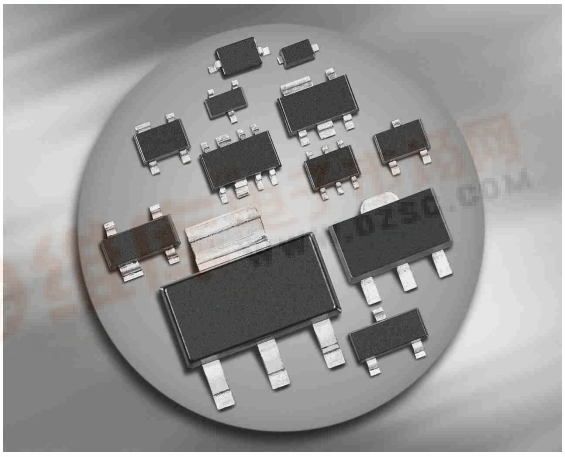
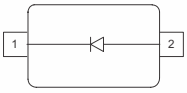
Silicon Variable Capacitance Diodes

- Frequency range up to 2 GHz
- Special design for use in TV-sat indoor unit



BB831



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

Maximum Ratings at T_A = 25°C, unless otherwise specified

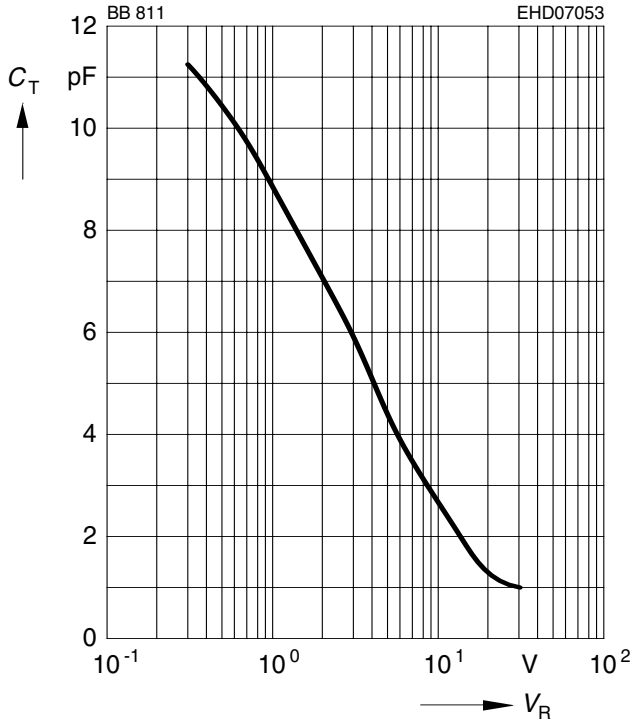
Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	30	V
Peak reverse voltage ($R \geq 5k\Omega$)	V_{RM}	35	
Forward current	I_F	20	mA
Operating temperature range	T_{op}	-55 ... 125	°C
Storage temperature	T_{stg}	-55 ... 150	

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current	I_R				nA
V_R = 30 V		-	-	20	
V_R = 30 V, T_A = 85 °C		-	-	500	
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 1 V, f = 1 MHz		7.8	8.8	9.8	
V_R = 28 V, f = 1 MHz		0.85	1.02	1.2	
Capacitance ratio	C_{T1}/C_{T28}	7.8	8.6	9.5	
V_R = 1 V, V_R = 28 V, f = 1 MHz					
Capacitance matching[1)]	$\Delta C_T/C_T$	-	-	3	%
V_R = 1 V, V_R = 28 V, f = 1 MHz					
Series resistance	r_S	-	1	-	Ω
V_R = 1 V, f = 100 MHz					

[1]For details please refer to Application Note 047.

Diode capacitance $C_T = f(V_R)$
f = 1MHz



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