

### Features

- Low forward voltage drop
- Guard ring construction for transient Protection
- High conductance
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF

### Typical Applications

- surface mount schottky barrier rectifier

### Mechanical Data

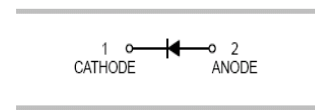
- Case: SOD-123, SOD-323
- Molding compound, UL flammability classification rating 94V-0.
- Terminals: Tin plated leads, solderable per MIL-STD-202, Method 208.



SOD-123



SOD323



### Ordering Information

| Part Number | Package | Shipping               | Marking Code |
|-------------|---------|------------------------|--------------|
| TB0540WH    | SOD-123 | 3000 pcs / Tape & Reel | SFH          |
| TB0540WSH   | SOD-323 | 3000 pcs / Tape & Reel | SFH          |

### Maximum Ratings (@T<sub>A</sub>=25°C unless otherwise specified)

| Parameter                                               | Symbol           | TB0540W(S)H | Units |
|---------------------------------------------------------|------------------|-------------|-------|
| Peak Repetitive Reverse Voltage                         | V <sub>RRM</sub> | 40          | V     |
| RMS Reverse Voltage                                     | V <sub>RMS</sub> | 28          | V     |
| Average Rectified Output Current                        | I <sub>O</sub>   | 0.5         | A     |
| Peak Forward Surge Current, 8.3ms Single Half-sine-wave | I <sub>FSM</sub> | 10          | A     |

### Thermal Characteristics

| Parameter                            | Symbol             | TB0540WH    | TB0540WSH | Units |
|--------------------------------------|--------------------|-------------|-----------|-------|
| Power Dissipation                    | P <sub>D</sub>     | 500         | 250       | mW    |
| Typical Thermal Resistance per leg   | R <sub>θJA</sub> * | 250         | 500       | °C /W |
| Operating Junction Temperature Range | T <sub>J</sub>     | -55 to +150 |           | °C    |
| Storage Temperature Range            | T <sub>STG</sub>   | -55 to +150 |           | °C    |

\* Part mounted on FR-4 board with recommended pad layout

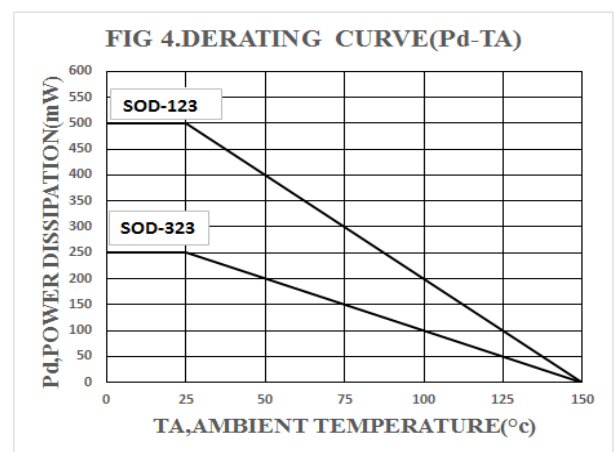
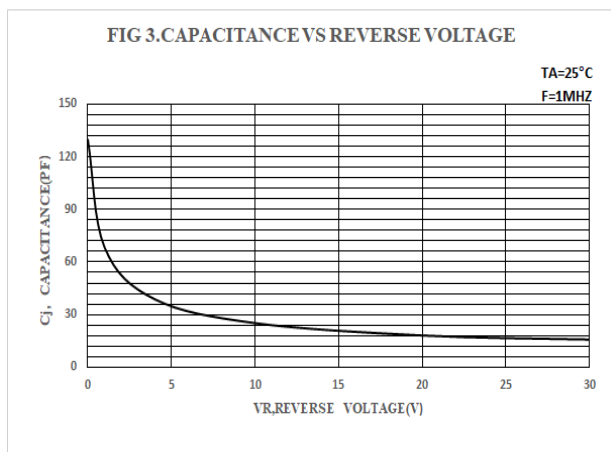
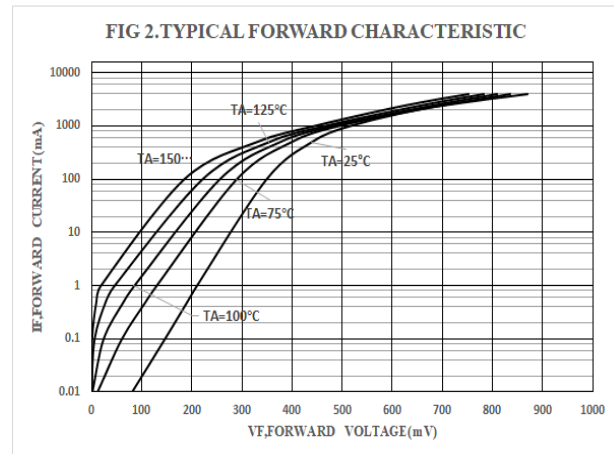
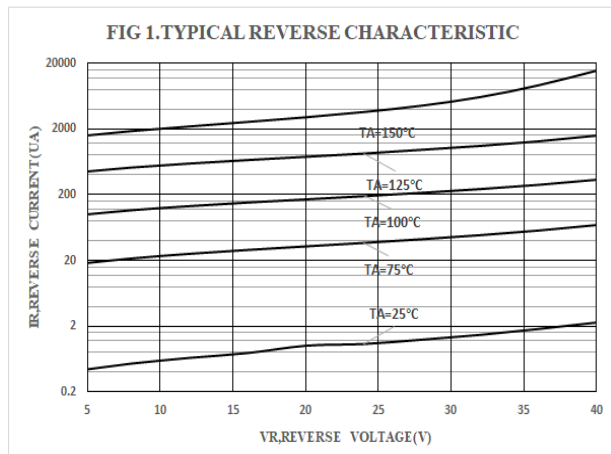
### Electrical Characteristics (@ $T_A=25^\circ\text{C}$ unless otherwise specified)

