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## 6A SUPER FAST RECOVERY RECTIFIER

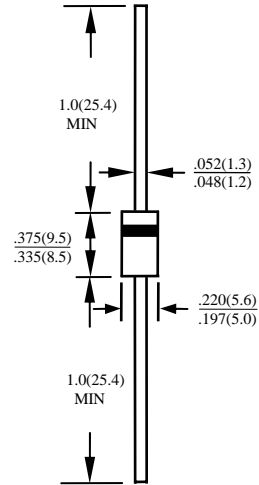
### SF60-005 THRU SF60-06

#### FEATURES

- SUPER FAST SWITCHING
- LOW FORWARD VOLTAGE
- HIGH CURRENT CAPABILITY
- HIGH SURGE CAPABILITY
- HIGH RELIABILITY

#### MECHANICAL DATA

- CASE: MOLDED PLASTIC, DO201AD, DIMENSIONS IN INCHES AND (MILLIMETERS)
- EPOXY: UL 94V-0 MOLDING COMPOUND
- LEAD: 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	SF60 -005	SF60 -01	SF60 -015	SF60 -02	SF60 -03	SF60 -04	SF60 -05	SF60 -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 0.375" (9.5mm) LEAD LENGTH AT $T_A = 55^\circ\text{C}$	$I_O$	6.0								A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	150								A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	$C_j$	170								PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta ja}$	20								°C/W
STORAGE TEMPERATURE RANGE	$T_{STG}$	- 55 TO + 150								°C
OPERATING TEMPERATURE RANGE	$T_{OP}$	- 55 TO + 150								°C

#### ELECTRICAL CHARACTERISTICS ( $A_T T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	SF60 -005	SF60 -01	SF60 -015	SF60 -02	SF60 -03	SF60 -04	SF60 -05	SF60 -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								μA
MAXIMUM REVERSE CURRENT AT 100°C	$I_R$	100								μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	$T_{RR}$	35								nS

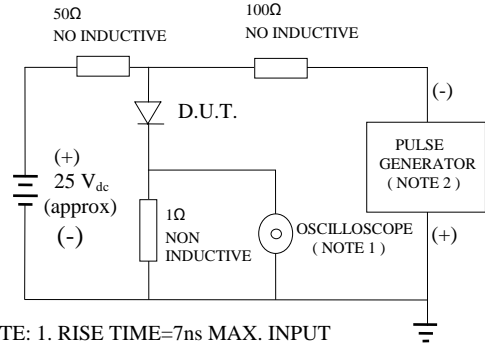
NOTE: 1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS

2. BOTH LEADS ATTACHED TO HEAT SINK 20x20x1t(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 SF60-005 THRU SF60-06

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



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

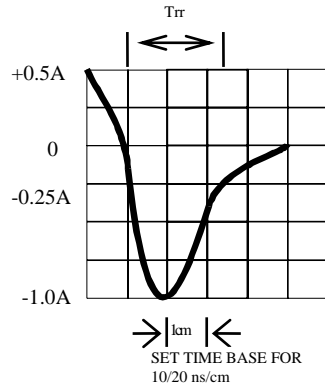


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

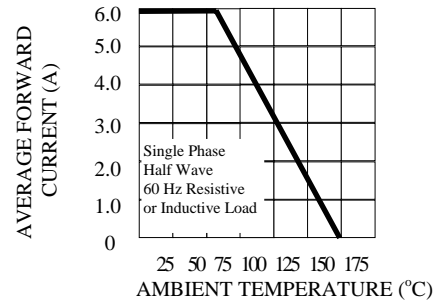


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

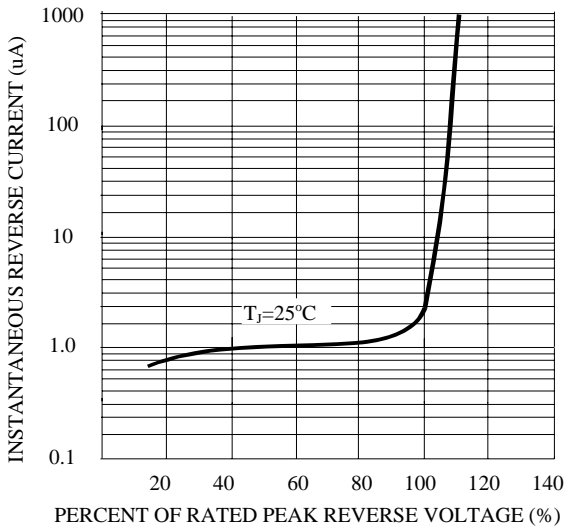


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

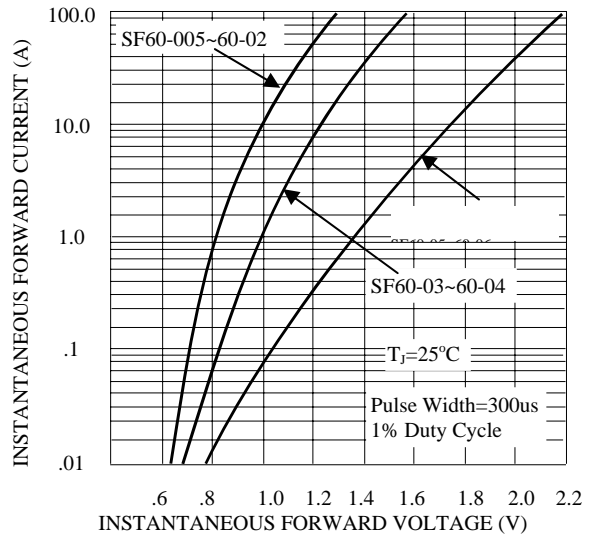


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

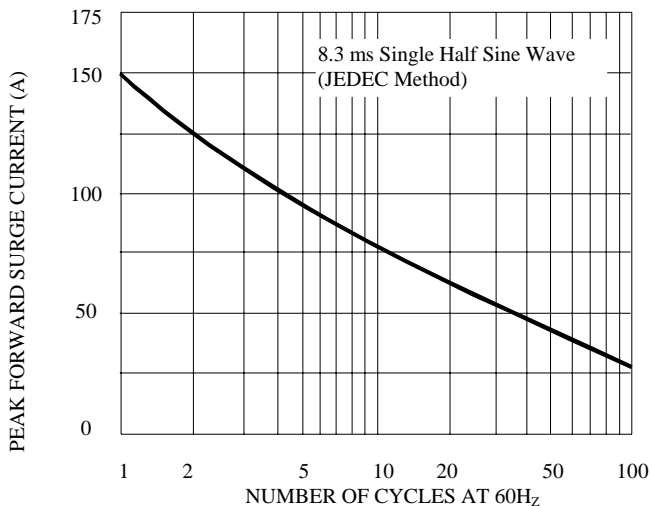


FIG. 6-TYPICAL JUNCTION CAPACITANCE

