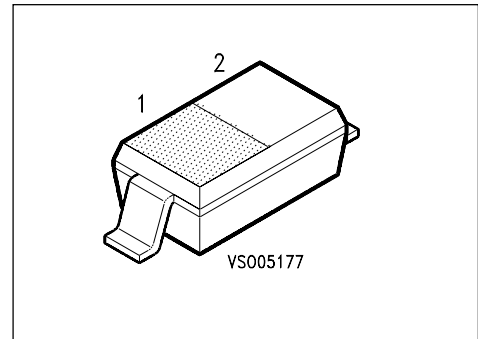


Silicon PIN Diode

BA 596

Preliminary Data

- Current-controlled RF resistor for switching and attenuating applications.
- Frequency range above 1 MHz
- Designed for low IM distortion



| Type | Marking | Ordering Code (tape and reel) | Pin Configuration | Package ¹⁾ |
|--------|---------|-------------------------------|-------------------|-----------------------|
| BA 596 | white P | Q62702-A954 | | SOD-323 |

Maximum Ratings

| Parameter | Symbol | Values | Unit |
|-----------------------------|-----------|----------------|------|
| Reverse voltage | V_R | 50 | V |
| Forward current | I_F | 50 | mA |
| Operating temperature range | T_{op} | - 55 ... + 125 | °C |
| Storage temperature range | T_{stg} | - 55 ... + 150 | |

Thermal Resistance

| | | | |
|--------------------|-------------|-------|-----|
| Junction - ambient | $R_{th JA}$ | ≤ 450 | K/W |
|--------------------|-------------|-------|-----|

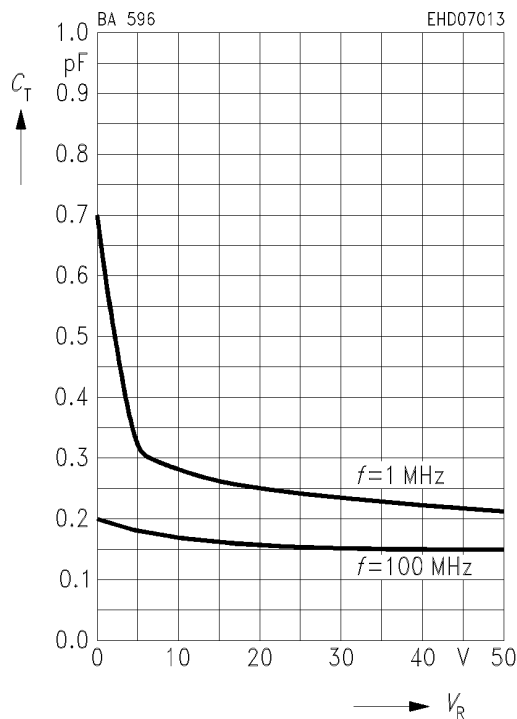
¹⁾ For detailed information see chapter Package Outlines.

Electrical Characteristics

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

| Parameter | Symbol | Values | | | Unit |
|--|--------|---------------|-------------------|--------------|---------------|
| | | min. | typ. | max. | |
| Forward voltage $I_F = 50\text{ mA}$ | V_F | – | – | 1.15 | V |
| Reverse current $V_R = 50\text{ V}$ | I_R | – | – | 50 | nA |
| Diode capacitance $f = 1\text{ MHz}, V_R = 50\text{ V}$ $f = 100\text{ MHz}, V_R = 0\text{ V}$ | C_T | – | 0.23 0.2 | 0.35 – | pF |
| Forward resistance $f = 100\text{ MHz}$ $I_F = 10\text{ }\mu\text{A}$ $I_F = 1\text{ mA}$ $I_F = 10\text{ mA}$ | r_f | – – 6.5 | 2400 58 7.8 | – – 10 | Ω |
| Zero bias conductance $f = 100\text{ MHz}, V_R = 0\text{ V}$ | g_p | – | 40 | – | μS |
| Series inductance | L_s | – | 2 | – | nH |

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



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

