



# SFS2A THRU SFS2J

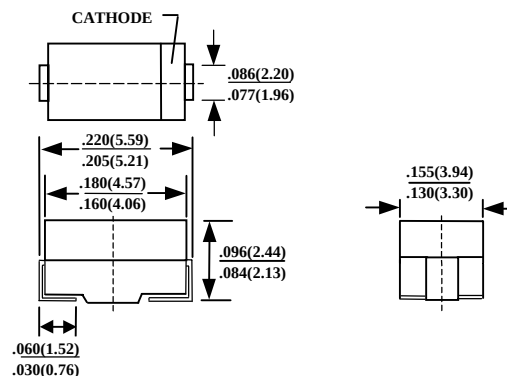
## 2A SUPER FAST RECOVERY SURFACE MOUNT RECTIFIER

### FEATURES

- LOW PROFILE PACKAGE
- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY 94V-0
- IDEAL FOR SURFACE MOUNTED APPLICATION
- GLASS PASSIVATED CHIP JUNCTI
- BULIT-IN STRAIN RELIEF DESIGN
- SUPER FAST RECOVERY TIME FOR HIGH EFFICIENT
- HIGH TEMPERATURE SOLDERING : 250°C/10 SECONDS AT TERMINAL

### MECHANICAL DATA

- CASE : JEDEC DO-214AA MOLDED PLAS BODY
- TERMINAL : SOLDER PLATED, SOLDERABLE PER MIL-STD-750 METHOD 2026
- POLARITY : COLOR BAND DENOTES CATHODE
- WEIGHT : 0.093 GRAMS



CASE:DO-214AA (SMB)  
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          | SFS2A         | SFS2B | SFS2C | SFS2D | SFS2E | SFS2G | SFS2J | UNITS                     |
|------------------------------------------------------------------------------------|-----------------|---------------|-------|-------|-------|-------|-------|-------|---------------------------|
| MAXIMUM RECURRENT PEAK REVERSE VOLTAGE                                             | $V_{RRM}$       | 50            | 100   | 150   | 200   | 300   | 400   | 600   | V                         |
| MAXIMUM RMS VOLTAGE                                                                | $V_{RMS}$       | 35            | 70    | 105   | 140   | 210   | 280   | 420   | V                         |
| MAXIMUM DC BLOCKING VOLTAGE                                                        | $V_{DC}$        | 50            | 100   | 1500  | 200   | 300   | 400   | 600   | V                         |
| MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT AT $T_L=90^\circ\text{C}$                | $I_O$           | 2.0           |       |       |       |       |       |       | A                         |
| PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD | $I_{FSM}$       | 50            |       |       |       |       |       |       | A                         |
| TYPICAL JUNCTION CAPACITANCE (NOTE 1)                                              | $C_J$           | 25            |       |       |       |       |       |       | PF                        |
| TYPICAL THERMAL RESISTANCE (NOTE 2)                                                | $R_{\theta JL}$ | 20            |       |       |       |       |       |       | $^\circ\text{C}/\text{W}$ |
| STORAGE TEMPERATURE RANGE                                                          | $T_{STG}$       | - 55 TO + 150 |       |       |       |       |       |       | $^\circ\text{C}$          |
| OPERATING TEMPERATURE RANGE                                                        | $T_{OP}$        | - 55 TO + 150 |       |       |       |       |       |       | $^\circ\text{C}$          |

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

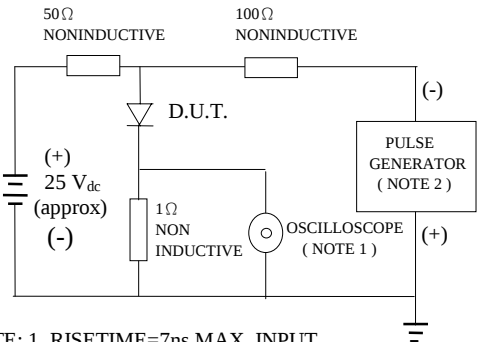
| CHARACTERISTICS                               | SYMBOL          | SFS2A | SFS2B | SFS2C | SFS2D | SFS2E | SFS2G | SFS2J | UNITS |
|-----------------------------------------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| MAXIMUM FORWARD VOLTAGE AT I <sub>O</sub> =2A | V <sub>F</sub>  | 0.95  |       |       |       | 1.25  |       | 1.85  | V     |
| MAXIMUM REVERSE CURRENT AT 25°C               | I <sub>R</sub>  | 5     |       |       |       |       |       |       | μA    |
| MAXIMUM REVERSE CURRENT AT 100°C              | I <sub>R</sub>  | 100   |       |       |       |       |       |       | μA    |
| MAXIMUM REVERSE RECOVERY TIME (NOTE3)         | T <sub>RR</sub> | 35    |       |       |       |       |       |       | nS    |
| MARKING                                       |                 | SF2A  | SF2B  | SF2C  | SF2D  | SF2E  | SF2G  | SF2J  |       |

