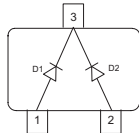
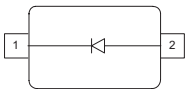


### Silicon Tuning Diodes

- 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	°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 $V_R = 10\text{ V}$ $V_R = 10\text{ V}, T_A = 65^\circ\text{C}$	$I_R$	- -	- -	20 200	nA
<b>AC Characteristics</b>					
Diode capacitance <sup>1)</sup> $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 2\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$ $V_R = 4.5\text{ V}, f = 1\text{ MHz}$	$C_T$	66 33 19.7 12	68.7 35.4 20.95 12.7	71.5 38 22.2 13.5	pF
Capacitance ratio $V_R = 1\text{ V}, V_R = 4.5\text{ V}$	$C_{T1}/C_{T4.5}$	5	5.41	-	
Series resistance $V_R = 1\text{ V}, f = 470\text{ MHz}$	$r_S$	-	0.25	0.4	$\Omega$

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

$C_T$ /groups      01      02

$C_{1V}$  min      66pF    68.5pF

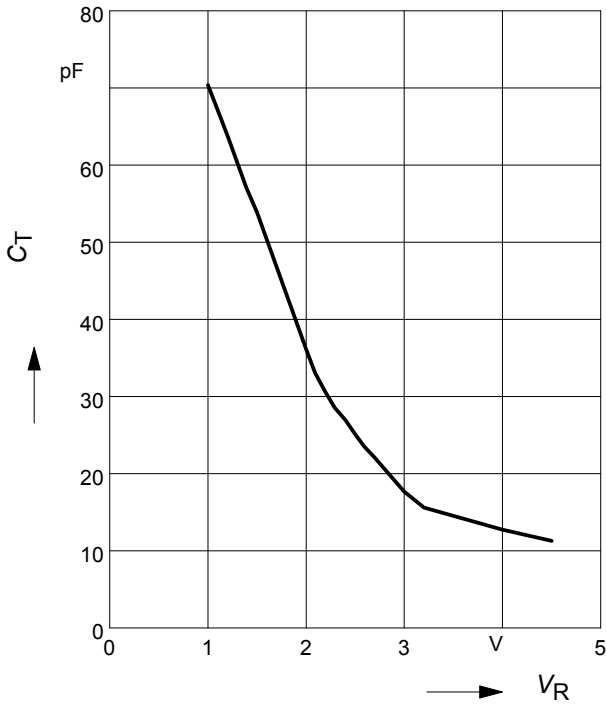
$C_{1V}$  max      69pF    71.5pF

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

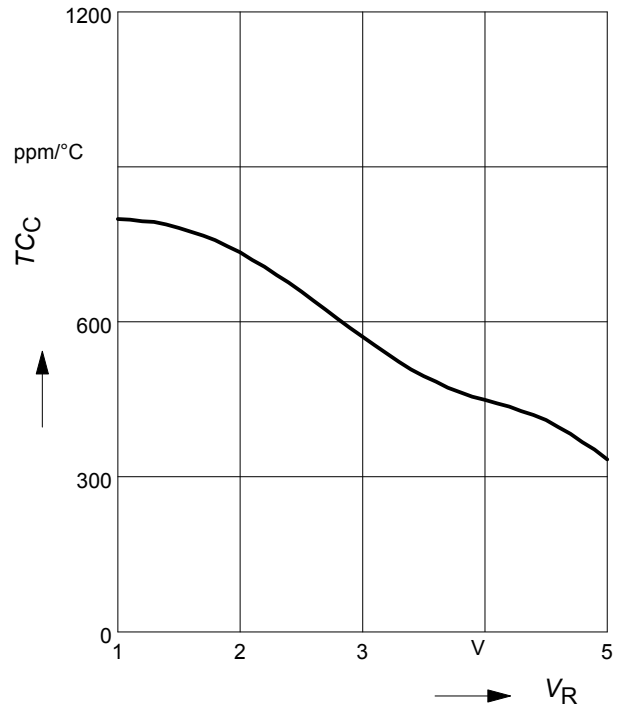
No direct order of  $C_T$  groups possible

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

$f = 1\text{MHz}$



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



**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$

