

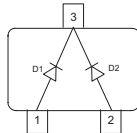
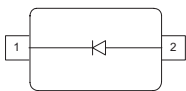
Silicon Tuning Diodes

- High capacitance ratio
- High Q hyperabrupt tuning diode
- Low series resistance
- Designed for low tuning voltage operation for VCO's in mobile communications equipment
- Very low capacitance spread



BBY66-02V

BBY66-05 BBY66-05W



Type	Package	Configuration	L_S (nH)	Marking
BBY66-02V*	SC79	single	0.6	h
BBY66-05	SOT23	common cathode	1.8	O1s / O2s**
BBY66-05W*	SOT323	common cathode	1.4	OBs

* Preliminary

**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	12	V
Forward current	I_F	50	mA
Operating temperature range	T_{op}	-55 ... 150	$^\circ\text{C}$
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	I_R				nA
$V_R = 10\text{ V}$		-	-	20	
$V_R = 10\text{ V}, T_A = 65\text{ }^{\circ}\text{C}$		-	-	200	
AC Characteristics					
Diode capacitance ¹⁾	C_T				pF
$V_R = 1\text{ V}, f = 1\text{ MHz}$		66	68.7	71.5	
$V_R = 2\text{ V}, f = 1\text{ MHz}$		33	35.4	38	
$V_R = 3\text{ V}, f = 1\text{ MHz}$		19.7	20.95	22.2	
$V_R = 4.5\text{ V}, f = 1\text{ MHz}$		12	12.7	13.5	
Capacitance ratio	$C_{T1}/C_{T4.5}$	5	5.41	-	
$V_R = 1\text{ V}, V_R = 4.5\text{ V}$					
Series resistance	r_S	-	0.25	0.4	Ω
$V_R = 1\text{ V}, f = 470\text{ MHz}$					

¹Capacitance groups at 1V, coded 01; 02 (only BBY66-05)

C_T /groups 01 02

C_{1V} min 66pF 68.5pF

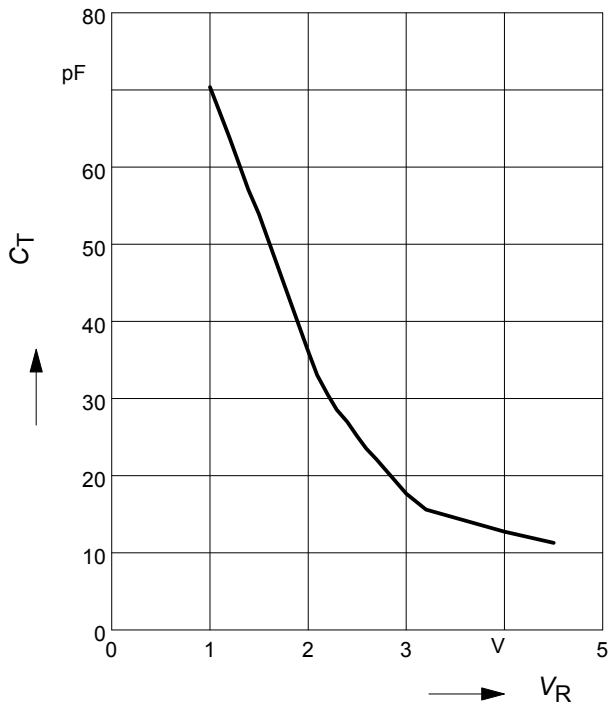
C_{1V} max 69pF 71.5pF

Deliveries contain either C_T group 01 or group 02 (marked on reel).

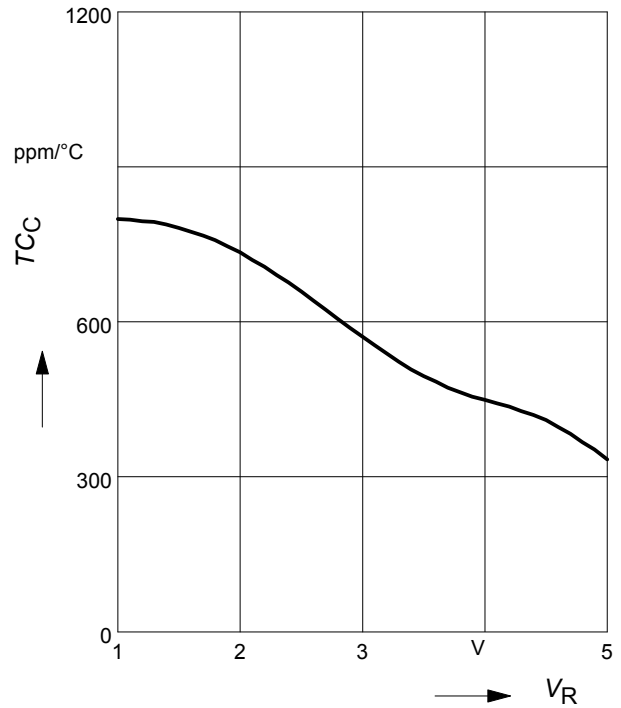
No direct order of C_T groups possible

Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



Temperature coefficient of the diode capacitance $T_{CC} = f(V_R)$



Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

