

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

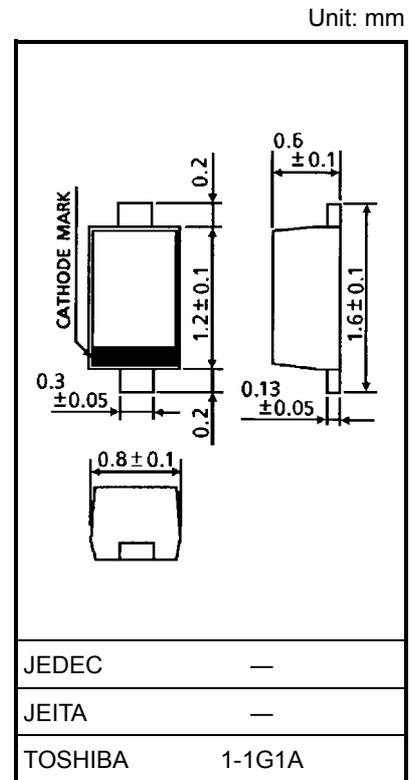
1SV283

CATV Tuning

- High capacitance ratio: $C_{2V}/C_{25V} = 11.5$ (typ.)
- Low series resistance: $r_s = 0.55 \Omega$ (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	34	V
Peak reverse voltage	V_{RM}	36 ($R_L = 10 \text{ k}\Omega$)	V
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	-55~125	°C



Electrical Characteristics (Ta = 25°C)

Weight: 0.0014 g (typ.)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse voltage	V_R	$I_R = 1 \mu\text{A}$	34	—	—	V
Reverse current	I_R	$V_R = 32 \text{ V}$	—	—	10	nA
Capacitance	C_{2V}	$V_R = 2 \text{ V}, f = 1 \text{ MHz}$	29	—	34	pF
Capacitance	C_{25V}	$V_R = 25 \text{ V}, f = 1 \text{ MHz}$	2.5	—	2.9	pF
Capacitance ratio	C_{2V}/C_{25V}	—	11.0	11.5	—	—
Capacitance ratio	C_{25V}/C_{28V}	—	1.03	—	—	—
Series resistance	r_s	$V_R = 5 \text{ V}, f = 470 \text{ MHz}$	—	0.55	0.7	Ω

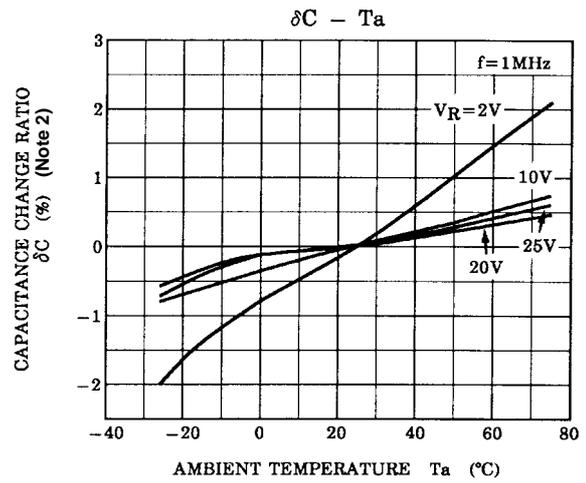
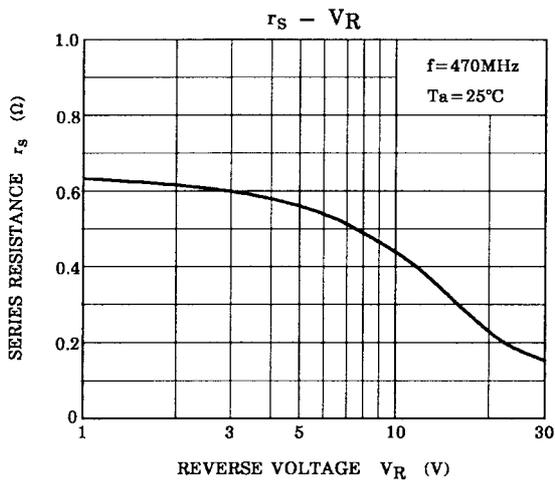
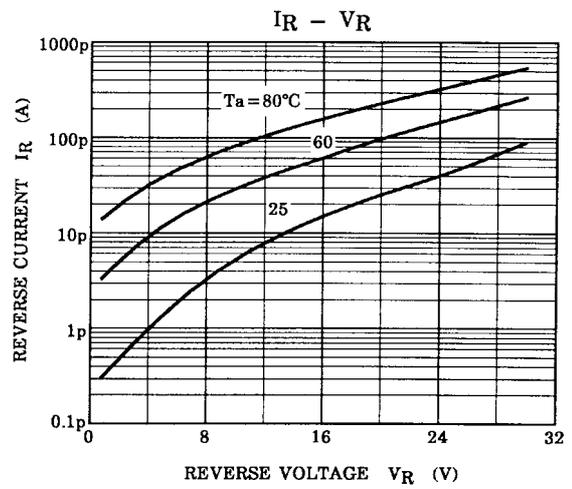
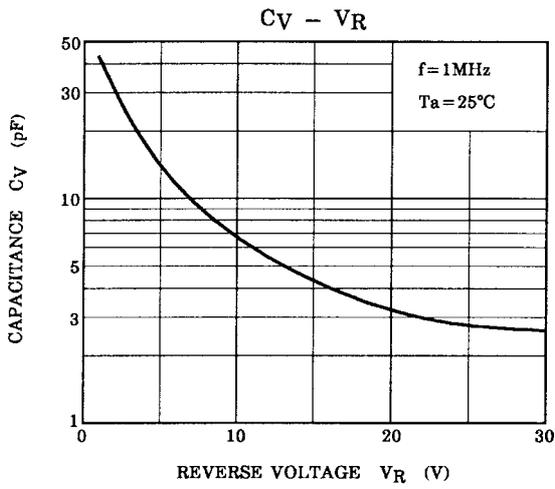
Note 1: Available in matched group for capacitance to 2.0%.

$$\frac{C(\text{max}) - C(\text{min})}{C(\text{min})} \leq 0.02$$

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

Marking





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

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