

BB178WT

VHF VARIABLE CAPACITANCE DIODE

FEATURES

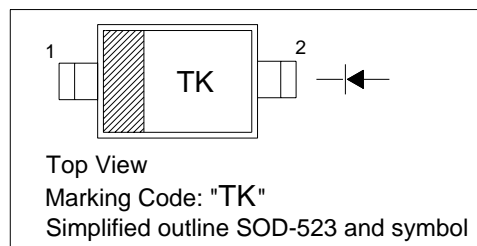
- Excellent linearity
- Excellent matching to 2% DMA
- Ultra small plastic SMD package
- Very low series resistance

APPLICATIONS

- Electronic tuning in VHF television tuners
- Voltage controlled oscillators (VCO)

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

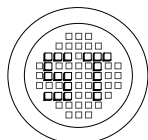


Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	32	V
Peak Reverse Voltage (In Series with a 10 K Ω Resistor)	V_{RM}	35	V
Continuous Forward Current	I_F	20	mA
Operating Junction Temperature Range	T_j	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Current at $V_R = 30\text{ V}$ at $V_R = 30\text{ V}$, $T_j = 85\text{ }^\circ\text{C}$	I_R	- -	- -	10 200	nA
Diode Capacitance at $V_R = 1\text{ V}$, $f = 1\text{ MHz}$ at $V_R = 28\text{ V}$, $f = 1\text{ MHz}$	C_d	34.65 2.361	- -	42.35 2.754	pF
Capacitance Ratio at $f = 1\text{ MHz}$	$C_{d(1V)}/C_{d(28V)}$	-	1.3	-	-
Capacitance Ratio at $f = 1\text{ MHz}$	$C_{d(1V)}/C_{d(28V)}$	13.5	-	-	-
Capacitance Ratio at $f = 1\text{ MHz}$	$C_{d(25V)}/C_{d(28V)}$	-	1.08	-	-
Capacitance Matching at $V_R = 1\text{ V}$ to 28 V ; in a sequence of 15 diodes (gliding)	$\Delta C_d/C_d$	-	-	2	%
Series Resistance at $f = 100\text{ MHz}$, V_R is the value at which $C_d = 30\text{ pF}$	r_s	-	0.65	0.8	Ω



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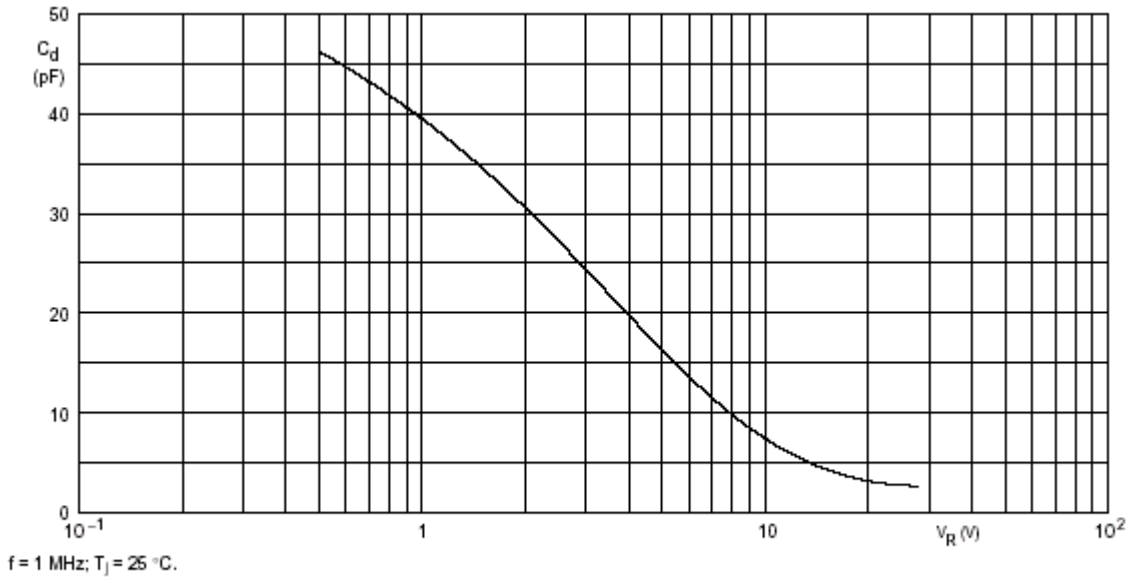


Fig.2 Diode capacitance as a function of reverse voltage; typical values.

