SIEMENS

BB 639C

Silicon Variable Capacitance Diode

- For tuning of extended frequency band
in VHF TV / VTR tuners

VPS05176

EHA07001
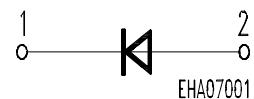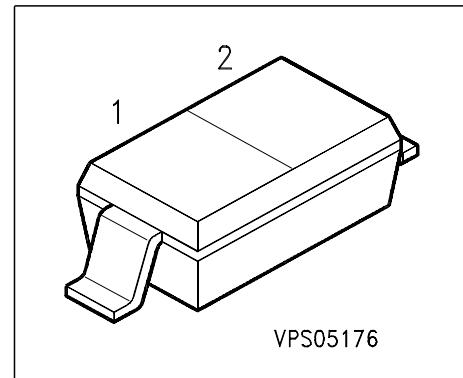
Type	Marking	Ordering Code	Pin Configuration		Package
BB 639C	yellow S	Q62702-B695	1 = C	2 = A	SOD-323

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	-	-	10	nA
Reverse current $V_R = 30$ V, $T_A = 85$ °C	I_R	-	-	200	
AC characteristics					
Diode capacitance $V_R = 1$ V, $f = 1$ MHz $V_R = 2$ V, $f = 1$ MHz $V_R = 25$ V, $f = 1$ MHz $V_R = 28$ V, $f = 1$ MHz	C_T	36 27 2.5 2.4	39 30.2 2.72 2.55	42 33.2 3.05 2.8	pF
Capacitance ratio $V_R = 2$ V, $V_R = 25$ V, $f = 1$ MHz	C_{T2}/C_{T25}	9.5	11.1	-	-
Capacitance ratio $V_R = 1$ V, $V_R = 28$ V, $f = 1$ MHz	C_{T1}/C_{T28}	13.5	15.3	-	
Capacitance matching $V_R = 1$ V, $V_R = 28$ V, $f = 1$ MHz	$\Delta C_T/C_T$	-	-	2.5	%
Series resistance $V_R = 5$ V, $f = 470$ MHz	r_S	-	0.6	0.75	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
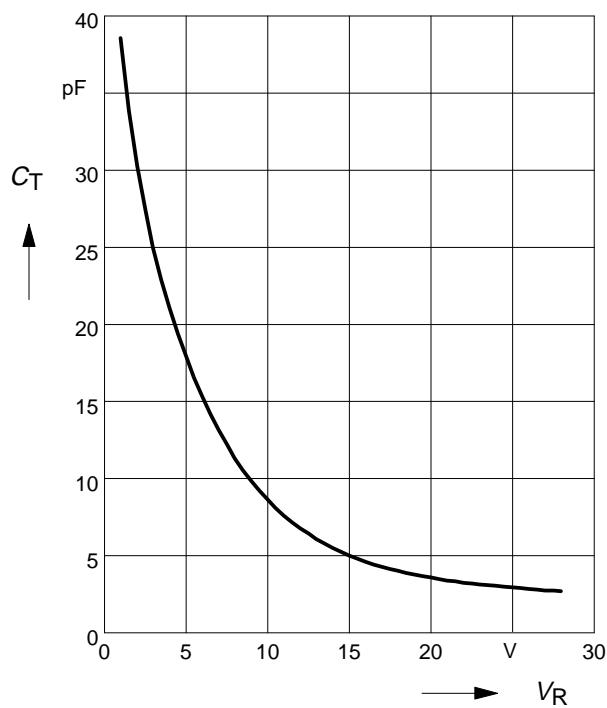
Temperature coefficient of the diode capacitance $T_{Cc} = f(V_R)$
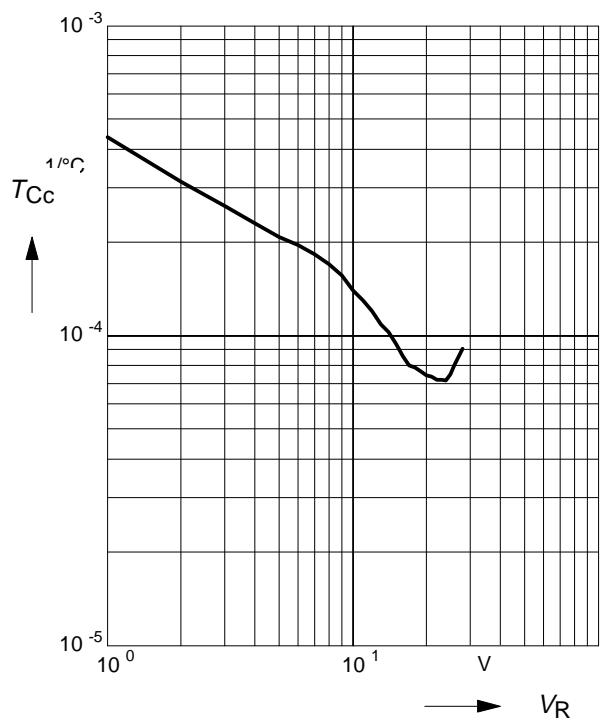
Reverse current $I_R = f(V_R)$

T_A = Parameter
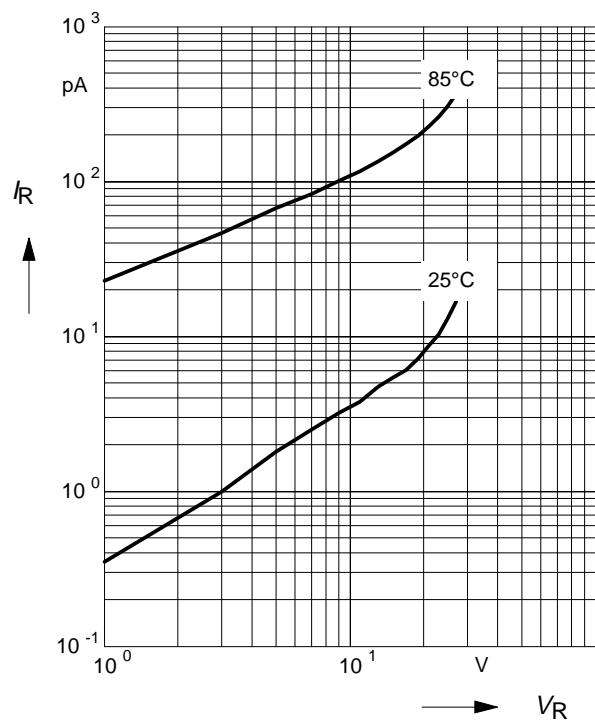
Reverse current $I_R = f(T_A)$

V_R = 28V