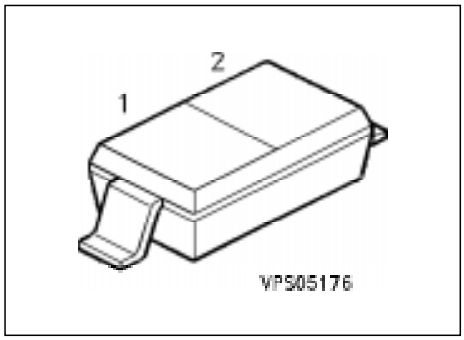
SIEMENS

Silicon Variable Capacitance Diode — BB 512

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



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

Maximum Ratings

Parameter	Symbol	Values	Unit
Reverse voltage	V_R	12	V
Reverse voltage ($R \geq 10$ kΩ)	V_{RM}	15	
Forward current, $T_A \leq 60$ °C	I_F	50	mA
Operating temperature range	T_{op}	– 55 … + 150	°C
Storage temperature range	T_{stg}	– 55 … + 150	

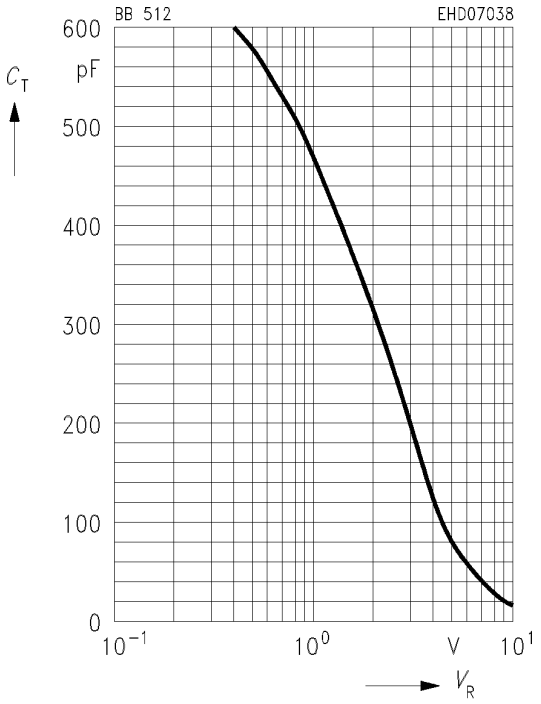
Thermal Resistance

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

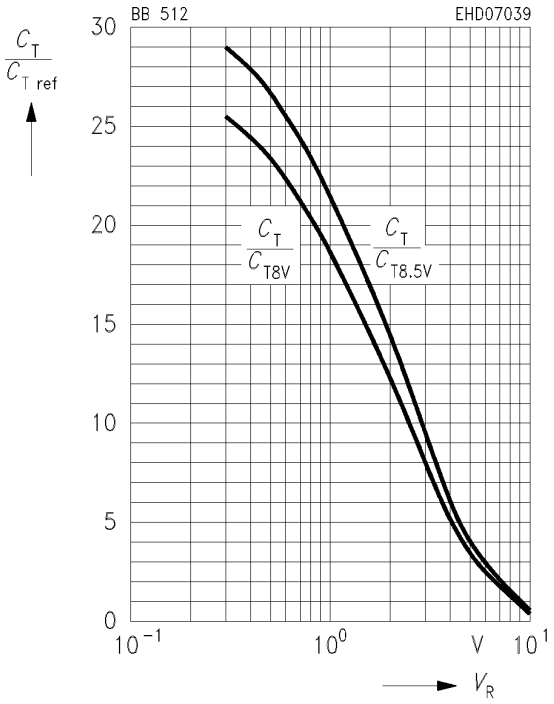
Electrical Characteristics
at T_A = 25 °C, unless otherwise specified.

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

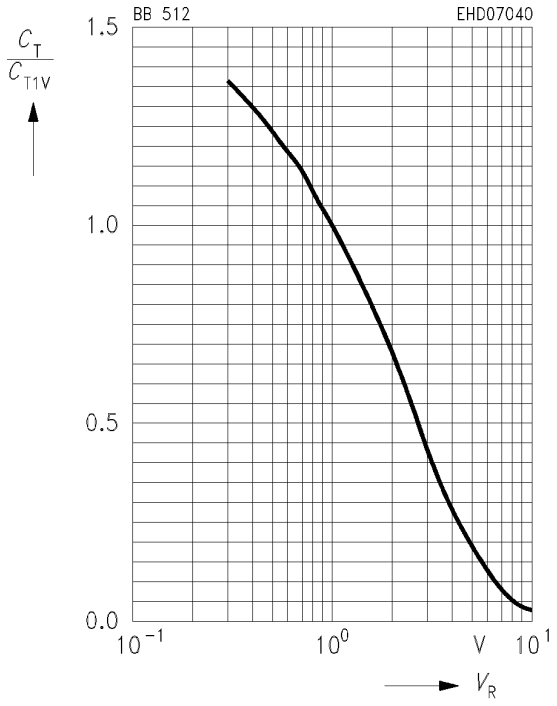
Diode capacitance $C_T = f(V_R)$



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



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



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