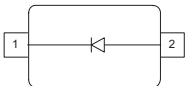


**Silicon Variable Capacitance Diodes**

- Frequency range up to 2 GHz
- Special design for use in TV-sat tuners
- Pb-free (RoHS compliant) package <sup>1)</sup>
- Qualified according AEC Q101


**BB831**


Type	Package	Configuration	$L_S$ (nH)	Marking
BB831	SOD323	single	1.8	white T

**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 ... 125	°C
Storage temperature	$T_{stg}$	-55 ... 150	

<sup>1</sup>Pb-containing package may be available upon special request

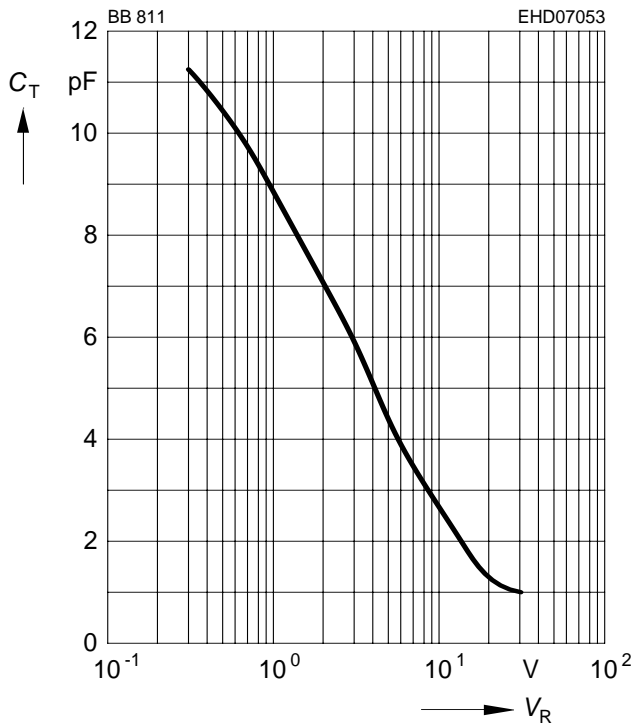
**Electrical Characteristics** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<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 $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 28\text{ V}, f = 1\text{ MHz}$	$C_T$	7.8 0.85	8.8 1.02	9.8 1.2	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 28\text{ V}, f = 1\text{ MHz}$	$C_{T1}/C_{T28}$	7.8	8.6	9.5	
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 $V_R = 1\text{ V}, f = 100\text{ MHz}$	$r_S$	-	1	-	$\Omega$

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

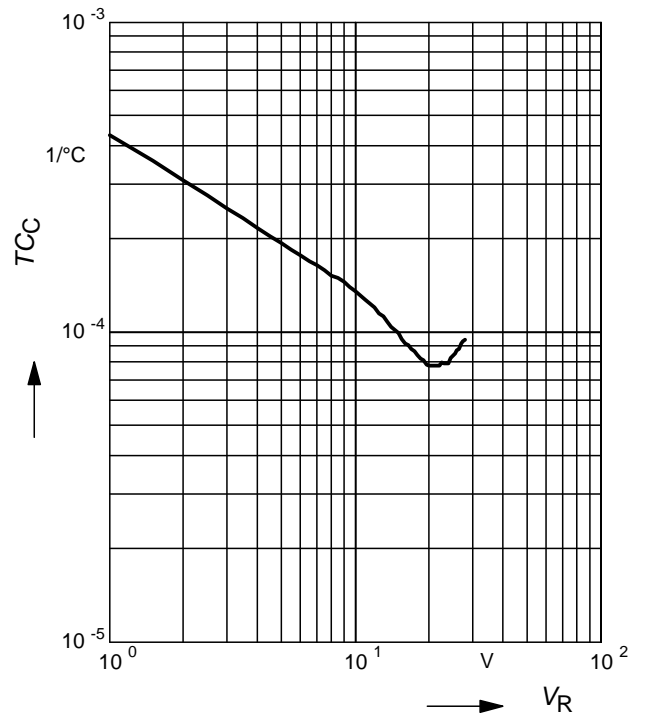
**Diode capacitance**  $C_T = f(V_R)$

$f = 1\text{MHz}$

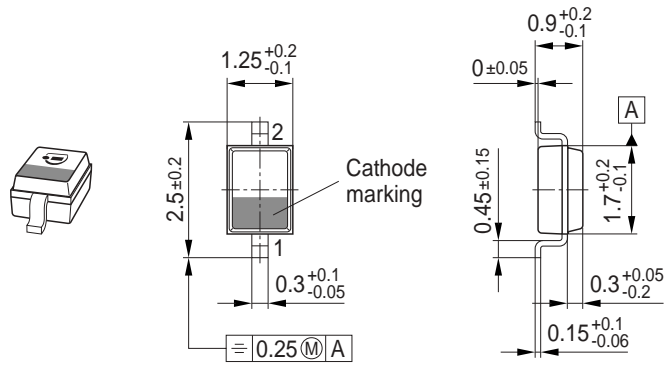


**Temperature coefficient of the diode**

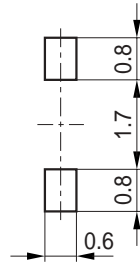
**capacitance**  $T_{CC} = f(V_R)$



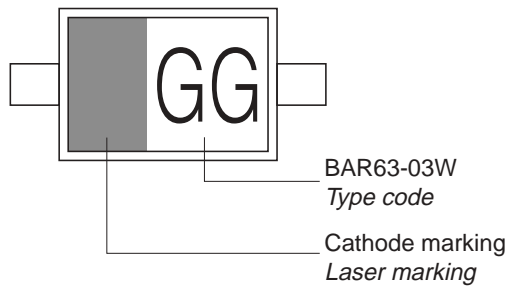
Package Outline



Foot Print

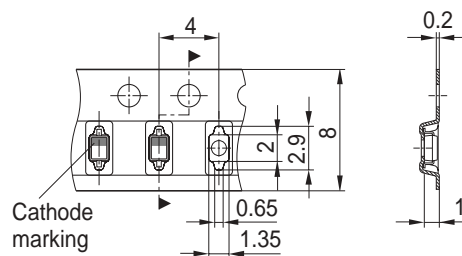


Marking Layout (Example)



Standard Packing

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



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