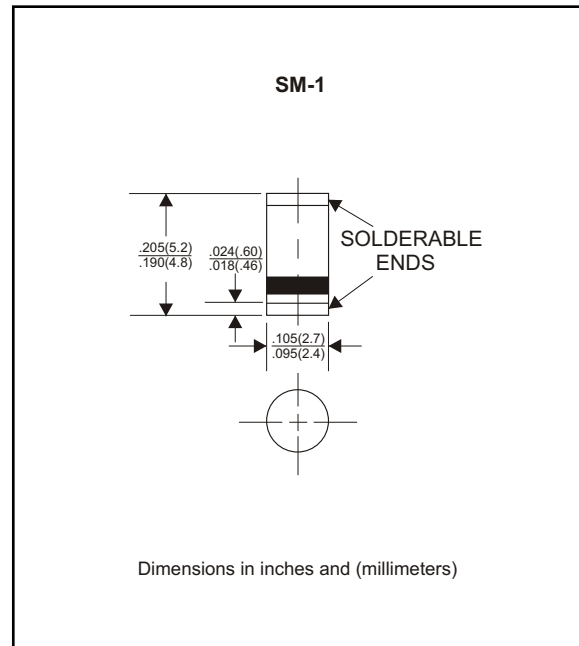


# SM120 THRU SM160

Silicon epitaxial planer type

## Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 Utilizing Flame Retardant Epoxy Molding Compound.
- For surface mounted applications.
- Exceeds environmental standards of ML-S-19500 / 228
- Low leakage current



## Mechanical data

Case : Moulded plastic, SM-1 (MELF)  
 Terminals : Solder plated, solderable per ML-STD-750, Method 2026  
 Polarity : Indicated by cathode band  
 Mounting Position : Any  
 Weight : 0.015 gram

## MAXIMUM RATINGS (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER                  | CONDITIONS  | Symbol    | MIN. | TYP. | MAX. | UNIT                          |
|----------------------------|---|-----------|------|------|------|-------------------------------|
| Forward rectified current  | See Fig.1   | $I_0$     |      |      | 1.0  | A                             |
| Forward surge current      | 8.3ms single half sine-wave superimposed on rate load (JEDEC methode) | $I_{FSM}$ |      |      | 40   | A                             |
| Reverse current            | $V_R = V_{RRM}$ $T_A = 25^{\circ}\text{C}$                            | $I_R$     |      |      | 1.0  | mA                            |
|                            | $V_R = V_{RRM}$ $T_A = 125^{\circ}\text{C}$                           |           |      |      | 10   | mA                            |
| Thermal resistance         | Junction to ambient   | $R_{JA}$  |      | 50   |      | $^{\circ}\text{C} / \text{w}$ |
| Diode junction capacitance | f=1MHz and applied 4vDC reverse voltage                               | $C_J$     |      | 110  |      | pF                            |
| Storage temperature        |   | $T_{STG}$ | -55  |      | +150 | $^{\circ}\text{C}$            |

| SYMBOLS | MARKING CODE | $V_{RRM}^{*1}$<br>(V) | $V_{RMS}^{*2}$<br>(V) | $V_R^{*3}$<br>(V) | $V_F^{*4}$<br>(V) | Operating temperature<br>( $^{\circ}\text{C}$ ) |
|---------|--------------|-----------------------|-----------------------|-------------------|-------------------|---|
| SM120   | -            | 20                    | 14                    | 20                | 0.55              | -55 to +125                                     |
| SM130   | -            | 30                    | 21                    | 30                |                   |   |
| SM140   | -            | 40                    | 28                    | 40                |                   |   |
| SM150   | -            | 50                    | 35                    | 50                | 0.70              | -55 to +150                                     |
| SM160   | -            | 60                    | 42                    | 60                |                   |   |

- \*1 Repetitive peak reverse voltage
- \*2 RMS voltage
- \*3 Continuous reverse voltage
- \*4 Maximum forward voltage

