

### Features

- Low Forward voltage drop
- High breakdown voltage
- Guard ring protected
- Low capacitance
- Halogen free
- Qualified to AEC-Q101 standards for high reliability

HF

### Typical Applications

- For high speed switching applications

### Mechanical Data

- Case: SOD-123, SOD-323, SOD-523, DFN1006-2
- Terminals: solderable per MIL-STD-202, Method 208



TBAS70H  
SOD-123



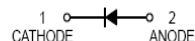
TBAS70WS  
SOD-323



TBAS70X  
SOD-523



TBAS70L  
DFN1006-2



### Ordering Information

| Part Number | Package   | Shipping                | Marking Code |
|-------------|-----------|-------------------------|--------------|
| TBAS70H     | SOD-123   | 3000 pcs / Tape & Reel  | 73           |
| TBAS70WS    | SOD-323   | 3000 pcs / Tape & Reel  | K73          |
| TBAS70X     | SOD-523   | 3000 pcs / Tape & Reel  | 73           |
| TBAS70L     | DFN1006-2 | 10000 pcs / Tape & Reel | 73           |

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

| Parameter                                                       | Symbol           | Value | Unit |
|-----------------------------------------------------------------|------------------|-------|------|
| Peak Repetitive Reverse Voltage                                 | V <sub>RRM</sub> | 70    | V    |
| Working Peak Reverse Voltage                                    | V <sub>RWM</sub> |       |      |
| DC Reverse Voltage                                              | V <sub>R</sub>   |       |      |
| Forward Continuous Current *                                    | I <sub>F</sub>   | 70    | mA   |
| Non-Repetitive Peak Forward Surge Current@t <sub>p</sub> =8.3ms | I <sub>FSM</sub> | 100   | mA   |

### Thermal Characteristics

| Parameter                            | Symbol             | TBAS70H     | TBAS70WS | TBAS70X | TBAS70L | Unit |
|--------------------------------------|--------------------|-------------|----------|---------|---------|------|
| Power dissipation                    | P <sub>D</sub>     | 400         | 200      | 150     | 100     | mW   |
| Typical thermal resistance per leg   | R <sub>θJA</sub> * | 250         | 500      | 667     | 1000    | °C/W |
| Operating junction temperature range | T <sub>J</sub>     | -55 to +125 |          |         |         | °C   |
| Storage temperature range            | T <sub>STG</sub>   | -55 to +150 |          |         |         | °C   |

