

# 1SV282

## CATV Tuning

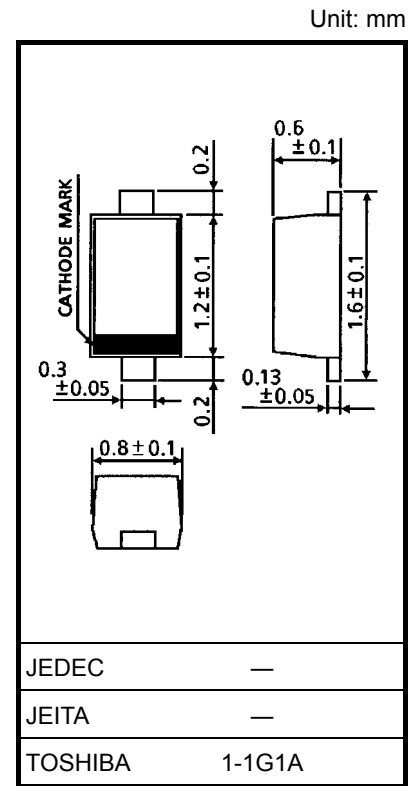
- High capacitance ratio:  $C_{2V}/C_{25V} = 12.5$  (typ.)
- Low series resistance:  $r_s = 0.6 \Omega$  (typ.)
- Excellent C-V characteristics, and small tracking error.
- Useful for small size tuner.

## Absolute 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   |

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



Weight: 0.0014 g (typ.)

## Electrical Characteristics (Ta = 25°C)

| 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   | 35.5 | 38  | pF       |
| Capacitance       | $C_{25V}$         | $V_R = 25 \text{ V}, f = 1 \text{ MHz}$  | 2.6  | 2.85 | 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 | $\Omega$ |

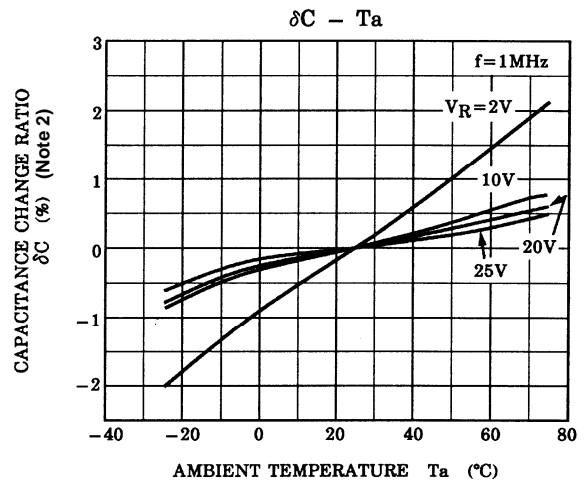
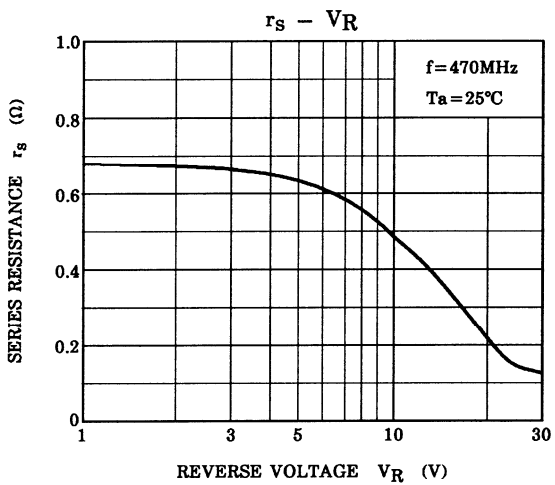
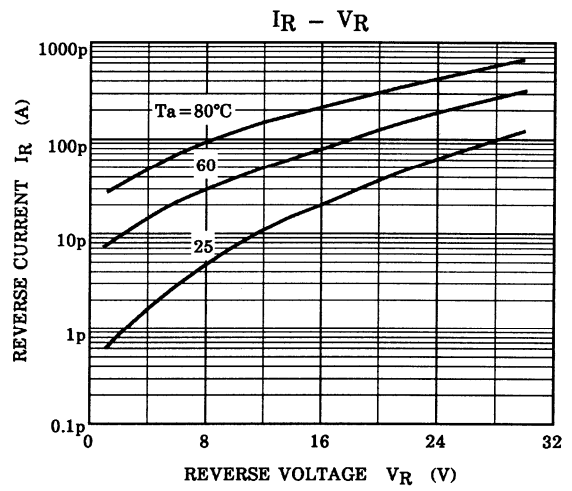
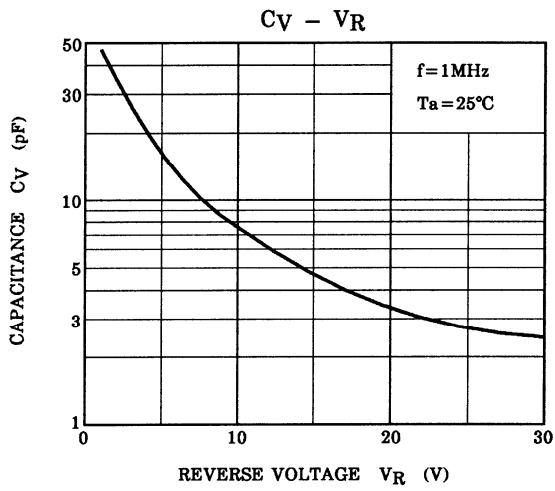
Note 1: Available in matched group for capacitance to 2%.

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

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

## Marking





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

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