

TOSHIBA Diodes For Protecting Against ESD

# DF3A6.2FV

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.

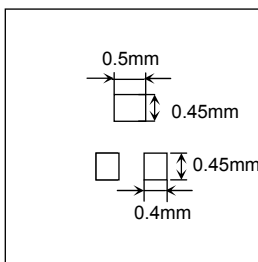
### Absolute Maximum Ratings (Ta = 25°C)

| Characteristics           | Symbol           | Rating     | Unit |
|---------------------------|------------------|------------|------|
| Power dissipation         | P*               | 150        | mW   |
| Junction temperature      | T <sub>j</sub>   | 150        | °C   |
| Storage temperature range | T <sub>stg</sub> | -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).

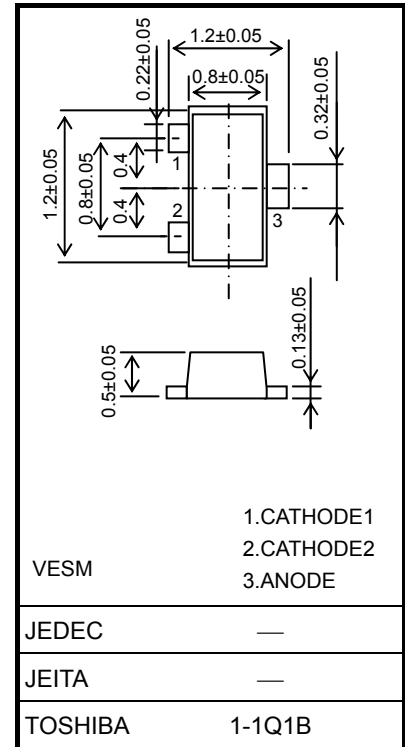
\*: Mounted on FR4 board (25.4 mm × 25.4 mm × 1.6 mmt)



### Electrical Characteristics (Ta = 25°C)

| Characteristics                                  | Symbol         | Test Condition               | Min | Typ. | Max | Unit |
|--|----------------|------------------------------|-----|------|-----|------|
| Zener voltage                                    | V <sub>Z</sub> | I <sub>Z</sub> = 5 mA        | 5.8 | 6.2  | 6.6 | V    |
| Dynamic impedance                                | Z <sub>Z</sub> | I <sub>Z</sub> = 5 mA        | —   | —    | 30  | Ω    |
| Reverse current                                  | I <sub>R</sub> | V <sub>R</sub> = 3 V         | —   | —    | 1   | μA   |
| Terminal capacitance (between Cathode and Anode) | C <sub>T</sub> | V <sub>R</sub> = 0, f = 1MHz | —   | 55   | —   | pF   |

Unit: mm



Weight: 0.0015 g (typ.)

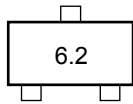
Start of commercial production  
2003-06

## Guaranteed Level of ESD Immunity

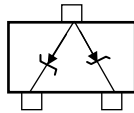
| Test Condition                      | ESD Immunity Level |
|-------------------------------------|--------------------|
| IEC61000-4-2<br>(Contact discharge) | $\pm 30\text{kV}$  |

Criterion: No damage to device elements

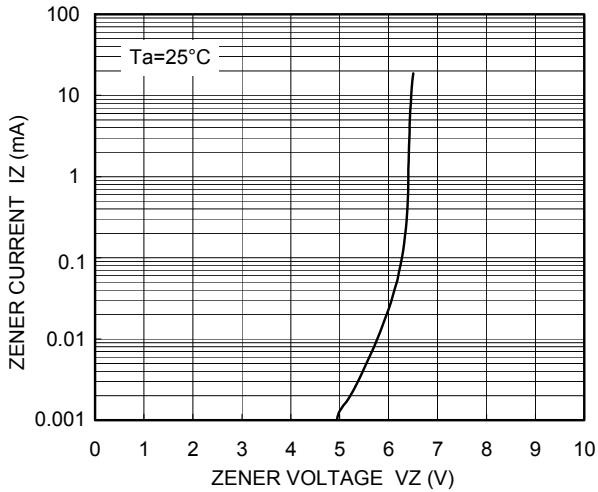
## Marking



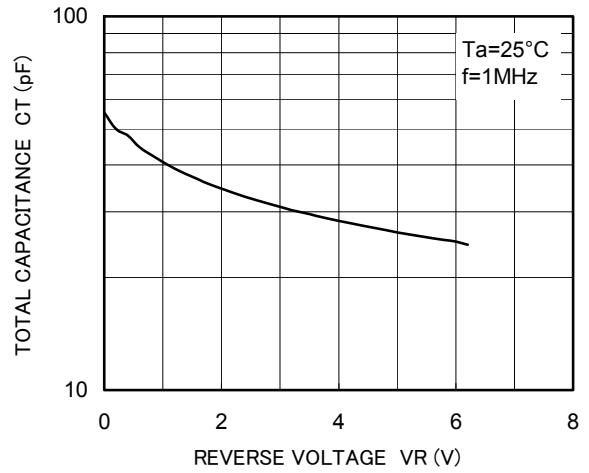
## Equivalent Circuit (top view)



IZ - VZ



CT - VR



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