

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

1SV217

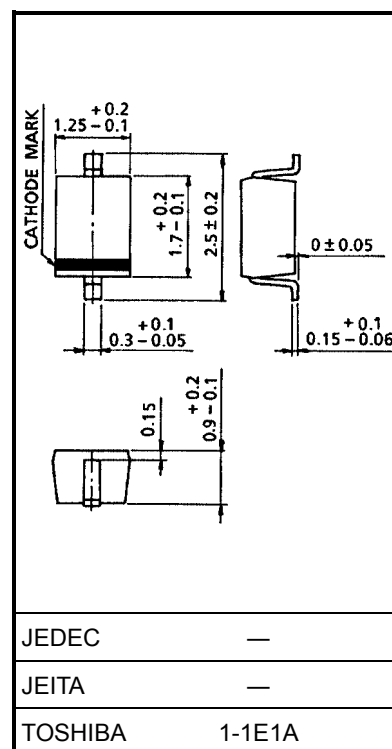
CATV Tuning

- High capacitance ratio: $C_2 \text{ V}/C_{25 \text{ V}} = 12.5$ (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

Unit: mm



Electrical Characteristics (Ta = 25°C)

Weight: 0.004 g (typ.)

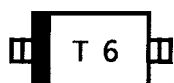
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	V_R	$I_R = 1 \mu\text{A}$	30	—	—	V
Reverse current	I_R	$V_R = 28 \text{ V}$	—	—	10	nA
Capacitance	$C_2 \text{ V}$	$V_R = 2 \text{ V}, f = 1 \text{ MHz}$	33	36	39	pF
Capacitance	$C_{25 \text{ V}}$	$V_R = 25 \text{ V}, f = 1 \text{ MHz}$	2.6	2.88	3.2	pF
Capacitance ratio	$C_2 \text{ V}/C_{25 \text{ V}}$	—	11.5	12.5	—	—
Series resistance	r_s	$V_R = 5 \text{ V}, f = 470 \text{ MHz}$	—	0.83	1.0	Ω

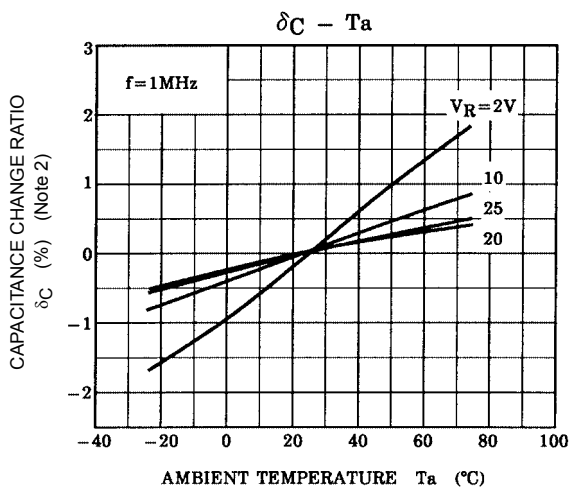
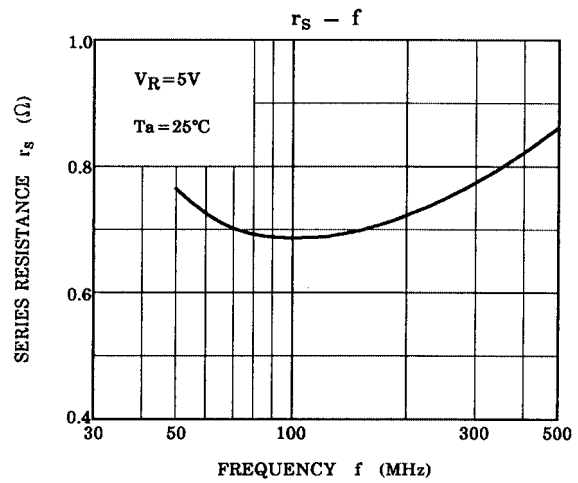
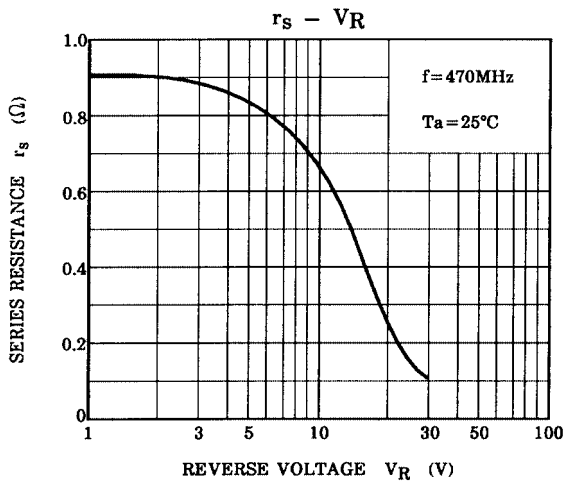
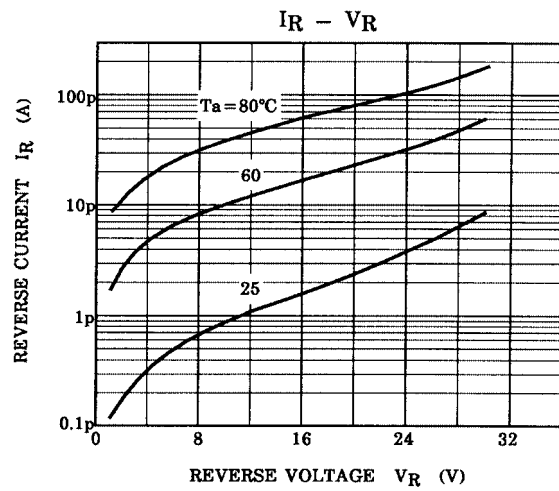
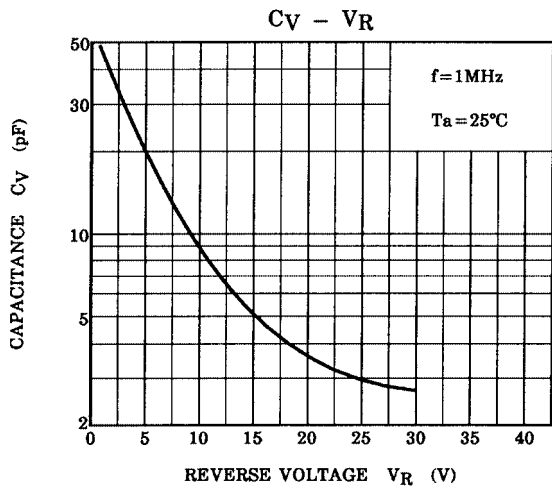
Note 1: Available in matched group for capacitance to 2.5%.

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

(V_R = 2~25 V)

Marking





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

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