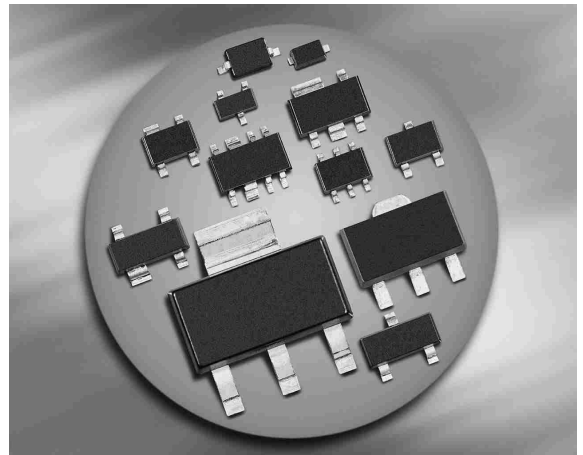
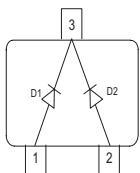


Silicon Variable Capacitance Diodes

- For FM radio tuners with extended frequency band
- High tuning ratio at low supply voltage (car radio)
- Monolithic chip (common cathode) for perfect dual diode tracking
- Coded capacitance groups and group matching available
- Pb-free (RoHS compliant) package



BB814



Type	Package	Configuration	L_S (nH)	Marking
BB814	SOT23	common cathode	1.8	SH1/2*

*For differences see next page Capacitance groups

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-	V_{RM}	20	
Forward current	I_F	50	mA
Operating temperature range	T_{op}	-55 ... 125	$^\circ\text{C}$
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.	
DC Characteristics					
Reverse current $V_R = 16\text{ V}$ $V_R = 16\text{ V}, T_A = 60\text{ }^{\circ}\text{C}$	I_R	- -	- -	20 200	nA
AC Characteristics					
Diode capacitance ¹⁾ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 8\text{ V}, f = 1\text{ MHz}$	C_T	43 19.1	44.75 20.8	46.5 22.7	pF
Capacitance ratio $V_R = 2\text{ V}, V_R = 8\text{ V}, f = 1\text{ MHz}$	C_{T2}/C_{T8}	2.05	2.15	2.25	
Capacitance matching ²⁾ $V_R = 2\text{ V}, V_R = 8\text{ V}, f = 1\text{ MHz}$	$\Delta C_T/C_T$	-	-	3	%
Series resistance $V_R = 2\text{ V}, f = 100\text{ MHz}$	r_S	-	0.18	-	Ω
Q factor $f = 100\text{ MHz}, V_R = 2\text{ V}$	Q	-	200	-	

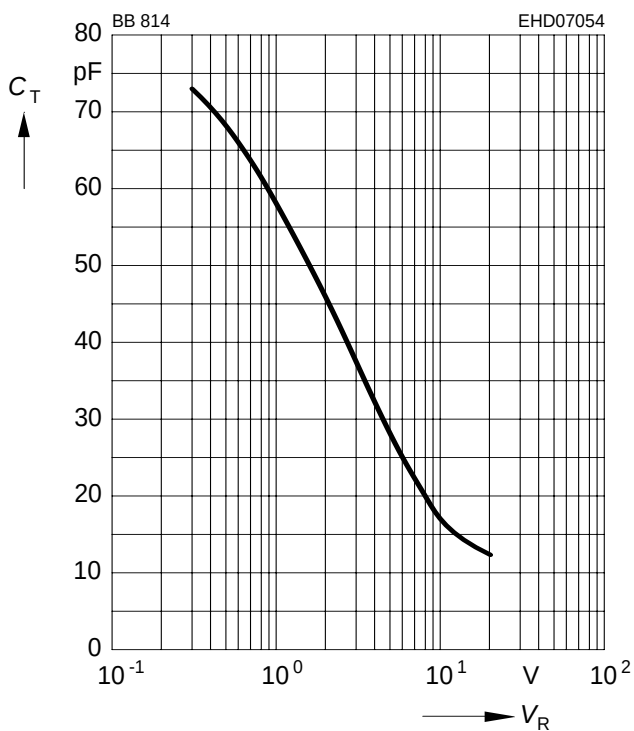
¹Capacitance groups at 2V and 8V, coded 1; 2

C_T /groups	1	2
C_{2V} min	43pF	44.5pF
C_{2V} max	45pF	46.5pF
C_{8V} min	19.1pF	19.75pF
C_{8V} max	21.95pF	22.7pF

²For details please refer to Application Note 047.

