

TOSHIBA Diodes for Protecting against ESD Epitaxial Planar Type

DF2S16S

Product for Use Only as Protection against Electrostatic Discharge (ESD).

* This product is for protection against electrostatic discharge (ESD) only and is not intended for any other usage, including without limitation, the constant voltage diode application.

- 2terminal ultra small package suitable for mounting on small space.
- Low total capacitance: $C_T = 10 \text{ pF}$ (typ.)

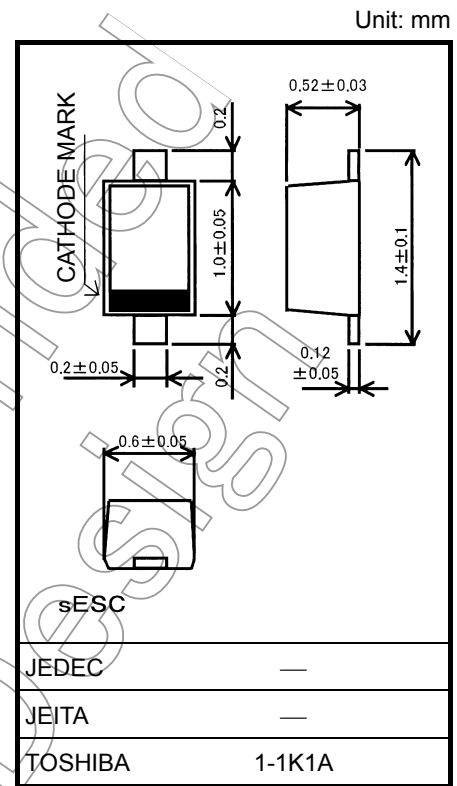
Absolute Maximum Ratings (Ta = 25°C)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|------------------|---------|------|
| Power dissipation | P* | 150 | mW |
| 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).

*: Mounted on a glass-epoxy circuit board of 20 × 20 mm, pad dimensions of 4 × 4 mm.



Weight: 0.0011 g (typ.)

| | |
|---------|--------|
| JEDEC | — |
| JEITA | — |
| TOSHIBA | 1-1K1A |

Electrical Characteristics (Ta = 25°C)

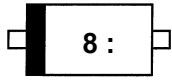
| Characteristic | Symbol | Test Circuit | Test Condition | Min | Typ. | Max | Unit |
|-------------------|----------------|--------------|---------------------------------|------|------|------|------|
| Zener voltage | V _Z | — | I _Z = 5 mA | 15.3 | 16.0 | 17.1 | V |
| Dynamic impedance | Z _Z | — | I _Z = 5 mA | — | — | 35 | Ω |
| Reverse current | I _R | — | V _R = 12 V | — | — | 0.5 | μA |
| Total capacitance | C _T | — | V _R = 0 V, f = 1 MHz | — | 10 | — | pF |

Guaranteed Level of ESD Immunity

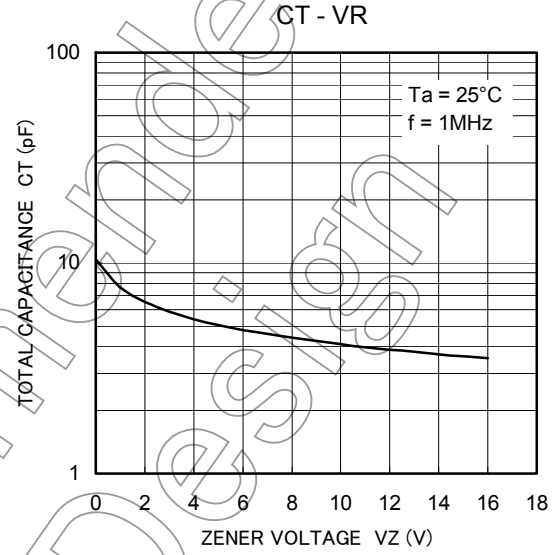
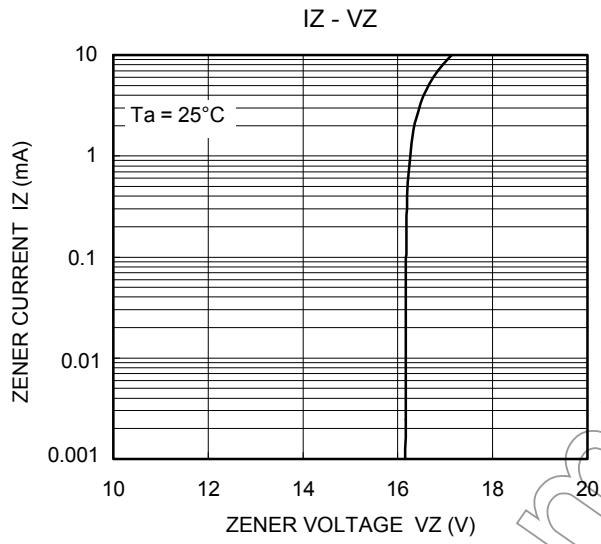
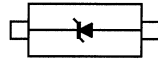
| Test Condition | ESD Immunity Level |
|----------------------------------|--------------------|
| IEC61000-4-2 (contact discharge) | ± 12 kV |

Judgment contents: No element destruction

Marking



Equivalent Circuit (Top View)



Not Recommended for New Design

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