

TOSHIBA Diode Silicon Epitaxial Planar Type

# JDV2S09S

VCO for UHF band

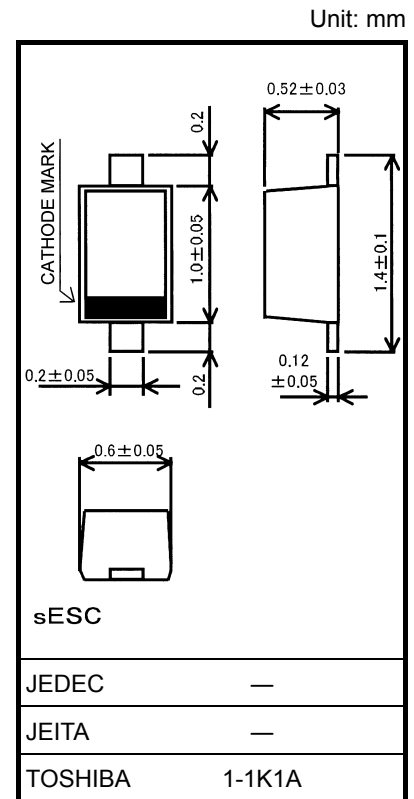
- High capacitance ratio:  $C_{1V}/C_{4V} = 2.1$  (typ.)
- Low series resistance:  $r_s = 0.33 \Omega$  (typ.)
- This device is suitable for use in a small-size tuner.

## Absolute Maximum Ratings (Ta = 25°C)

| Characteristics           | Symbol    | Rating  | Unit |
|---------------------------|-----------|---------|------|
| Reverse voltage           | $V_R$     | 10      | V    |
| Junction temperature      | $T_j$     | 150     | °C   |
| Storage temperature range | $T_{stg}$ | -55~150 | °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).



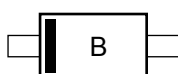
Weight: 0.0011 g (typ.)

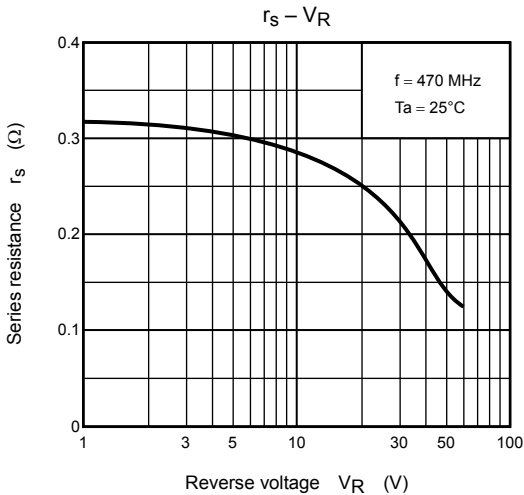
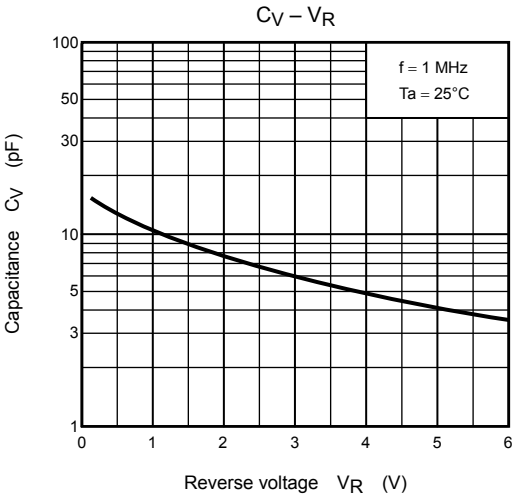
## Electrical Characteristics (Ta = 25°C)

| 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       | $C_{1V}$        | $V_R = 1 V, f = 1 MHz$   | 9.7  | —    | 11.1 | pF       |
|                   | $C_{4V}$        | $V_R = 4 V, f = 1 MHz$   | 4.45 | —    | 5.45 |          |
| Capacitance ratio | $C_{1V}/C_{4V}$ | —                        | 1.8  | 2.1  | —    | —        |
| Series resistance | $r_s$           | $V_R = 1 V, f = 470 MHz$ | —    | 0.33 | 0.45 | $\Omega$ |

Note: Signal level when capacitance is measured.  $V_{sig} = 500 mVrms$

## Marking





**RESTRICTIONS ON PRODUCT USE**

20070701-EN GENERAL

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