

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

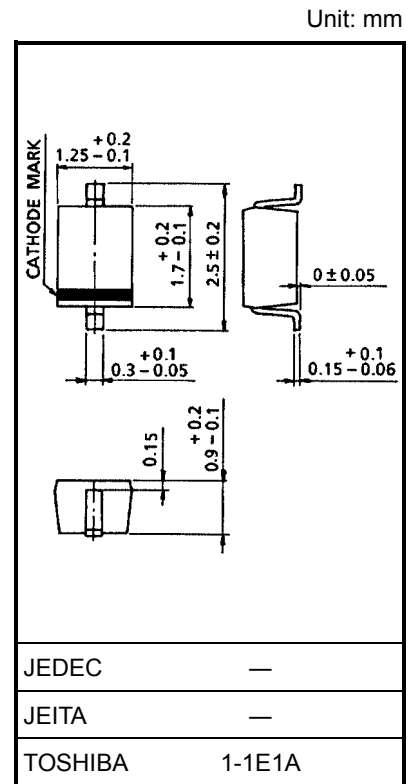
1SV231

CATV Tuning

- High capacitance ratio: $C_{2V}/C_{25V} = 15$ (typ.)
- Excellent C-V characteristics, and small tracking error.
- Useful for small size tuner.

Maximum Ratings (Ta = 25°C)

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



Electrical Characteristics (Ta = 25°C)

Weight: 0.004 g (typ.)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	V_R	$I_R = 1\ \mu\text{A}$	30	—	—	V
Reverse current	I_R	$V_R = 28\text{ V}$	—	—	10	nA
Capacitance	C_{2V}	$V_R = 2\text{ V}, f = 1\text{ MHz}$	41.0	45.0	49.5	pF
Capacitance	C_{25V}	$V_R = 25\text{ V}, f = 1\text{ MHz}$	2.7	3.0	3.4	pF
Capacitance ratio	C_{2V}/C_{25V}	—	14	15	—	—
Series resistance	r_s	$V_R = 5\text{ V}, f = 470\text{ MHz}$	—	1.05	1.25	Ω

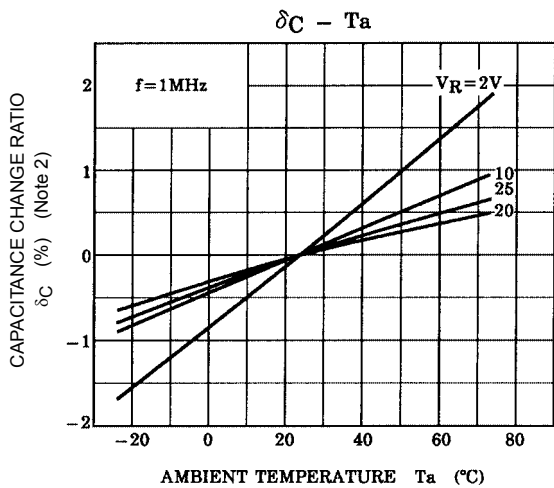
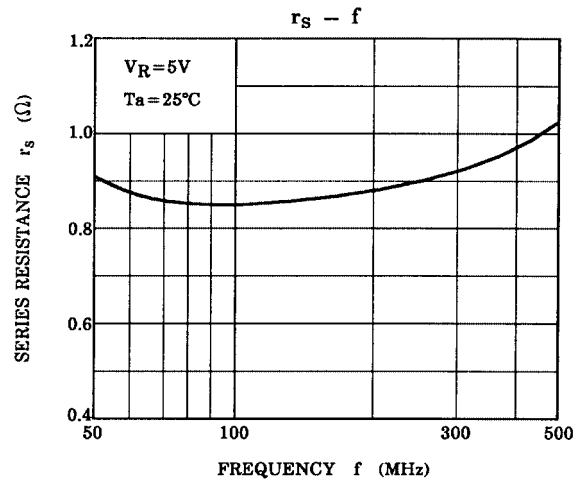
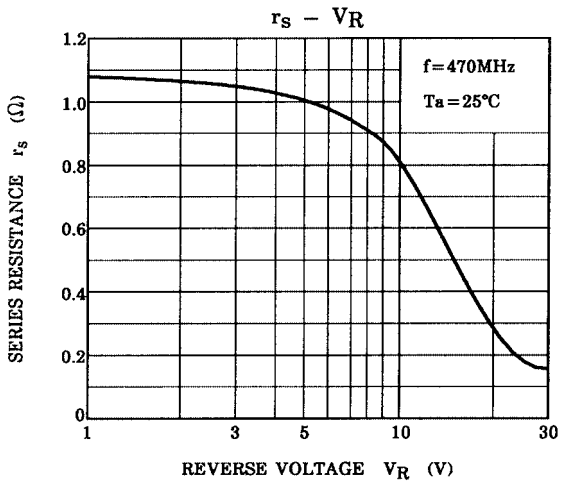
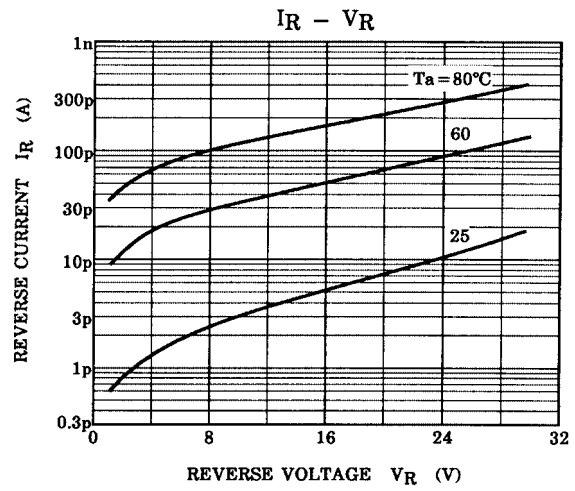
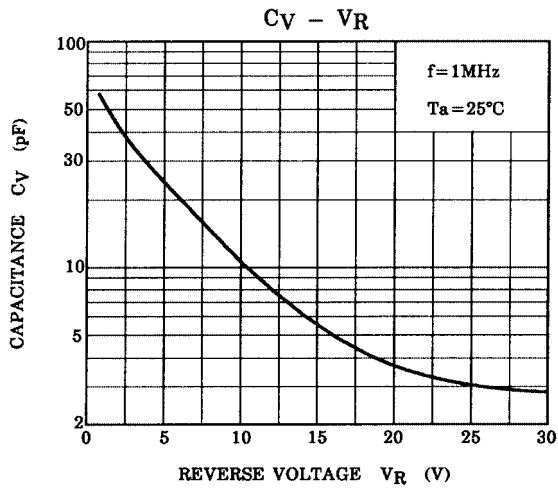
Note 1: Available in matched group for capacitance to 2.5%.

$$\frac{C(\text{max}) - C(\text{min})}{C(\text{min})} \leq 0.025$$

($V_R = 2\sim 25\text{ V}$)

Marking





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

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