

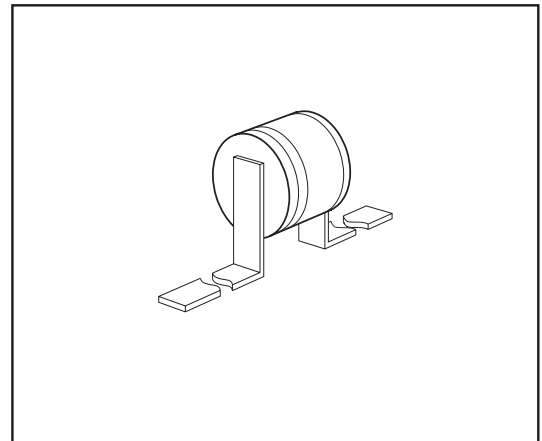
HiRel Silicon Schottky Diode

- **HiRel Discrete and Microwave Semiconductor**
- General-purpose diodes for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing
- Hermetically sealed microwaver package

- **esa Space Qualified**

ESA/SCC Detail Spec. No.: 5512/020

Type Variante No. 01


BAS70-T1


ESD (Electrostatic discharge) sensitive device, observe handling precaution!

| Type | Package | Configuration | Marking |
|----------|---------|---------------|---------|
| BAS70-T1 | T1 | single | - |

(ql) Testing level: P: Professional testing
 H: High Rel quality
 S: Space quality
 ES: ESA qualified

Maximum Ratings

| Parameter | Symbol | Value | Unit |
|---------------------------------------|-----------|-------------|------|
| Reverse voltage | V_R | 70 | V |
| Forward current | I_F | 70 | mA |
| Surge forward current ¹⁾ | I_{FSM} | 85 | mA |
| Total power dissipation ²⁾ | P_{tot} | 250 | mW |
| Operating temperature range | T_{op} | -55 ... 150 | °C |
| Soldering temperature ³⁾ | T_{sol} | 250 | °C |
| Storage temperature | T_{stg} | -55 ... 150 | °C |

¹⁾ $t \leq 10\text{ms}$, duty Cycle = 10%

²⁾ At $T_{CASE} = 125^\circ\text{C}$. For $T_{CASE} > 125^\circ\text{C}$ derating is required

³⁾ During 5 sec. maximum. The terminal shall not be resoldered until 3 minutes have elapsed.

Thermal Resistance

| Parameter | Symbol | Value | Unit |
|----------------------------------|---------------|-------|------|
| Thermal resistance junction-case | $R_{th(j-c)}$ | 100 | K/W |

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Values | | | Unit |
|-----------|--------|--------|------|------|------|
| | | min. | typ. | max. | |

DC Characteristics

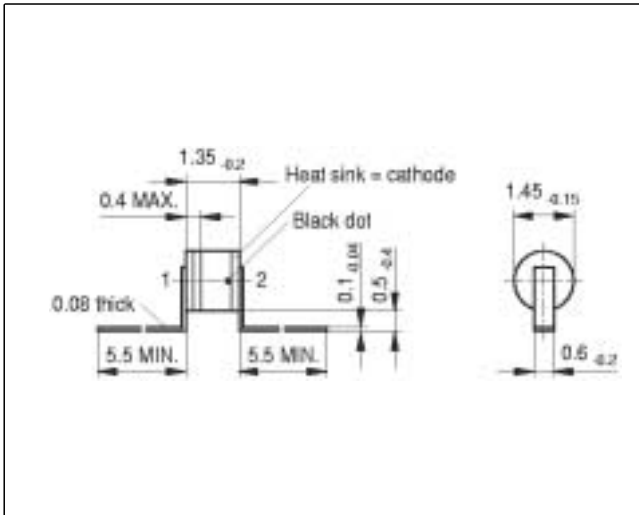
| | | | | | |
|---|----------|-----|------|------|---------------|
| Reverse current 1 $V_{R1} = 70\text{ V}$ | I_{R1} | - | - | 2 | μA |
| Reverse current 2 $V_{R2} = 56\text{ V}$ | I_{R2} | - | - | 0.1 | |
| Forward Voltage 1 | V_{F1} | 0.3 | 0.38 | 0.44 | V |
| | | 0.6 | 0.7 | 0.78 | |
| | | 0.8 | 0.85 | 1 | |
| Forward Voltage 2 $I_{F2} = 10\text{ mA}$ | V_{F1} | 0.3 | 0.38 | 0.44 | |
| | | 0.6 | 0.7 | 0.78 | |
| | | 0.8 | 0.85 | 1 | |
| Differential Forward Resistance ¹⁾ $I_{F2} = 10\text{ mA}, I_{F3} = 15\text{ mA}$ | R_{FD} | 24 | 30 | 32 | Ω |

AC Characteristics

| | | | | | |
|---|-------|-----|-----|---|----|
| Diode capacitance $V_R = 0\text{ V}, f = 1\text{ MHz}$ | C_T | 1.2 | 1.5 | 2 | pF |
|---|-------|-----|-----|---|----|

$$R_{FD} = \frac{\Delta V_F}{5 \times 10^{-3} \text{ A}}$$

T1 Package



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