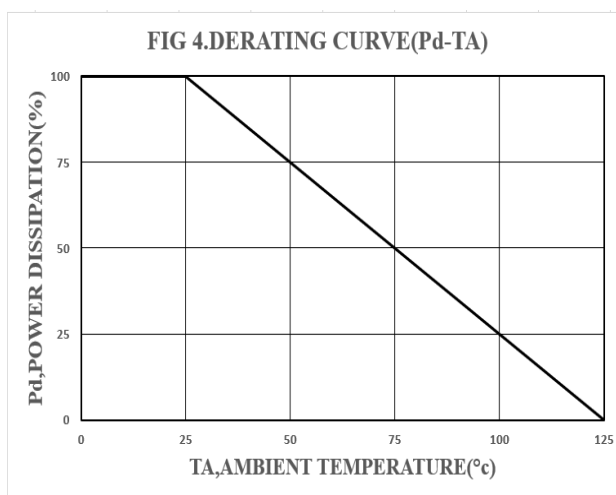
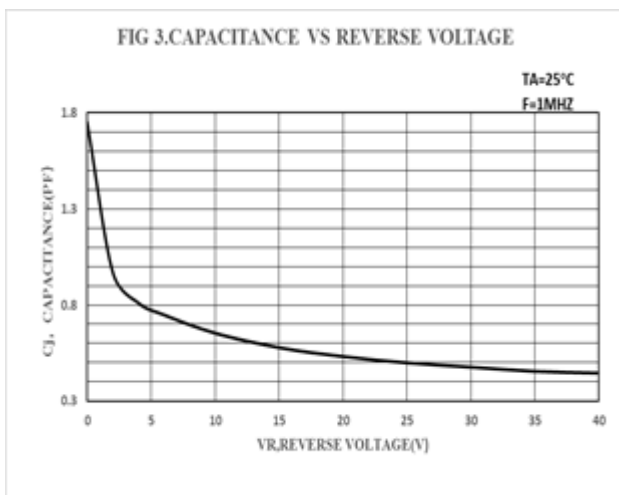
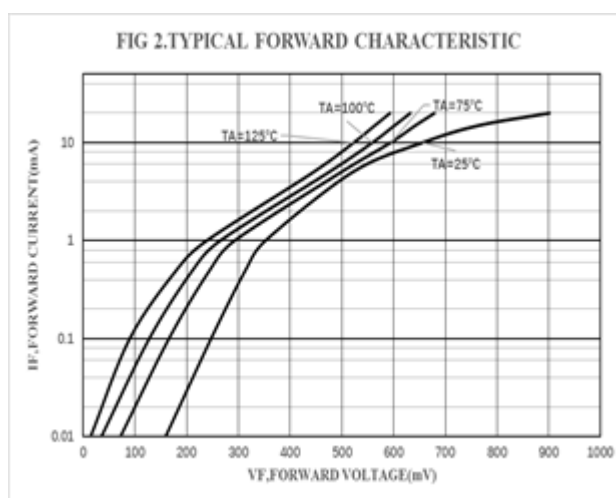
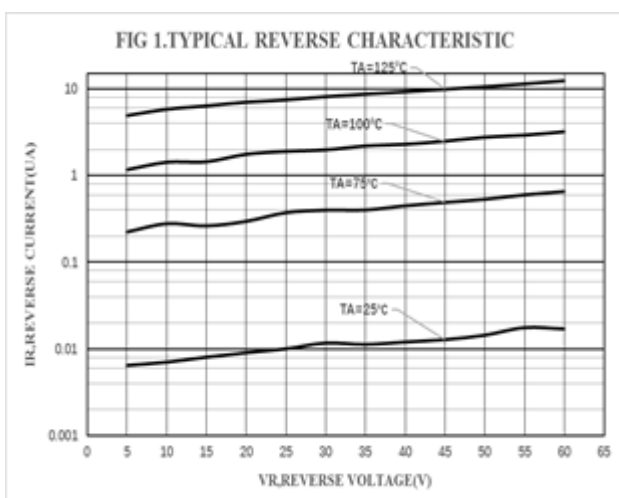
\* Part mounted on FR-4 board with recommended pad layout

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

| Parameter                     | Symbol   | Conditions                           | Min | Typ | Max  | Unit |
|-------------------------------|----------|--------------------------------------|-----|-----|------|------|
| Forward Voltage *1            | $V_F$    | $I_F=1\text{mA}$                     |     |     | 0.41 | V    |
|                               |          | $I_F=15\text{mA}$                    |     |     | 1    | V    |
| Reverse Leakage Current *2    | $I_R$    | $V_R=50\text{V}$                     |     |     | 100  | nA   |
| Capacitance Between Terminals | $C_T$    | $V_R=0\text{V}, f=1\text{MHz}$       |     |     | 2    | pF   |
| Reverse Recovery Time         | $t_{rr}$ | $I_F=I_R=10\text{mA}, R_L=100\Omega$ |     |     | 5    | ns   |

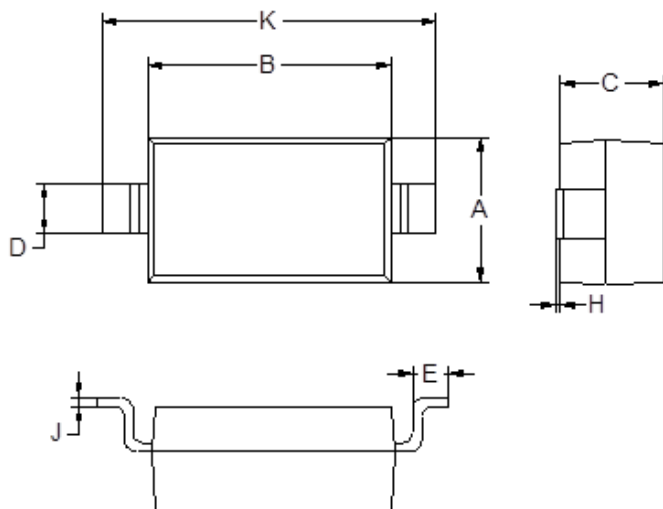
\*1: pulse test,  $t_p \leq 300\mu\text{s}$   
\*2: pulse test,  $t_p \leq 5\text{ms}$

