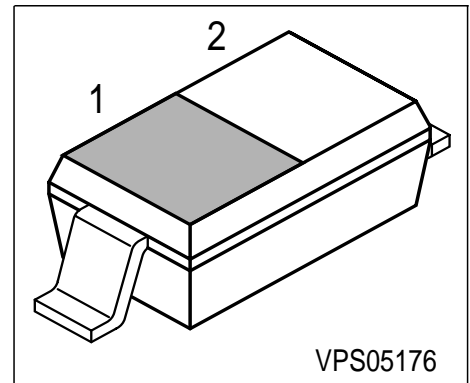


**Silicon Tuning Diode**

- Extended frequency range up to 2.5 GHz;  
special design for use in TV-sat indoor units
- High capacitance ratio



Type	Marking	Pin Configuration		Package
BB833	white X	1 = C	2 = A	SOD323

**Maximum Ratings**

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

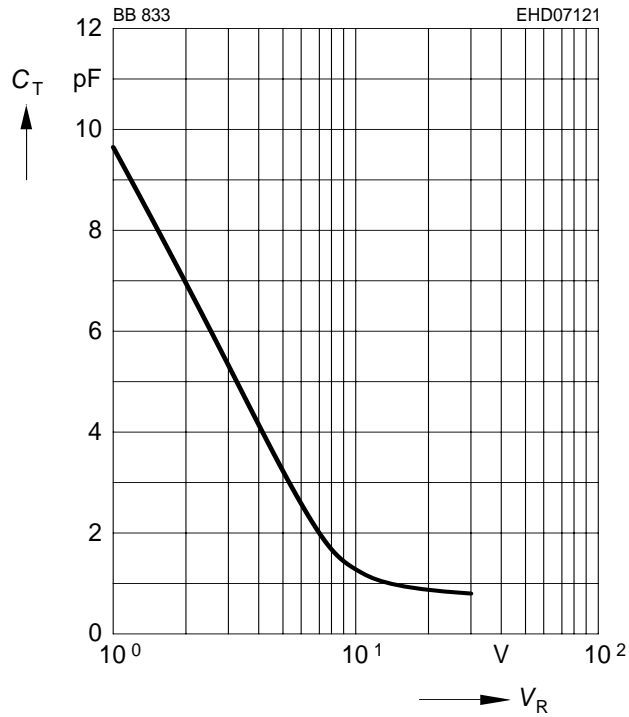
**Electrical Characteristics** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified.

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

1) In-line matching. 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  $T_{Cc} = f(V_R)$

