



**3A SUPER FAST RECOVERY RECTIFIER**

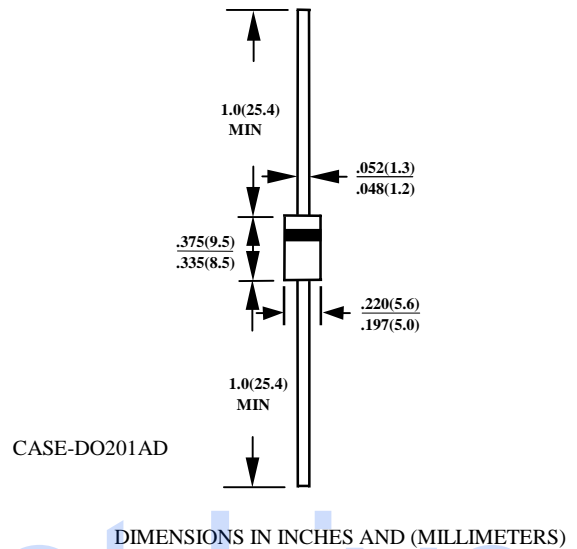
**SF30-005  
THRU  
SF30-06**

**FEATURES**

- LOW POWER LOSS, HIGH EFFICIENCY
- LOW FORWARD VOLTAGE
- HIGH CURRENT CAPABILITY
- HIGH SPEED SWITCHING
- HIGH SURGE CAPABILITY
- HIGH RELIABILITY

**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



**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	SF30-005	SF30-01	SF30-015	SF30-02	SF30-03	SF30-04	SF30-05	SF30-06	UNITS
MAXIMUM RECURRENT 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 .375" (9.5mm) LEAD LENGTH AT $T_A=55^\circ C$	$I_o$	3.0								A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	125								A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	$C_J$	50				30				PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta ja}$	30								$^\circ C/W$
STORAGE TEMPERATURE RANGE	$T_{STG}$	- 55 TO + 150								$^\circ C$
OPERATING TEMPERATURE RANGE	$T_{OP}$	- 55 TO + 150								$^\circ C$

**ELECTRICAL CHARACTERISTICS ( $A_T T_A = 25^\circ C$  UNLESS OTHERWISE NOTED)**

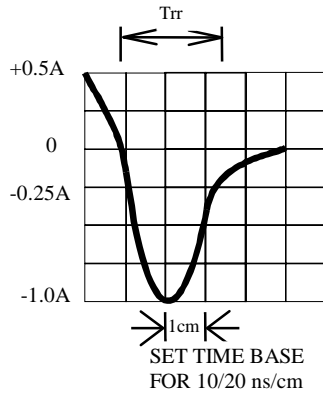
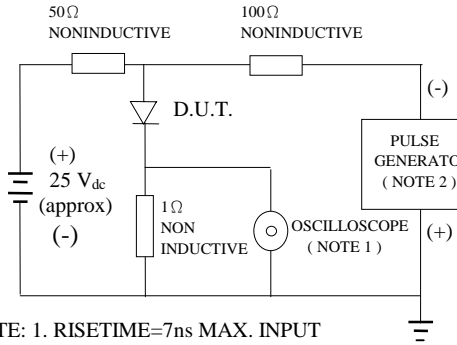
CHARACTERISTICS	SYMBOL	SF30-005	SF30-01	SF30-015	SF30-02	SF30-03	SF30-04	SF30-05	SF30-06	UNITS
MAXIMUM FORWARD VOLTAGE AT $I_o$ DC	$V_F$	0.95			1.25		1.85			V
MAXIMUM REVERSE CURRENT AT 25°C	$I_R$	10								$\mu A$
MAXIMUM REVERSE CURRENT AT 100°C	$I_R$	100								$\mu A$
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	$T_{RR}$	35								nS

NOTE :

1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
2. BOTH LEADS ATTACHED TO HEATSINK 20x 20x 1t(mm) COPPER PLATE AT LEAD LENGTH 5mm
3. REVERSE RECOVERY TEST CONDITIONS:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