## RATING AND CHARACTERISTIC CURVES (SM120 THRU SM160)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

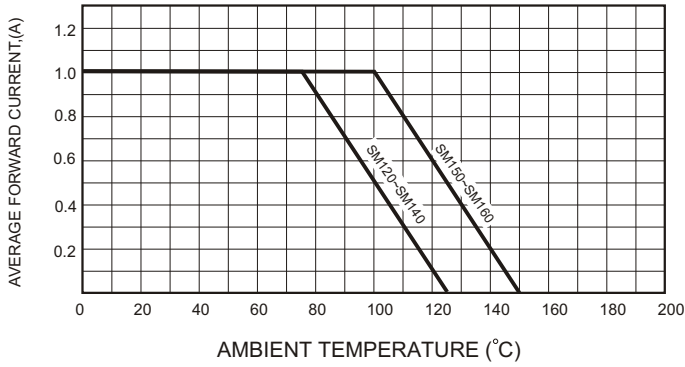


FIG.2-TYPICAL FORWARD CHARACTERISTICS

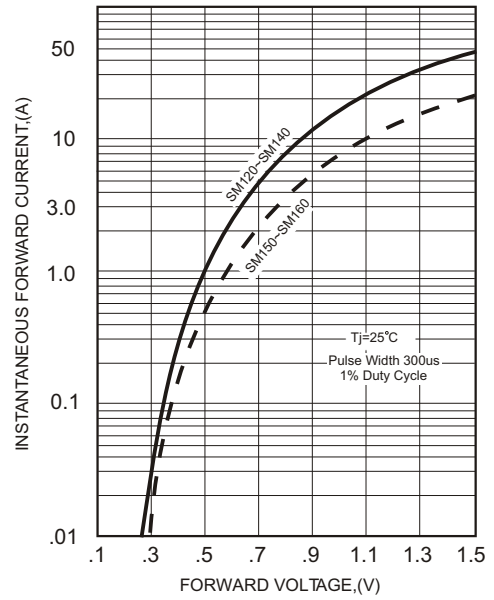


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

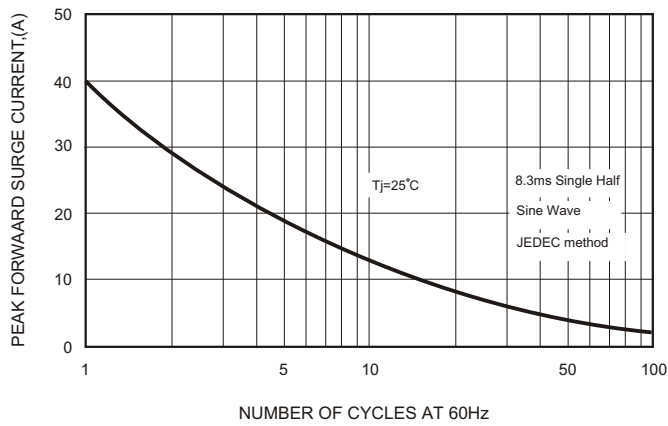


FIG.4-TYPICAL JUNCTION CAPACITANCE

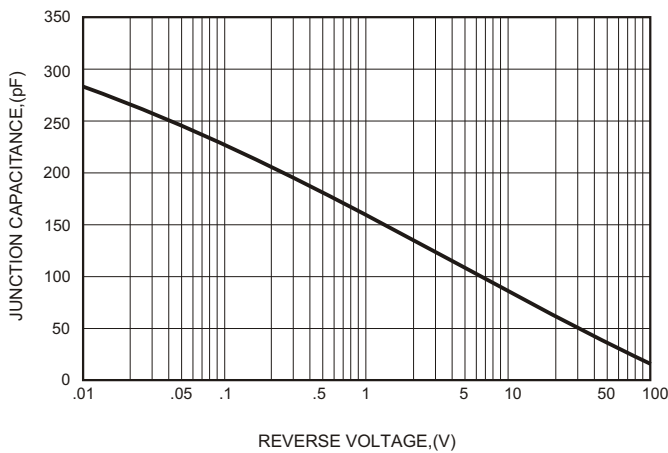


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