NOTE :

1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
2. THERMAL RESISTANCE FROM JUNCTION TO AMBIENT AND JUNCTION TO LEAD P.C.B. MOUNTED ON 0.3×0.3"(8.0×8.0mm) COPPER PAD AREAS
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 SFS2A THRU SFS2J

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



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

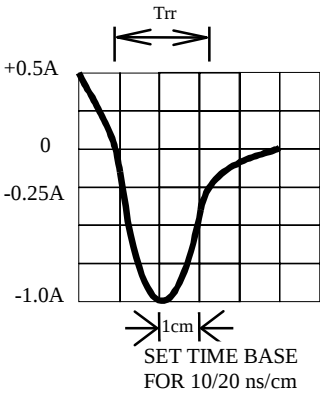


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

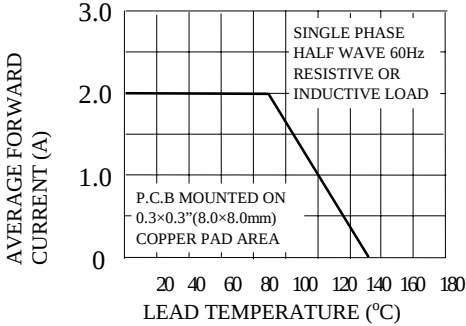


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

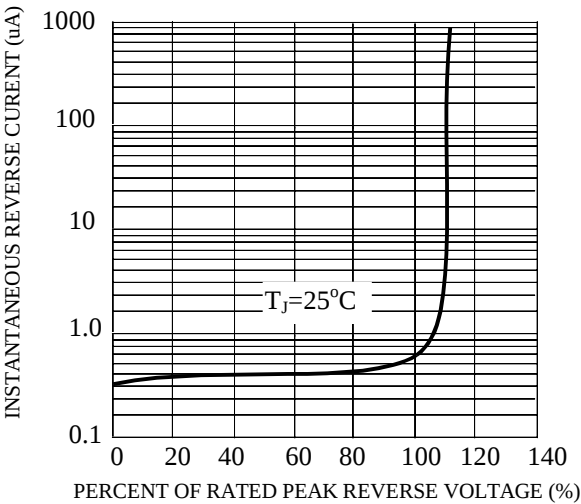


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

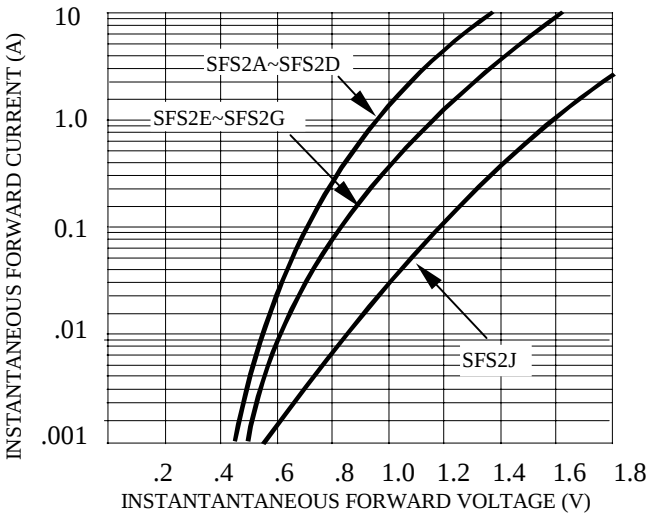


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

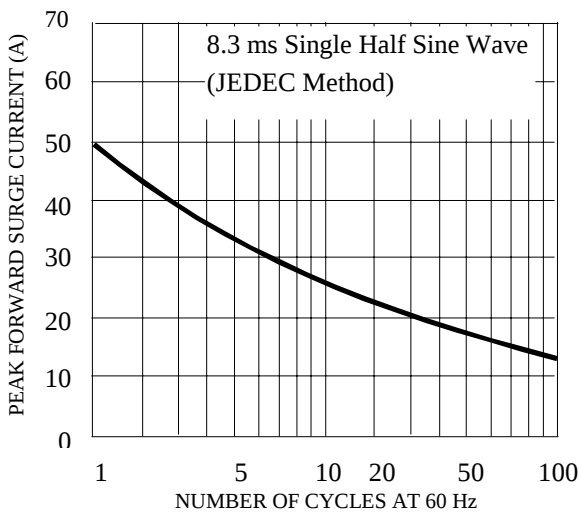


FIG. 6-TYPICAL JUNCTION CAPACITANCE