| Parameter                     | Symbol     | Test conditions                                         | Min. | Typ. | Max.         | Units         |
|-------------------------------|------------|---------------------------------------------------------|------|------|--------------|---------------|
| Forward Voltage               | $V_F^*$    | $I_F=0.5\text{A}$<br>$I_F=1\text{A}$                    | -    | -    | 0.51<br>0.62 | V             |
| Maximum Peak Reverse Current  | $I_R^{**}$ | $V_R=20\text{V}$<br>$V_R=40\text{V}$                    | -    | -    | 10<br>20     | $\mu\text{A}$ |
| Capacitance Between Terminals | $C_T$      | $V_R=0\text{V}, f=1\text{MHz}$                          | -    | -    | 170          | pF            |
| Reverse Recovery Time         | $t_{rr}$   | $I_F=I_R=10\text{mA}$<br>$I_{rr}=0.1I_R, R_L=100\Omega$ | -    | -    | 4            | ns            |

\*Pulse width  $\leq 380\text{ }\mu\text{s}$ , Duty cycle < 2%

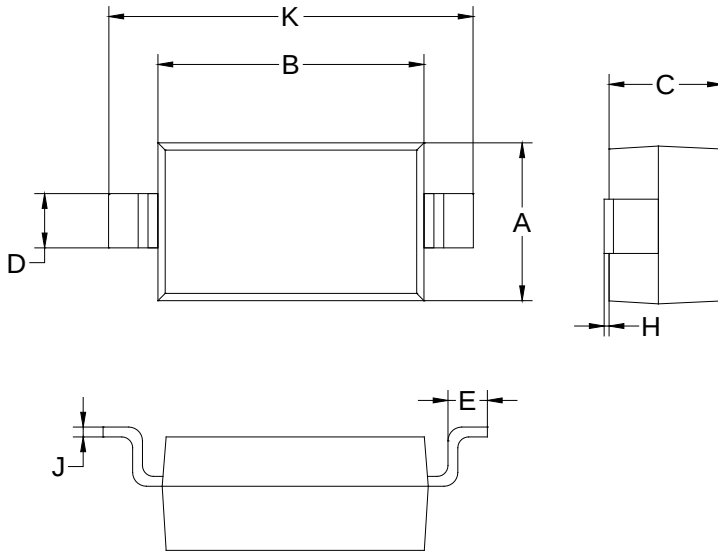
\*\*pulse test ,  $t_p \leq 5\text{ms}$

### Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)