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



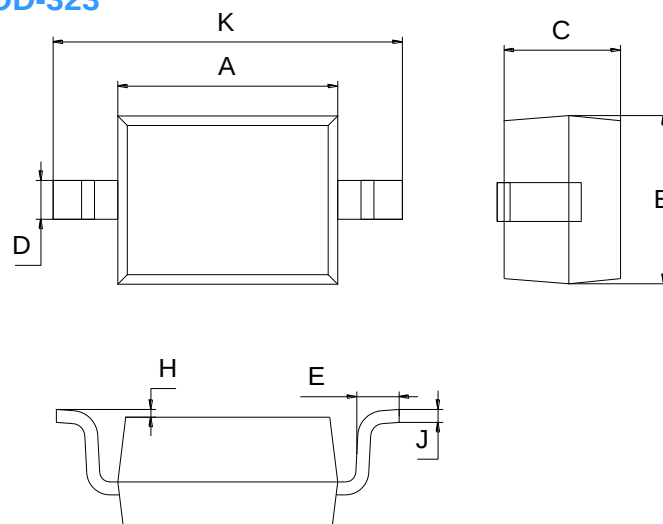
**Package Outline Dimensions** (unit: mm)

**SOD-123**



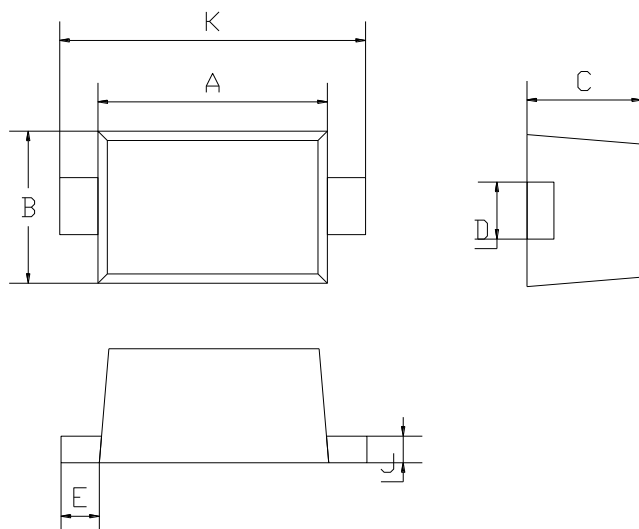
| SOD-123 |      |      |
|---------|------|------|
| Dim     | Min  | Max  |
| A       | 1.45 | 1.75 |
| B       | 2.55 | 2.85 |
| C       | 1.00 | 1.30 |
| D       | 0.50 | 0.60 |
| E       | 0.25 | 0.45 |
| H       | 0.02 | 0.10 |
| J       | 0.05 | 0.15 |
| K       | 3.55 | 3.85 |

