

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

## 1SV215

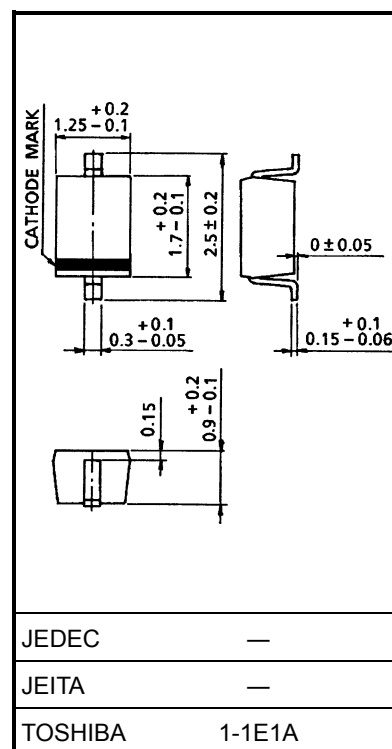
## CATV Tuning

- High capacitance ratio:  $C_2 \text{ V}/C_{25 \text{ V}} = 10.5$  (typ.)
- Low series resistance:  $r_s = 0.6 \Omega$  (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

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

Weight: 0.004 g (typ.)

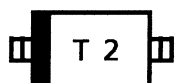
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	$V_R$	$I_R = 1 \mu\text{A}$	30	—	—	V
Reverse current	$I_R$	$V_R = 28 \text{ V}$	—	—	10	nA
Capacitance	$C_{2 \text{ V}}$	$V_R = 2 \text{ V}, f = 1 \text{ MHz}$	26	—	32	pF
Capacitance	$C_{25 \text{ V}}$	$V_R = 25 \text{ V}, f = 1 \text{ MHz}$	2.5	—	3.2	pF
Capacitance ratio	$C_{2 \text{ V}}/C_{25 \text{ V}}$	—	9.5	10.5	—	—
Series resistance	$r_s$	$V_R = 5 \text{ V}, f = 470 \text{ MHz}$	—	0.6	0.8	$\Omega$

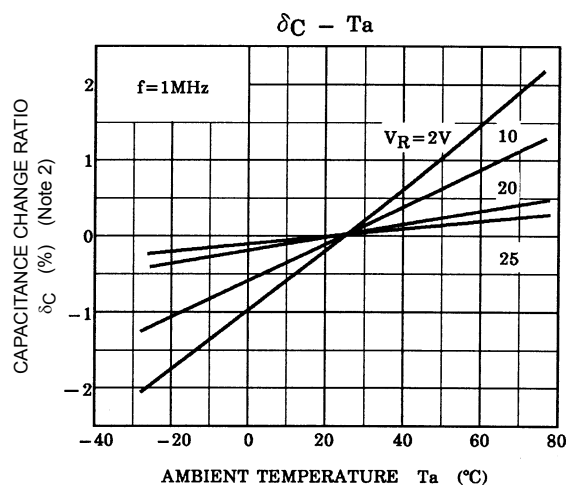
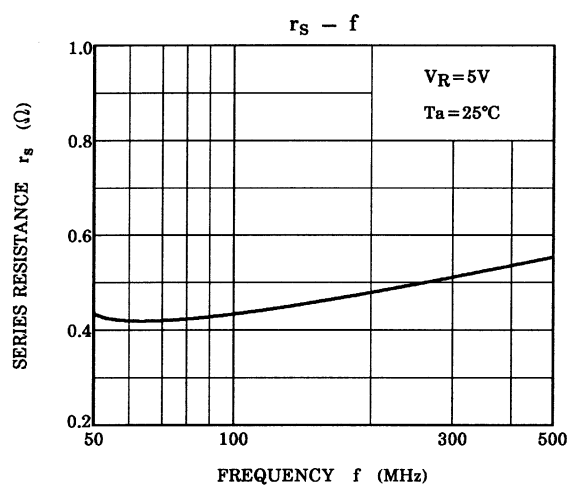
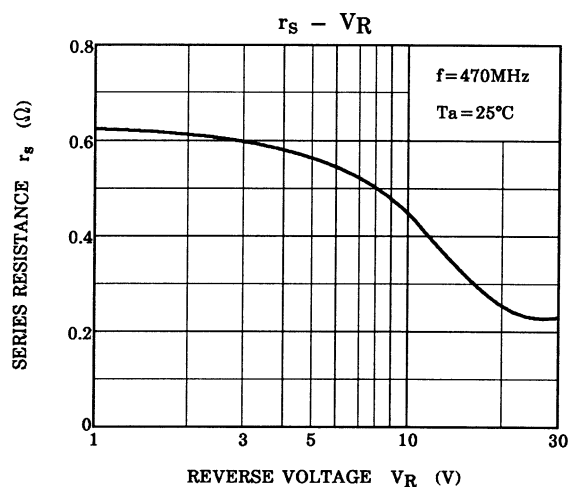
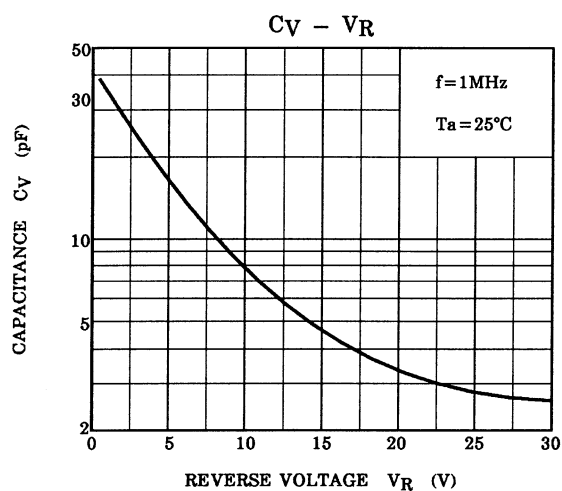
Note 1: Available in matched group for capacitance to 2.5%.

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

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

## Marking





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

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