



SF31G THRU SF38G

SUPER FAST RECTIFIER

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

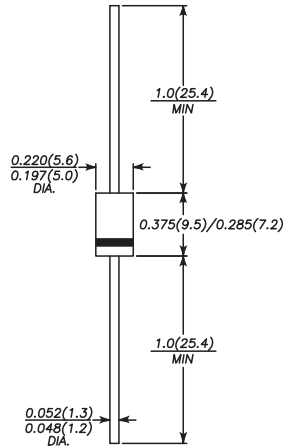
FEATURES

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

DO-201AD



Dimensions in inches and (millimeters)

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	SF37G	SF38G	UNITS
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 $T_A=55^\circ\text{C}$	$I_{(AV)}$	3.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	125								A
Maximum instantaneous forward voltage at 3.0A	V_F	0.95			1.3		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	10.0				100.0				μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	35								ns
Typical junction capacitance (NOTE 2)	C_J	80.0			70.0					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	30.0								$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150								$^\circ\text{C}$

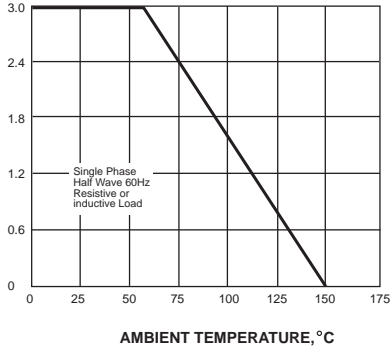
Note: 1. Reverse recovery condition $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



RATINGS AND CHARACTERISTIC CURVES SF31G THRU SF38G

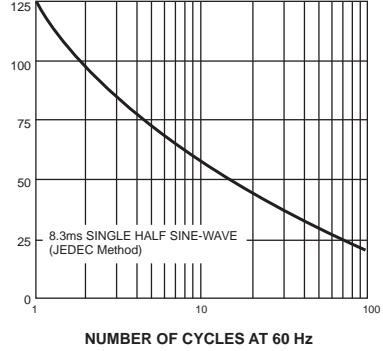
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



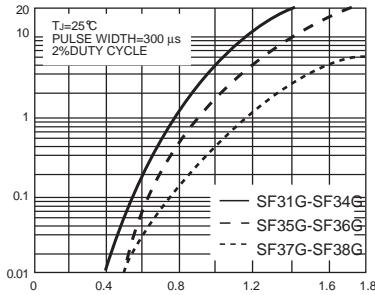
PEAK FORWARD SURGE CURRENT, AMPERES

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



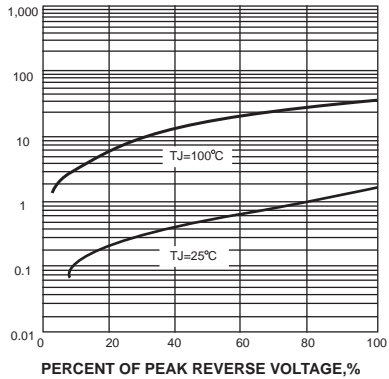
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



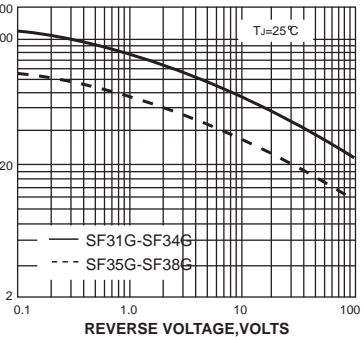
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

