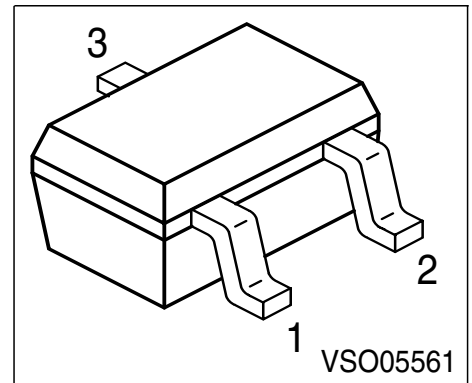
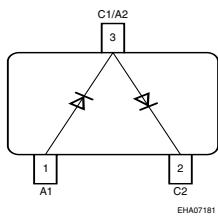
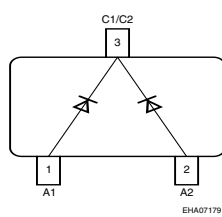
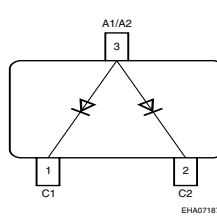


Silicon PIN Diode

- PIN diode for high speed switching of RF signal
- Low forward resistance
- Very low capacitance
- For frequencies up to 3 GHz


BAR 63-04W

BAR 63-05W

BAR 63-06W


| Type | Marking | Pin Configuration | | | Package |
|------------|---------|-------------------|--------|----------|---------|
| | | 1 | 2 | 3 | |
| BAR 63-04W | G4s | 1 = A1 | 2 = C2 | 3=C1/A2 | SOT-323 |
| BAR 63-05W | G5s | 1 = A1 | 2 = A2 | 3 = C1/2 | SOT-323 |
| BAR 63-06W | G6s | 1 = C1 | 2 = C2 | 3 = A1/2 | SOT-323 |

Maximum Ratings

| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------|
| Diode reverse voltage | V_R | 50 | V |
| Forward current | I_F | 100 | mA |
| Total power dissipation, $T_S \leq 105\text{ }^\circ\text{C}$ | P_{tot} | 250 | mW |
| Junction temperature | T_j | 150 | °C |
| Operating temperature range | T_{op} | -55 ... 150 | |
| Storage temperature | T_{stg} | -55 ... 150 | |

Thermal Resistance

| | | | |
|----------------------------------|------------|------------|-----|
| Junction - ambient ¹⁾ | R_{thJA} | ≤ 340 | K/W |
| Junction - soldering point | R_{thJS} | ≤ 180 | |

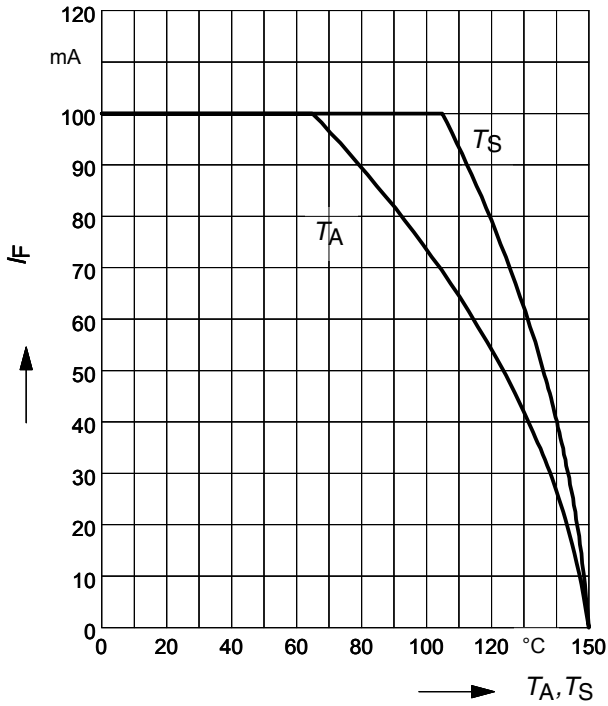
1) Package mounted on alumina 15mm x 16.7mm x 0.7mm