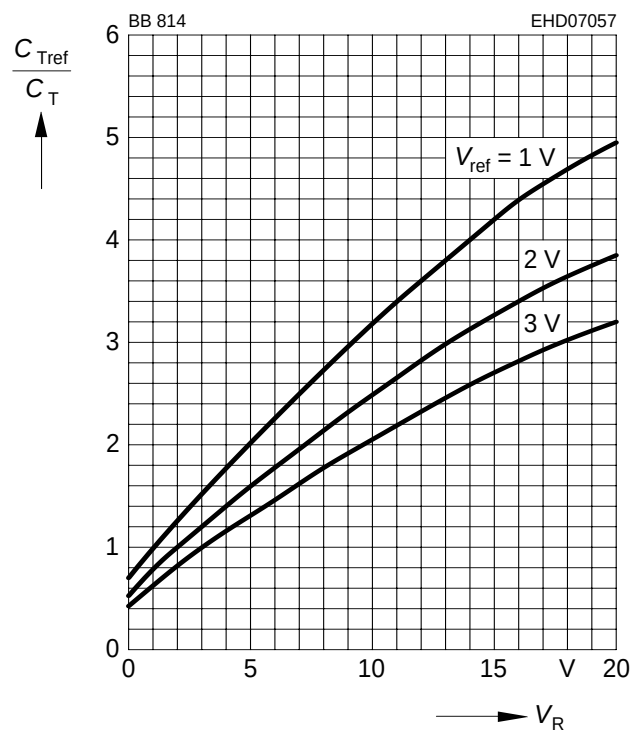
Diode capacitance $C_T = f(V_R)$

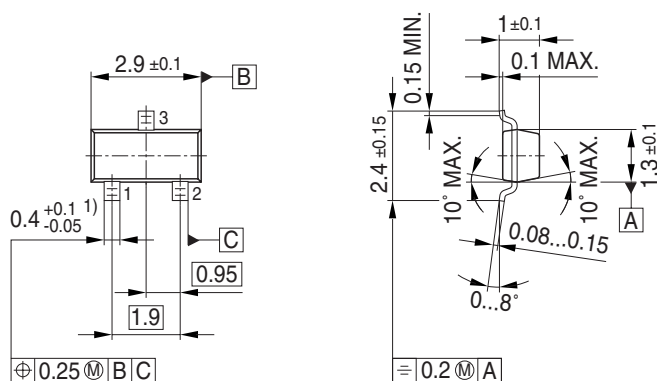
$f = 1\text{MHz}$



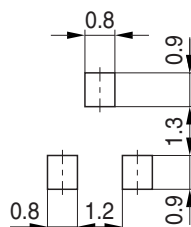
Capacitance ratio $C_{T\text{ref}}/C_T = f(V_R)$

$f = 1\text{MHz}$



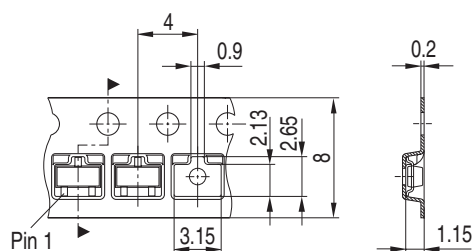


Foot Print



The diagram shows a top-down view of a BCW66 LED package. It is a rectangular component with four pins. The top pin is labeled 'Pin 1'. The package has a central rectangular area containing the text 'EHS' and '65'. To the right of this area, the text '2005, June' and 'Date code (YM)' is shown. Above the package, the 'Infineon' logo is displayed, with the word 'Manufacturer' below it. Below the package, the text 'BCW66' and 'Type code' is shown.

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



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