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1A SURFACE MOUNT SUPER FAST RECOVERY RECTIFIERS

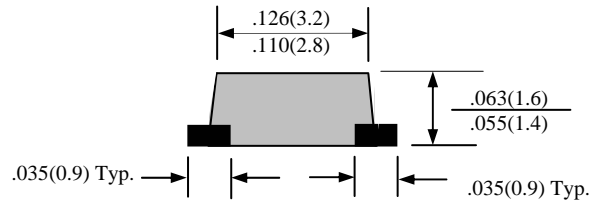
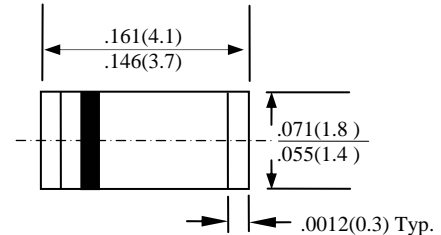
SFM11M-LFR THRU SFM19M-LFR

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
- ROHS

MECHANICAL DATA

- CASE: MOLDED PLASTIC, SOD-123, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINALS: SOLDER PLATED
- POLARITY: INDICATED BY CATHODE BAND
- WEIGHT: 0.04 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 | SFM11M | SFM12M | SFM13M | SFM14M | SFM15M | SFM16M | SFM18M | SFM19M | UNITS |
|---|---------------|--------------|--------|--------|--------|--------|--------|--------|--------|-------|
| | | -LFR | -LFR | -LFR | -LFR | -LFR | -LFR | -LFR | -LFR | |
| MAXIMUM RECURRENT PEAK REVERSE VOLTAGE | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | V |
| MAXIMUM RMS VOLTAGE | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | 560 | V |
| MAXIMUM DC BLOCKING VOLTAGE | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | V |
| MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT AT $T_L=90^\circ\text{C}$ | 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 |

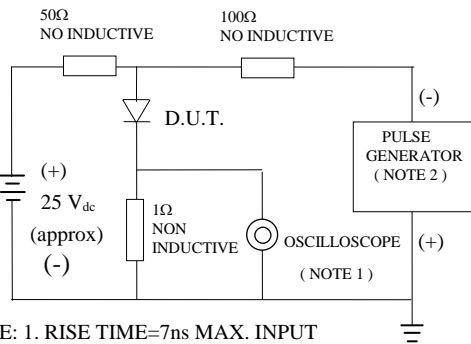
ELECTRICAL CHARACTERISTICS ($A_T T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

| CHARACTERISTICS | SYMBOL | SFM11M | SFM12M | SFM13M | SFM14M | SFM15M | SFM16M | SFM18M | SFM19M | UNITS |
|--|----------|--------|--------|--------|--------|--------|--------|--------|--------|---------------|
| | | -LFR | -LFR | -LFR | -LFR | -LFR | -LFR | -LFR | -LFR | |
| MAXIMUM FORWARD VOLTAGE AT 1.0A AND 25°C | V_F | 0.95 | | | 1.25 | | 1.85 | | | V |
| MAXIMUM REVERSE CURRENT AT 25°C | I_R | 5 | | | | | | | | μA |
| MAXIMUM REVERSE RECOVERY TIME (NOTE 3) | T_{RR} | 35 | | | | | | | | nS |
| MARKING | | S1 | S2 | S3 | S4 | S5 | S6 | S8 | S9 | |

- NOTE: 1. MEASURED AT 1.0 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 V
 2. THERMAL RESISTANCE FROM JUNCTION TO TERMINAL 5.0mm² (.013 mm THICK) LAND 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 SFM11M-LFR THRU SFM19M-LFR

