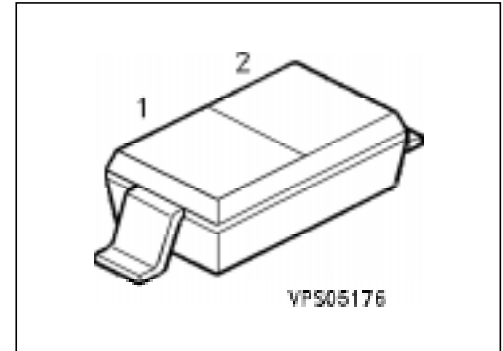


Silicon Variable Capacitance Diode

BB 512

- For AM tuning applications
- Specified tuning range 1 ... 8 V



Type	Ordering Code (tape and reel)	Pin Configuration			Marking	Package
		1		2		
BB 512	Q62702-B479	C		A	white M	SOD-123

Maximum Ratings

Parameter	Symbol	Values	Unit
Reverse voltage	V_R	12	V
Reverse voltage ($R \geq 10 \text{ k}\Omega$)	V_{RM}	15	
Forward current, $T_A \leq 60 \text{ }^\circ\text{C}$	I_F	50	mA
Operating temperature range	T_{op}	- 55 ... + 150	$^\circ\text{C}$
Storage temperature range	T_{stg}	- 55 ... + 150	

Thermal Resistance

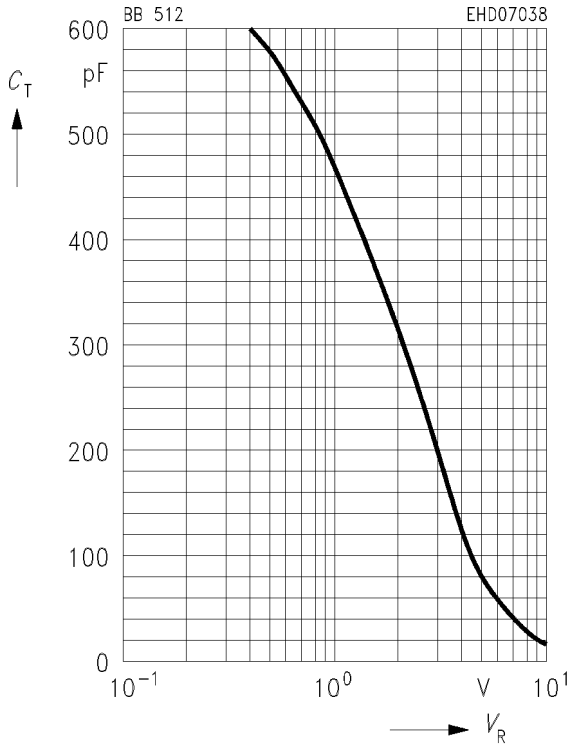
Junction - ambient	$R_{th JA}$	≤ 600	K/W
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Electrical Characteristics

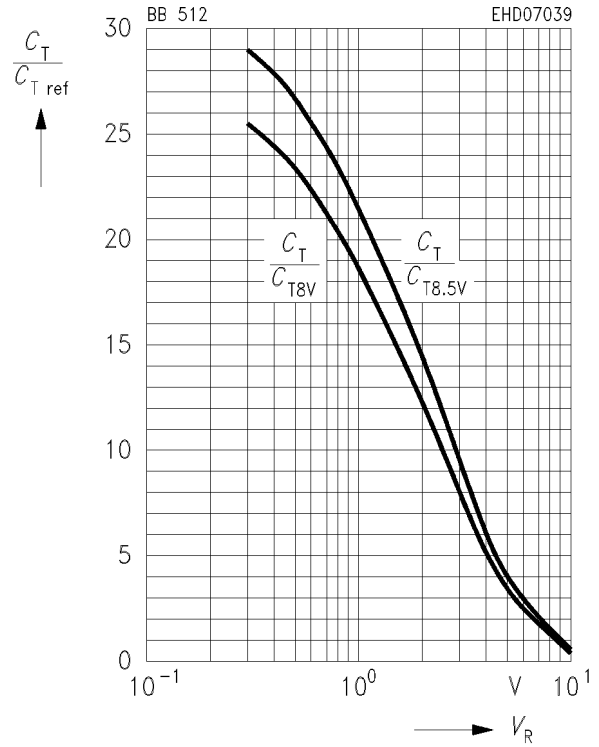
at $T_A = 25\text{ °C}$, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Reverse current $V_R = 10\text{ V}$ $V_R = 10\text{ V}, T_A = 60\text{ °C}$	I_R	– –	– –	20 200	nA
Diode capacitance, $f = 1\text{ MHz}$ $V_R = 1\text{ V}$ $V_R = 8\text{ V}$	C_T	440 17.5	470 –	520 34	pF
Capacitance ratio $V_R = 1\text{ V}, 8\text{ V}$	$\frac{C_{T1}}{C_{T8}}$	15	–	–	–
Series resistance $f = 0.5\text{ MHz}, V_R = 1\text{ V}$	r_s	–	1.4	–	Ω
Figure of merit $f = 0.5\text{ MHz}, V_R = 1\text{ V}$	Q	–	480	–	–
Temperature coefficient of diode capacitance $f = 1\text{ MHz}, V_R = 1\text{ V}$	TC_C	–	500	–	ppm/K
Capacitance matching $V_R = 1 \dots 8\text{ V}$	$\frac{\Delta C_T}{C_T}$	–	–	3	%

