

1SV231

CATV Tuning

- High capacitance ratio: $C_2 V/C_{25} V = 15$ (typ.)
- Excellent C-V characteristics, and small tracking error.
- Useful for small size tuner.

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

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	$^\circ\text{C}$
Storage temperature range	T_{stg}	$-55\sim 125$	$^\circ\text{C}$

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).

Unit: mm

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	$I_R = 1\text{ }\mu\text{A}$	30	—	—	V
Reverse current	I_R	$V_R = 28\text{ V}$	—	—	10	nA
Capacitance	$C_2 V$	$V_R = 2\text{ V}, f = 1\text{ MHz}$	41.0	45.0	49.5	pF
Capacitance	$C_{25} V$	$V_R = 25\text{ V}, f = 1\text{ MHz}$	2.7	3.0	3.4	pF
Capacitance ratio	$C_2 V/C_{25} V$	—	14	15	—	—
Series resistance	r_s	$V_R = 5\text{ V}, f = 470\text{ MHz}$	—	1.05	1.25	Ω

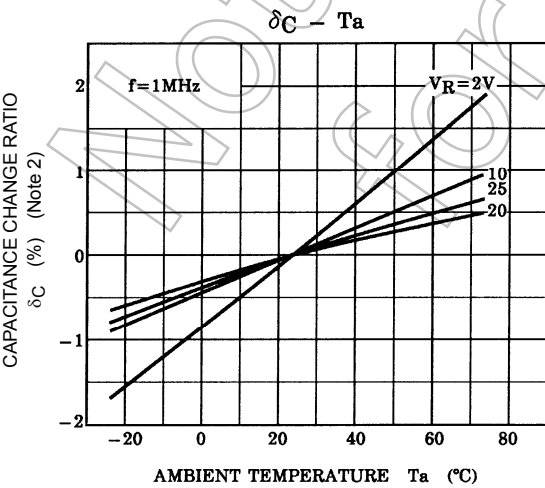
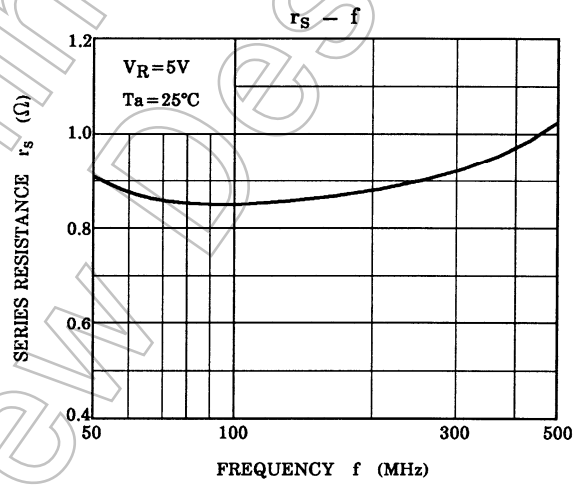
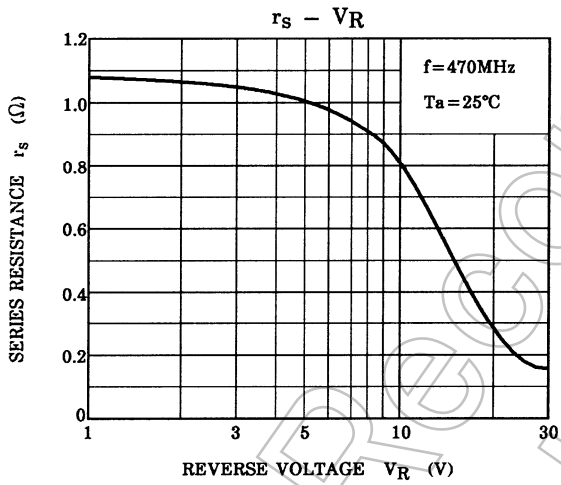
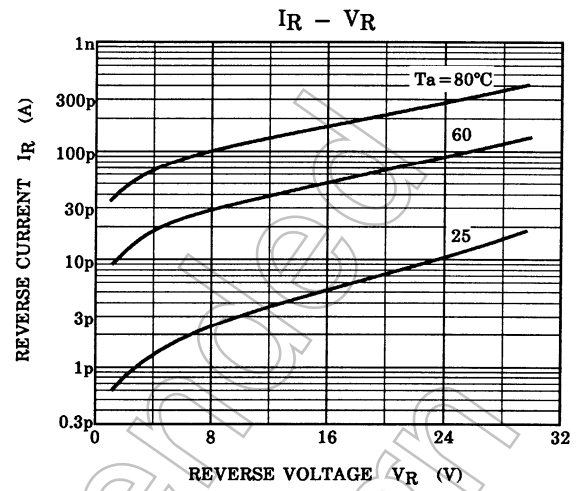
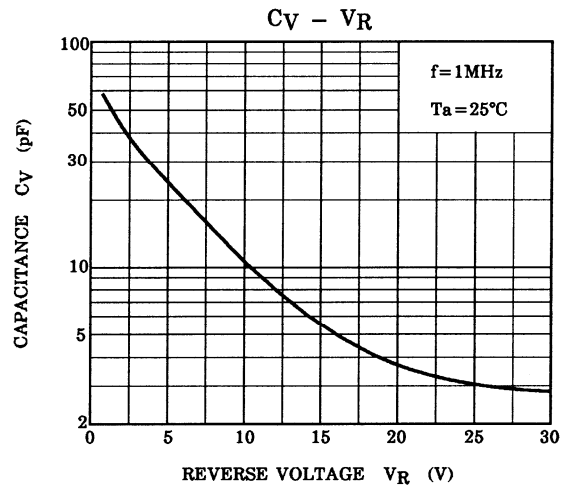
Note 1: Available in matched group for capacitance to 2.5%.

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

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

Marking





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

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