

TOSHIBA DIODE SILICON EPITAXIAL PLANAR TYPE

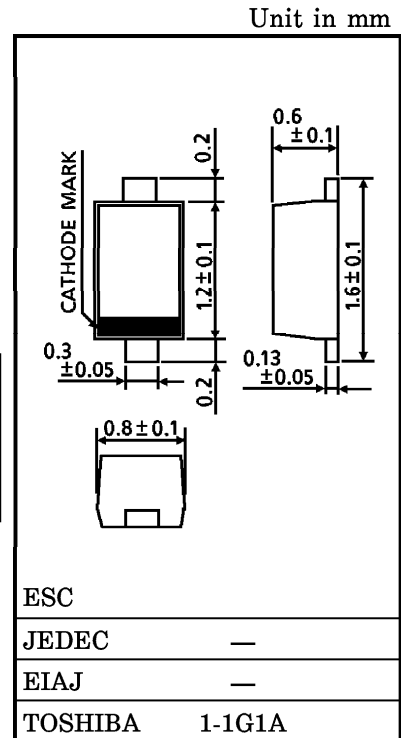
1SV325

TCXO/VCO

- High Capacitance Ratio : $C_{1V}/C_{4V} = 4.3$ (Typ.)
- Low Series Resistance : $r_s = 0.4 \Omega$ (Typ.)
- Useful for Small Size Tuner.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	10	V
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	-55~125	°C

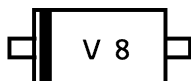


ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Voltage	V_R	$I_R = 1 \mu A$	10	—	—	V
Reverse Current	I_R	$V_R = 10 V$	—	—	3	nA
Capacitance	C_{1V}	$V_R = 1 V, f = 1 MHz$	44	—	49.5	pF
Capacitance	C_{4V}	$V_R = 4 V, f = 1 MHz$	9.2	—	12	pF
Capacitance Ratio	C_{1V}/C_{4V}	—	4	4.3	—	—
Series Resistance	r_s	$V_R = 4 V, f = 100 MHz$	—	0.4	0.8	Ω

* Signal level when capacitance is measured : $V_{sig} = 500 mV_{rms}$

MARKING

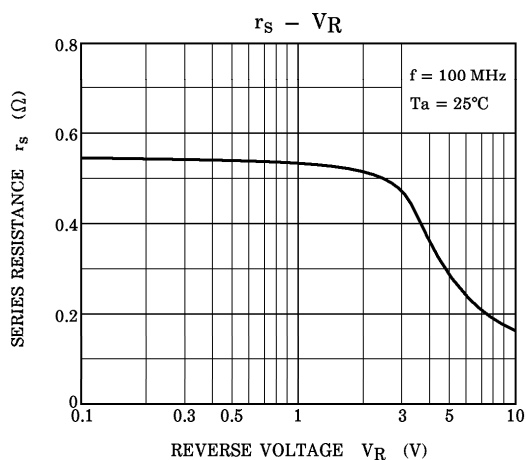
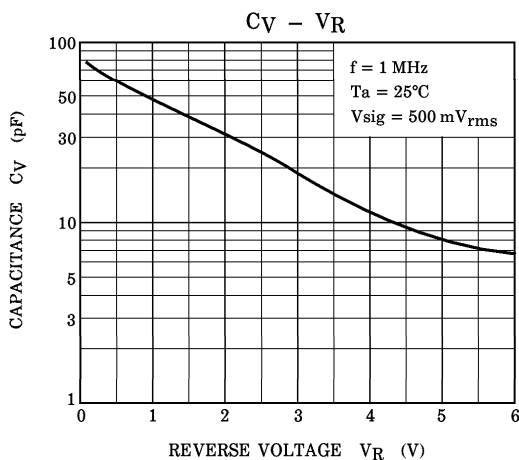


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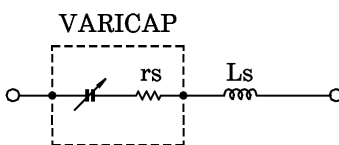
SPICE PARAMETER

SPICE MODEL : BERKLEY SPICE.2G.6 DIODE MODEL
 DATA FORMAT : MODEL FORMAT
 SPICE SYMBOL : I_S (A), R_S (Ω), N (-), C_{J0} (F), V_J (V), M (-), B_V (V), I_{BV} (A)
 FREQUENCY RANGE : $f = 0.1 \sim 3$ GHz
 REVERSE VOLTAGE RANGE : $V_R = 1 \sim 4$ V

PARAMETER

$I_S = 2.593E - 15$
 $N = 1.024$
 $B_V = 10$
 $I_{BV} = 1.00E - 04$
 $R_S = 0.4$
 $C_{J0} = 7.672E - 11$
 $V_J = 100$
 $M = 49.19$

 $L_s = 5.00E - 10$



(Note 1) : These parameters from I_S to M mean die characteristic.
 Actually device has lead inductance so L_s is necessary for simulation.
 And please use default value except above parameters.
 (Note 2) : R_S shows the value at the condition of $V_R = 4$ V and $f = 100$ MHz.
 If another value is needed, please refer to $R_S - V_R$ curve in this data sheets.