

TOSHIBA Diode Silicon Epitaxial PIN Type

# JDP2S12CR

## UHF~VHF Band RF Switch Applications

- Suitable for high-density board assembly due to the use of a small surface-mount package, S-FLAT
- Low series resistance:  $r_s = 0.4 \Omega$  (typ.)
- Low capacitance:  $C_T = 1.0 \text{ pF}$  (typ.)

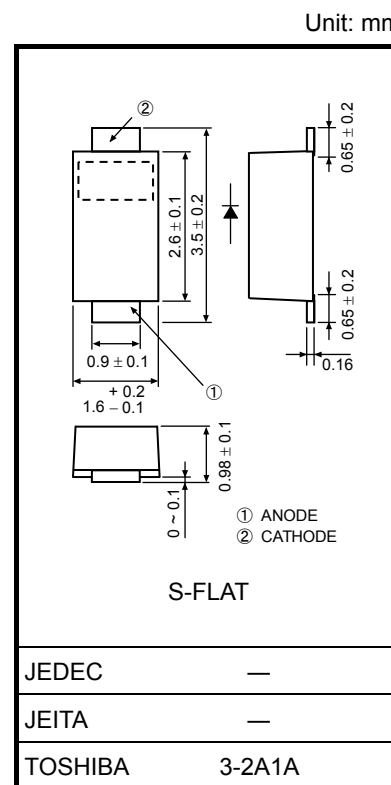
## Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Characteristics           | Symbol         | Rating     | Unit             |
|---------------------------|----------------|------------|------------------|
| Reverse voltage           | $V_R$          | 180        | V                |
| Forward current           | $I_F$          | 1          | A                |
| Power dissipation         | $P_D$ (Note 1) | 1          | W                |
| Junction temperature      | $T_j$          | 175        | $^\circ\text{C}$ |
| Storage temperature range | $T_{stg}$      | -55 to 175 | $^\circ\text{C}$ |

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.).

Note 1:  $T_c = 25^\circ\text{C}$  (When mounted on a 110.0mm×30.0mm×1.0mm glass epoxy PCB)



Weight: 13 mg

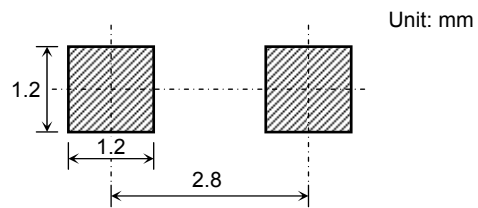
## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

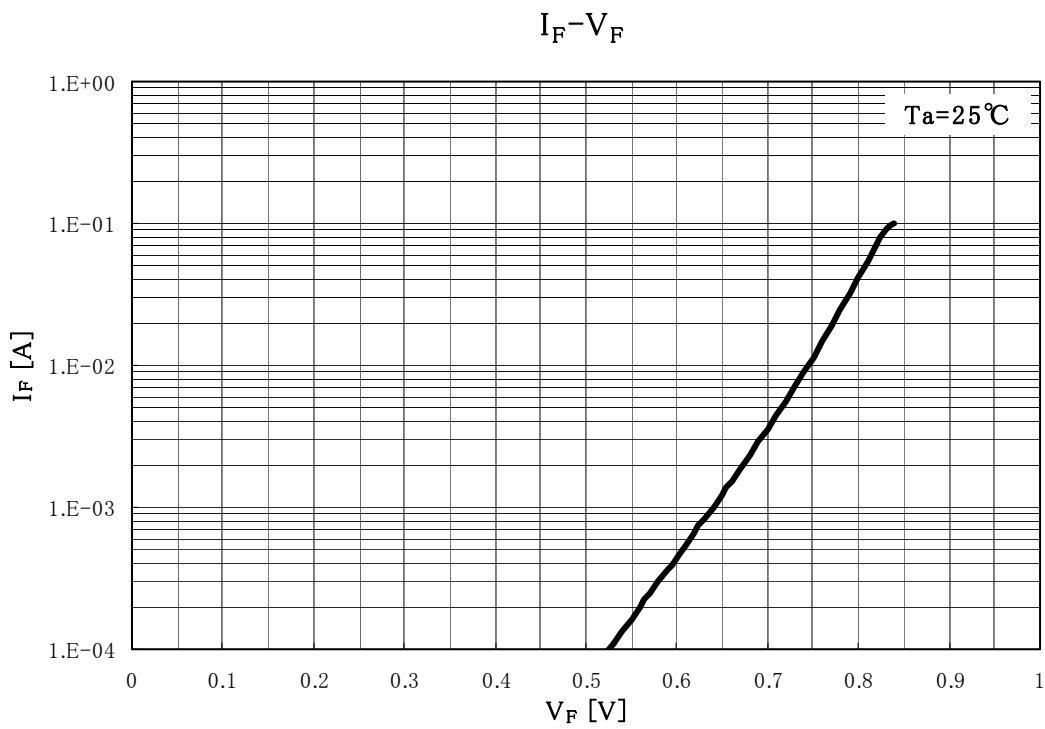
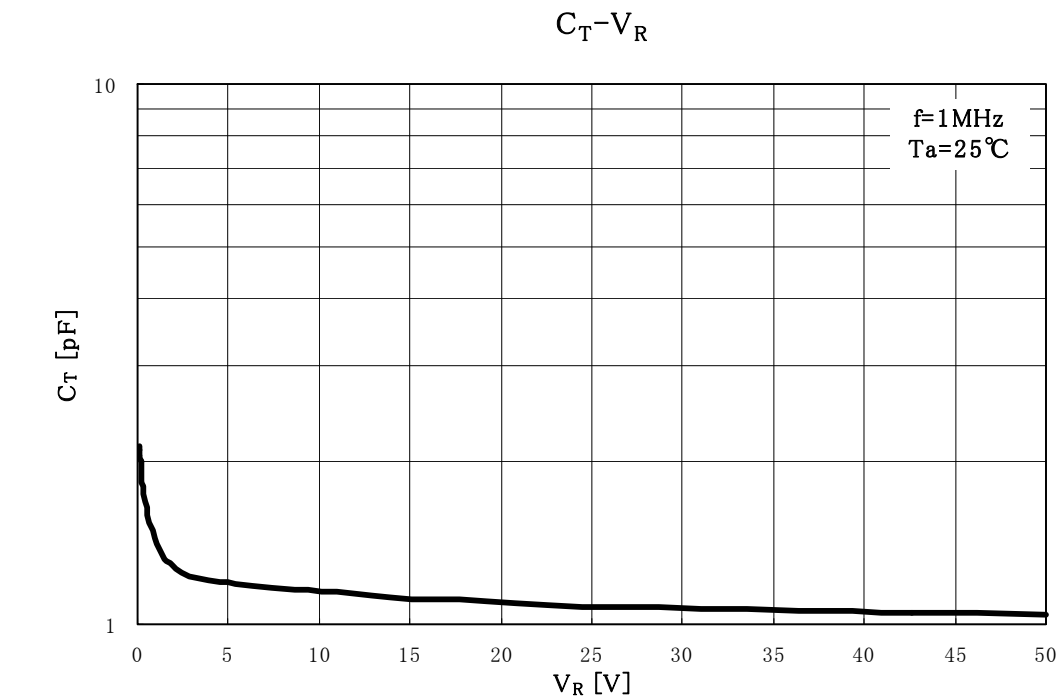
| Characteristics   | Symbol | Test Condition                             | Min | Typ. | Max | Unit          |
|-------------------|--------|--|-----|------|-----|---------------|
| Reverse current   | $I_R$  | $V_R = 50 \text{ V}$                       | —   | —    | 10  | $\mu\text{A}$ |
| Forward voltage   | $V_F$  | $I_F = 50 \text{ mA}$                      | —   | 0.8  | 1.0 | V             |
| Capacitance       | $C_T$  | $V_R = 40 \text{ V}, f = 1 \text{ MHz}$    | —   | 1.0  | 1.3 | pF            |
| Series resistance | $r_s$  | $I_F = 10 \text{ mA}, f = 100 \text{ MHz}$ | —   | 0.4  | 0.7 | $\Omega$      |