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

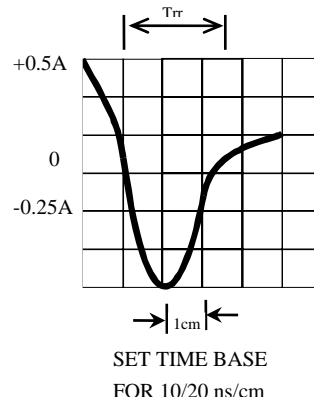


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

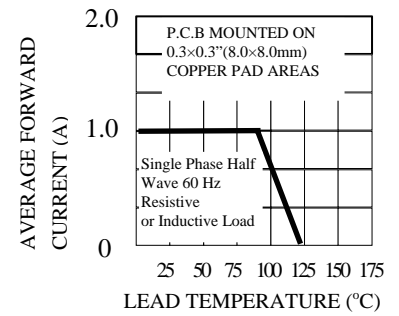


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

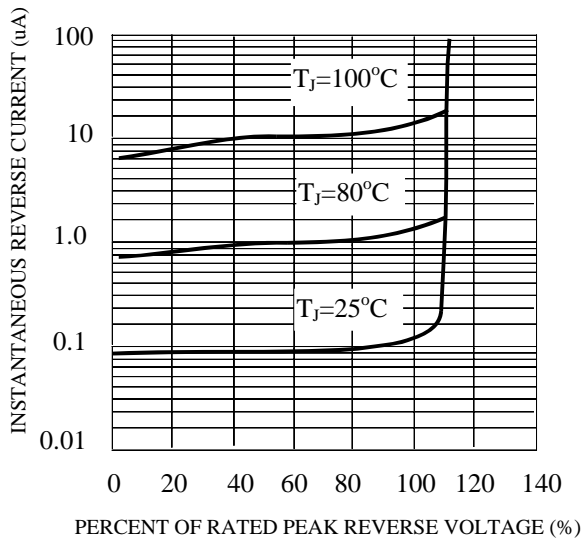


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

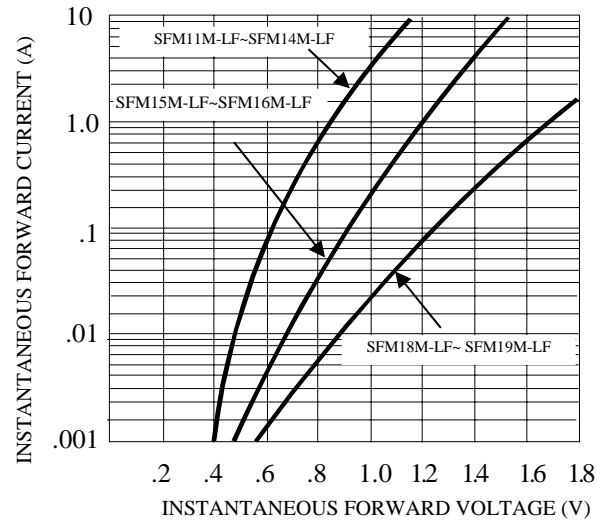


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

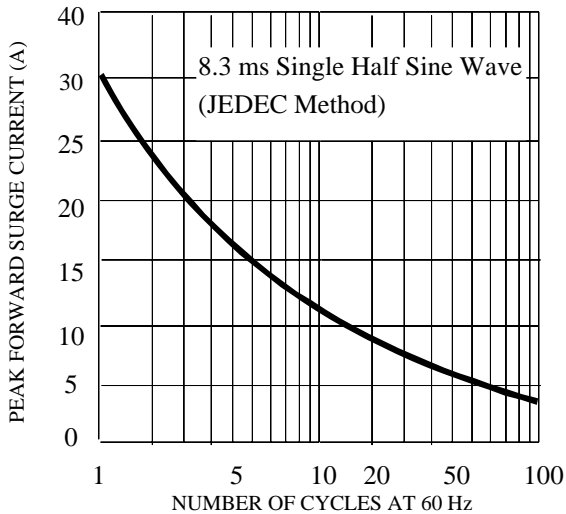


FIG. 6-TYPICAL JUNCTION CAPACITANCE

