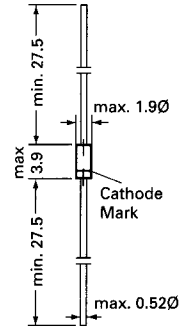


## Tuner Diodes

Si Epitaxial Planar Capacitance Diode with very high effective capacitance ratio for tuning the whole VHF range in TV receivers, also suited for CTV.

These diodes are delivered matched according to the tracking condition described below.

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

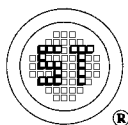


Glass case JEDEC DO-35  
54 A 2 according to DIN 41 880

Weight approx. 0.13 g  
Dimensions in mm

## Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

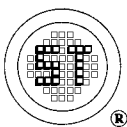
	Symbol	Value	Unit
Reverse Voltage	$V_R$	32	V
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_s$	-55 to + 150	$^\circ\text{C}$



**Characteristics at  $T_{amb} = 25\text{ }^{\circ}\text{C}$**

	Symbol	Min.	Typ.	Max.	Unit
Capacitance at $f = 1\text{ MHz}$ at $V_R = 1\text{ V}$ at $V_R = 3\text{ V}$	$C_{tot}$ $C_{tot}$	- 2.5	35 -	- 3.2	pF pF
Effective Capacitance Ratio at $V_R = 1\text{ to }28\text{ V}$	$\frac{C_{tot}(1V)}{C_{tot}(28V)}$	12	-	-	-
Series Resistance at $f = 330\text{ MHz}$ , $C_{tot} = 25\text{ pF}$	$r_s$	-	0.85	-	$\Omega$
Q-Factor at $f = 50\text{ MHz}$ , $V_R = 3\text{ V}$ at $f = 300\text{ MHz}$ , $V_R = 25\text{ V}$	Q Q	- -	180 250	- -	- -
Cutoff Frequency for $Q = 1$ at $V_R = 3\text{ V}$	$f_{Q1}$	-	9	-	GHz
Series Resonance Frequency at $V_R = 25\text{ V}$	$f_0$	-	1.5	-	GHz
Series Inductance (1.5 mm from case)	$L_s$	-	2.5	-	nH
Leakage Current at $V_R = 30\text{ V}$	$I_R$	-	-	30	nA
Reverse Breakdown Voltage at $I_R = 10\text{ }\mu\text{A}$	$V_{(BR)R}$	32	-	-	V

For any two diodes of a matched group the following tracking condition applies:  
In the reverse bias voltage range of  $V_R = 0.5\text{ V}$  to  $V_R = 28\text{ V}$  the maximum capacitance deviation is 2.5 %.

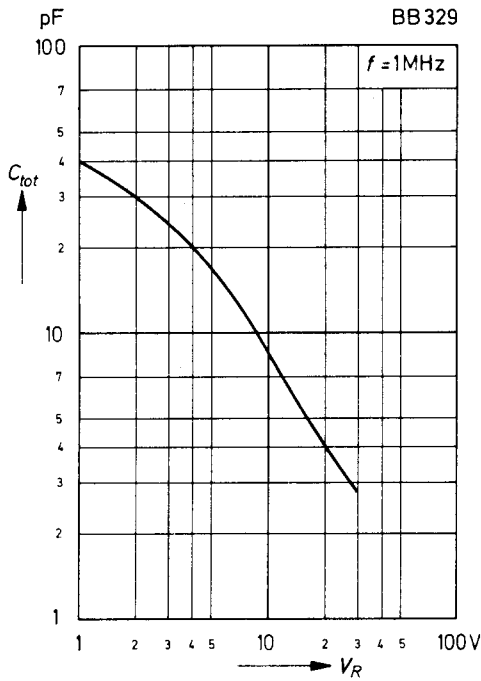


**SEMTECH ELECTRONICS LTD.**

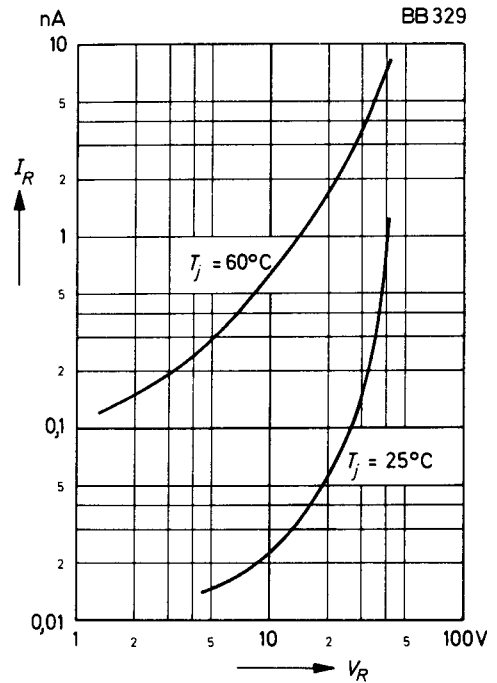
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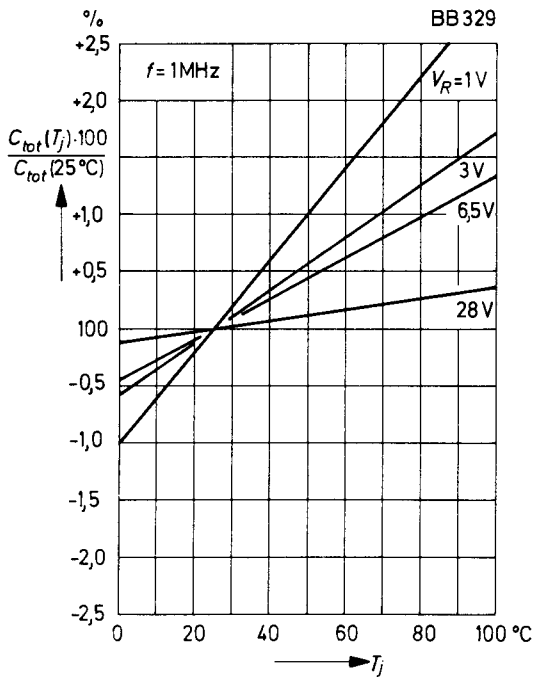
Capacitance versus reverse voltage



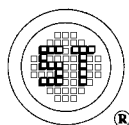
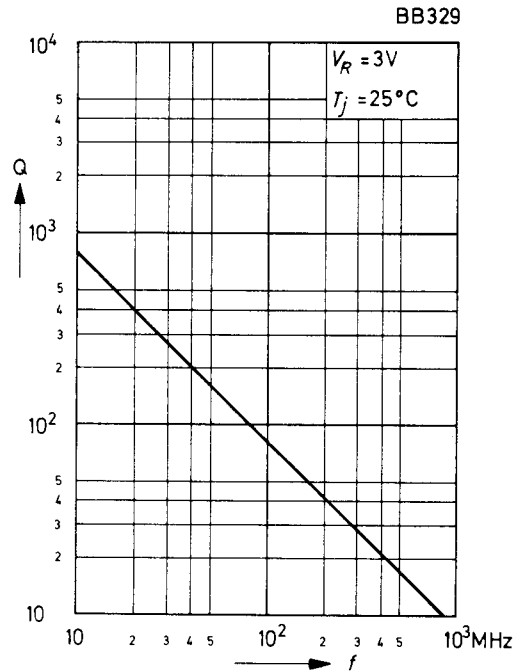
Leakage current versus reverse voltage



Capacitance versus junction temperature (relative values)



Q-Factor versus frequency



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[www.DatasheetCatalog.com](http://www.DatasheetCatalog.com)

Datasheets for electronic components.