



SEMICONDUCTOR

DATA SHEET

SF31G~SF38G

SUPERFAST RECOVERY RECTIFIERS

VOLTAG E - 50 to 800 Volts CURRENT - 3.0 Amperes



FEATURES

- Superfast recovery times-epitaxial construction
- Low forward voltage, high current capability
- Exceeds environmental standards of MIL-S-19500/228
- Hermetically sealed
- Low leakage
- High surge capability
- Plastic package has Underwriters Laboratories Flammability Classification 94V-O utilizing Flame Retardant Epoxy Molding Compound
- High temperature soldering : 260°C / 10 seconds at terminals
- Pb free product at available : 99% Sn above meet RoHS environment substance directive request

MECHANICAL DATA

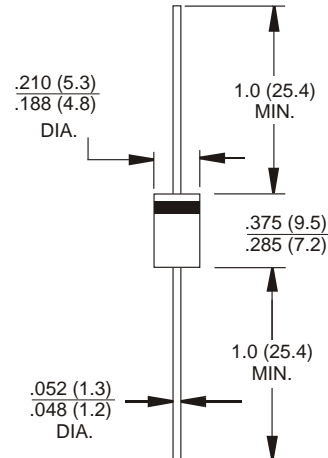
- Case: Molded plastic, DO-201AD
- Terminals: Axial leads, solderable to MIL-STD-202, Method 208
- Polarity: Color Band denotes cathode end
- Mounting Position: Any
- Weight: 0.04 ounce, 1.12 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 ambient temperature unless otherwise specified.

Resistive or inductive load, 60Hz.

DO-201AD Unit:inch(mm)



	SYMBOLS	SF31G	SF32G	SF33G	SF34G	SF35G	SF36G	SF37G	SF38G	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	150	200	300	400	600	800	V
Maximum RMS Voltage	VRMS	35	70	105	140	210	320	420	640	V
Maximum DC Blocking Voltage	VDC	50	100	150	200	300	400	600	800	V
Maximum Average Forward Current .375"(9.5mm) lead length at TA=55°C	I(AV)	3.0								A
Peak Forward Surge Current, IFM (surge): 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	IFSM	125.0								A
Maximum Forward Voltage at 3.0A DC	VF	0.95				1.25		1.7		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	IR	5.0								uA
Maximum DC Reverse Current at Rated DC Blocking Voltage TA=125°C	IR	300								uA
Maximum Reverse Recovery Time(Note 1)	TRR	35.0								nS
Typical Junction capacitance (Note 2)	CJ	35								pF
Typical Junction Resistance(Note 3)	RθJA	20.0								°C/W
Operating and Storage Temperature Range TJ	TJ,TSTG	-55 to +150								°C

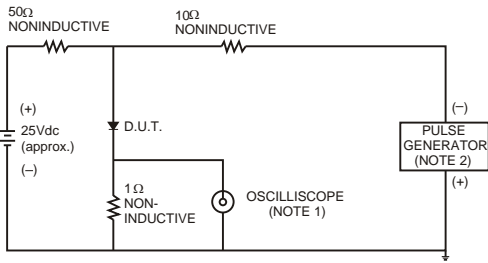
NOTES:

1. Reverse Recovery Test Conditions: IF=.5A, IR=1A, Irr=.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 VDC
3. Thermal resistance from junction to ambient and from junction to lead length 0.375"(9.5mm) P.C.B. mounted

RATINGS AND CHARACTERISTIC CURVES

SF31G~SF38G

FIG.1- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

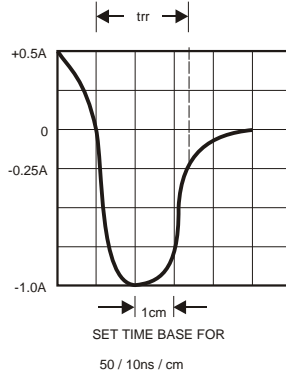


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

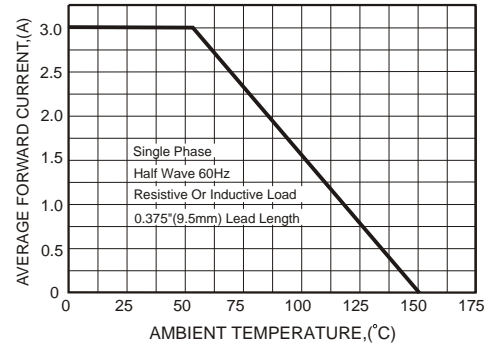


FIG.3-TYPICAL FORWARD CHARACTERISTICS

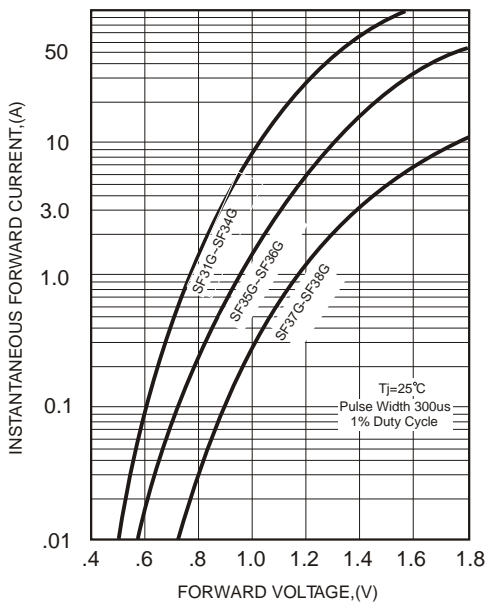


FIG.4-TYPICAL REVERSE CHARACTERISTICS

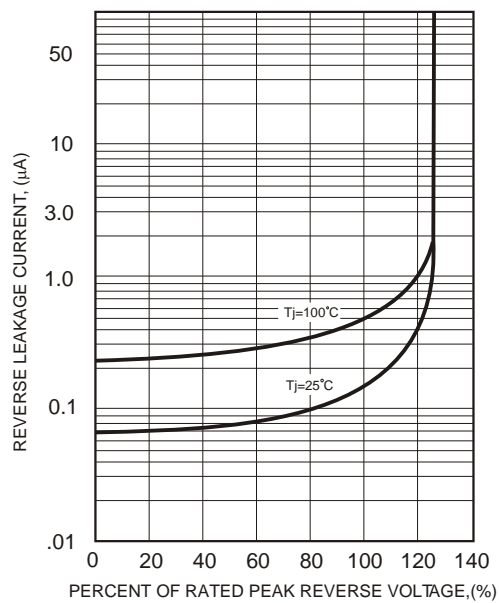


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

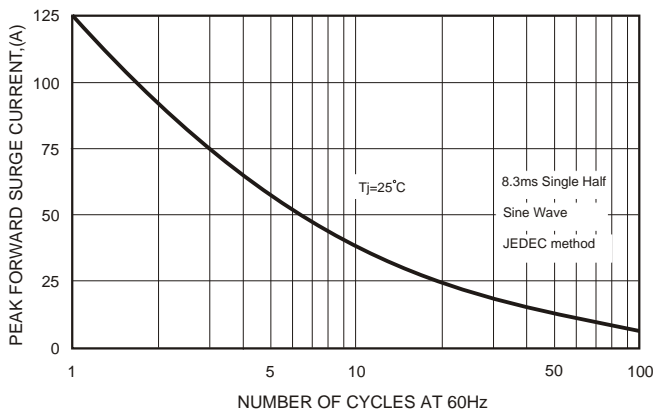


FIG.6-TYPICAL JUNCTION CAPACITANCE

