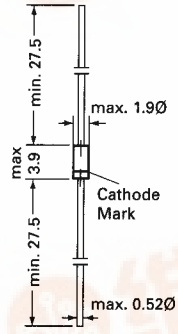
BB221, BB222

Tuner Diodes
Silicon Epitaxial Planar Capacitance Diodes with very wide effective capacitance variation for tuning the whole range of VHF or UHF television bands.

These diodes are available as singles or as matched sets of two or more units according to the tracking condition described below.

The diodes are delivered taped.
Details see "Taping".



Glass case JEDEC DO-35
54 A 2 according to DIN 41 880

Weight approx. 0.13 g
Dimensions in mm

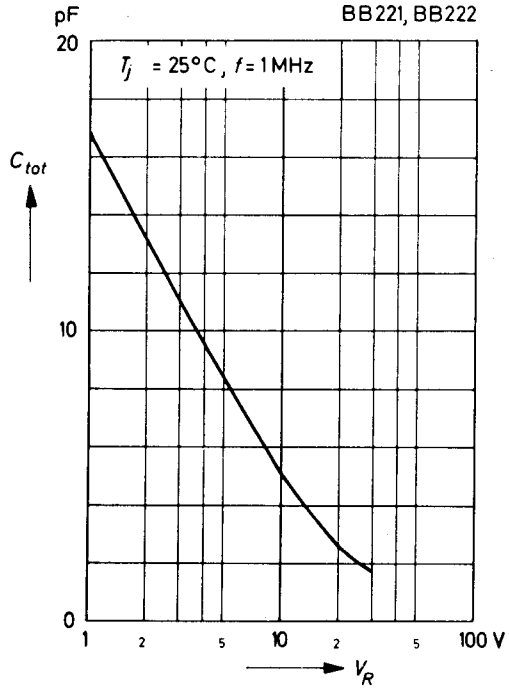
Absolute Maximum Ratings (T_a = 25 °C)

	Symbol	Value	Unit
Reverse Voltage	V_R	32	V
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_S	-55 to + 150	°C

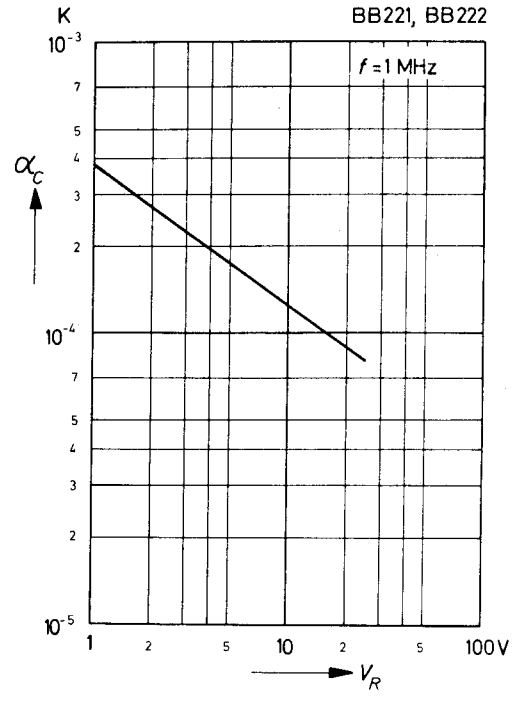
Characteristics at T_{amb} =25 °C

		Symbol	Min.	Typ.	Max.	Unit
Capacitance						
at V_R = 1 V		C_{tot}	-	17	-	pF
at V_R = 3 V		C_{tot}	-	11	-	pF
at V_R = 28 V	**BB221**	C_{tot}	1.8	-	2.2	pF
	BB222	C_{tot}	1.8	-	2.5	pF
Effective Capacitance Ratio						
at V_R = 1 to 28 V	**BB221**	$\frac{C_{tot}(1V)}{C_{tot}(28V)}$	8	-	9.5	-
	BB222	$\frac{C_{tot}(1V)}{C_{tot}(28V)}$	7.3	-	9.5	-
Series Resistance						
at f = 470 MHz, C_{tot} = 9 pF	**BA221**	r_s	-	0.55	0.7	Ω
	BA222	r_s	-	0.8	1	Ω
Cutoff Frequency for Q = 1						
at V_R = 3 V	**BA221**	f_{Q1}	-	24	-	GHz
	BA222	f_{Q1}	-	16	-	GHz
Series Resonance Frequency						
at V_R = 25 V	**BA221**	f_0	-	2	-	GHz
	BA222	f_0	-	1.8	-	GHz
Series Inductance						
measured in 1.5 mm Distance from case		L_s	-	2.5	-	nH
Leakage Current						
at V_R = 30 V		I_R	-	-	30	nA
Reverse Breakdown Voltage						
at I_R = 10 µA		$V_{(BR)R}$	32	-	-	V
For any two diodes of a matched group the following tracking condition applies: In the reverse bias voltage range of V_R = 0.5 V to V_R = 28 V the maximum capacitance deviation is 2.5 %.						

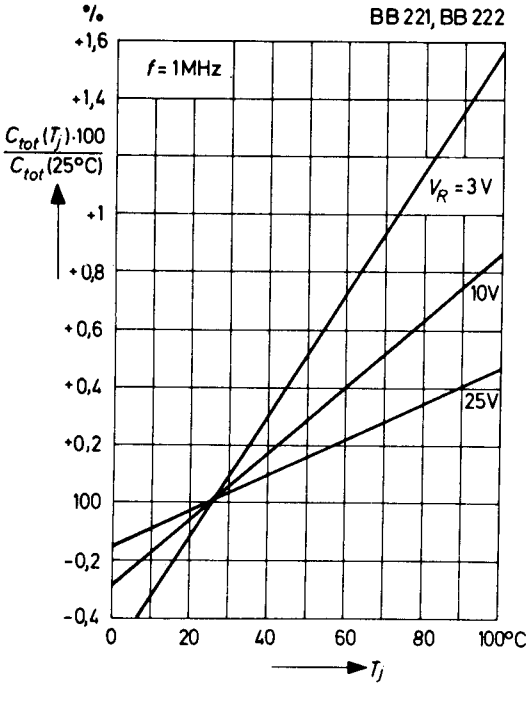
Capacitance versus reverse voltage



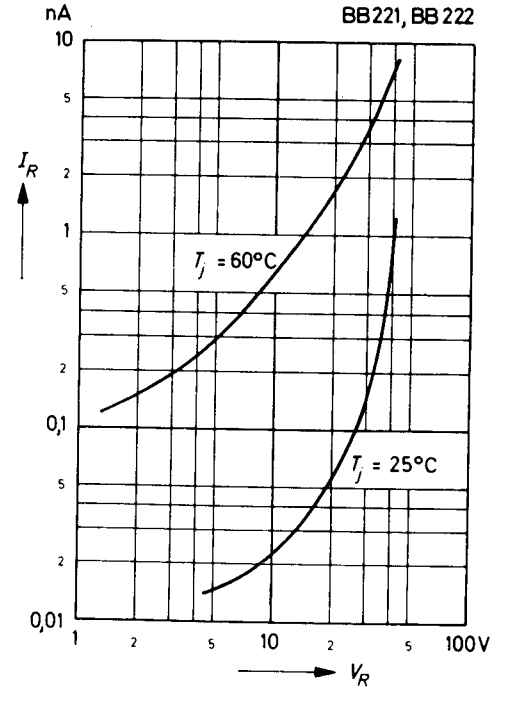
Temperature coefficient of capacitance versus reverse voltage



Relative capacitance versus junction temperature



Leakage current versus reverse voltage



Q-Factor versus frequency