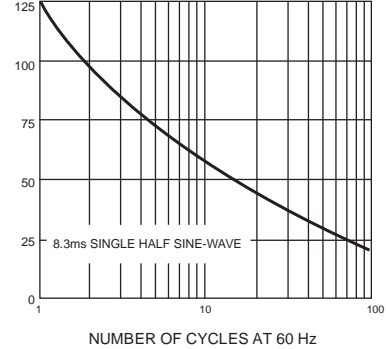
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



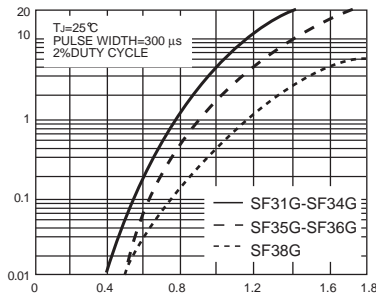
PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



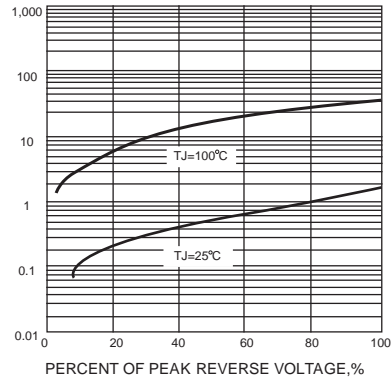
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



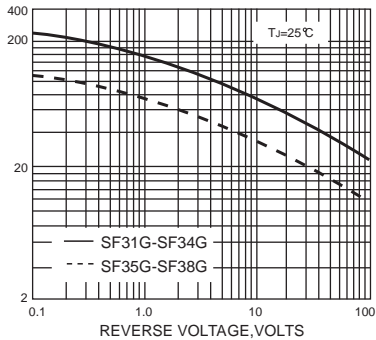
INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

