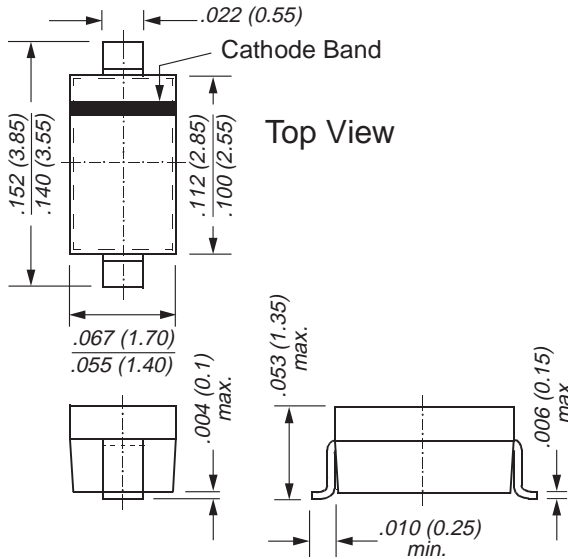


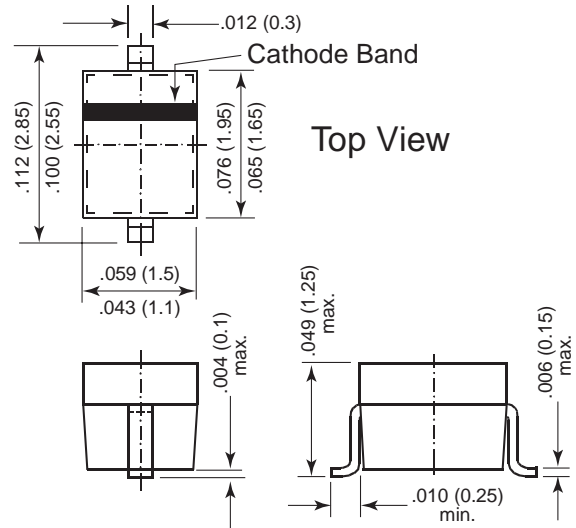


Tuner Diodes

SOD-123 (BB729)

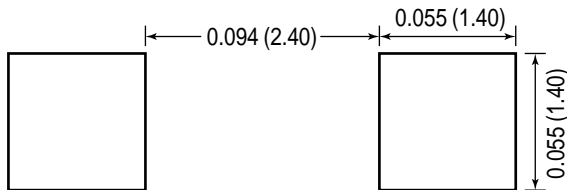


SOD-323 (BB729S)

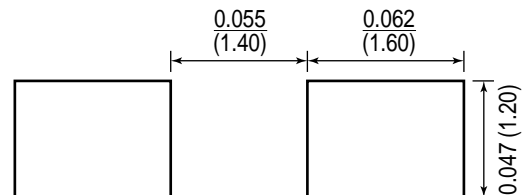


Dimensions in inches and (millimeters)

Mounting Pad Layout SOD-123 (BB729)



Mounting Pad Layout SOD-323 (BB729S)



Features

- Silicon epitaxial planar capacitance diodes with very wide effective capacitance variation for tuning the whole range of VHF CTV tuners.
- These diodes are available as singles or as matched sets of two or more units according to the tracking condition described in the table of characteristics.
- This diode is also available in SOD-323 case with the type designation BB729S.

Mechanical Data

Case: BB729 = SOD-123 Plastic Case
BB729S = SOD-323 Plastic Case

Weight: BB729 = approx. 0.01g
BB729S = approx. 0.004g

Packaging Codes/Options:

- SOD-123: D3/10K per 13" reel (8mm tape), 30K/box
D4/3K per 7" reel (8mm tape), 30K/box
- SOD-323: D5/10K per 13" reel (8mm tape), 30K/box
D6/3K per 7" reel (8mm tape), 30K/box

Maximum Ratings and Thermal Characteristics (T_c = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Reverse Voltage	V _R	32	V
Junction Temperature	T _J	125	°C
Storage Temperature Range	T _S	-55 to +125	°C

Electrical Characteristics (T_C = 25°C unless otherwise noted)

