

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

1SV270

VCO for UHF Band Radio

Unit: mm

- High capacitance ratio: $C1\text{ V}/C4\text{ V} = 2.0$ (typ.)
- Low series resistance: $r_s = 0.28\ \Omega$ (typ.)
- Small package

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

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_R	10	V
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~125	$^\circ\text{C}$

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

JEDEC	—
JEITA	—
TOSHIBA	1-1E1A

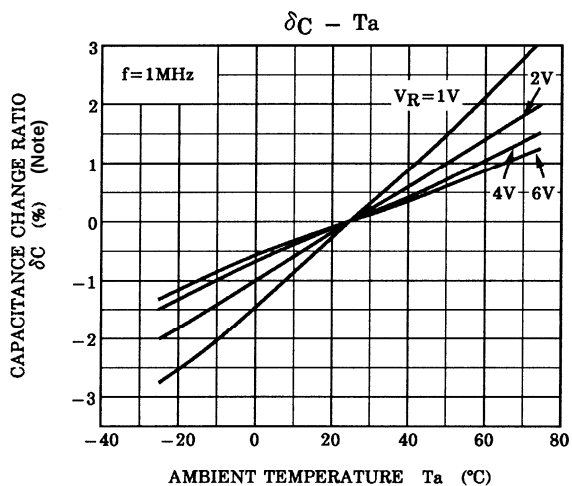
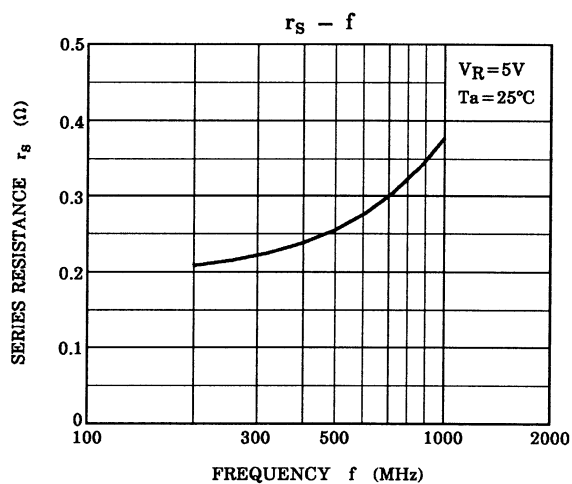
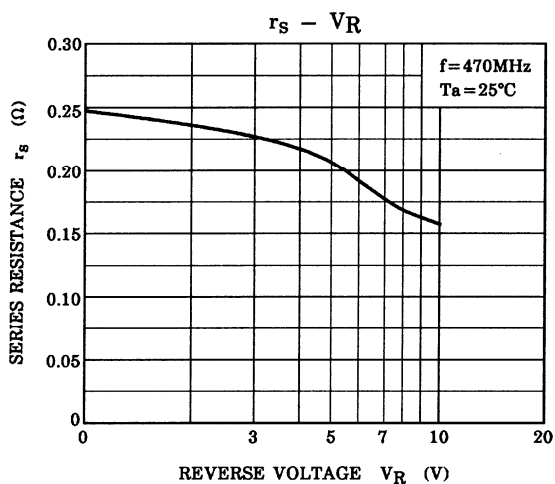
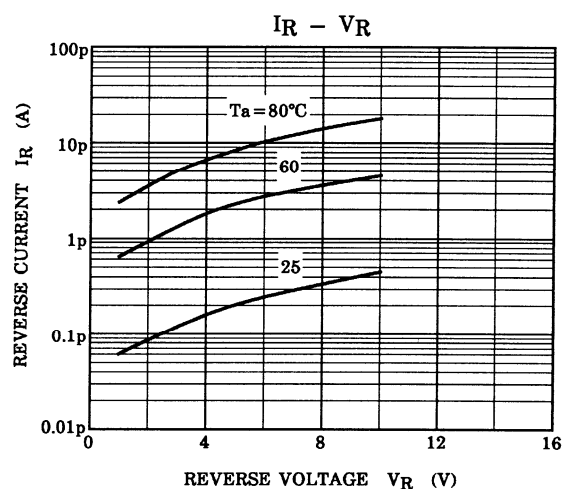
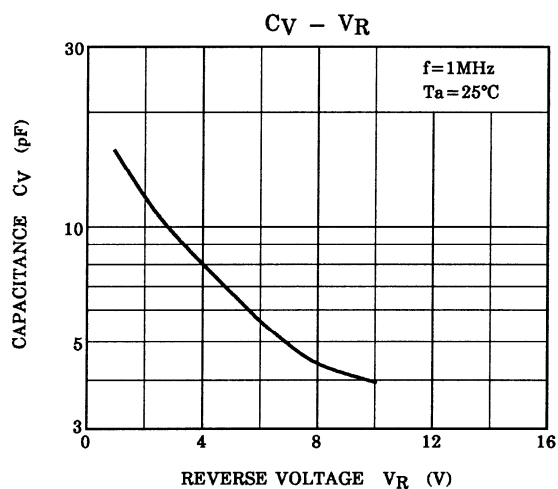
Weight: 0.004 g (typ.)

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

Characteristics	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	$C1\text{ V}$	$V_R = 1\text{ V}, f = 1\text{ MHz}$	15	16	17	pF
Capacitance	$C4\text{ V}$	$V_R = 4\text{ V}, f = 1\text{ MHz}$	7.3	8.0	8.7	pF
Capacitance ratio	$C1\text{ V}/C4\text{ V}$	—	1.8	2.0	—	—
Series resistance	r_s	$V_R = 1\text{ V}, f = 470\text{ MHz}$	—	0.28	0.5	Ω

Marking





$$\text{Note: } \delta C = \frac{C(T_a) - C(25)}{C(25)} \times 100 \text{ (%)}$$

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