

TOSHIBA Diodes for Protecting against ESD

DF5A5.6JE

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

Unit: mm

* 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.

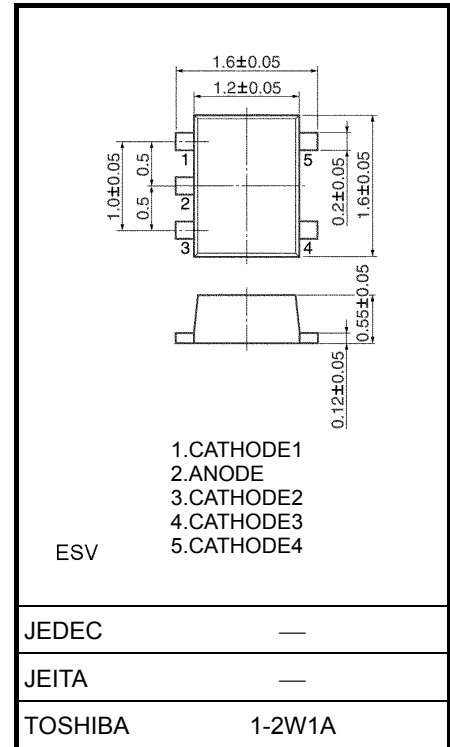
- The mounting of four devices on an ultra-compact package allows the number of parts and the mounting cost to be reduced.

Absolute Maximum Ratings (Ta = 25°C)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|------------------|------------|------|
| Power dissipation | P | 100 | mW |
| Junction temperature | T _j | 150 | °C |
| Storage temperature range | T _{stg} | -55 to 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: 0.003 g (typ.)

Electrical Characteristics (Ta = 25°C)

| Characteristic | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--|----------------|-------------------------------|-----|------|-----|------|
| Zener voltage | V _Z | I _Z = 5 mA | 5.3 | 5.6 | 6.0 | V |
| Dynamic impedance | Z _Z | I _Z = 5 mA | — | — | 40 | Ω |
| Reverse current | I _R | V _R = 2.5 V | — | — | 1.0 | μA |
| Terminal capacitance (between Cathode and Anode) | C _T | V _R = 0, f = 1 MHz | — | 65 | — | pF |

Guaranteed Level of ESD Immunity

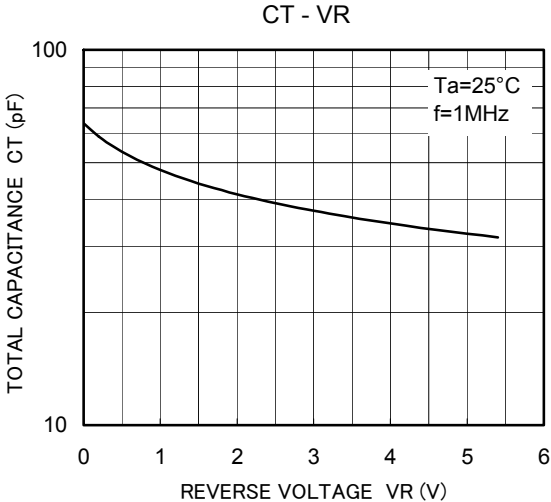
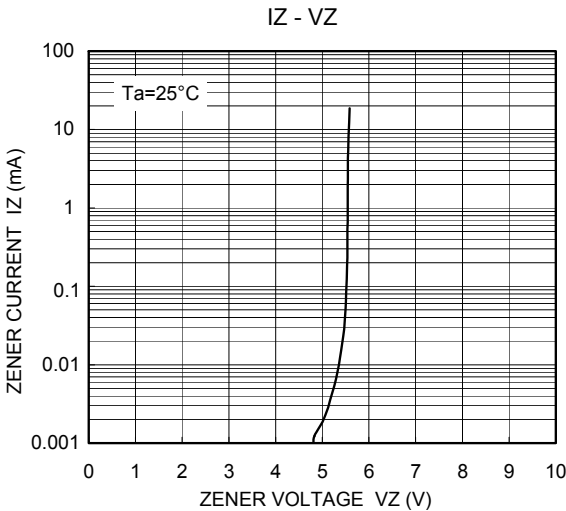
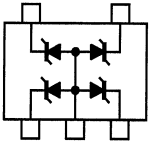
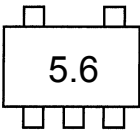
| Test Condition | ESD Immunity Level |
|----------------------------------|--------------------|
| IEC61000-4-2 (Contact discharge) | ± 30 kV |

Criterion: No damage to device elements

Start of commercial production
2002-03

Marking

Equivalent Circuit (Top View)



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