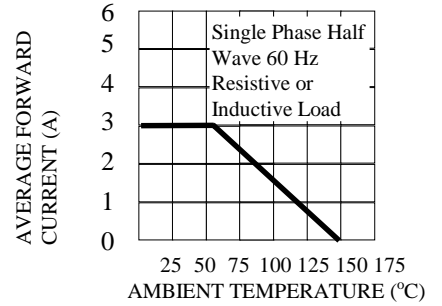
# RATINGS AND CHARACTERISTIC CURVE SF30-005 THRU SF30-06

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

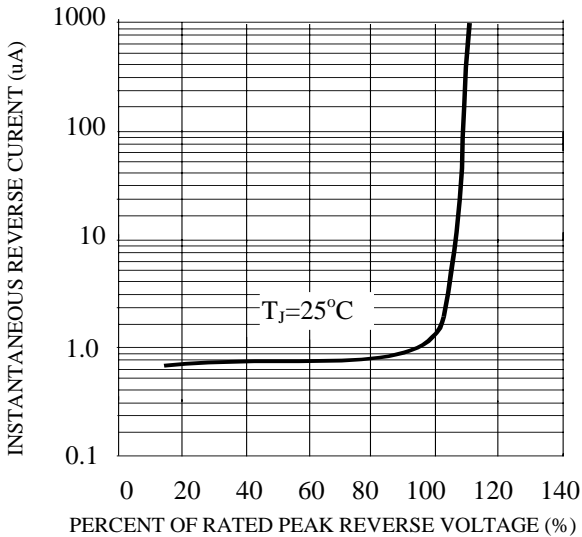


NOTE: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1 MEGOHM 22PF  
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 OHMS

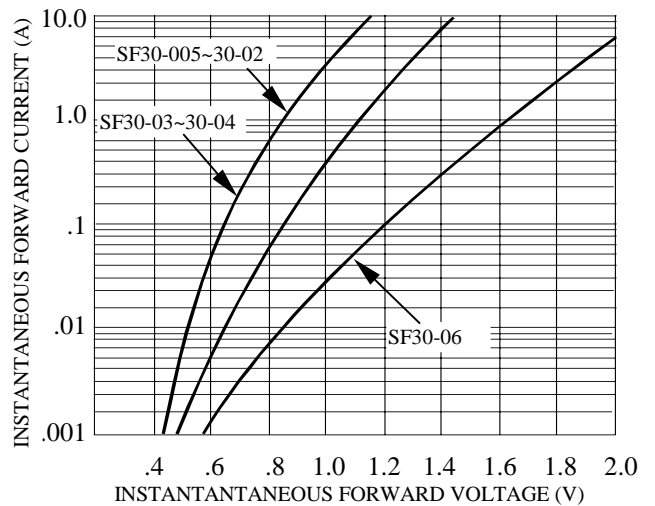
**FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE**



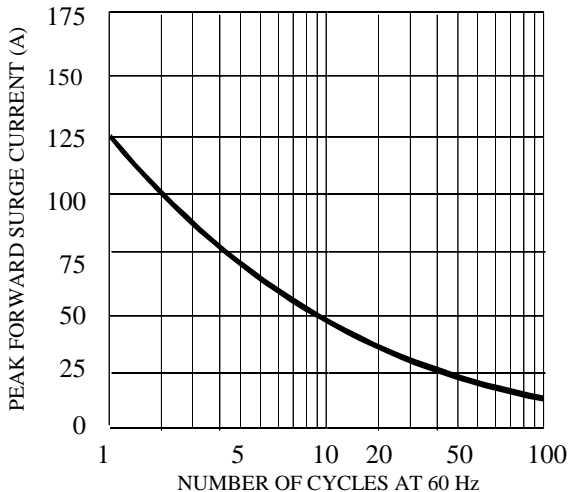
**FIG. 3-TYPICAL REVERSE CHARACTERISTICS**



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



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



**FIG. 6-TYPICAL JUNCTION CAPACITANCE**

