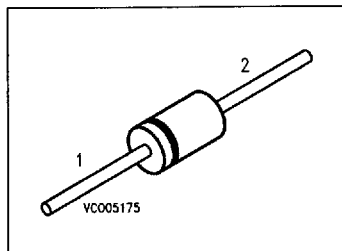


## Silicon Variable Capacitance Diodes

**BB 505 B**  
**BB 505 G**

- For UHF and VHF tuners
- Not for new design



Type	Marking	Ordering Code	Pin Configuration	Package <sup>1)</sup>
BB 505 B	orange	Q62702-B37		DO-35 DHD
BB 505 G		Q62702-B270		

### 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
Operating temperature range	$T_{op}$	- 55 ... + 100	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	- 55 ... + 150	

<sup>1)</sup> 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.	
Reverse current $V_R = 28\text{ V}$ $V_R = 28\text{ V}, T_A = 60\text{ }^\circ\text{C}$	$I_R$	– –	– –	20 0.5	nA $\mu\text{A}$
Diode capacitance, $f = 1\text{ MHz}$ BB 505 B: $V_R = 1\text{ V}$ $V_R = 28\text{ V}$ BB 505 G: $V_R = 1\text{ V}$ $V_R = 28\text{ V}$	$C_T$	– 1.85 – 1.8	17.5 – 17.5 –	– 2.25 – 2.4	pF
Capacitance ratio, $V_R = 1\text{ V}, 28\text{ V}; f = 1\text{ MHz}$ BB 505 B BB 505 G	$\frac{C_{T1}}{C_{T28}}$	7.7 7.5	– –	9.4 9.5	–
Capacitance matching $V_R = 0.5\text{ V} \dots 28\text{ V}$	$\frac{\Delta C_T}{C_T}$	–	–	3	%
Series resistance, $C_T = 9\text{ pF}, f = 470\text{ MHz}$ BB 505 B BB 505 G	$r_s$	– –	– –	0.7 1	$\Omega$
Series inductance	$L_s$	–	3	–	nH
Temperature coefficient of diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$	$TC_C$	–	480	–	ppm/K

**Diode capacitance  $C_T = f(V_R)$**

$f = 1 \text{ MHz}$

