

TOSHIBA DIODE SILICON EPITAXIAL PLANAR TYPE

1SV328

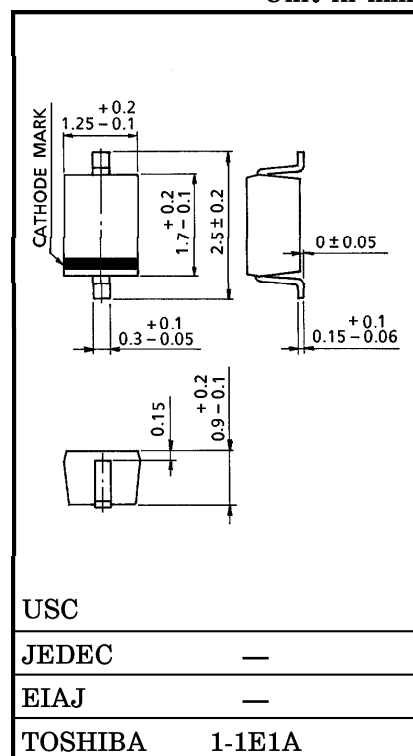
VCO FOR UHF BAND RADIO

Unit in mm

- High Capacitance Ratio : $C_{1V}/C_{4V} = 2.8$ (Typ.)
- Low Series Resistance : $r_s = 0.55 \Omega$ (Typ.)
- Useful for Small Size Tuner.

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

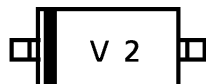
CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	10	V
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim 125$	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Voltage	V_R	$I_R = 1 \mu\text{A}$	10	—	—	V
Reverse Current	I_R	$V_R = 10 \text{ V}$	—	—	3	nA
Capacitance	C_{1V}	$V_R = 1 \text{ V}, f = 1 \text{ MHz}$	5.7	—	6.7	pF
Capacitance	C_{4V}	$V_R = 4 \text{ V}, f = 1 \text{ MHz}$	1.85	—	2.45	pF
Capacitance Ratio	C_{1V}/C_{4V}	—	2.7	2.8	—	—
Series Resistance	r_s	$V_R = 1 \text{ V}, f = 470 \text{ MHz}$	—	0.55	0.7	Ω

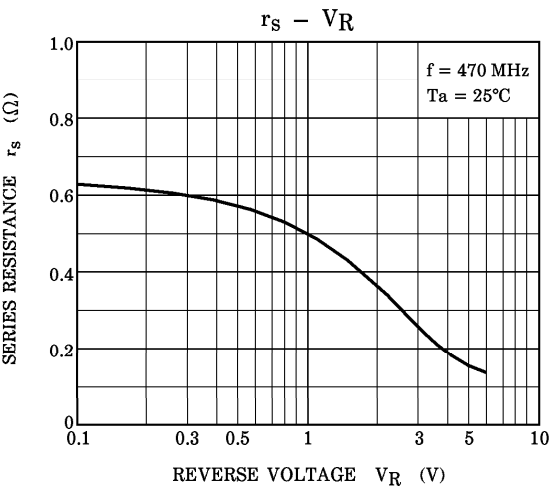
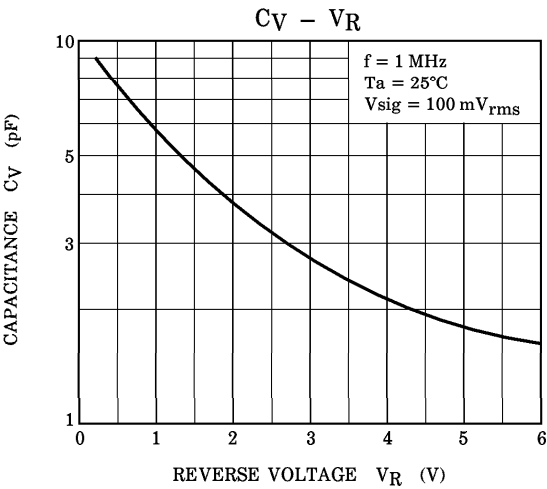
* Signal level when capacitance is measured : $V_{sig} = 100 \text{ mV}_{rms}$

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 = 0.1~3 GHz

REVERSE VOLTAGE RANGE : V_R = 1~4 V

PARAMETER

I_S = 2.247E - 16

N = 1.003

B_V = 10

I_{BV} = 1.00E - 04

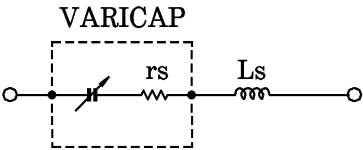
R_S = 0.55

C_{J0} = 1.050E - 11

V_J = 1.49

M = 1.26

L_S = 1.00E - 09



(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 = 1 V and f = 470 MHz.
If another value is needed, please refer to R_S - V_R curve in this data sheets.