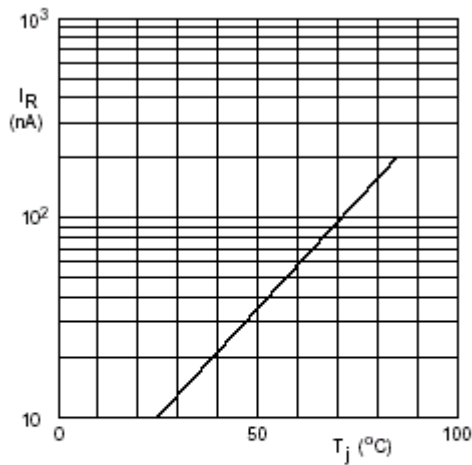
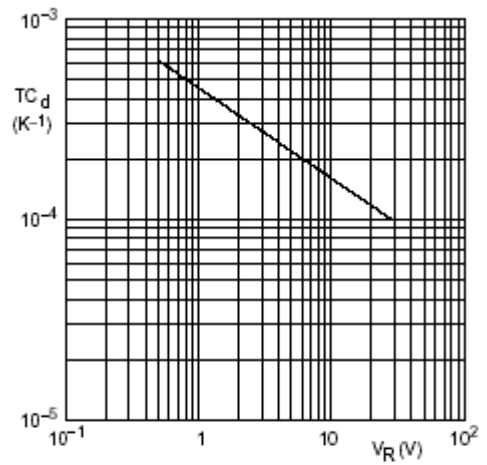
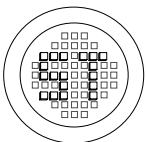


Fig.3 Reverse current as a function of junction temperature; maximum values.



$T_j = 0 \text{ to } 85 \text{ }^\circ\text{C}.$

Fig.4 Temperature coefficient of diode capacitance as a function of reverse voltage; typical values.



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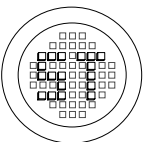
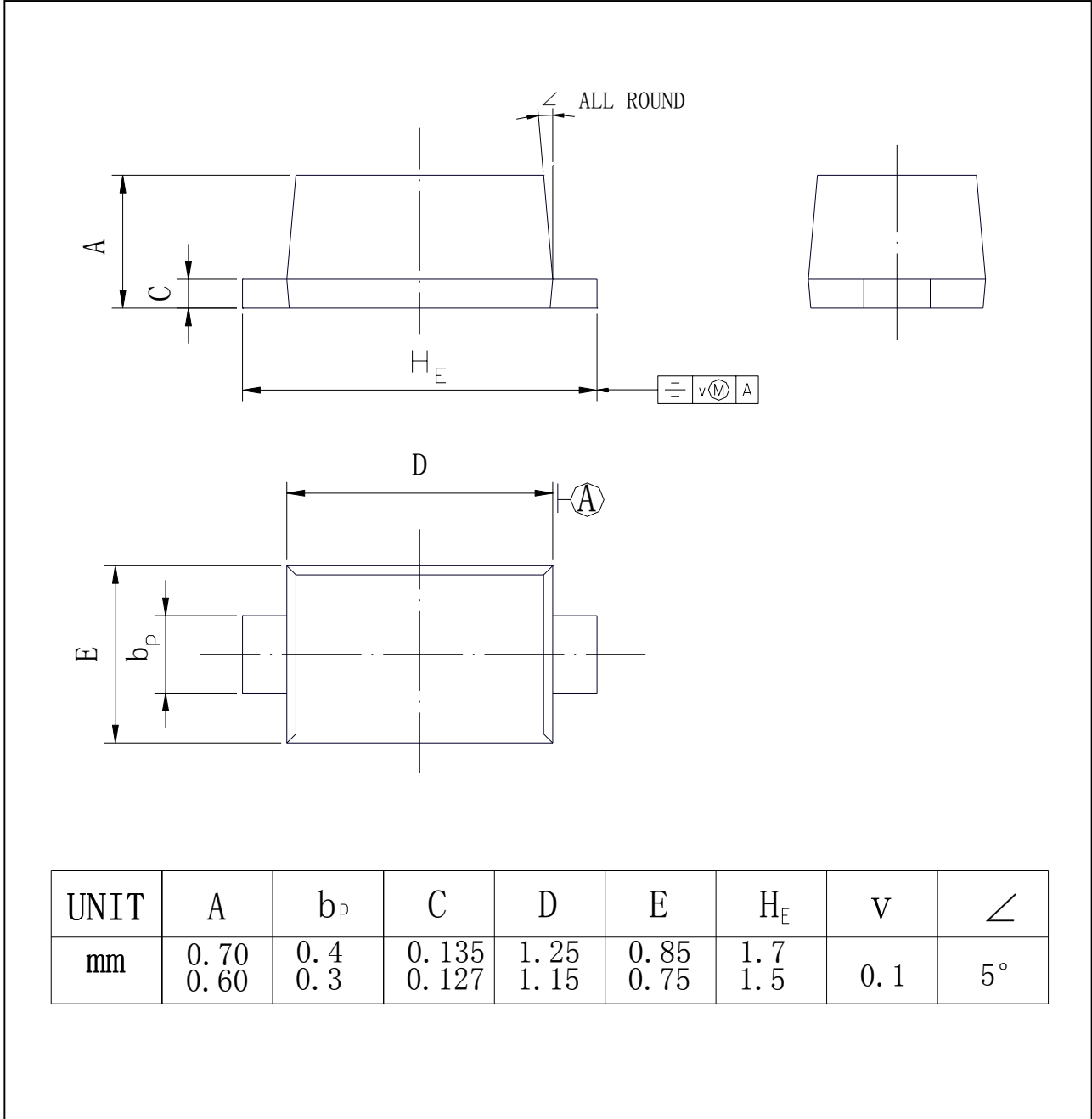
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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-523



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