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1A SURFACE MOUNT SUPER FAST RECOVERY RECTIFIERS

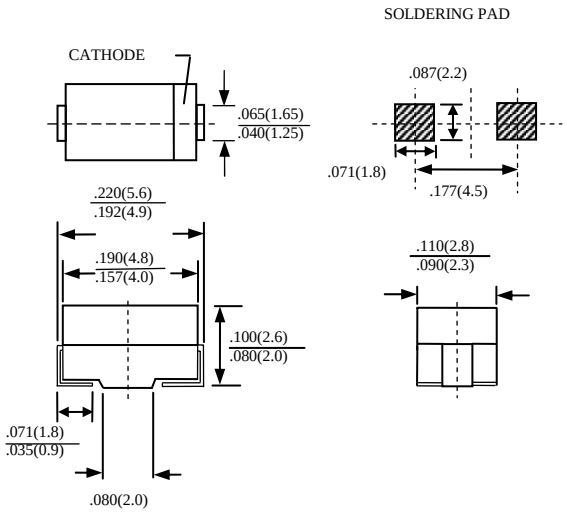
SFS1A THRU SFS1J

FEATURES

- FOR SURFACE MOUNTED APPLICATIONS
- LOW PROFILE PACKAGE
- BUILT-IN STRAIN RELIEF
- EASY PICK AND PLACE
- PLASTIC MATERIAL USED CARRIES UNDERWRITERS LABORATORY CLASSIFICATION 94 V-0
- SUPER FAST SWITCHING
- GLASS PASSIVATED CHIP JUNCTION
- HIGH TEMPERATURE SOLDERING:250°C /10 SECONDS AT TERMINALS

MECHANICAL DATA

- CASE: MOLDED PLASTIC, DO-214AC (SMA), DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINALS: SOLDER PLATED
- POLARITY: INDICATED BY CATHODE BAND
- WEIGHT: 0.064 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	SFS1A	SFS1B	SFS1D	SFS1E	SFS1G	SFS1H	SFS1J	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	V_{RRM}	50	100	200	300	400	500	600	V
MAXIMUM RMS VOLTAGE	V_{RMS}	35	70	140	210	280	350	420	V
MAXIMUM DC BLOCKING VOLTAGE	V_{DC}	50	100	200	300	400	500	600	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT AT TL=90°C	I_O	1.0							A
MAXIMUM OVERLOAD SURGE 8.3ms SINGLE HALF SINE-WAVE	I_{FSM}	30							A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	C_J	15			10				PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	θ_{JL}	30							°C /W
STORAGE TEMPERATURE RANGE	T_{STG}	-55 TO + 150							°C
OPERATING TEMPERATURE RANGE	T_{OP}	-55 TO + 125							°C

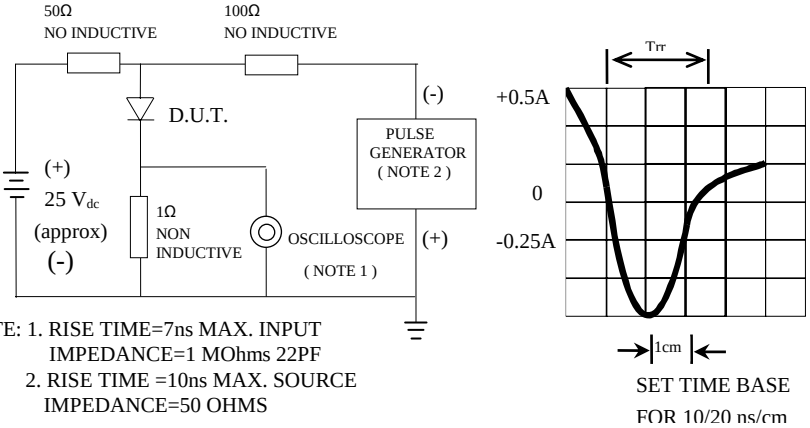
ELECTRICAL CHARACTERISTICS (A_T T_A =25°C UNLESS OTHERWISE NOTED)

CHARACTERISTICS	SYMBOL	SFS1A	SFS1B	SFS1D	SFS1E	SFS1G	SFS1H	SFS1J	UNITS
MAXIMUM FORWARD VOLTAGE AT 1.0A AND 25℃	V_F	0.95			1.25		1.85		V
MAXIMUM REVERSE CURRENT AT 25℃	I_R	10							μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	T_{RR}	35							nS
MARKING		SF1A	SF1B	SF1D	SF1E	SF1G	SF1H	SF1J	

