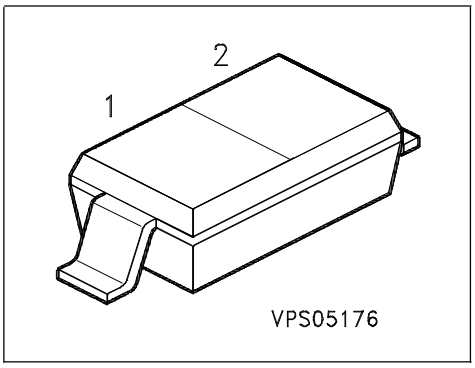
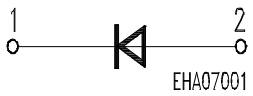
Silicon Variable Capacitance Diode

Preliminary data

- Frequency range up to 2 GHz
  special design for use in TV-sat indoor units





Type	Marking	Ordering Code	Pin Configuration		Package
BB 831	white T	Q62702-B592	1 = C	2 = A	SOD-323

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 ...+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 V_R = 30 V	I_R	-	-	20	nA
Reverse current V_R = 30 V, T_A = 85 °C	I_R	-	-	500	
AC characteristics					
Diode capacitance V_R = 1 V, f = 1 MHz V_R = 28 V, f = 1 MHz	C_T	 7.8 0.85	 8.8 1.02	 9.8 1.2	pF
Capacitance ratio V_R = 1 V, V_R = 28 V, f = 1 MHz	C_{T1}/C_{T28}	7.8	8.6	9.5	-
Capacitance matching V_R = 1 V, V_R = 28 V, f = 1 MHz	$\Delta C_T/C_T$	-	-	3	%
Series resistance V_R = 1 V, f = 100 MHz	r_s	-	1	-	Ω
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 = 1MHz