

TOSHIBA DIODE SILICON EPITAXIAL PLANAR TYPE

1SV324

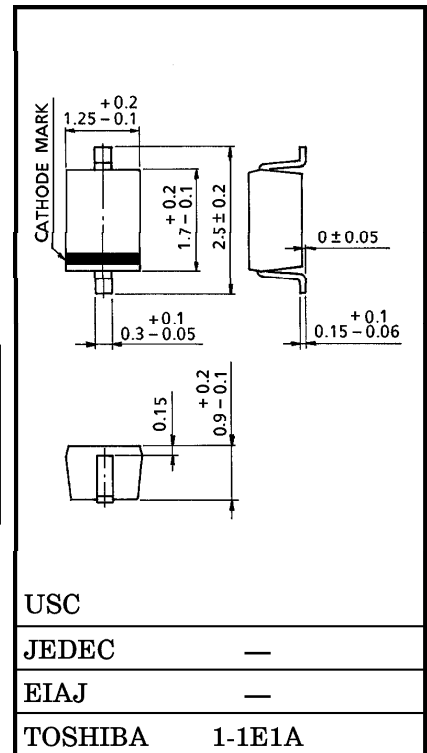
TCXO/VCO

Unit in mm

- 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

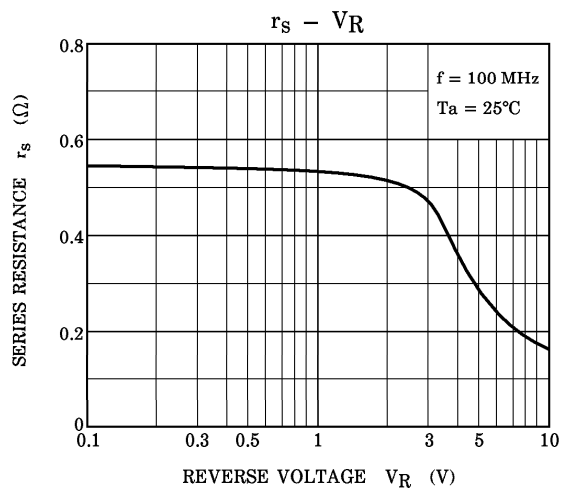
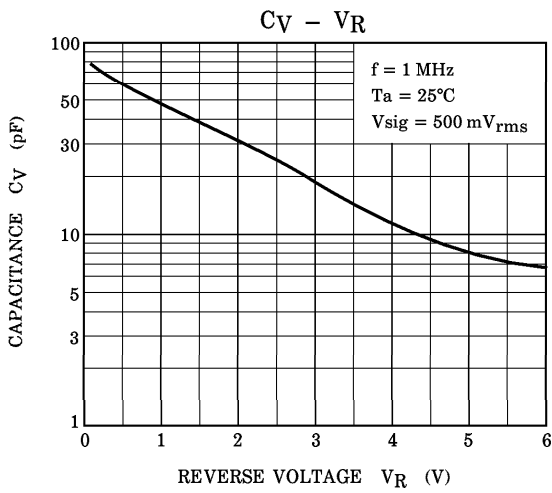
* Signal level when capacitance is measured : $V_{sig} = 500 mV_{rms}$

MARKING



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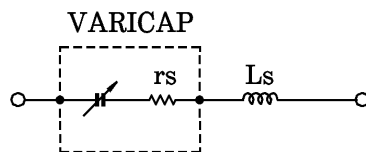
SPICE PARAMETER

SPICE MODEL : BERKLEY SPICE.2G.6 DIODE MODEL
 DATA FORMAT : MODEL FORMAT
 SPICE SYMBOL : IS (A), RS (Ω), N (-), CJ0 (F), VJ (V), M (-), BV (V), IBV (A)
 FREQUENCY RANGE : f = 0.1~3 GHz
 REVERSE VOLTAGE RANGE : VR = 1~4 V

PARAMETER

IS = 2.593E - 15
 N = 1.024
 BV = 10
 IBV = 1.00E - 04
 RS = 0.4
 CJ0 = 7.672E - 11
 VJ = 100
 M = 49.19

 Ls = 1.00E - 09



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