

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

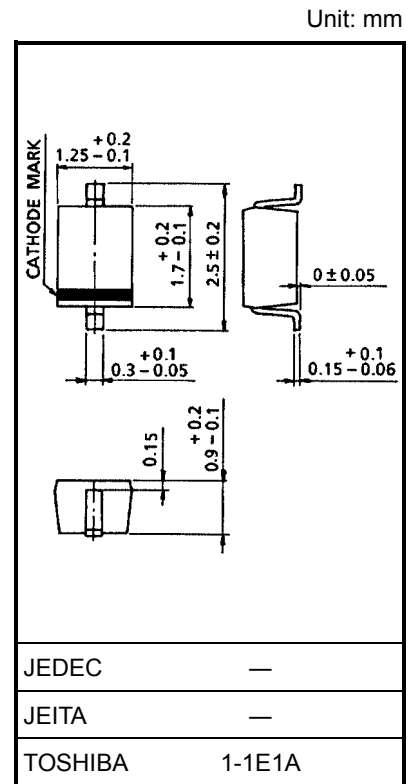
# 1SV231

## 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	$\Omega$

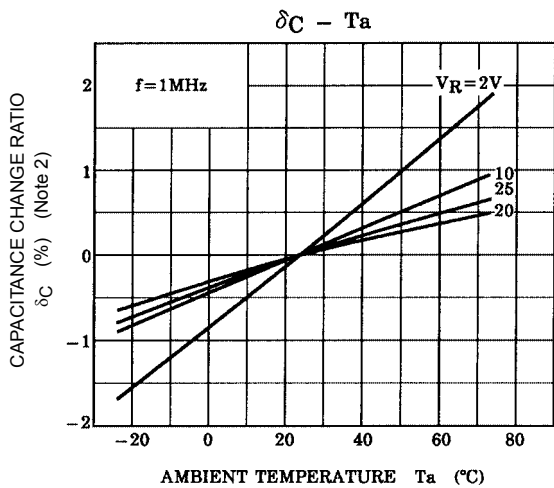
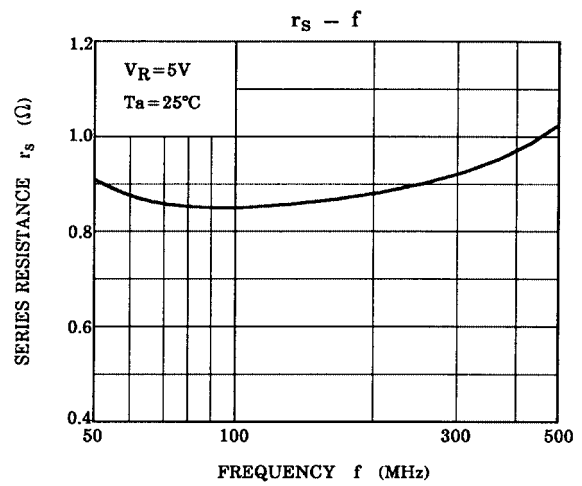
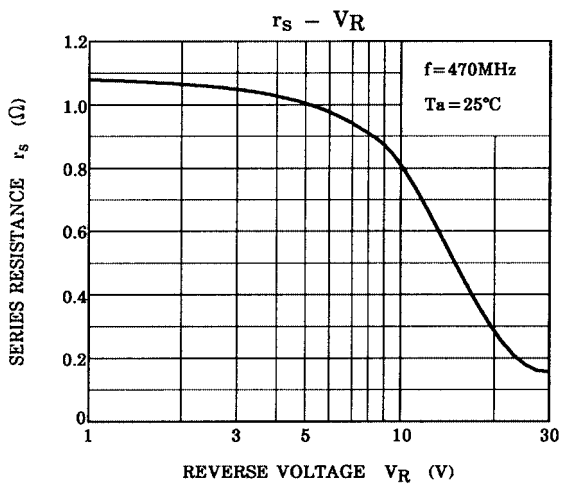
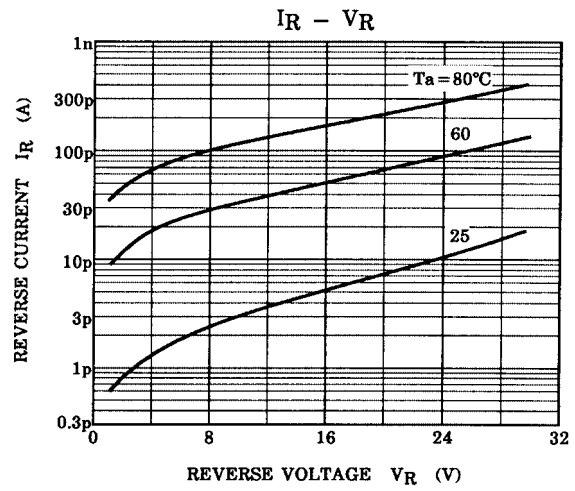
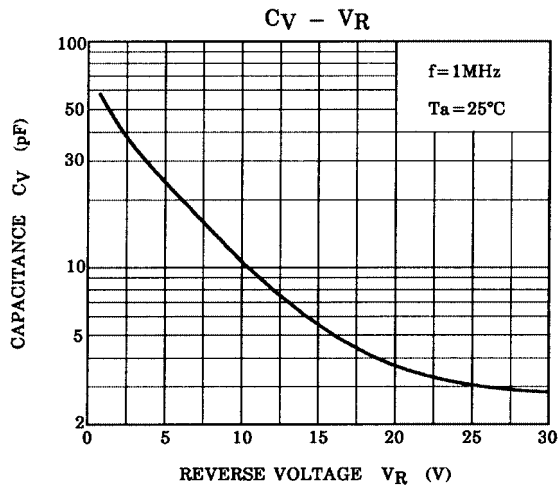
Note 1: Available in matched group for capacitance to 2.5%.

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

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

## Marking





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

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