



3A SUPER FAST RECOVERY RECTIFIER

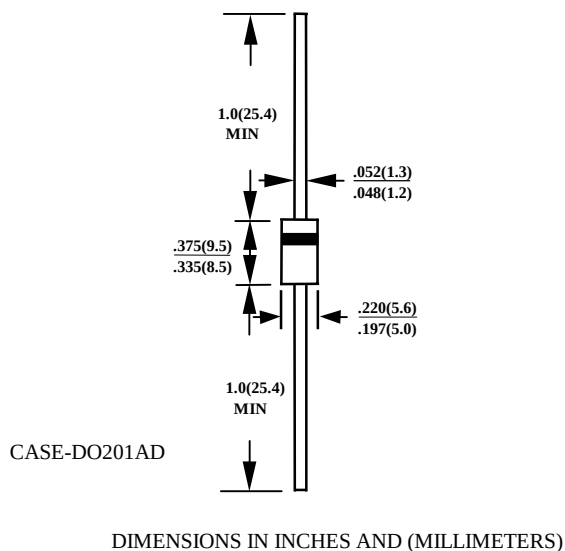
SF30-005
THRU
SF30-06

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 TA=55°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 _{θja}	30								°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)

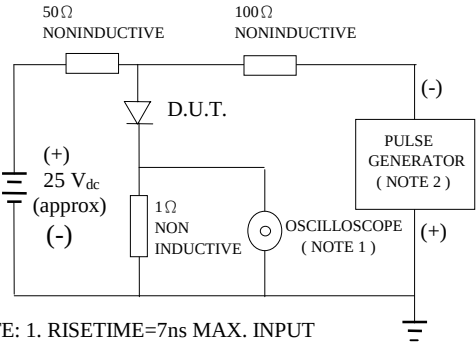
CHARACTERISTICS	SYMBOL	SF30-005	SF30-01	SF30-015	SF30-02	SF30-03	SF30-04	SF30-05	SF30-06	UNITS
MAXIMUM FORWARD VOLTAGE AT I _O DC	V _F	0.95				1.25		1.85		V
MAXIMUM REVERSE CURRENT AT 25°C	I _R	10								μA
MAXIMUM REVERSE CURRENT AT100°C	I _R	100								μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	T _{RR}	35								nS

NOTE :

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

RATINGS AND CHARACTERISTIC CURVE SF30-005 THRU SF30-06

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



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

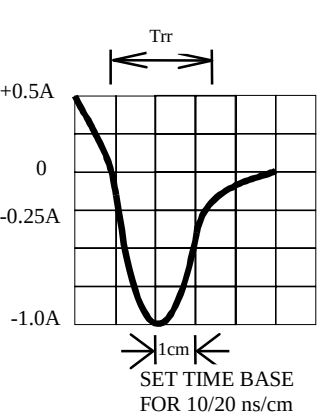


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

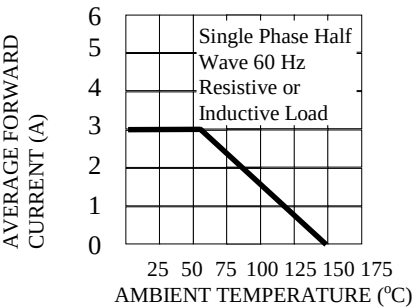


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

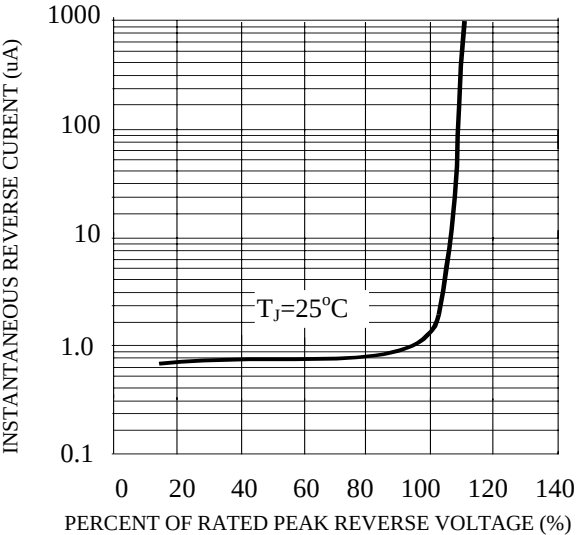


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

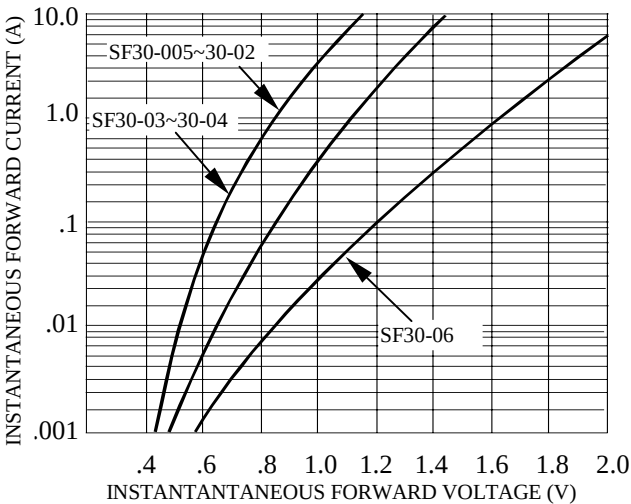


FIG. 5-MAXIMUN NON-REPETITIVE FORWARD SURGE CURRENT

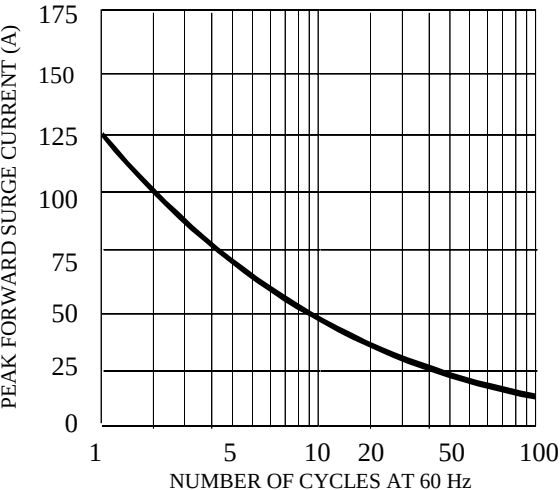


FIG. 6-TYPICAL JUNCTION CAPACITANCE

