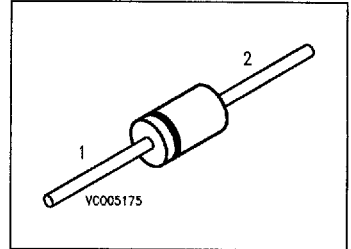


Silicon Variable Capacitance Diode

BB 409

- For VHF tuners
- Not for new design



| Type | Marking | Ordering Code | Pin Configuration | Package ¹⁾ |
|--------|---------|---------------|-------------------|-----------------------|
| BB 409 | green | Q62702-B112 | | DO-35 DHD |

Maximum Ratings

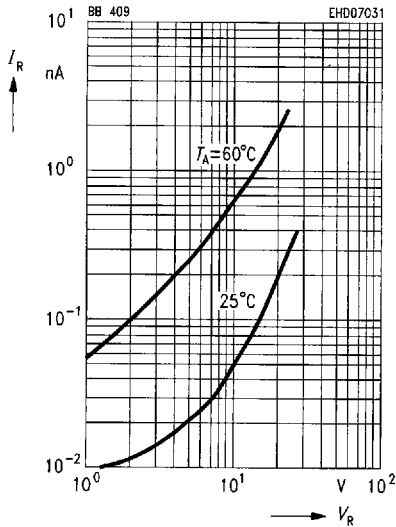
| Parameter | Symbol | Values | Unit |
|--|-----------|----------------|------|
| Reverse voltage | V_R | 28 | V |
| Peak reverse voltage | V_{RM} | 30 | |
| Forward current, $T_A \leq 60\text{ °C}$ | I_F | 20 | mA |
| Storage temperature range | T_{stg} | - 55 ... + 150 | °C |

¹⁾ For detailed information see chapter Package Outlines.

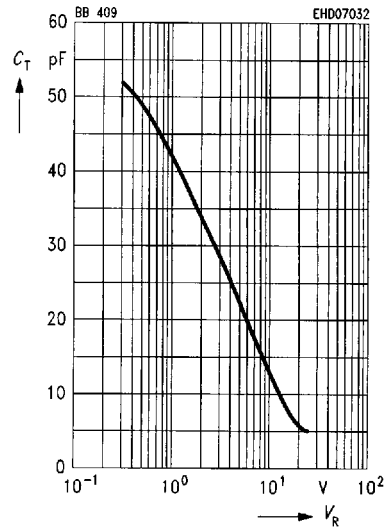
Electrical Characteristicsat $T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified.

| Parameter | Symbol | Values | | | Unit |
|---|--------------------------|-----------|--|-----------|---------------------|
| | | min. | typ. | max. | |
| Reverse current $V_R = 28\text{ V}$ $V_R = 28\text{ V}, T_A = 60\text{ }^\circ\text{C}$ | I_R | — — | — — | 50 0.5 | nA μA |
| Diode capacitance, $f = 1\text{ MHz}$ $V_R = 3\text{ V}$ 25 V | C_T | 26 4.5 | — — | 32 5.6 | pF |
| Capacitance ratio $V_R = 3\text{ V}, 25\text{ V}, f = 1\text{ MHz}$ | $\frac{C_{T3}}{C_{T25}}$ | 5 | — | 6.5 | — |
| Capacitance matching $V_R = 1\text{ V} \dots 28\text{ V}$ | $\frac{\Delta C_T}{C_T}$ | — | — | 3 | % |
| Series resistance $C_T = 12\text{ pF}, f = 100\text{ MHz}$ | r_s | — | 0.3 | — | Ω |
| Q factor $V_R = 3\text{ V}, f = 50\text{ MHz}$ $V_R = 25\text{ V}, f = 200\text{ MHz}$ | Q | — — | 280 600 | — — | — |
| Series inductance | L_s | — | 3 | — | nH |
| Temperature coefficient of diode capacitance, $f = 1\text{ MHz}$ $V_R = 3\text{ V}$ $V_R = 25\text{ V}$ | TC_C | — — | $2.5 \cdot 10^{-4}$ $0.8 \cdot 10^{-4}$ | — — | 1/K |

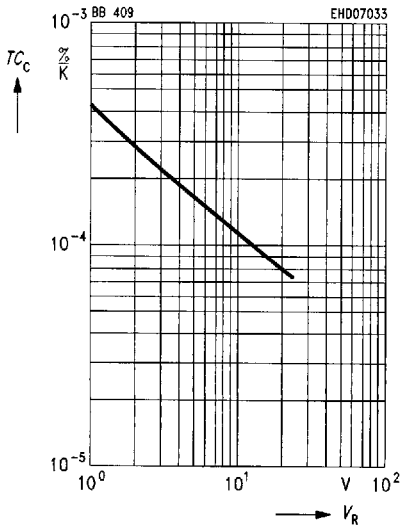
Reverse current $I_R = f(V_R)$



Diode capacitance $C_T = f(V_R)$



Temperature coefficient of diode capacitance $TC_C = f(V_R)$



**Q factor $Q = f(f)$
 $V_R = \text{Parameter}$**