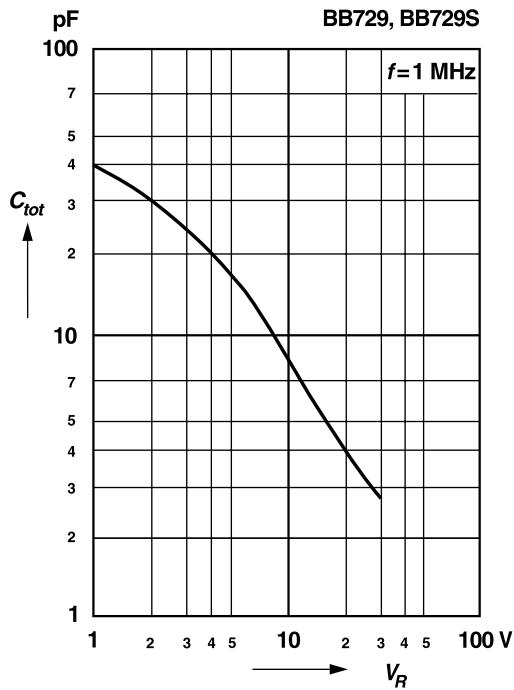
Parameter	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage at I _R = 100μA	V _{(BR)R}	32	–	–	V
Leakage Current at V _R = 30V	I _R	–	–	10	nA
Capacitance f = 1MHz at V _R = 28V at V _R = 25V at V _R = 2V	C _{tot}	2.38 2.68 26.9	–	2.93 3.12 33.1	pF
Effective Capacitance Ratio f = 1MHz at V _R = 1 to 28V	$\frac{C_{tot}(1V)}{C_{tot}(28V)}$	12	–	–	–
at V _R = 2 to 25V	$\frac{C_{tot}(2V)}{C_{tot}(25V)}$	10	–	11	–
Series Resistance at f = 470 MHz, C _{tot} = 14 pF	r _s	–	–	0.8	Ω
Series Inductance	L _s	–	2.5	–	nH

For any two of six consecutive diodes in the carrier tape, the maximum capacitance deviation in the reverse bias voltage of V_R = 0.5 to 28V is 3%

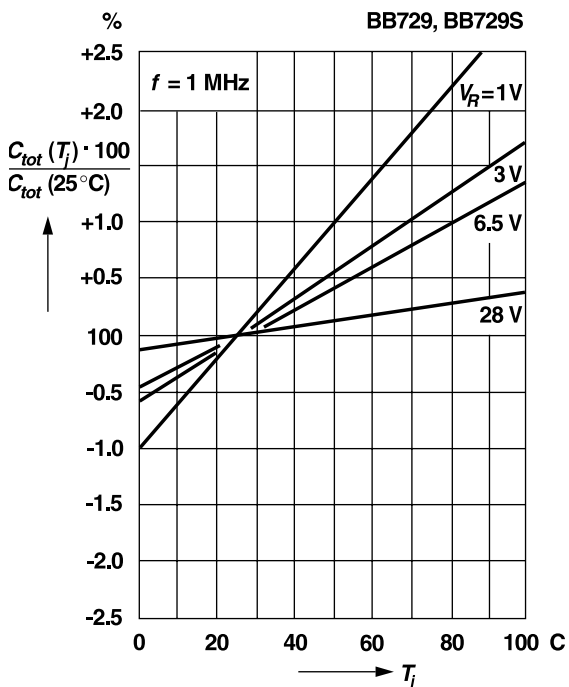


Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

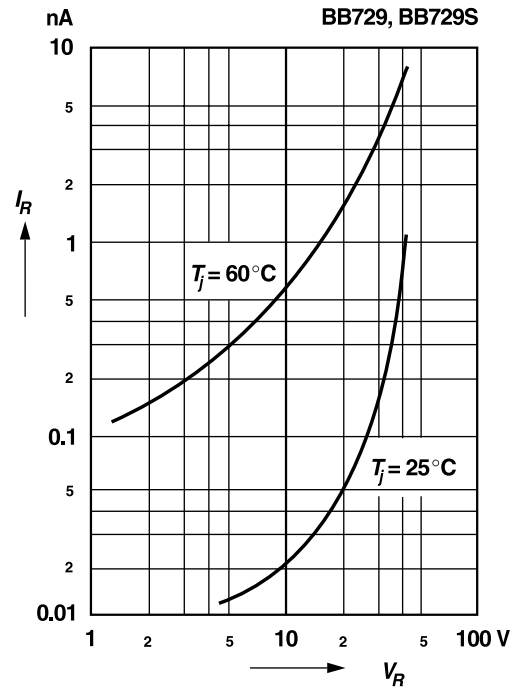
Capacitance versus reverse voltage



Relative capacitance versus junction temperature



Leakage current versus reverse voltage



Q-Factor versus frequency

