

RoHS Compliant Product

A suffix of "-C" specifies halogen-free and RoHS Compliant

## DESCRIPTIONS

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Small plastic SMD package.
- High surge and high current capability.
- Superfast recovery time for switching mode application.
- Glass-passivated chip junction.

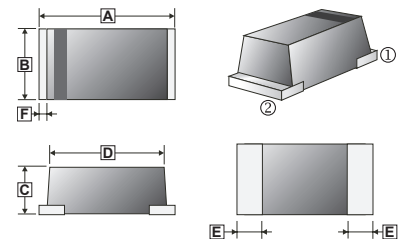
## PACKAGING INFORMATION

- Case: Molded plastic
- Epoxy: UL94-V0 rate flame retardant
- Weight: 0.0110 g (approximately)

## MARKING CODE

| Part Number | Marking Code | Part Number | Marking Code |
|-------------|--------------|-------------|--------------|
| SUF11MH     | S1           | SUF16MH     | S6           |
| SUF12MH     | S2           | SUF18MH     | S8           |
| SUF14MH     | S4           |             |              |

### SOD-123MH



| REF. | Millimeter |      | REF. | Millimeter  |      |
|------|------------|------|------|-------------|------|
|      | Min.       | Max. |      | Min.        | Max. |
| A    | 3.30       | 3.70 | D    | 3.10 (MAX.) |      |
| B    | 1.40       | 1.80 | E    | 0.80 (TYP.) |      |
| C    | 0.60       | 1.00 | F    | 0.30 (TYP.) |      |

## ELECTRICAL CHARACTERISTICS AND RATINGS (T<sub>A</sub> = 25°C unless otherwise specified.)

| PARAMETERS   | SYMBOL                            | PART NUMBERS          |          |          |          |          | UNITS | TESTING CONDITIONS  |
|--|-----------------------------------|-----------------------|----------|----------|----------|----------|-------|---|
|  |                                   | SUF11 MH              | SUF12 MH | SUF14 MH | SUF16 MH | SUF18 MH |       |   |
| Recurrent Peak Reverse Voltage (Max.)                  | V <sub>RRM</sub>                  | 50                    | 100      | 200      | 400      | 600      | V     |   |
| RMS Voltage (Max.)                                     | V <sub>RMS</sub>                  | 35                    | 70       | 140      | 280      | 420      | V     |   |
| Reverse Voltage (Max.)                                 | V <sub>R</sub>                    | 50                    | 100      | 200      | 400      | 600      | V     |   |
| Forward Voltage (Max.)                                 | V <sub>F</sub>                    | 0.95                  |          |          | 1.25     | 1.70     | V     | I <sub>F</sub> = 1A   |
| Average Forward Rectified Current (Max.)               | I <sub>O</sub>                    | 1.0                   |          |          |          |          | A     | Ambient temperature = 50°C  |
| Peak Forward Surge Current                             | I <sub>FSM</sub>                  | 25                    |          |          |          |          | A     | 8.3ms single half sine-wave superimposed on rated load (JEDEC method) |
| DC Reverse Current at Rated DC Blocking Voltage (Max.) | I <sub>R</sub>                    | 5.0                   |          |          |          |          | μA    | V <sub>R</sub> =V <sub>RRM</sub> , T <sub>A</sub> =25°C               |
|  |                                   | 100                   |          |          |          |          |       | V <sub>R</sub> =V <sub>RRM</sub> , T <sub>A</sub> =100°C              |
| Reverse Recovery Time                                  | t <sub>RR</sub>                   | 35                    |          |          |          |          | nS    |   |
| Junction – Ambient Thermal Resistance (Typ.)           | R <sub>θJA</sub>                  | 42                    |          |          |          |          | °C/W  |   |
| Junction Capacitance (Typ.)                            | C <sub>J</sub>                    | 10                    |          |          |          |          | pF    | f=1MHz and applied 4V DC reverse voltage                              |
| Storage and Operating Temperature Range                | T <sub>STG</sub> , T <sub>J</sub> | -65 ~ 175, -55 to 150 |          |          |          |          | °C    |   |

