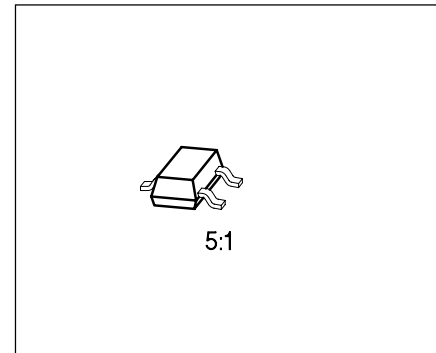


Silicon PIN Diode

BA 887

Preliminary Data

- RF switch, RF attenuator for frequencies above 10 MHz
- Very low IM distortion



| Type | Ordering Code (taped) | Pin Configuration | | | Marking | Package |
|--------|--------------------------|-------------------|---|---|---------|---------|
| | | 1 | 2 | 3 | | |
| BA 887 | Q62702- | A | | C | PDs | SOT-23 |

Maximum Ratings

| Parameter | Symbol | Values | Unit |
|---|-----------|----------------|------|
| Reverse voltage | V_R | 50 | V |
| Forward current | I_F | 100 | mA |
| Total power dissipation $T_S \leq 40 \text{ °C}^{1)}$ | P_{tot} | 250 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature range | T_{stg} | - 55 ... + 150 | °C |

Thermal Resistance

| | | | |
|--|-------------|------------|-----|
| Junction-soldering point ¹⁾ | $R_{th JS}$ | ≤ 220 | K/W |
| Junction-ambient | $R_{th JA}$ | ≤ 300 | K/W |

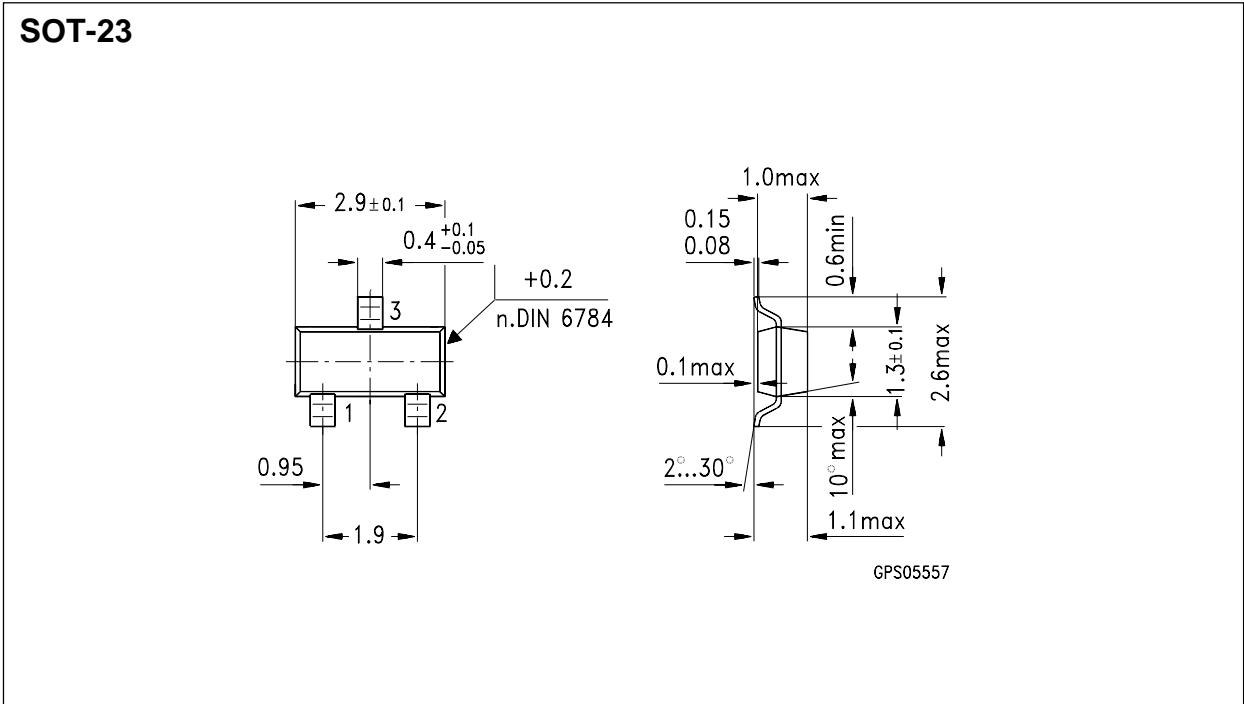
1) Package mounted on aluminum 15 mm x 16.7 mm x 0.7 mm.

