

**Silicon Tuning Diodes**

- Extended frequency range up to 2.5 GHz;  
spezial design for use in TV-sat tuners
- High capacitance ratio
- Pb-free (RoHS compliant) package


**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	

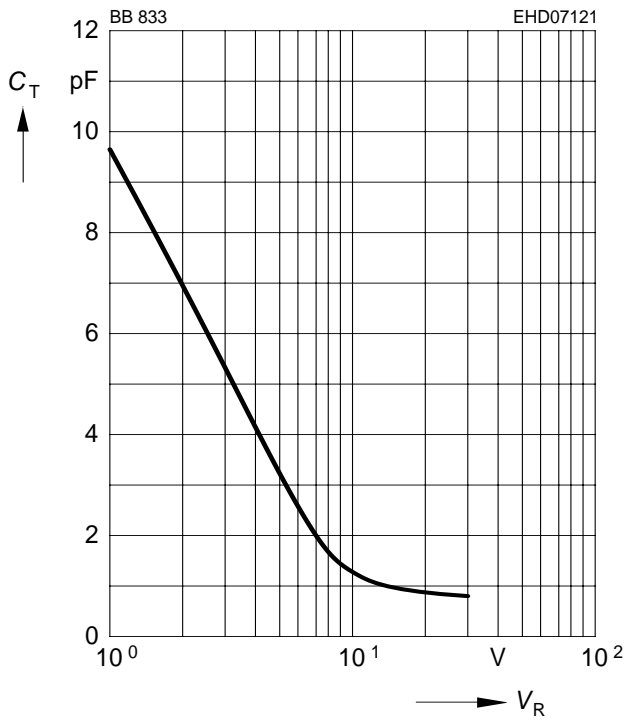
**Electrical Characteristics at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Reverse current $V_R = 30\text{ V}$ $V_R = 30\text{ V}, T_A = 85^\circ\text{C}$	$I_R$	- -	- -	20 500	nA
<b>AC Characteristics</b>					
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 <sup>1)</sup> $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	3	%
Series resistance $V_R = 1\text{ V}, f = 470\text{ MHz}$	$r_S$	-	1.8	-	$\Omega$

<sup>1</sup>For details please refer to Application Note 047.

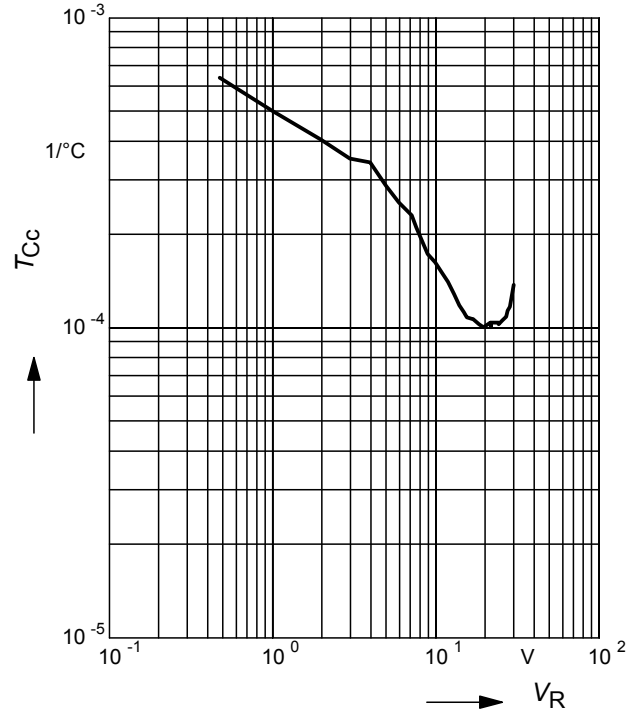
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



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

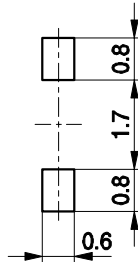
$T_{Cc} = f(V_R)$



Package Outline



Foot Print

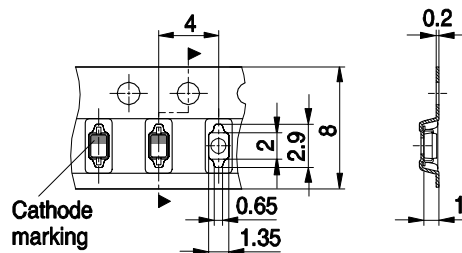


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel  
 Reel ø330 mm = 10.000 Pieces/Reel



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