



**FUKUCOM COMPANY LTD.**

**福 靈 有 限 公 司**

FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,  
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314 FAX: 852-2790 0206

## BB535ST

### SILICON TUNING DIODE

#### FEATURES

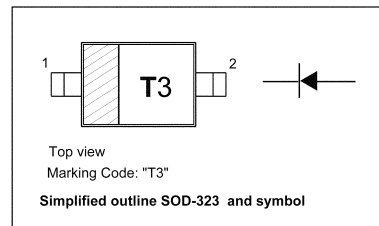
- High capacitance ratio
- Low series inductance
- Low series resistance
- Excellent uniformity and matching due to "in-line" matching assembly procedure

#### APPLICATIONS

- For UHF-TV-tuners

#### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

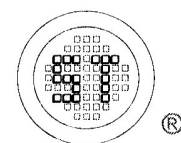


#### DESCRIPTION

- Silicon tuning diode in a small plastic SMD SOD-323 package

#### Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Diode reverse voltage	$V_R$	30	V
Peak reverse voltage( $R \geq 5k\Omega$ )	$V_{RM}$	35	V
Forward current	$I_F$	20	mA
Operating temperature range	$T_{op}$	-55...+150	°C
Storage temperature	$T_{stg}$	-55 ... +150	°C



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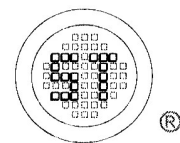
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#### Electrical Characteristics (Ta = 25 °C)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Reverse current	$I_R$	- -	- -	10 200	nA	$V_R = 30V$ $V_R = 30V, T_a = 85^\circ C$
Diode capacitance	$C_T$	17.5 14.01 2.05 1.9	18.7 15 2.24 2.1	20 16.1 2.4 2.3	pF	$V_R = 1V, f = 1MHz$ $V_R = 2V, f = 1MHz$ $V_R = 25V, f = 1MHz$ $V_R = 28V, f = 1MHz$
Capacitance ratio	$C_{T2} / C_{T25}$	6	6.7	7.5	-	$V_R = 2V, V_R = 25V, f = 1MHz$
Capacitance ratio	$C_{T1} / C_{T28}$	8.2	8.9	9.8	-	$V_R = 1V, V_R = 28V, f = 1MHz$
Capacitance matching	$\Delta C_T / C_T$	-	-	2.5	%	$V_R = 1V$ to $28V, f = 1MHz$ 7 diodes sequence
Series resistance	$r_s$	-	0.58	0.75	$\Omega$	$V_R = 3V, f = 470MHz$
Series inductance	$L_s$	-	1.8	-	nH	



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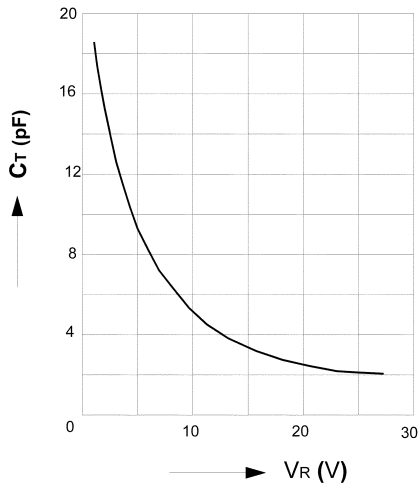
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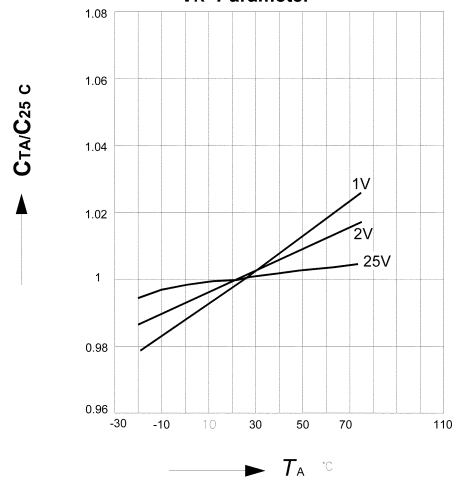
**Diode capacitance**

$C_T=f(V_R)$   $f=1\text{MHz}$

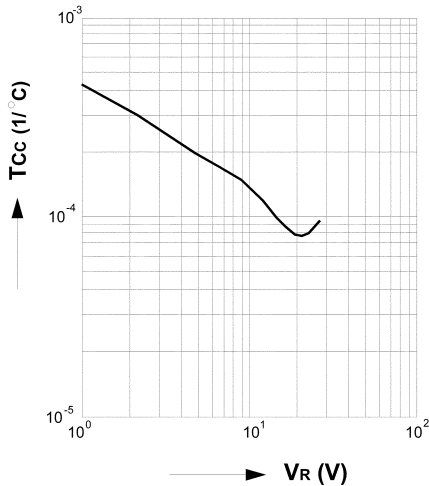


**Normalized diode capacitance**

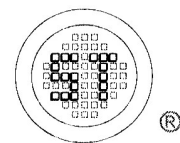
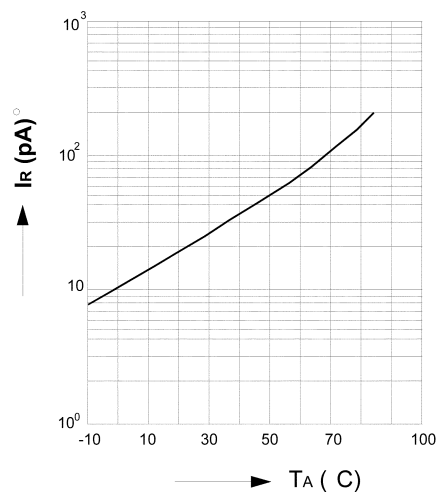
$C(T_A)/C(25^\circ\text{C})=f(T_A); f=1\text{MHz}$   
 $V_R=\text{Parameter}$