Characteristics per Diode

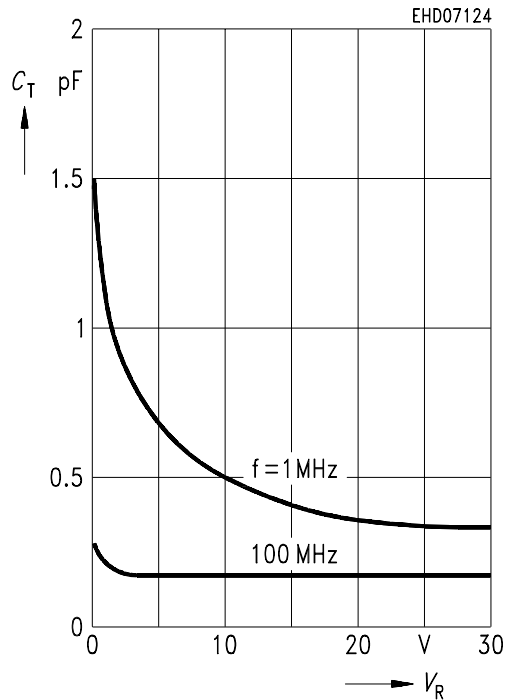
at $T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified.

| Parameter | Symbol | Value | | | Unit |
|--|----------|--------|--------------|--------|---------------|
| | | min. | typ. | max. | |
| Reverse current $V_R = 30\text{ V}$ | I_R | – | – | 20 | nA |
| Forward voltage $I_F = 100\text{ mA}$ | V_F | – | 0.9 | – | V |
| Diode capacitance $V_R = 10\text{ V}, f = 1\text{ MHz}$ $V_R = 0\text{ V}, f = 100\text{ MHz}$ | C_T | – – | 0.52 0.27 | – – | pF |
| Forward resistance $f = 100\text{ MHz}$ $I_F = 1.5\text{ mA}$ $I_F = 10\text{ mA}$ | r_f | – – | 22 4.2 | – – | Ω |
| Charge carrier lifetime $I_F = 10\text{ mA}, I_R = 6\text{ mA}, I_R = 3\text{ mA}$ | τ_L | – | 2.5 | – | μs |

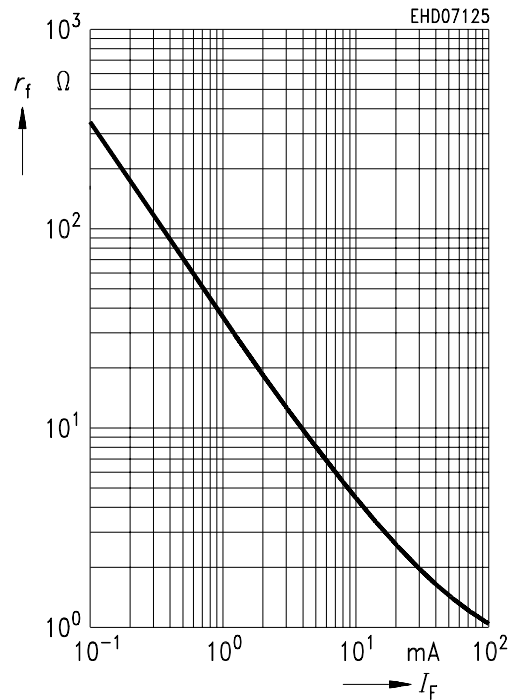
Package Outline



Diode capacitance $C_T = f(V_R)$
 $f = 1 \text{ MHz}, 100 \text{ MHz}$



Forward resistance $r_t = (I_F), f = 100 \text{ MHz}$



3rd Harmonic intercept point vs forward current $f = 100 \text{ MHz}$