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

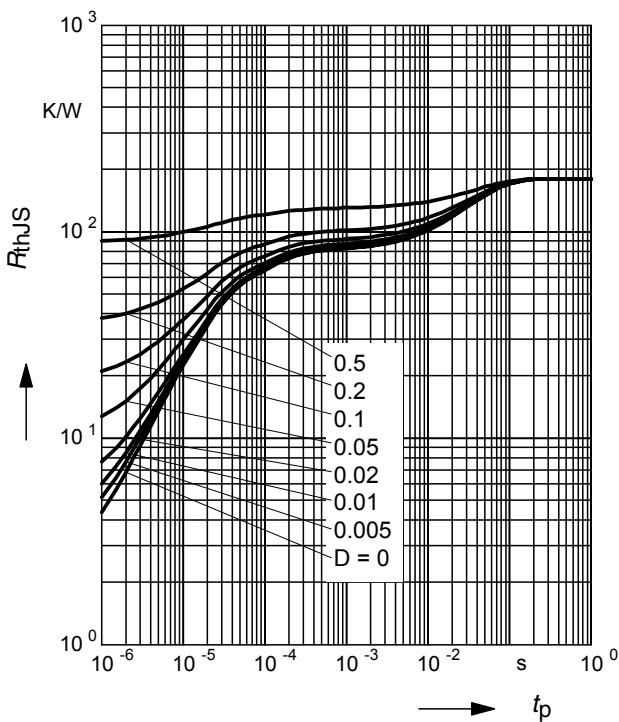
| Parameter | Symbol | Values | | | Unit |
|---|-------------|--------|-------------|----------|----------|
| | | min. | typ. | max. | |
| DC characteristics | | | | | |
| Breakdown voltage $I_{(BR)} = 5 \mu\text{A}$ | $V_{(BR)}$ | 50 | - | - | V |
| Reverse current $V_R = 20 \text{ V}$ | I_R | - | - | 50 | nA |
| Forward voltage $I_F = 100 \text{ mA}$ | V_F | - | 0.95 | 1.2 | V |
| AC characteristics | | | | | |
| Diode capacitance $V_R = 0 \text{ V}, f = 100 \text{ MHz}$ $V_R = 5 \text{ V}, f = 1 \text{ MHz}$ | C_T | - - | 0.3 0.21 | - 0.3 | pF |
| Forward resistance $I_F = 5 \text{ mA}, f = 100 \text{ MHz}$ $I_F = 10 \text{ mA}, f = 100 \text{ MHz}$ | r_f | - - | 1.2 1 | 2 - | Ω |
| Charge carrier life time $I_F = 10 \text{ mA}, I_R = 6 \text{ mA}, I_R = 3 \text{ mA}$ | τ_{rr} | - | 75 | - | ns |
| Series inductance | L_S | - | 1.4 | - | nH |

Forward current $I_F = f(T_A^*; T_S)$

* mounted on alumina

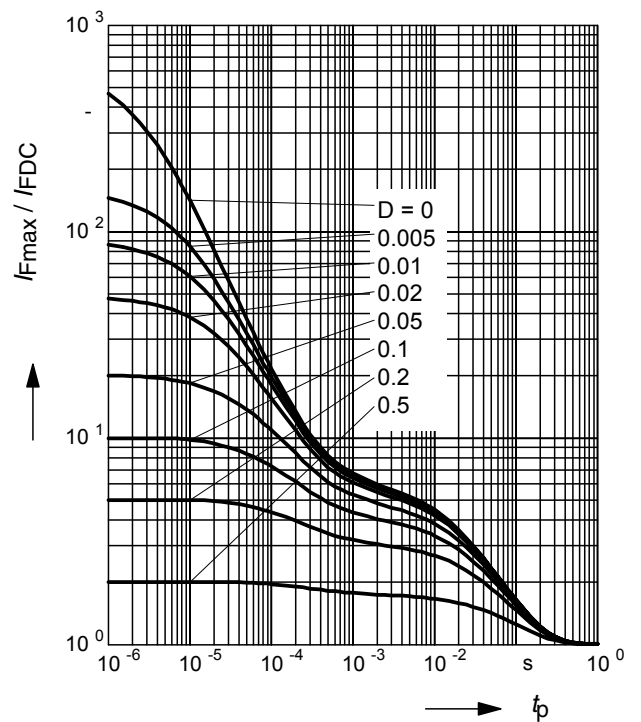


Permissible Pulse Load $R_{thJS} = f(t_p)$



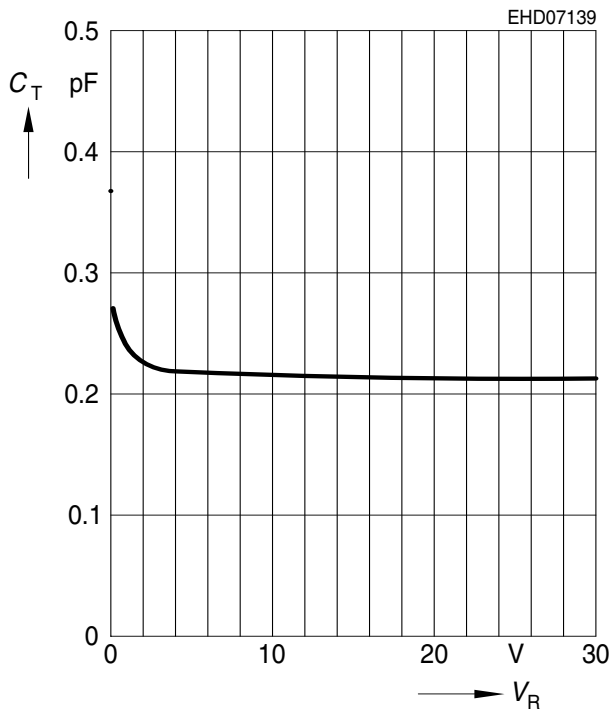
Permissible Pulse Load

$I_{Fmax} / I_{FDC} = f(t_p)$



Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$