**Temperature coefficient of the diode capacitance,  $T_{CC}=f(V_R)$**



**Reverse current  $I_R=f(T_A), V_R=28\text{V}$**



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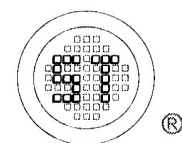
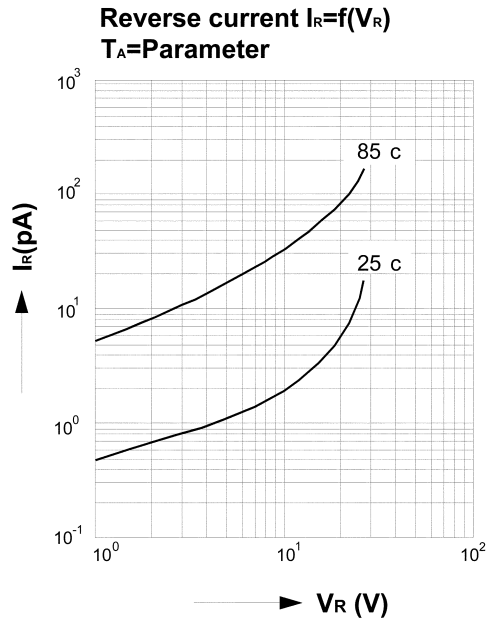
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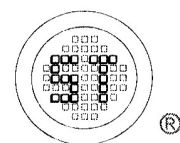
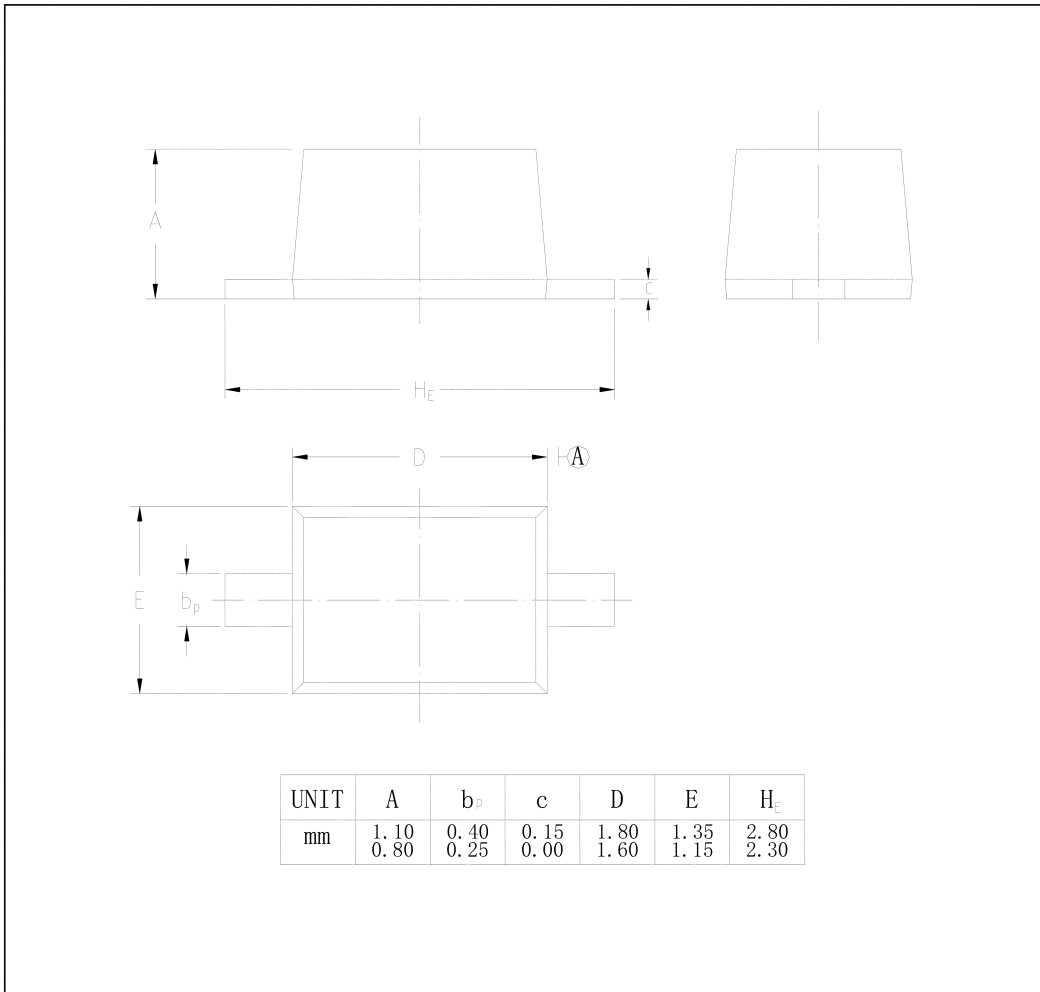
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**PACKAGE OUTLINE**

**SOD-323**



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