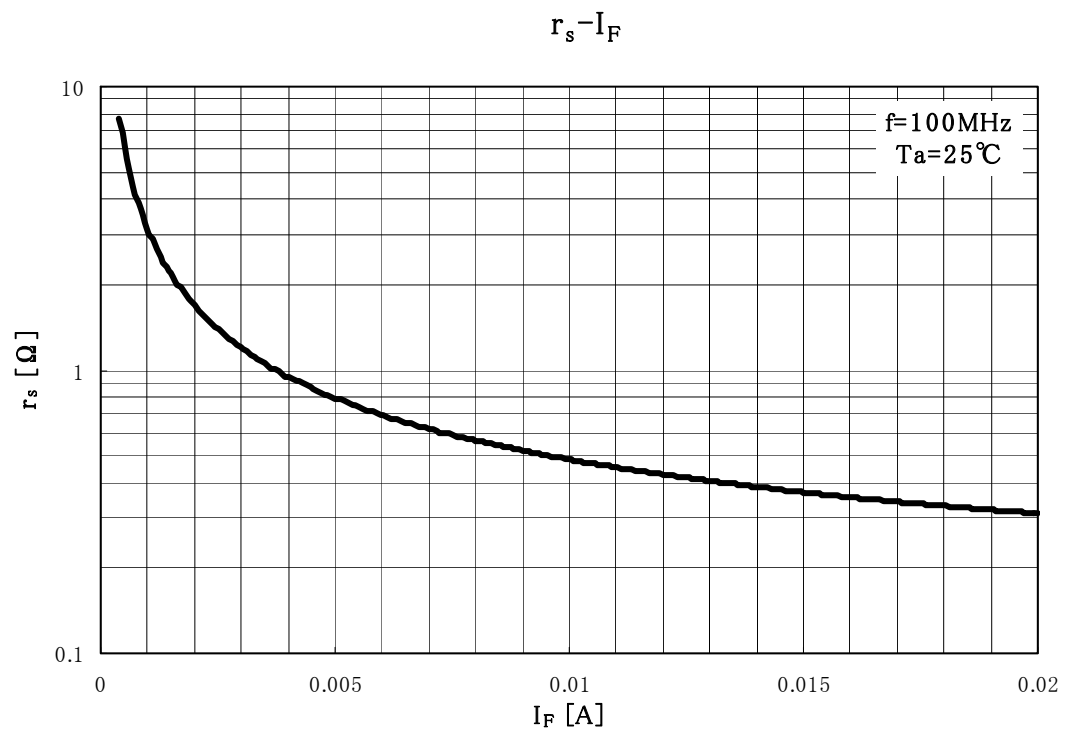
Note: Signal level when capacitance is measured.  $V_{sig} = 100 \text{ mVrms}$

## Marking

| Abbreviation Code | Part No.  |
|-------------------|-----------|
| P1                | JDP2S12CR |

**Standard Soldering Pad**





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