NOTE: 1. MEASURED AT 1.0 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 V
2. THERMAL RESISTANCE FROM JUNCTION TO TERMINAL 5.0mm^2 (.013 mm THICK) LAND AREAS
3. REVERSE RECOVERY TEST CONDITIONS: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

RATINGS AND CHARACTERISTIC CURVE SFS1A THRU SFS1J

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

SET TIME BASE FOR 10/20 ns/cm

FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

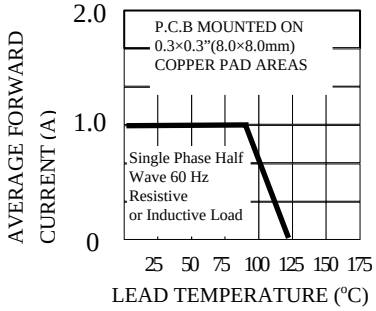


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

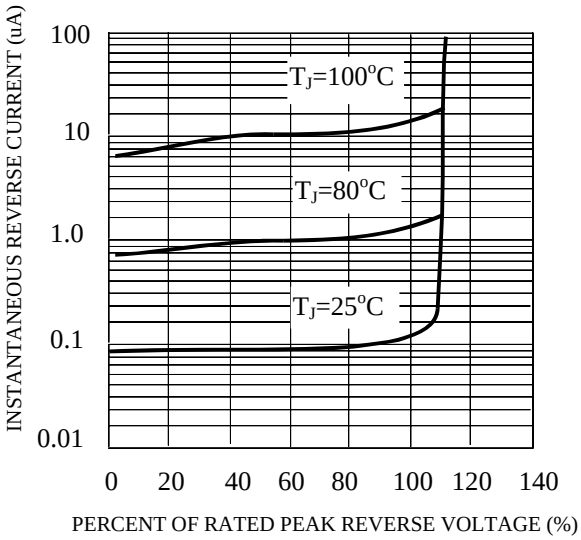


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

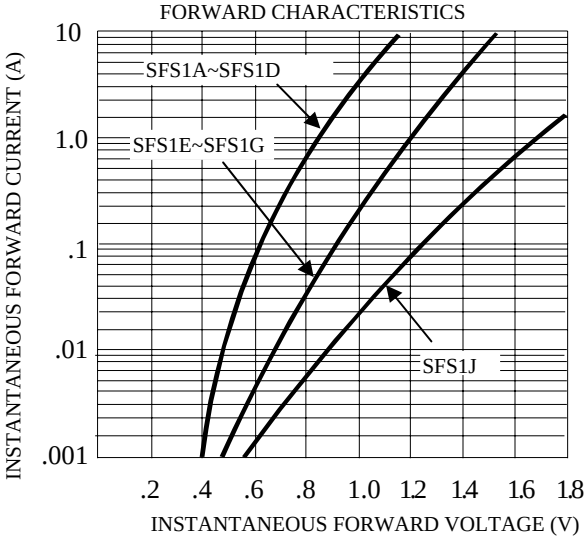


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

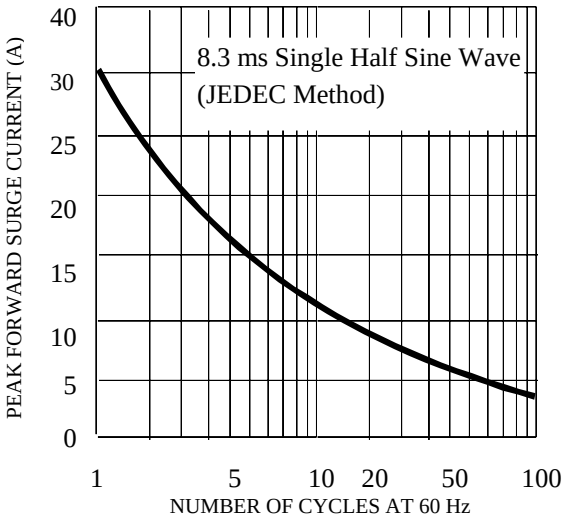


FIG. 6-TYPICAL JUNCTION CAPACITANCE