



**FRONTIER  
ELECTRONICS CO., LTD.**

**SF30-005G  
THRU  
SF30-06G**

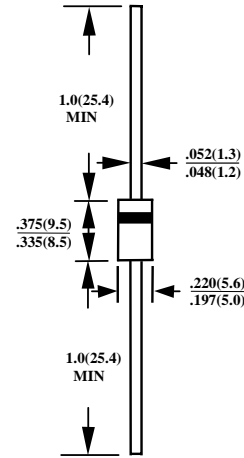
**3A GLASS PASSIVATED SUPER FAST RECOVERY RECTIFIER**

**FEATURES**

- LOW POWER LOSS, HIGH EFFICIENCY
- LOW FORWARD VOLTAGE
- HIGH CURRENT CAPABILITY
- HIGH SPEED SWITCHING
- HIGH SURGE CAPABILITY
- HIGH RELIABILITY
- GLASS PASSIVATED CHIP JUNCTION

**MECHANICAL DATA**

- CASE : MOLDED PLASTIC
- EPOXY : UL 94V-0 MOLDING COMPOUND
- LEADS : MIL-STD-202E, METHOD 208C GUARANTEED
- MOUNTING POSITION : ANY
- WEIGHT : 1.2 GRAMS



CASE : DO201AD  
DIMENSIONS IN INCHES AND (MILLIMETERS)

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**  
RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED  
SINGLE PHASE, HALF WAVE, 60 HZ, RESISTIVE OR INDUCTIVE LOAD.  
FOR CAPACITIVE LOAD, DERATE CURRENT BY 20%

RATINGS	SYMBOL	SF30 -005G	SF30 -01G	SF30 -015G	SF30 -02G	SF30 -03G	SF30 -04G	SF30 -05G	SF30 -06G	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V
MAXIMUM RMS VOLTAGE	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	V
MAXIMUM DC BLOCKING VOLTAGE	V <sub>DC</sub>	50	100	150	200	300	400	500	600	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT .375" (9.5mm) LEAD LENGTH AT TA=55°C	I <sub>o</sub>	3.0								A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	I <sub>FSM</sub>	125								A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	C <sub>j</sub>	50					30			PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	R <sub>θjc</sub>	30								°C/W
STORAGE TEMPERATURE RANGE	T <sub>STG</sub>	- 55 TO + 150								°C
OPERATING TEMPERATURE RANGE	T <sub>OP</sub>	- 55 TO + 150								°C

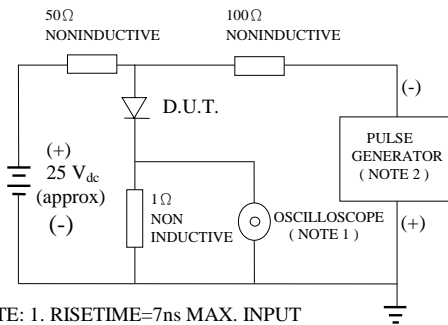
**ELECTRICAL CHARACTERISTICS (A<sub>T</sub> T<sub>A</sub> =25°C UNLESS OTHERWISE NOTED)**

CHARACTERISTICS	SYMBOL	SF30 -005G	SF30 -01G	SF30 -015G	SF30 -02G	SF30 -03G	SF30 -04G	SF30 -05G	SF30 -06G	UNITS
MAXIMUM FORWARD VOLTAGE AT I <sub>o</sub> DC	V <sub>F</sub>	0.95			1.25		1.85			V
MAXIMUM REVERSE CURRENT AT 25°C	I <sub>R</sub>	10								μA
MAXIMUM REVERSE CURRENT AT 100°C	I <sub>R</sub>	100								μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	T <sub>RR</sub>	35								nS

