

1SV304

VCO for VHF Band Radio

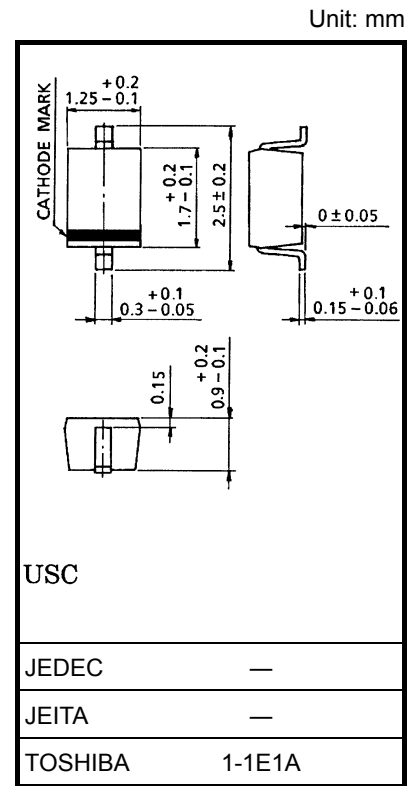
- Small package
- High capacitance ratio: $C_{1V} / C_{4V} = 3.0$ (typ.)
- Low series resistance: $r_s = 0.27 \Omega$ (typ.)

Absolute Maximum Ratings (Ta = 25°C)

| Characteristics | Symbol | Rating | Unit |
|---------------------------|-----------|------------|------|
| Reverse voltage | V_R | 10 | V |
| Junction temperature | T_j | 125 | °C |
| Storage temperature range | T_{stg} | -55 to 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: 0.004 g (typ.)

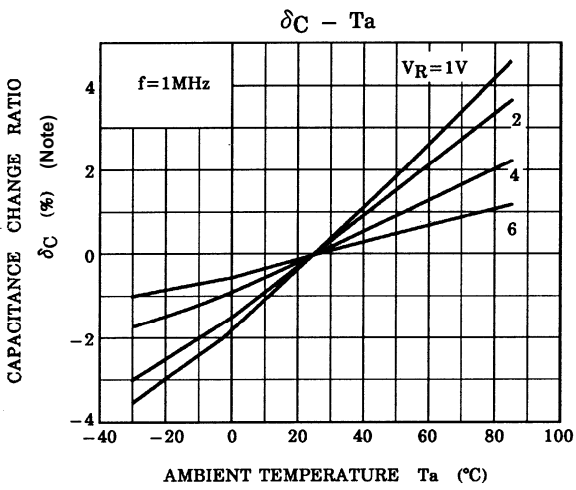
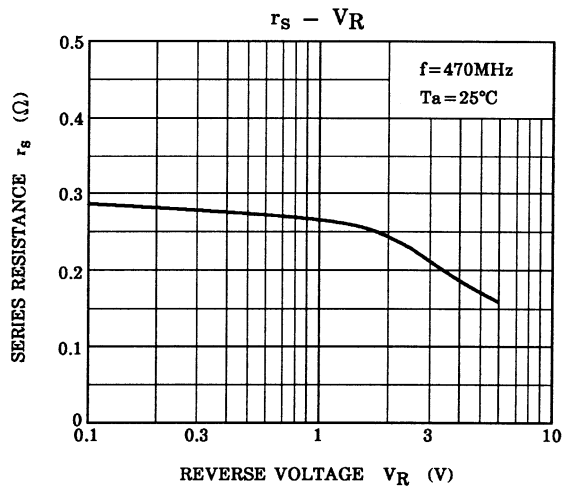
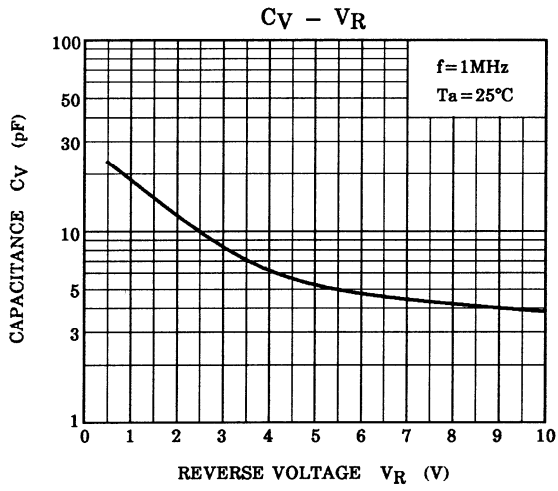
Electrical Characteristics (Ta = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|-------------------|-------------------|--------------------------|------|------|------|----------|
| Reverse voltage | V_R | $I_R = 1 \mu A$ | 10 | — | — | V |
| Reverse current | I_R | $V_R = 10 V$ | — | — | 3 | nA |
| Capacitance | C_{1V} | $V_R = 1 V, f = 1 MHz$ | 17.3 | 18.3 | 19.3 | pF |
| Capacitance | C_{4V} | $V_R = 4 V, f = 1 MHz$ | 5.3 | 6.1 | 6.6 | pF |
| Capacitance ratio | C_{1V} / C_{4V} | — | 2.8 | 3 | — | — |
| Series resistance | r_s | $V_R = 1 V, f = 470 MHz$ | — | 0.27 | 0.32 | Ω |

Marking



Start of commercial production
1997-03



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

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