**SOD-323**



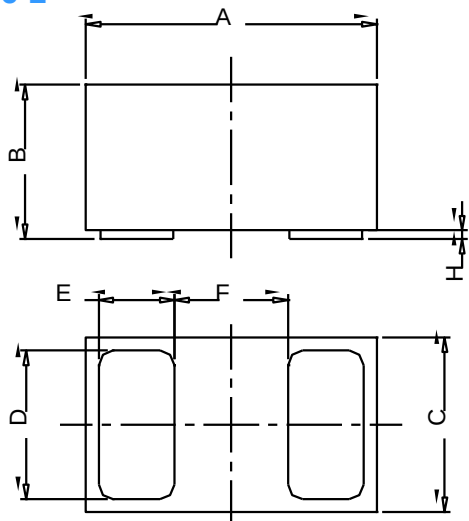
| SOD-323 |      |      |
|---------|------|------|
| Dim     | Min  | Max  |
| A       | 1.60 | 1.80 |
| B       | 1.20 | 1.40 |
| C       | 0.80 | 0.90 |
| D       | 0.25 | 0.35 |
| E       | 0.22 | 0.42 |
| H       | 0.02 | 0.10 |
| J       | 0.05 | 0.15 |
| K       | 2.55 | 2.75 |

**SOD-523**



| SOD-523 |      |      |
|---------|------|------|
| Dim     | Min  | Max  |
| A       | 1.10 | 1.30 |
| B       | 0.70 | 0.90 |
| C       | 0.50 | 0.70 |
| D       | 0.25 | 0.35 |
| E       | 0.15 | 0.25 |
| J       | 0.05 | 0.15 |
| K       | 1.50 | 1.70 |

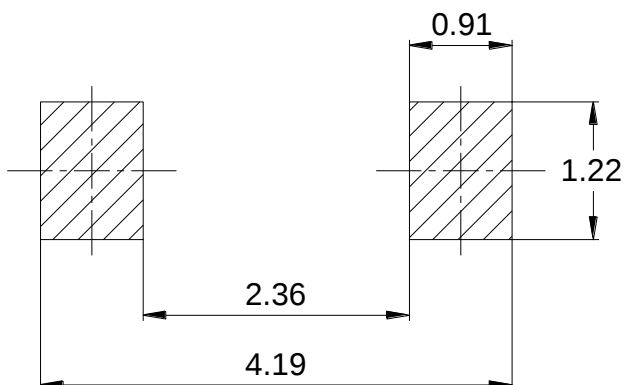
### DFN1006-2



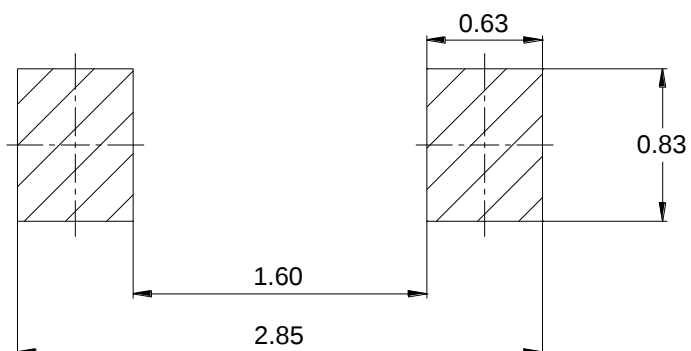
| DFN1006-2 |      |      |       |
|-----------|------|------|-------|
| Dim       | Min  | Typ  | Max   |
| A         | 0.95 | 1.00 | 1.075 |
| B         | 0.47 | 0.50 | 0.53  |
| C         | 0.55 | 0.60 | 0.675 |
| D         | 0.45 | 0.50 | 0.55  |
| E         | 0.20 | 0.25 | 0.30  |
| F         | -    | 0.40 | -     |
| H         | 0    | 0.03 | 0.05  |

### Mounting Pad Layout (unit: mm)

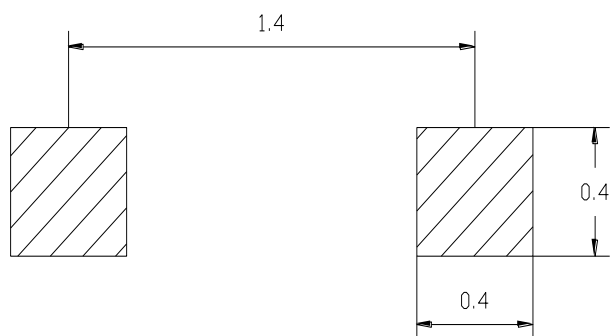
#### SOD-123



#### SOD-323



**SOD-523**



**DFN1006-2**