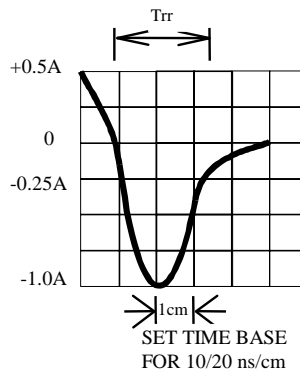
- NOTE : 1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS  
2. BOTH LEADS ATTACHED TO HEATSINK 20x20x1t(mm) COPPER PLATE AT LEAD LENGTH 5mm  
3. REVERSE RECOVERY TEST CONDITIONS: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

# RATINGS AND CHARACTERISTIC CURVE SF30-005G THRU SF30-06G

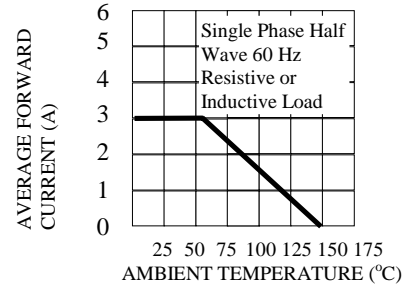
**FIG. 1-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



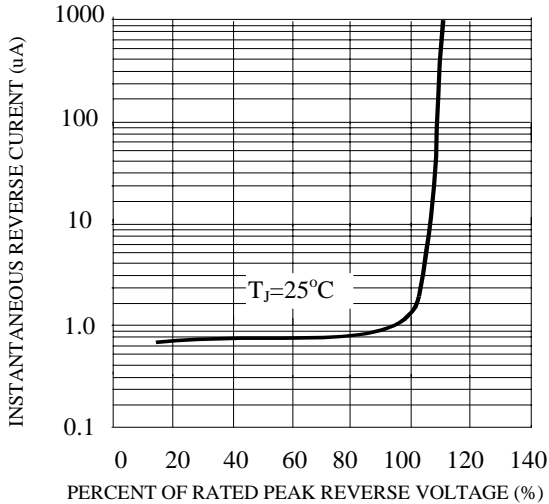
NOTE: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1 MEGOHM 22PF  
 2. RISE TIME =10ns MAX. SOURCE IMPEDANCE=50OHMS



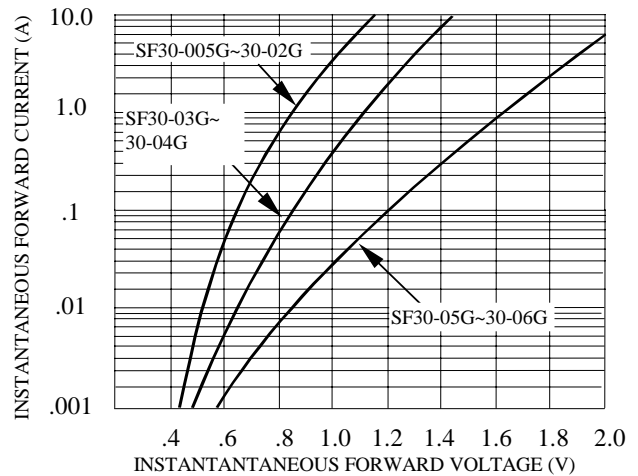
**FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE**



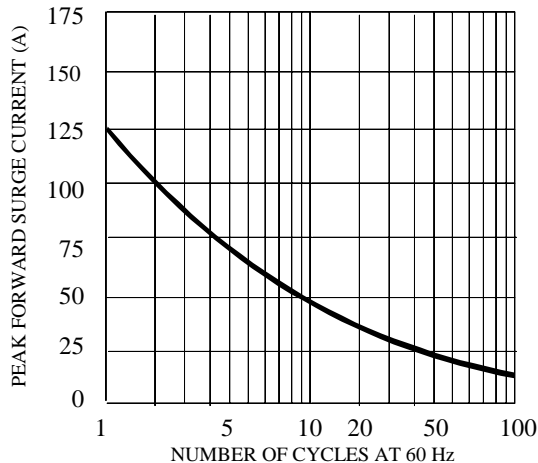
**FIG. 3-TYPICAL REVERSE CHARACTERISTICS**



**FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG. 6-TYPICAL JUNCTION CAPACITANCE**

