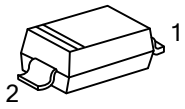
BB179

DIODE

UHF VARIABLE CAPACITANCE DIODE



SOD-523

■ DESCRIPTION

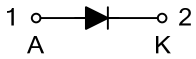
The UTC **BB179** is a planar technology variable capacitance diode providing the designers excellent matching performance, low series resistance and great linearity.

The UTC **BB179** is suitable for VCO (Voltage Controlled Oscillators) and Electronic tuning in UHF (Very High Frequency) tuners.

■ FEATURES

* Excellent matching to 2% DMA
* Low series resistance.
* Great linearity
* C28: 2.1 pF; ratio: 9

■ SYMBOL



■ ORDERING INFORMATION

Ordering Number	Package	Pin Assignment		Packing
		1	2	
BB179G-CC2-R	SOD-523	A	K	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

(1) R: Tape Reel
(2) CC2 : SOD-523
(3) G: Halogen Free and Lead Free

■ MARKING

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Continuous Reverse Voltage	V_R	30	V
Peak Reverse Voltage (In series with a 10 kΩ resistor)	V_{RM}	35	V
Continuous Forward Current	I_F	20	mA
Storage Temperature	T_{STG}	-40~+150	°C
Operating Junction Temperature	T_J	-40~+125	°C

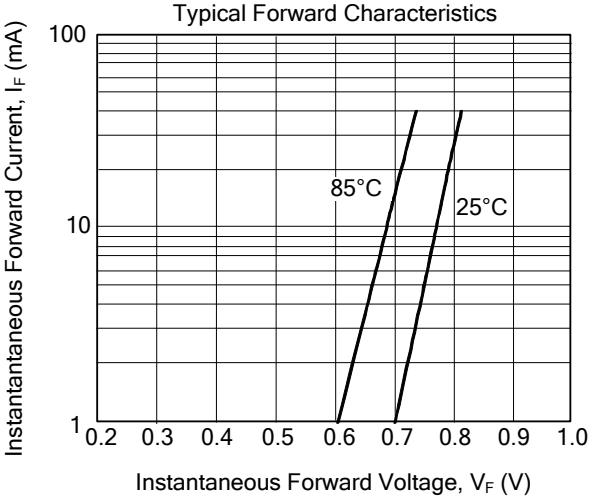
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_J =25°C unless otherwise specified.)

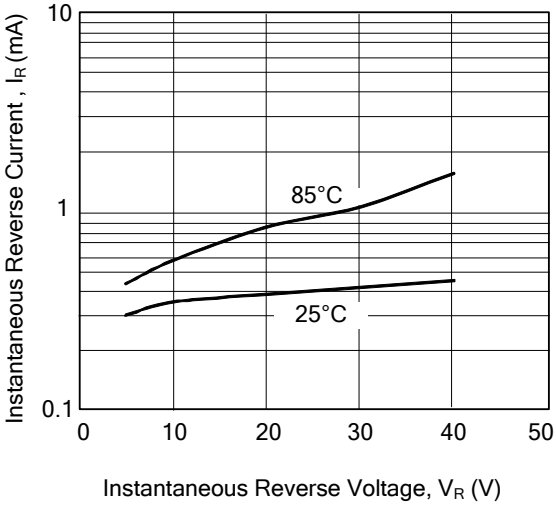
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Current	I_R	V_R = 30 V			10	nA
		V_R = 30 V, T_J=85 °C			200	nA
Diode Series Resistance	r_S	f = 470 MHz, V_R is the value at which C_d=9pF		0.6	0.75	Ω
Diode Capacitance	C_d	V_R = 1 V, f = 1 MHz	18.22		23	pF
		V_R = 28 V, f = 1 MHz			5	pF
Capacitance Ratio	$\frac{C_{d(1V)}}{C_{d(2V)}}$	f = 1 MHz		1.27		
Capacitance Ratio	$\frac{C_{d(1V)}}{C_{d(28V)}}$	f = 1 MHz			6	
Capacitance Ratio	$\frac{C_{d(25V)}}{C_{d(28V)}}$	f = 1 MHz		1.05		
Capacitance Matching	$\frac{\Delta C_d}{C_d}$	V_R = 1~28 V, in a sequence of 15 diodes (gliding)			2	%

■ TYPICAL CHARACTERISTICS

Typical Forward Characteristics



Typical Reverse Characteristics



Instantaneous Reverse Current vs. Breakdown Voltage