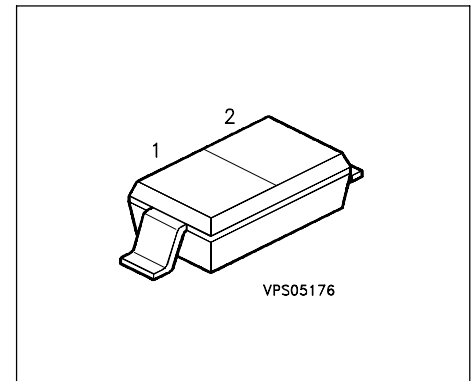


Silicon Tuning Diode

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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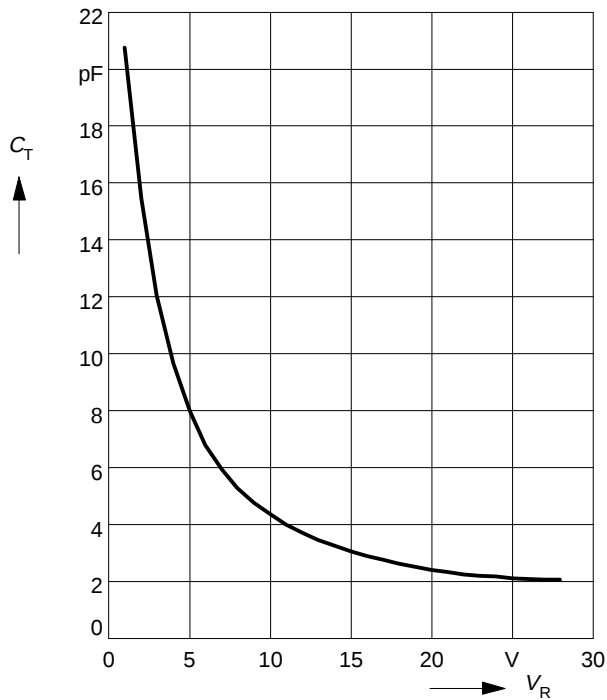
1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 0.5cm² Cu

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

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

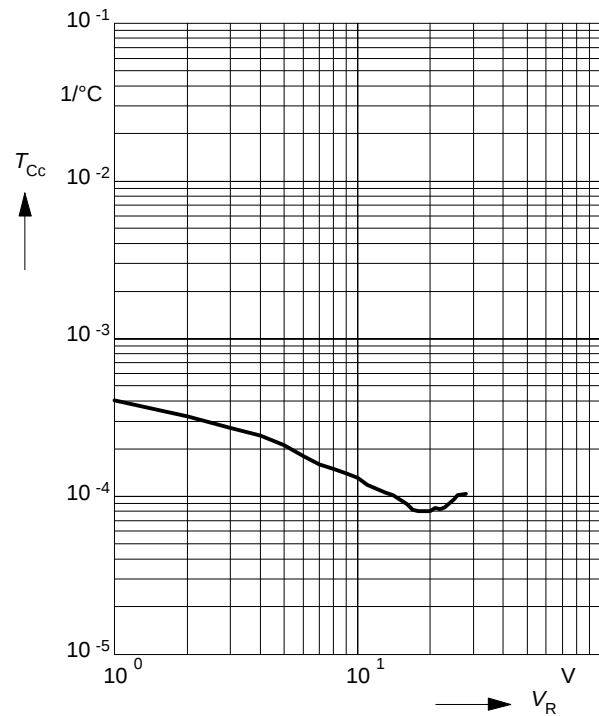
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



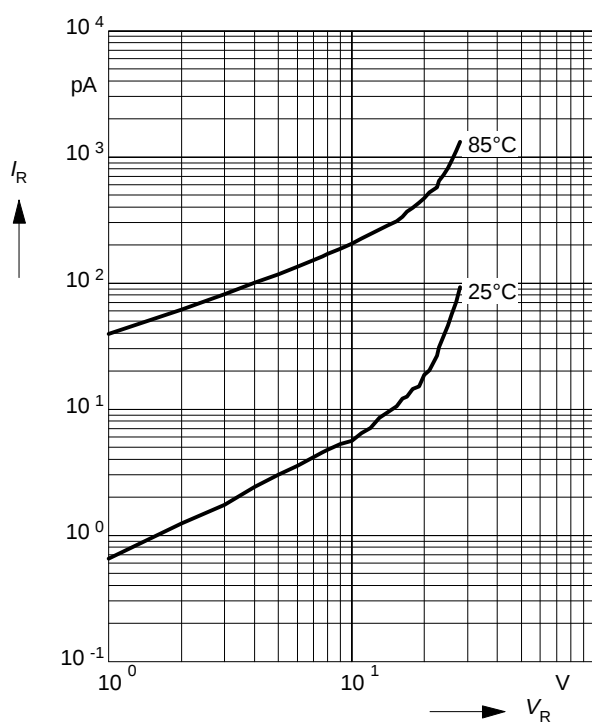
Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$

$f = 1\text{MHz}$



Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



Reverse current $I_R = f(T_A)$

$V_R = 28\text{V}$