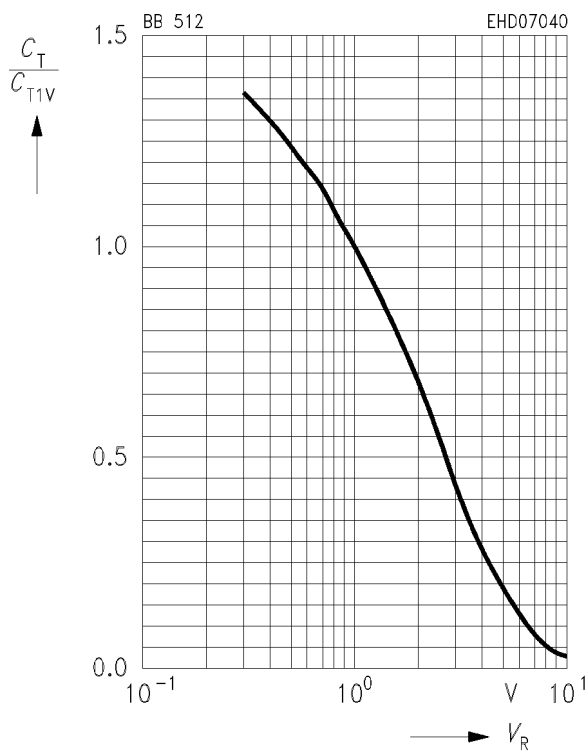
Diode capacitance $C_T = f(V_R)$



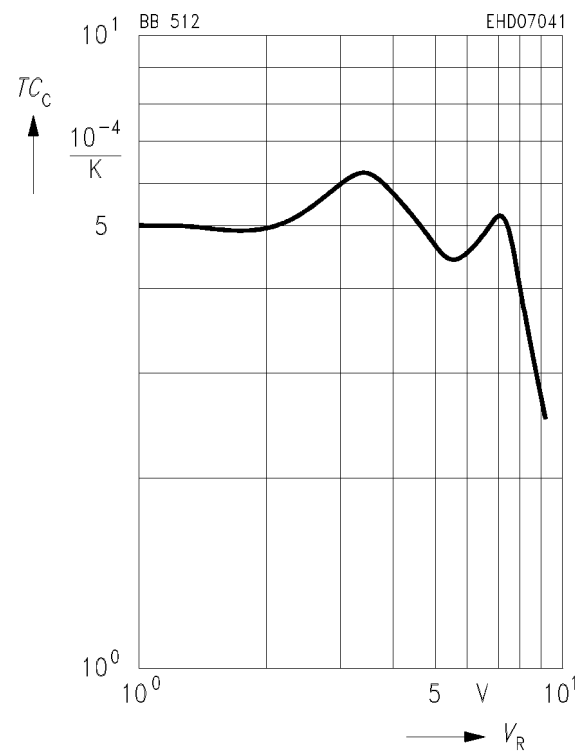
Capacitance ratio $C_T/C_{Tref} = f(V_R)$



Capacitance ratio $C_T/C_{T1V} = f(V_R)$



Temperature coefficient of junction capacitance $TC_C = f(V_R)$





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