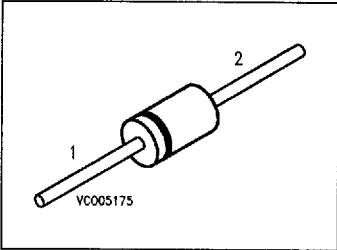



Silicon Variable Capacitance Diode

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

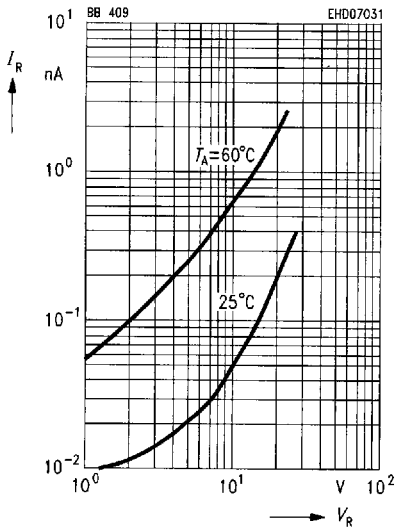
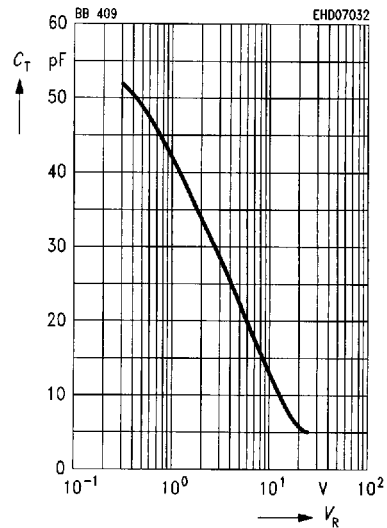
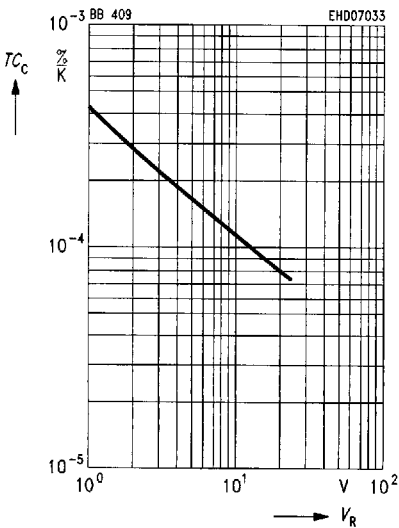
Maximum Ratings

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

¹⁾ For detailed information see chapter Package Outlines.

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Reverse current $V_R = 28\text{ V}$ $V_R = 28\text{ V}, T_A = 60^\circ\text{C}$	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 $Q = f(f)$
 $V_R = \text{Parameter}$** 