

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

1SV214

TV Tuning

- High capacitance ratio: $C2\text{ V}/C25\text{ V} = 6.5$ (typ.)
- Low series resistance: $r_s = 0.4\ \Omega$ (typ.)
- Excellent C-V characteristics, and small tracking error.
- Useful for small size tuner.

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}	$-55\sim 125$	$^\circ\text{C}$

Unit: mm

JEDEC	—
JEITA	—
TOSHIBA	1-1E1A

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

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	$C2\text{ V}$	$V_R = 2\text{ V}, f = 1\text{ MHz}$	14.16	—	16.25	pF
Capacitance	$C25\text{ V}$	$V_R = 25\text{ V}, f = 1\text{ MHz}$	2.11	—	2.43	pF
Capacitance ratio	$C2\text{ V}/C25\text{ V}$	—	5.90	6.50	7.15	—
Series resistance	r_s	$V_R = 5\text{ V}, f = 470\text{ MHz}$	—	0.4	0.55	Ω

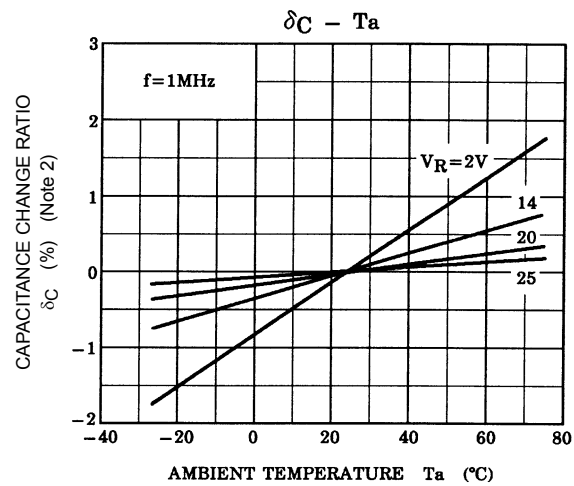
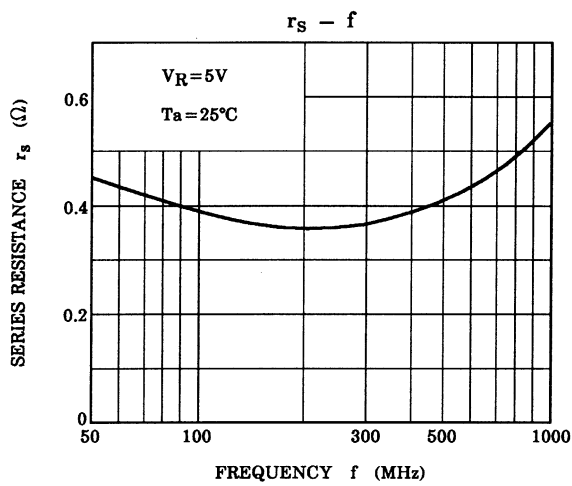
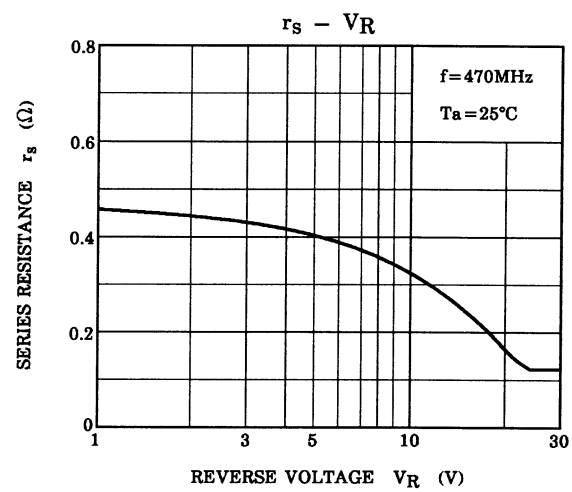
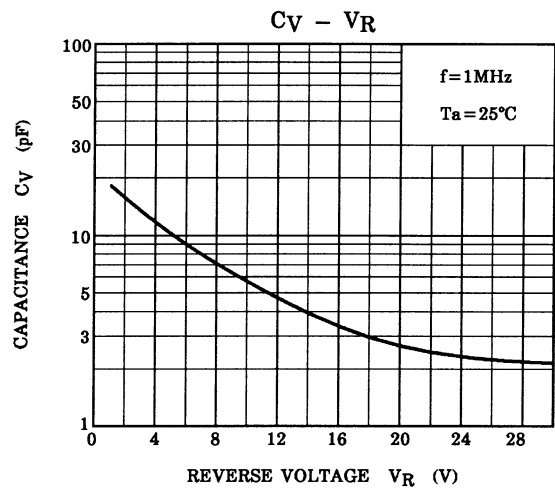
Note 1: Units are compounded in one package and are matched to 2.5%.

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

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

Marking





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

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20070701-EN

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