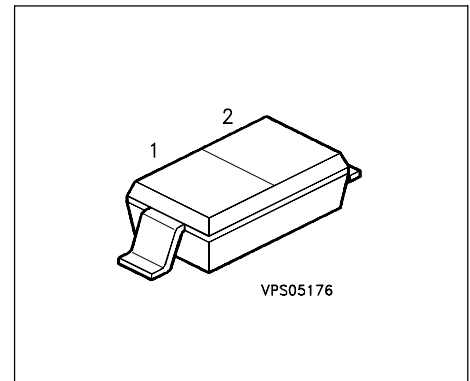


Silicon Tuning Diode

Preliminary data

- For tuning UHF and VHF TV Tuners
- Large capacitance ratio, low series resistance



Type	Marking	Ordering Code	Pin Configuration		Package
BB 545	white U	Q62702-B583	1 = K	2 = A	SOD-323

Maximum Ratings

Parameter	Symbol	Values	Unit
Diode reverse voltage	V_R	30	V
Forward current	I_F	20	mA
Operating temperature range	T_{op}	- 55 ... + 150	°C
Storage temperature	T_{stg}	- 55 ... + 150	

Thermal Resistance

Junction ambient ¹⁾	R_{thJA}	≤ 450	K/W
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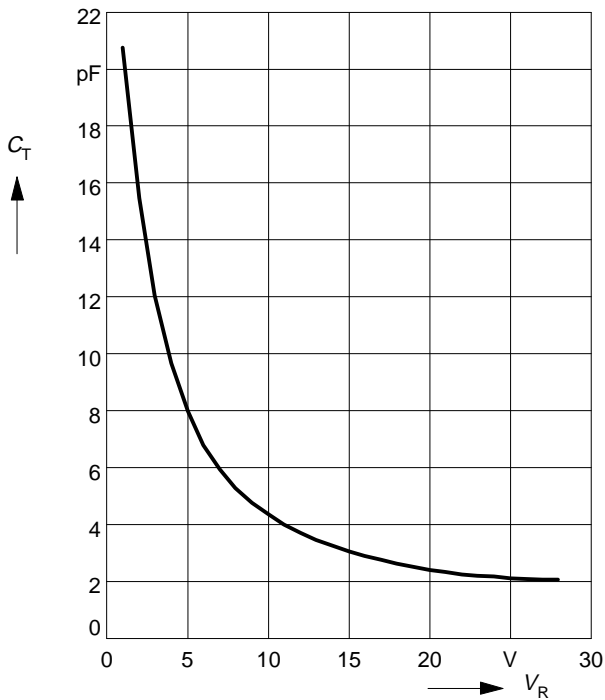
1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 0.5cm² Cu

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Reverse current $V_R = 30\text{ V}, T_A = 25^\circ\text{C}$ $V_R = 30\text{ V}, T_A = 85^\circ\text{C}$	I_R	- -	- -	10 200	nA
AC characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 25\text{ V}, f = 1\text{ MHz}$ $V_R = 28\text{ V}, f = 1\text{ MHz}$	C_T	18.5 13.2 1.85 1.8	20 14.8 2.07 2	21.5 16.4 2.28 2.2	pF
Capacitance ratio $V_R = 2\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$	C_{T2}/C_{T25}	6.3	7.2	8.1	-
Capacitance ratio $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T28}	9	10	11	-
Capacitance matching ¹⁾ $V_R = 1 \dots 28\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	2.5	%
Series resistance $V_R = 3\text{ V}, f = 470\text{ MHz}$	r_s	-	0.6	-	Ω
Series inductance	L_s	-	2	-	nH

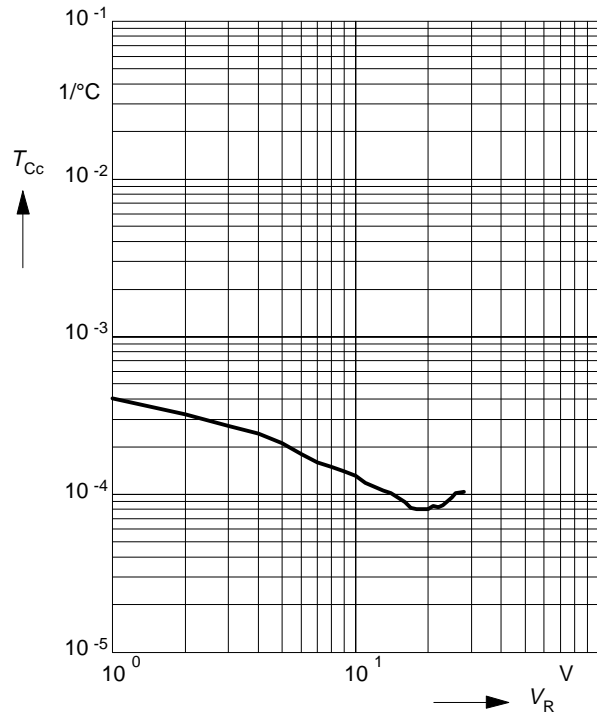
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



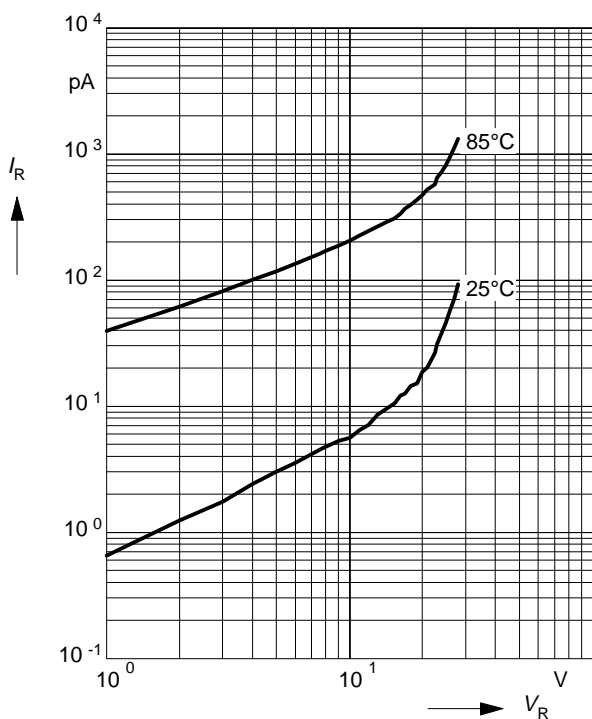
Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$

$f = 1\text{MHz}$



Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



Reverse current $I_R = f(T_A)$

$V_R = 28\text{V}$

