

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

1SV245

UHF SHF Tuning

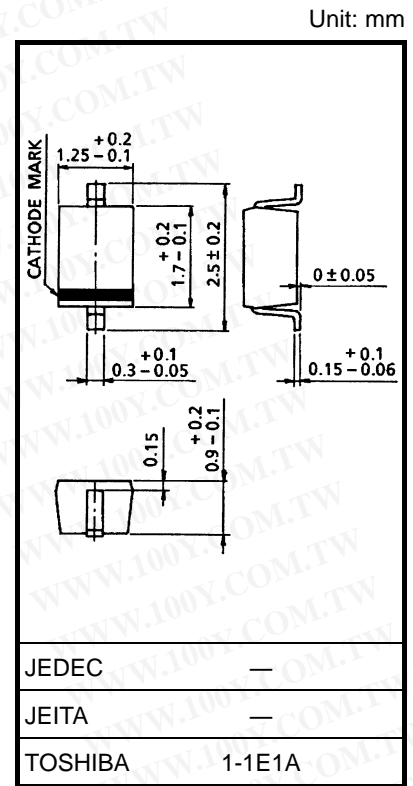
- High capacitance ratio: $C2 V/C25 V = 5.7$ (typ.)
- Low series resistance: $r_s = 1.2 \Omega$ (typ.)
- Excellent C-V characteristics, and small tracking error.

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Reverse voltage	V_R	30	V
Peak reverse voltage	V_{RM}	35 ($R_L = 10 k\Omega$)	V
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	-55~125	°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).



Weight: 0.004 g (typ.)

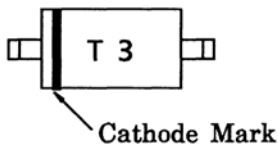
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	V_R	$I_R = 1 \mu A$	30	—	—	V
Reverse current	I_R	$V_R = 28 V$	—	—	10	nA
Capacitance	$C2 V$	$V_R = 2 V, f = 1 MHz$	3.31	—	4.55	pF
Capacitance	$C25 V$	$V_R = 25 V, f = 1 MHz$	0.61	—	0.77	pF
Capacitance ratio	$C2 V/C25 V$	—	5.0	5.7	6.5	—
Series resistance	r_s	$V_R = 1 V, f = 470 MHz$	—	1.2	2.0	Ω

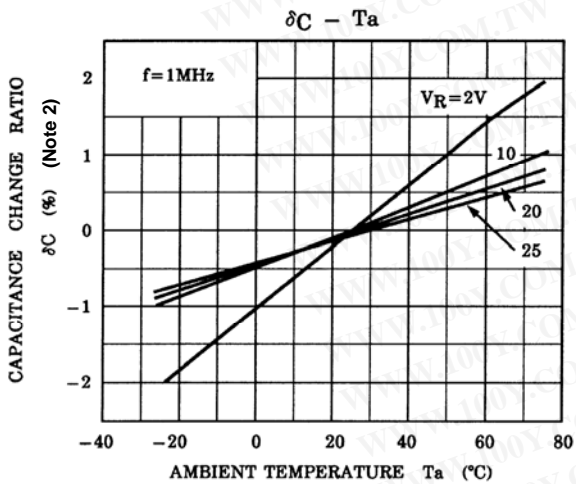
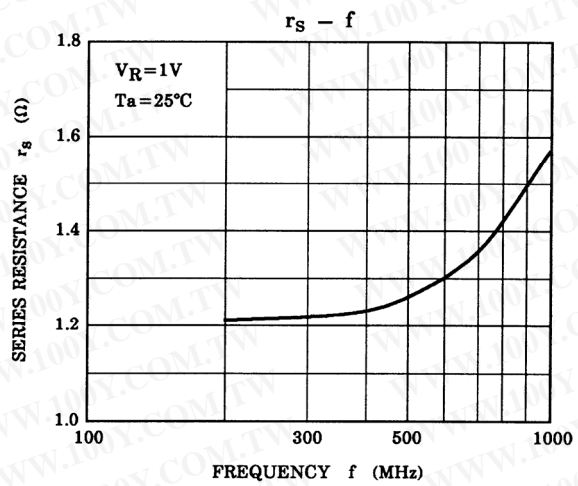
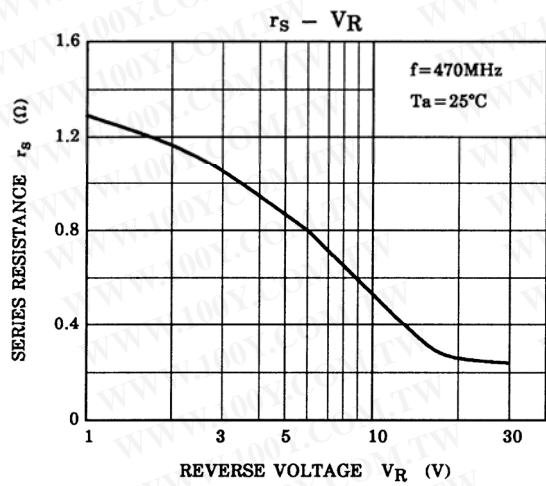
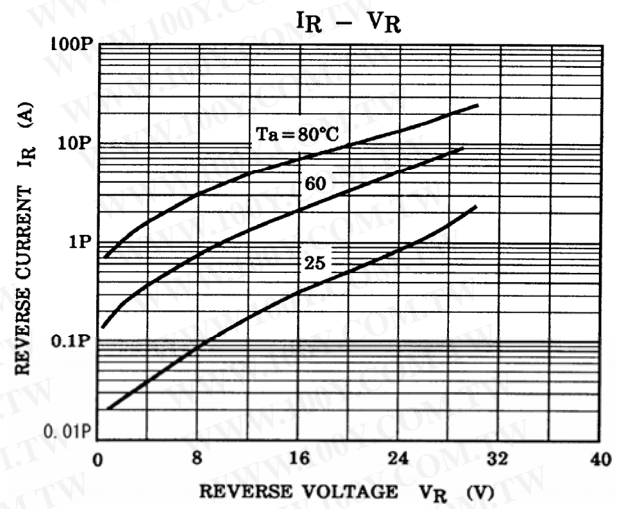
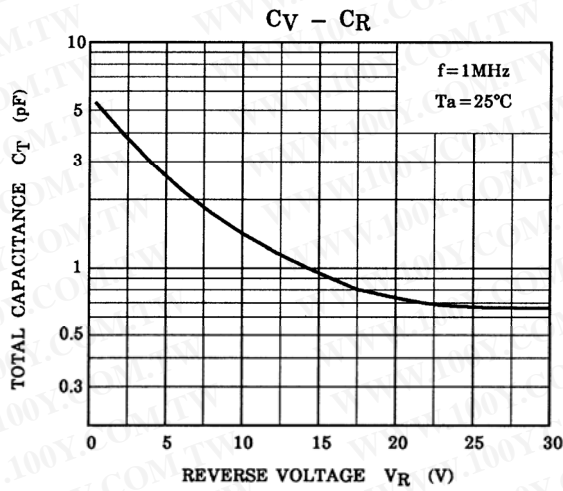
Note 1: Unites are compounded in one package and are matched to 6.0%.

$$\frac{C(\max) - C(\min)}{C(\min)} \leq 0.06 \quad (V_R = 2\sim 25 V)$$

Marking



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Note 2: $\delta C = \frac{C(T_a) - C(25)}{C(25)} \times 100$ (%)

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