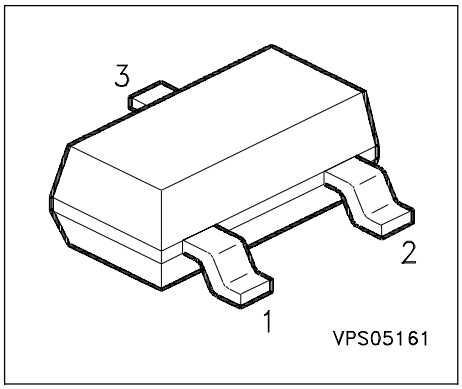
SIEMENS

BB 914

Silicon Variable Capacitance Diode

- For FM radio tuner with extended frequency band
- High tuning ratio low supply voltage (car radio)
- Monolitic chip (common cathode) for perfect dual diode tracking
- Good linearity of C-V curve
- High figure of merit



Type	Marking	Ordering Code	Pin Configuration			Package
BB 914	SMs	Q62702-B673	1 = A1	2 = A2	3=C1/2	SOT-23

Maximum Ratings

Parameter	Symbol	Values	Unit
Diode reverse voltage	V_R	18	V
Peak reverse voltage	V_{RM}	20	
Forward current, $T_A \leq 60°C$	I_F	50	mA
Operating temperature range	T_{op}	- 55 ... + 125	°C
Storage temperature	T_{stg}	- 55 ... + 150	
Thermal Resistance			
Junction - ambient	R_{thJA}	≤ 600	K/W

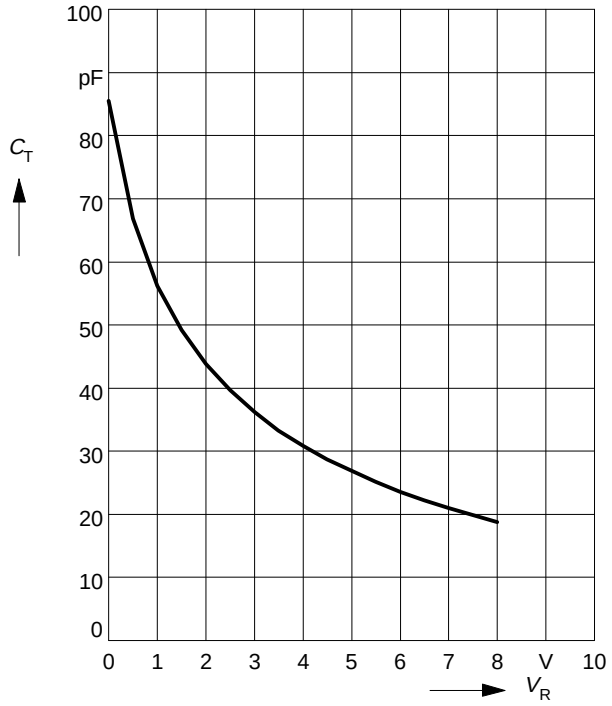
Electrical Characteristics at T_A=25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Reverse current	I_R				nA
V_R = 16 V, T_A = 25 °C		-	-	20	
V_R = 16 V, T_A = 60 °C		-	-	200	
AC characteristics					
Diode capacitance	C_T				pF
V_R = 2 V, f = 1 MHz		42.5	43.75	45	
V_R = 8 V, f = 1 MHz		17.6	18.7	19.75	
Capacitance ratio	C_{T2}/C_{T8}				-
V_R = 2 V, V_R = 8 V, f = 1 MHz		2.28	2.34	2.42	
Capacitance matching 2)	$\Delta C_T/C_T$				%
V_R = 2 V, V_R = 8 V, f = 1 MHz		-	-	1.5	
Series resistance	r_s				Ω
C_T = 38 pF, f = 100 MHz		-	0.28	-	

Diode capacitance per diode

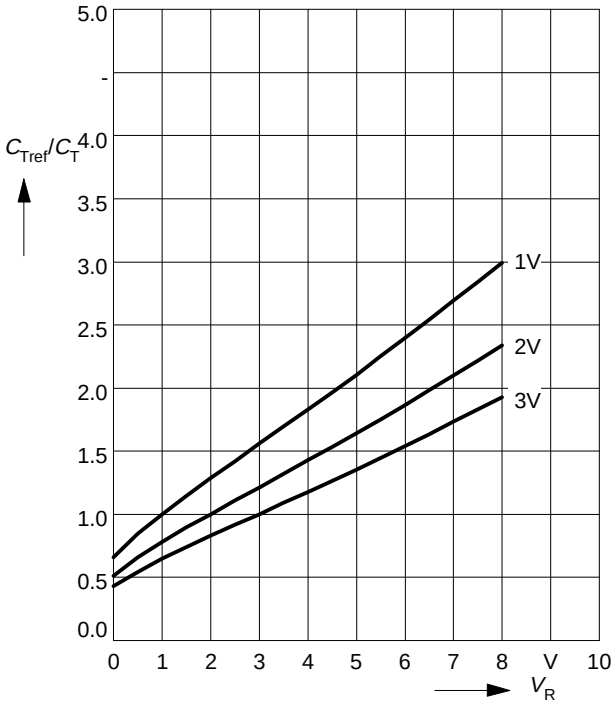
$C_T = f(V_R)$

f = 1MHz



Capacitance ratio $C_{Tref}/C_T = f(V_R)$

V_{ref} = Parameter, f = 1MHz



Package