

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

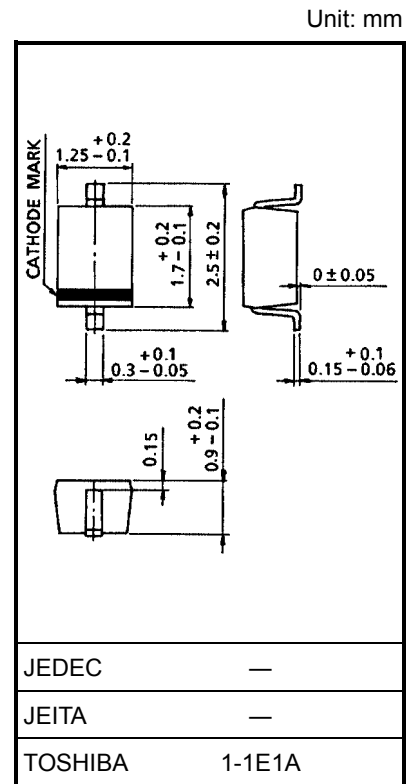
1SV288

CATV Tuning

- High capacitance ratio: $C_{2V}/C_{25V} = 16$ (typ.)
- Low series resistance: $r_s = 0.92 \Omega$ (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 | 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 |



Electrical Characteristics (Ta = 25°C)

Weight: 0.004 g (typ.)

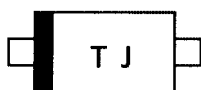
| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|-------------------|------------------|--|-----|------|------|----------|
| Reverse voltage | V_R | $I_R = 1 \mu\text{A}$ | 30 | — | — | V |
| Reverse current | I_R | $V_R = 28 \text{ V}$ | — | — | 10 | nA |
| Capacitance | C_{2V} | $V_R = 2 \text{ V}, f = 1 \text{ MHz}$ | 41 | — | 49.5 | pF |
| Capacitance | C_{25V} | $V_R = 25 \text{ V}, f = 1 \text{ MHz}$ | 2.5 | — | 3.2 | pF |
| Capacitance ratio | C_{2V}/C_{25V} | — | 15 | 16 | — | — |
| Series resistance | r_s | $V_R = 5 \text{ V}, f = 470 \text{ MHz}$ | — | 0.92 | 1.05 | Ω |

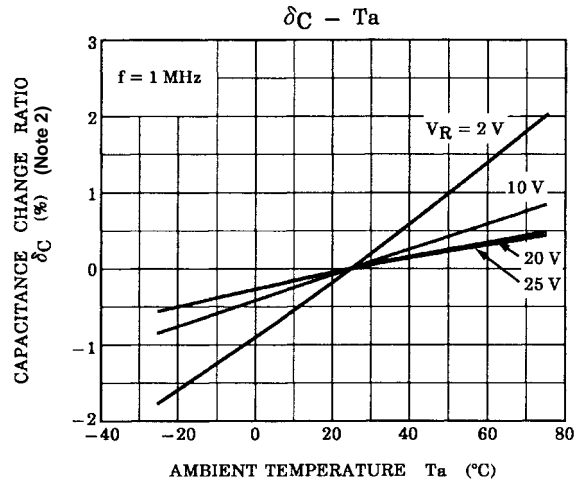
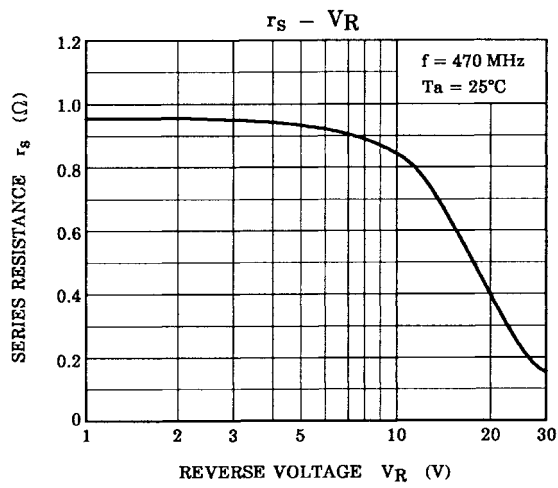
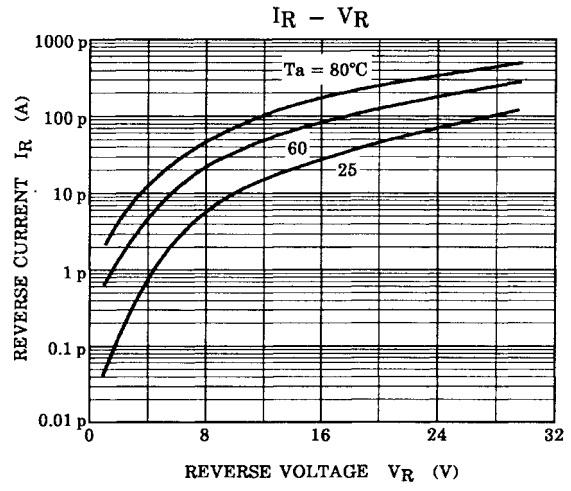
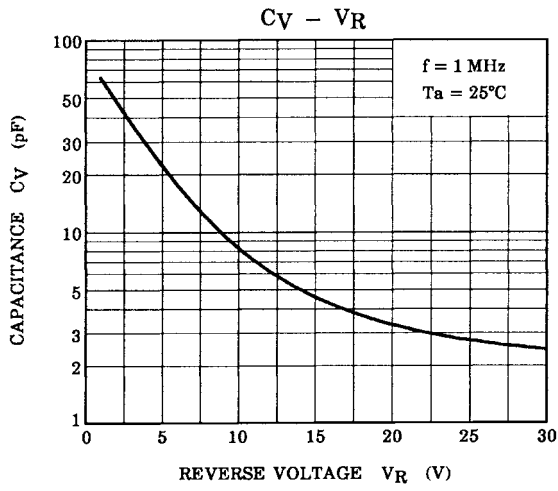
Note 1: Available in matched group for capacitance to 2.5%.

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

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

Marking





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

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