

TOSHIBA Variable Capacitance Diode Silicon Epitaxial Planar Type

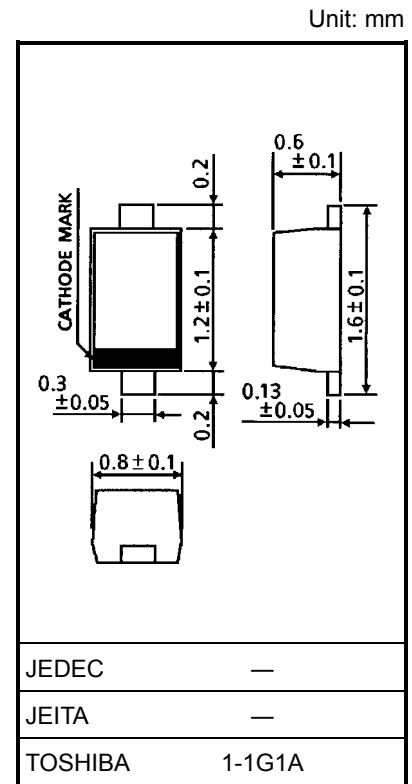
## 1SV282

## CATV Tuning

- High capacitance ratio:  $C_{2V}/C_{25V} = 12.5$  (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           | $V_R$     | 34                                | V                |
| Peak reverse voltage      | $V_{RM}$  | 36 ( $R_L = 10 \text{ k}\Omega$ ) | V                |
| Junction temperature      | $T_j$     | 125                               | $^\circ\text{C}$ |
| Storage temperature range | $T_{stg}$ | -55~125                           | $^\circ\text{C}$ |

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

Weight: 0.0014 g (typ.)

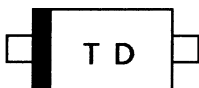
| Characteristics   | Symbol            | Test Condition                           | Min  | Typ. | Max | Unit     |
|-------------------|-------------------|--|------|------|-----|----------|
| Reverse voltage   | $V_R$             | $I_R = 1 \mu\text{A}$                    | 34   | —    | —   | V        |
| Reverse current   | $I_R$             | $V_R = 32 \text{ V}$                     | —    | —    | 10  | nA       |
| Capacitance       | $C_{2V}$          | $V_R = 2 \text{ V}, f = 1 \text{ MHz}$   | 33   | —    | 38  | pF       |
| Capacitance       | $C_{25V}$         | $V_R = 25 \text{ V}, f = 1 \text{ MHz}$  | 2.6  | —    | 3.0 | pF       |
| Capacitance ratio | $C_{2V}/C_{25V}$  | —  | 12.0 | 12.5 | —   | —        |
| Capacitance ratio | $C_{25V}/C_{28V}$ | —  | 1.03 | —    | —   | —        |
| Series resistance | $r_s$             | $V_R = 5 \text{ V}, f = 470 \text{ MHz}$ | —    | 0.6  | 0.8 | $\Omega$ |

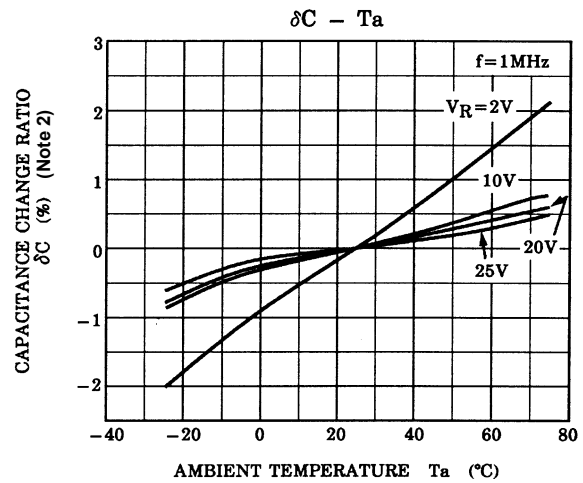
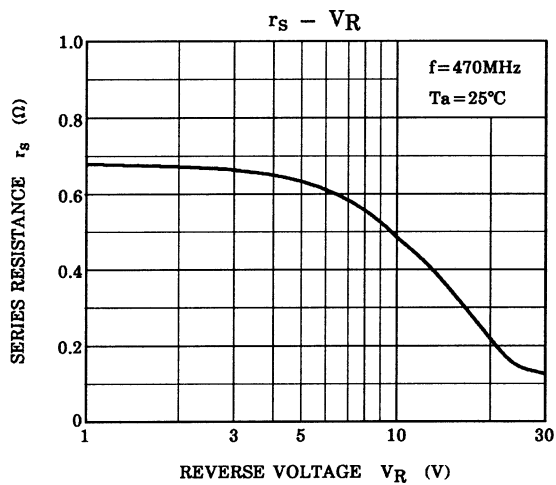
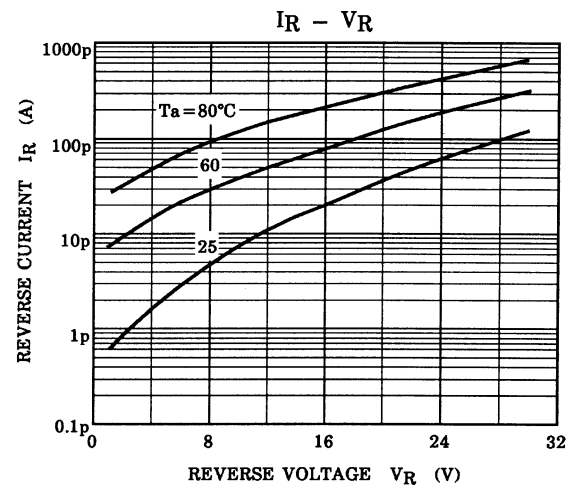
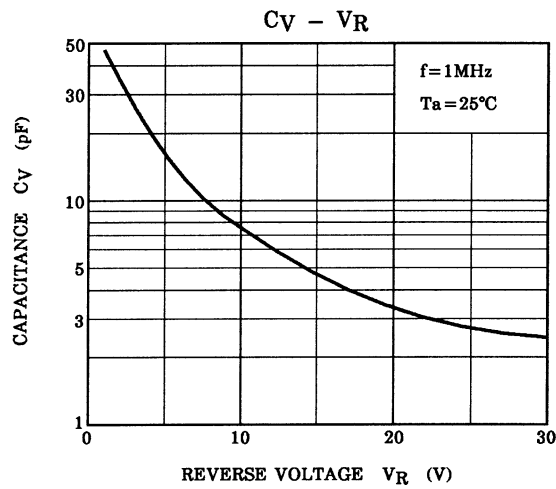
Note 1: Available in matched group for capacitance to 2%.

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

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

## Marking





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

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