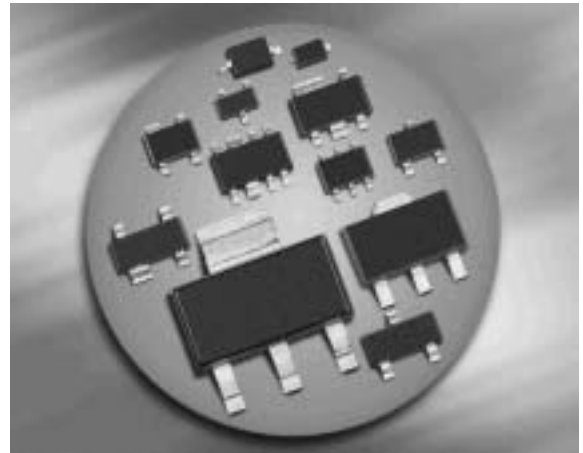
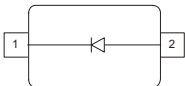


Silicon Tuning Diodes

- Extended frequency range up to 2.5 GHz;
special design for use in TV-sat tuners
- High capacitance ratio
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101



BB833



Type	Package	Configuration	L_S (nH)	Marking
BB833	SOD323	single	1.8	white X

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

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

¹Pb-containing package may be available upon special request

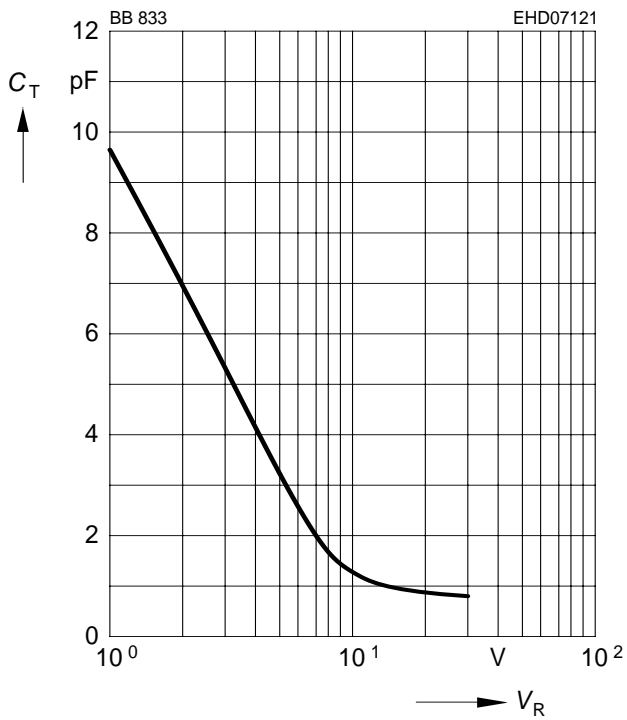
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 30\text{ V}$ $V_R = 30\text{ V}, T_A = 85^\circ\text{C}$	I_R	- -	- -	- 20 500	nA
AC Characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 28\text{ V}, f = 1\text{ MHz}$	C_T	8.5 0.6	9.3 0.75	10 0.9	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	C_{T1}/C_{T28}	11	12.4	-	
Capacitance matching ¹⁾ $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	3	%
Series resistance $V_R = 1\text{ V}, f = 470\text{ MHz}$	r_S	-	1.8	-	Ω

¹For details please refer to Application Note 047.

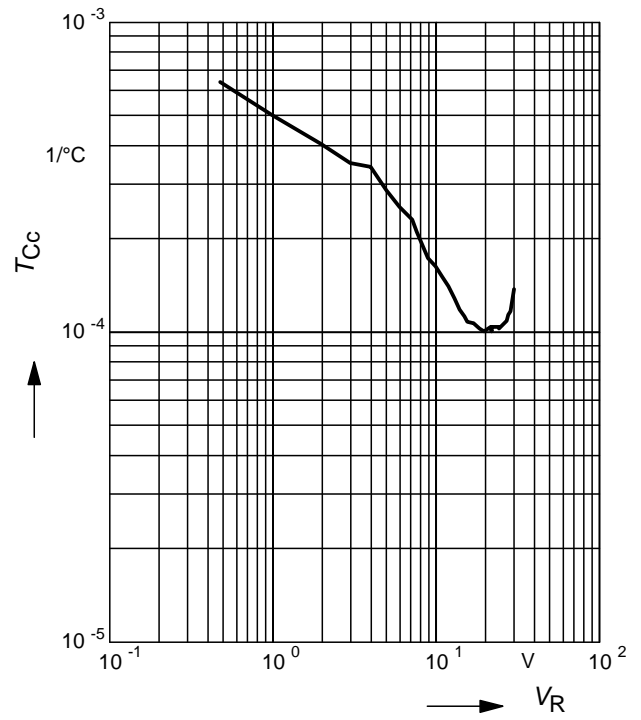
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

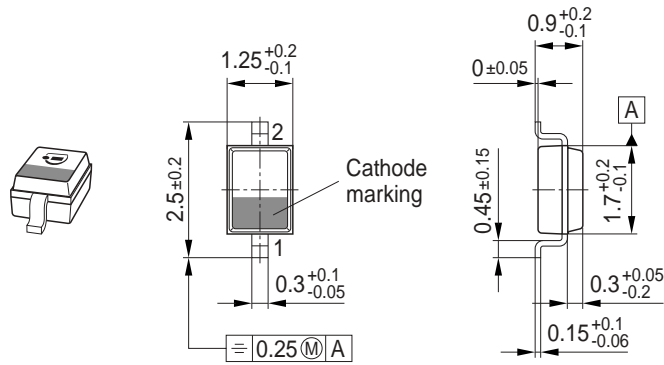


Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$

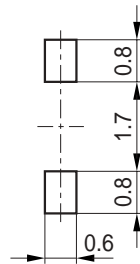
$T_{Cc} = f(V_R)$



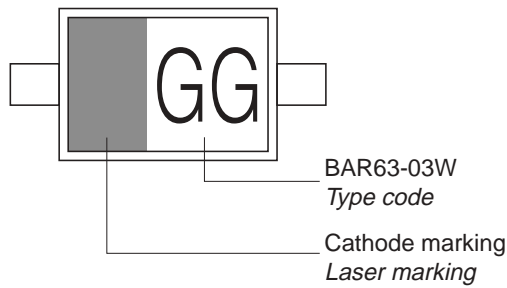
Package Outline



Foot Print

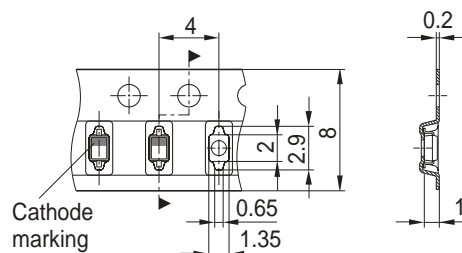


Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel



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