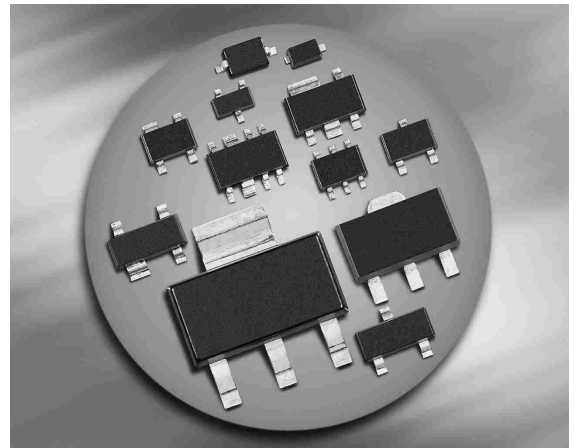
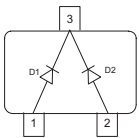


**Silicon Variable Capacitance Diode**

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


**BB914**


Type	Package	Configuration	$L_S$ (nH)	Marking
BB914	SOT23	common cathode	1.8	SM

**Maximum Ratings** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	18	V
Peak reverse voltage ( $R \geq 5\text{k}\Omega$ )	$V_{RM}$	20	
Forward current	$I_F$	50	mA
Operating temperature range	$T_{op}$	-55 ... 125	°C
Storage temperature	$T_{stg}$	-55 ... 150	

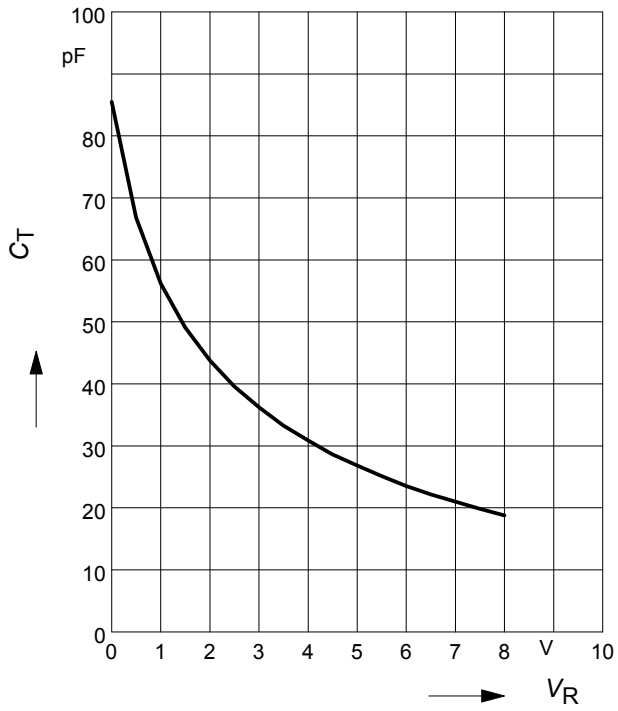
**Electrical Characteristics at  $T_A = 25^\circ\text{C}$ , unless otherwise specified**

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Reverse current $V_R = 16\text{ V}$ $V_R = 16\text{ V}, T_A = 85^\circ\text{C}$	$I_R$	- - -	- - -	20 200	nA
<b>AC Characteristics</b>					
Diode capacitance $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 8\text{ V}, f = 1\text{ MHz}$	$C_T$	42.5 17.6	43.75 18.7	45 19.75	pF
Capacitance ratio $V_R = 2\text{ V}, V_R = 8\text{ V}, f = 1\text{ MHz}$	$C_{T2}/C_{T8}$	2.28	2.34	2.42	
Capacitance matching <sup>1)</sup> $V_R = 2\text{ V}, V_R = 8\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	1.5	%
Series resistance $V_R = 2\text{ V}, f = 100\text{ MHz}$	$r_S$	-	0.28	-	$\Omega$

<sup>1</sup>For details please refer to Application Note 047.

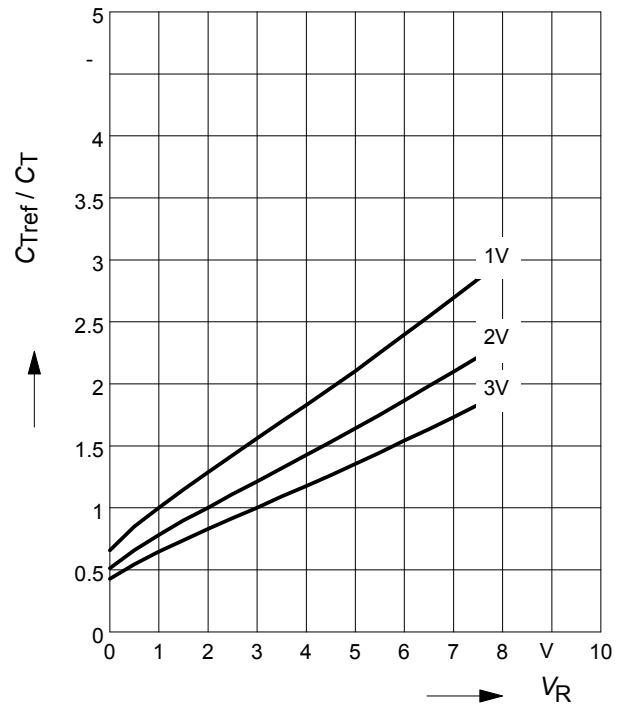
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



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

$f = 1\text{MHz}$





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