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1-TYPICAL FORWARD CHARACTERISTICS

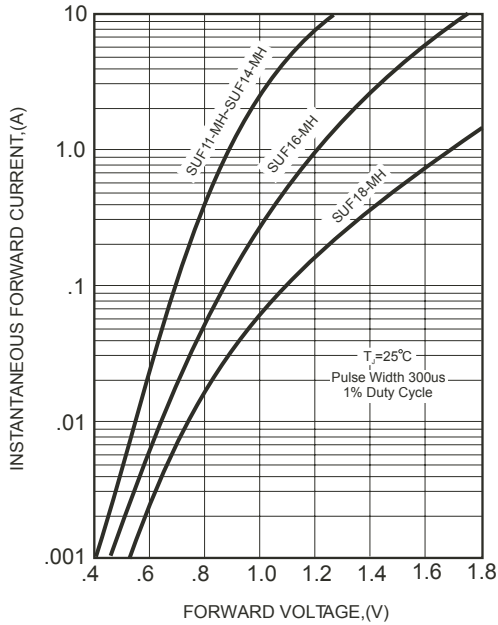


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

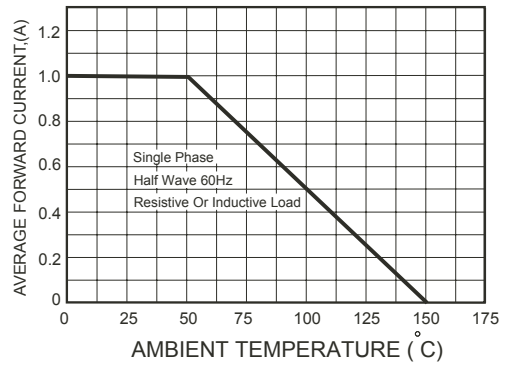
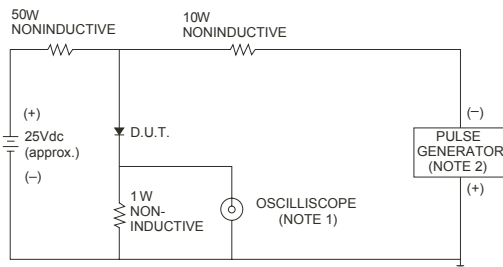


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

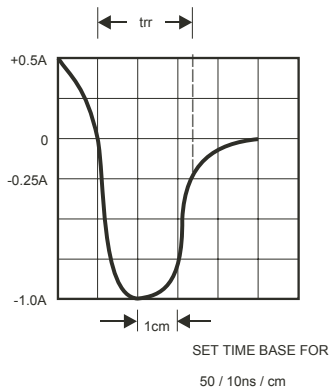


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

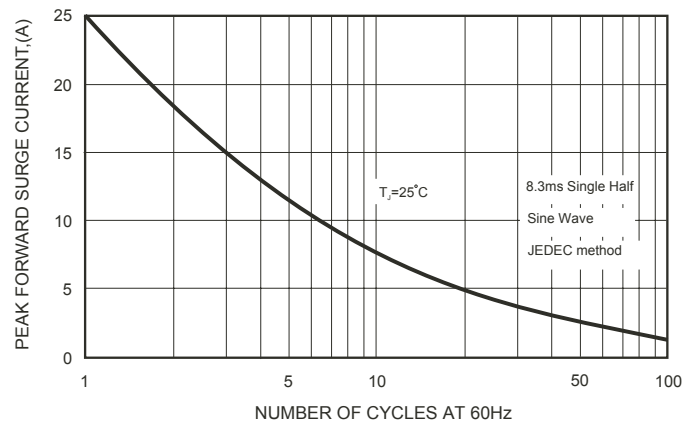


FIG.5-TYPICAL JUNCTION CAPACITANCE

