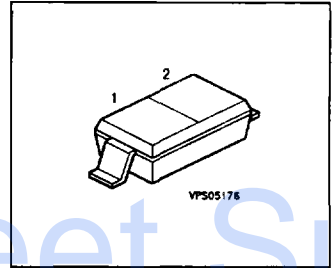


Silicon Variable Capacitance Diode

- For tuning of extended frequency band in VHF TV/ VTR tuners



Datasheet.Su

Type	Marking	Ordering Code	Pin Configuration			Package
BB 639C	yellow S	Q62702-B695	1 = C	2 = A		SOD-323

Maximum Ratings

Parameter	Symbol	Values	Unit
Diode reverse voltage	V_R	30	V
Peak reverse voltage ($R \geq 5k\Omega$)	V_{RM}	35	
Forward current	I_F	20	mA
Operating temperature range	T_{op}	- 55 ... + 125	°C
Storage temperature	T_{stg}	- 55 ... + 150	

Thermal Resistance

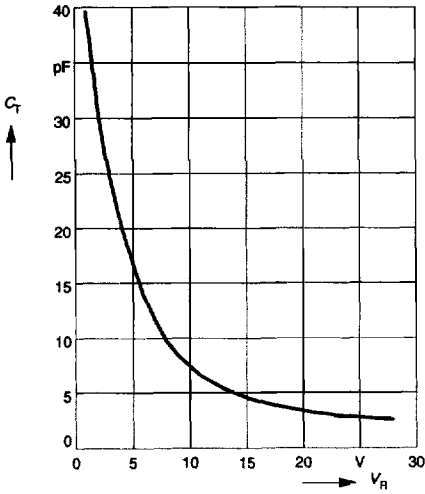
Junction - ambient	R_{thJA}	≤ 450	K/W
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Electrical Characteristics at $T_A=25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Reverse current	I_R				nA
$V_R = 30\text{ V}, T_A = 25^\circ\text{C}$		-	-	10	
$V_R = 30\text{ V}, T_A = 85^\circ\text{C}$		-	-	200	
AC characteristics					
Diode capacitance	C_T				pF
$V_R = 1\text{ V}, f = 1\text{ MHz}$		36	39	42	
$V_R = 2\text{ V}, f = 1\text{ MHz}$		27	30.2	33.2	
$V_R = 25\text{ V}, f = 1\text{ MHz}$		2.5	2.72	3.05	
$V_R = 28\text{ V}, f = 1\text{ MHz}$		2.4	2.55	2.8	
Capacitance ratio	C_{T2}/C_{T25}				-
$V_R = 2\text{ V}, V_R = 25\text{ V}, f = 1\text{ MHz}$		9.5	11.1	-	
Capacitance ratio	C_{T1}/C_{T28}				-
$V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$		13.5	15.3	-	
Capacitance matching	$\Delta C_T/C_T$				%
$V_R = 1 \dots 28\text{ V}, f = 1\text{ MHz}$		-	-	2.5	
Series resistance	r_s				Ω
$V_R = 5\text{ V}, f = 470\text{ MHz}$		-	0.6	0.75	
Series inductance	L_s				nH
		-	2	-	

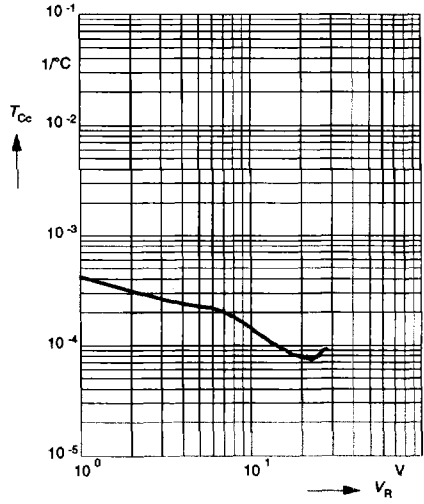
Diode capacitance $C_T = f(V_R)$

$f = 1\text{ MHz}$



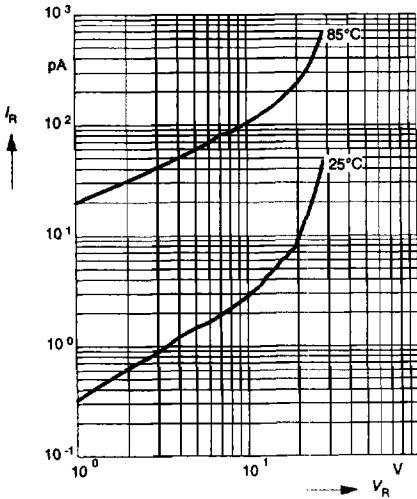
Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$

$f = 1\text{ MHz}$



Reverse current $I_R = f(T_A)$

$V_R = 28\text{ V}$



Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

