

TOSHIBA Diodes for Protecting against ESD

DF3A6.8FV

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.

- Because two devices are mounted on an ultra compact package, it is possible to allow reducing the number of the parts and the mounting cost.

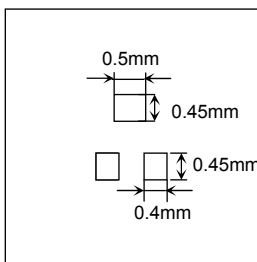
Absolute Maximum Ratings (Ta = 25°C)

| Characteristics | Symbol | Rating | Unit |
|---------------------------|------------------|------------|------|
| Power dissipation | P* | 150 | mW |
| Junction temperature | T _j | 150 | °C |
| Storage temperature range | T _{stg} | -55 to 150 | °C |

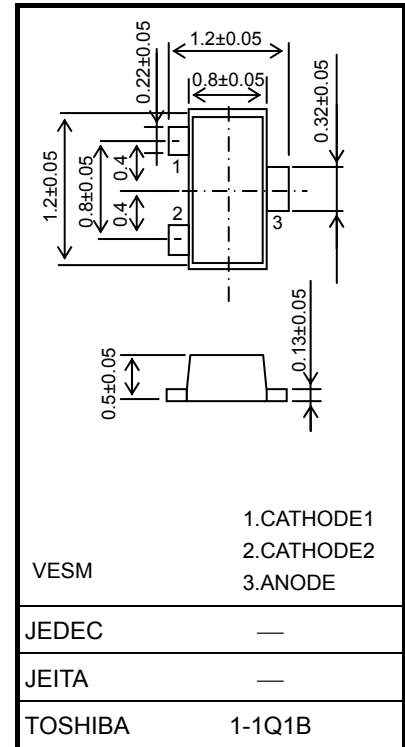
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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).

*: Mounted on FR4 board (25.4 mm × 25.4 mm × 1.6 mmt)



Unit: mm



VESM

- 1.CATHODE1
- 2.CATHODE2
- 3.ANODE

JEDEC

—

JEITA

—

TOSHIBA

1-1Q1B

Weight: 0.0015 g (typ.)

Electrical Characteristics (Ta = 25°C)

| Characteristics | Symbol | Test Condition | Min | Typ. | Max | Unit |
|--|----------------|------------------------------|-----|------|-----|------|
| Zener voltage | V _Z | I _Z = 5 mA | 6.4 | 6.8 | 7.2 | V |
| Dynamic impedance | Z _Z | I _Z = 5 mA | — | — | 25 | Ω |
| Reverse current | I _R | V _R = 5 V | — | — | 0.5 | μA |
| Terminal capacitance (between Cathode and Anode) | C _T | V _R = 0, f = 1MHz | — | 45 | — | pF |

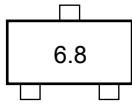
Start of commercial production
2003-06

Guaranteed Level of ESD Immunity

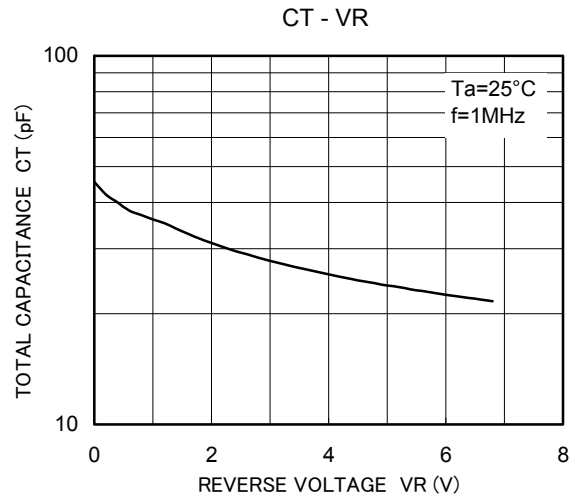
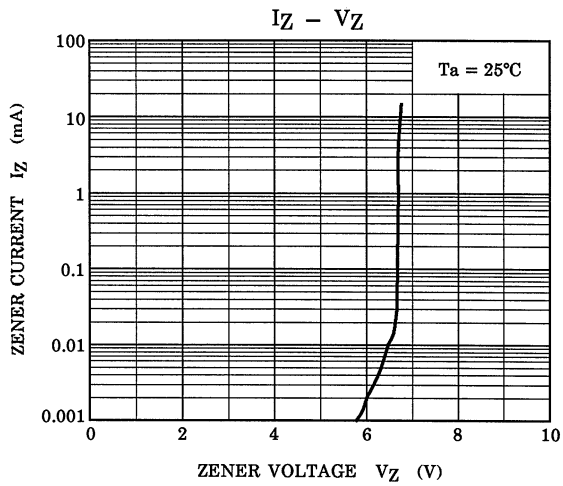
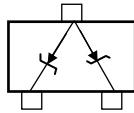
| Test Condition | ESD Immunity Level |
|-------------------------------------|--------------------|
| IEC61000-4-2 (Contact discharge) | ± 30kV |

Criterion: No damage to device elements

Marking



Equivalent Circuit (top view)



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