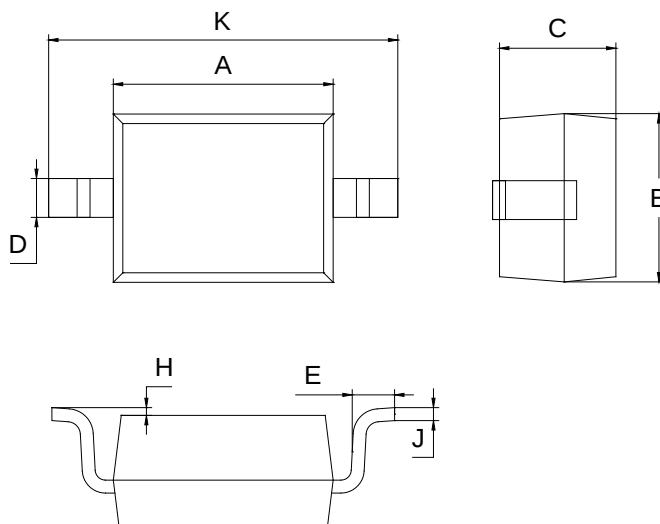
Package Outline Dimensions(unit:mm)

SOD-123



| SOD-123 |      |      |
|---------|------|------|
| Dim     | Min  | Max  |
| A       | 1.45 | 1.75 |
| B       | 2.55 | 2.85 |
| C       | 1.00 | 1.30 |
| D       | 0.50 | 0.60 |
| E       | 0.25 | 0.45 |
| H       | 0.02 | 0.10 |
| J       | 0.05 | 0.15 |
| K       | 3.55 | 3.85 |

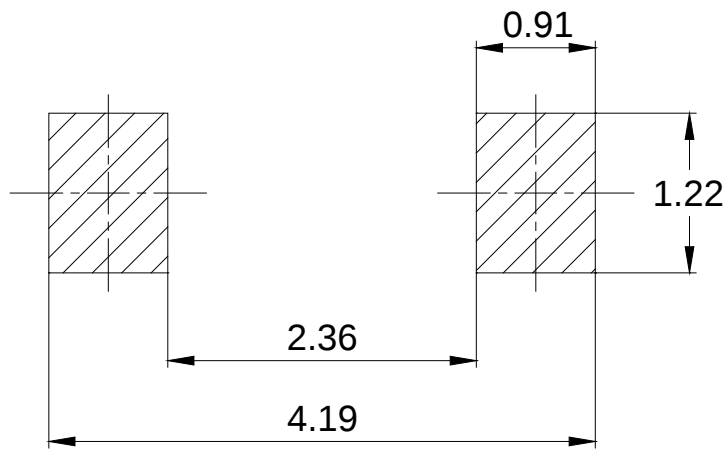
SOD-323



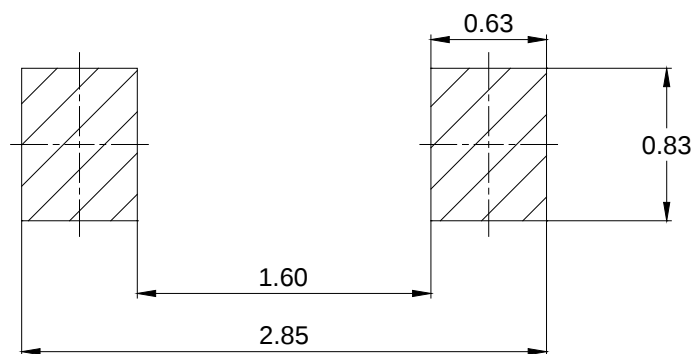
| SOD-323 |      |      |
|---------|------|------|
| Dim     | Min  | Max  |
| A       | 1.60 | 1.80 |
| B       | 1.20 | 1.40 |
| C       | 0.80 | 0.90 |
| D       | 0.25 | 0.35 |
| E       | 0.22 | 0.42 |
| H       | 0.02 | 0.10 |
| J       | 0.05 | 0.15 |
| K       | 2.55 | 2.75 |

## Mounting Pad Layout(unit:mm)

### SOD-123



### SOD-323



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