

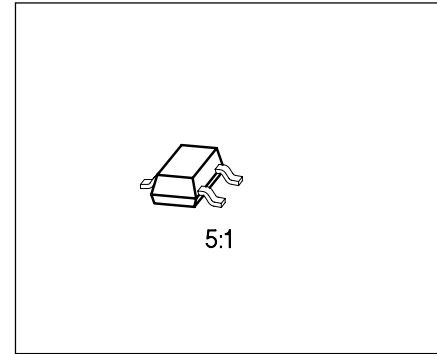
# SIEMENS

## Silicon PIN Diode

**BA 887**

### Preliminary Data

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



| Type   | Ordering Code<br>(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

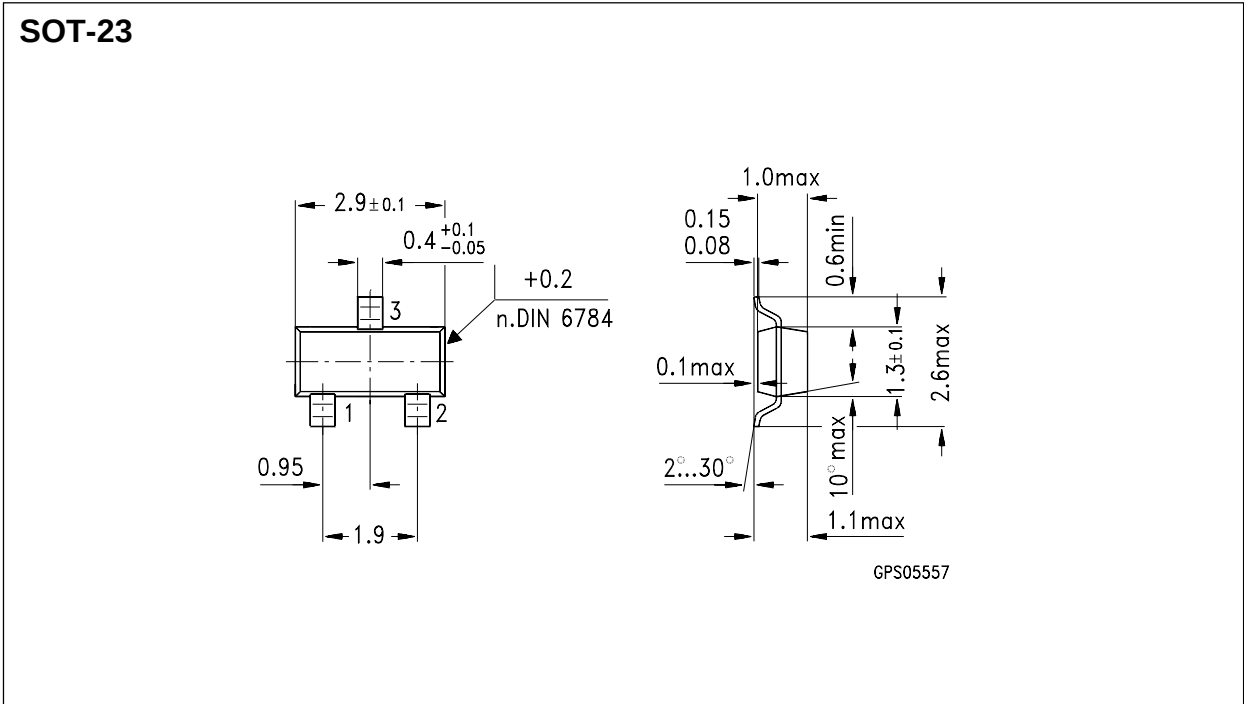
|                                        |              |            |     |
|----------------------------------------|--------------|------------|-----|
| Junction-soldering point <sup>1)</sup> | $R_{th\ JS}$ | $\leq 220$ | K/W |
| Junction-ambient                       | $R_{th\ JA}$ | $\leq 300$ | K/W |

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

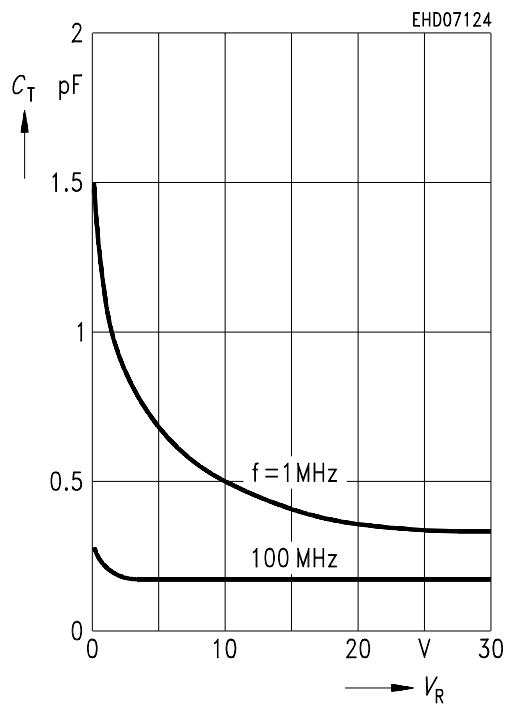
Characteristics per Diode  
at  $T_A = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified.

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

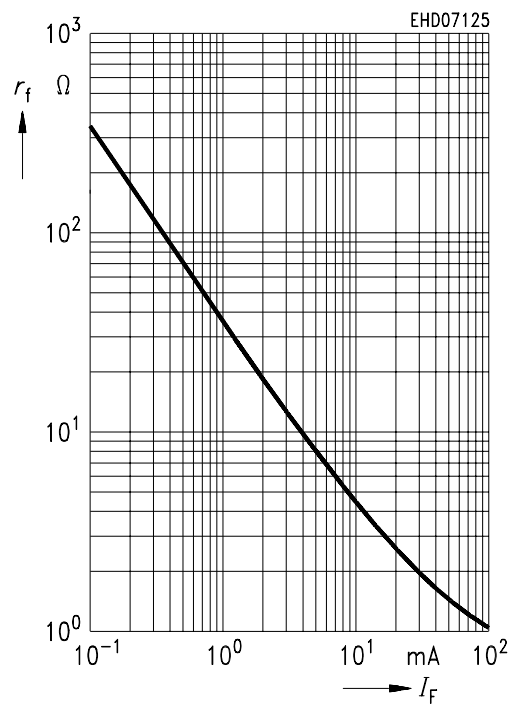
Package Outline



**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  $f = 100 \text{ MHz}$**

