

# 1SV245

## UHF SHF Tuning

- High capacitance ratio:  $C2\text{ V}/C25\text{ V} = 5.7$  (typ.)
- Low series resistance:  $r_s = 1.2\ \Omega$  (typ.)
- Excellent C-V characteristics, and small tracking error.

## Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| 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                              | $^\circ\text{C}$ |
| Storage temperature range | $T_{stg}$ | $-55\sim 125$                    | $^\circ\text{C}$ |

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.).

Unit: mm

|         |        |
|---------|--------|
| JEDEC   | —      |
| JEITA   | —      |
| TOSHIBA | 1-1E1A |

Weight: 0.004 g (typ.)

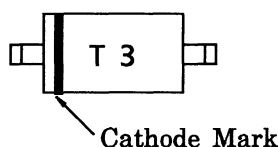
## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

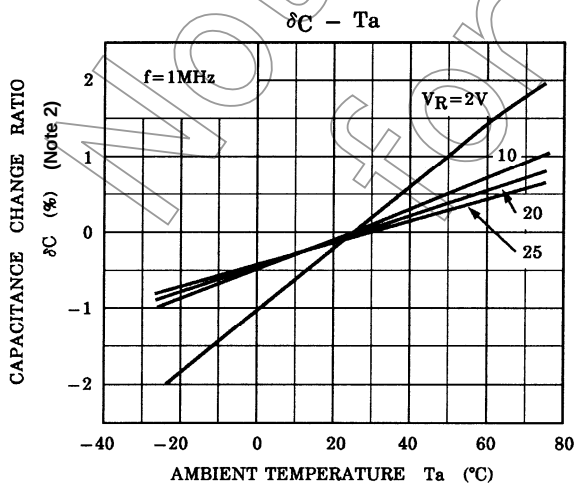
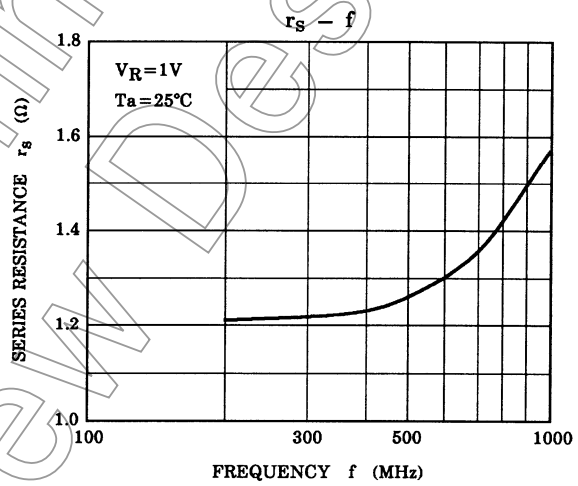
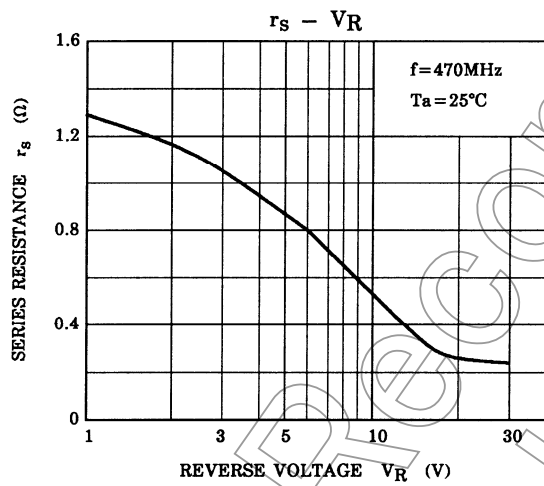
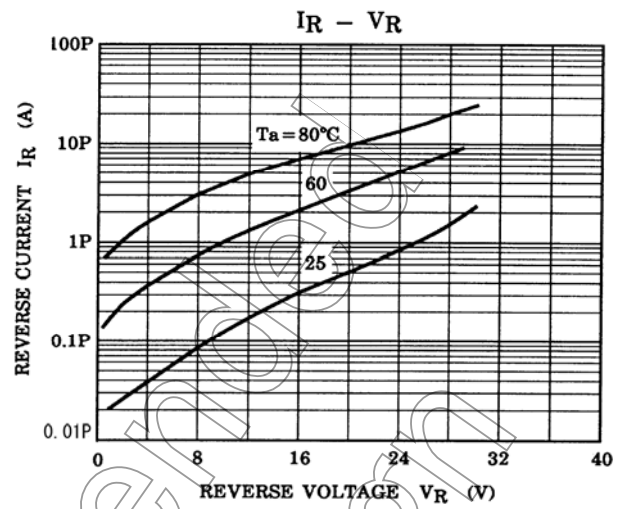
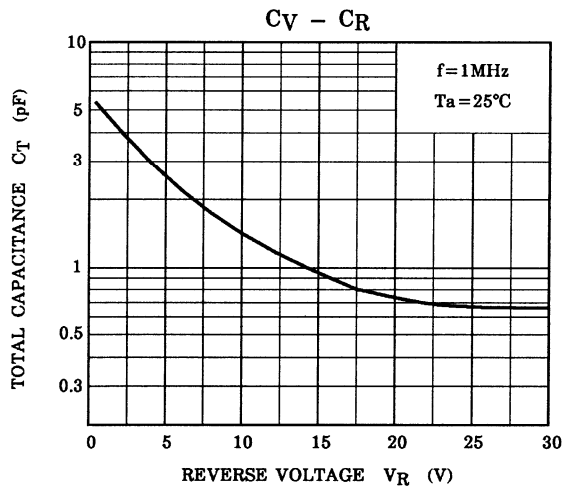
| Characteristics   | Symbol                     | Test Condition                         | Min  | Typ. | Max  | Unit     |
|-------------------|----------------------------|----------------------------------------|------|------|------|----------|
| Reverse voltage   | $V_R$                      | $I_R = 1\ \mu\text{A}$                 | 30   | —    | —    | V        |
| Reverse current   | $I_R$                      | $V_R = 28\text{ V}$                    | —    | —    | 10   | nA       |
| Capacitance       | $C2\text{ V}$              | $V_R = 2\text{ V}, f = 1\text{ MHz}$   | 3.31 | —    | 4.55 | pF       |
| Capacitance       | $C25\text{ V}$             | $V_R = 25\text{ V}, f = 1\text{ MHz}$  | 0.61 | —    | 0.77 | pF       |
| Capacitance ratio | $C2\text{ V}/C25\text{ V}$ | —                                      | 5.0  | 5.7  | 6.5  | —        |
| Series resistance | $r_s$                      | $V_R = 1\text{ V}, f = 470\text{ MHz}$ | —    | 1.2  | 2.0  | $\Omega$ |

Note 1: Unites are compounded in one package and are matched to 6.0%.

$$\frac{C(\text{max}) - C(\text{min})}{C(\text{min})} \leq 0.06 \quad (V_R = 2\sim 25\text{ V})$$

## Marking





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

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