#### TOSHIBA Diodes for Protecting against ESD

# DF3A3.6FV

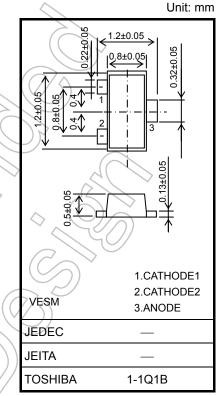
Product for Use Only as Protection against Electrostatic Discharge (ESD)

- \* 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.
- The mounting of two devices on an ultra-compact package reduces the number of parts and lowers assembly cost.

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

| Characteristics           | Symbol           | Rating        |
|---------------------------|------------------|---------------|
| Power dissipation         | P*               | 150 mW        |
| Junction temperature      | Tj               | 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.

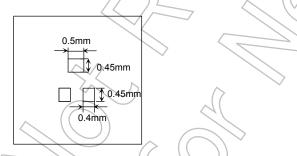


Weight: 0.0015 g (typ.)

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 | Тур. | Max | Unit |
|---|----------------|------------------------------|-----|------|-----|------|
| Zener voltage                                       | VZ             | $I_Z = 5 \text{ mA}$         | 3.4 | 3.6  | 3.8 | V    |
| Dynamic impedance                                   | ZZ             | I <sub>Z</sub> = 5 mA        | _   | _    | 130 | Ω    |
| Reverse current                                     | I <sub>R</sub> | V <sub>R</sub> = 1.8 V       | _   | _    | 100 | μA   |
| Terminal capacitance<br>(between Cathode and Anode) | CT             | V <sub>R</sub> = 0, f = 1MHz | _   | 110  | _   | pF   |

Start of commercial production 2003-06

#### **Guaranteed Level of ESD Immunity**

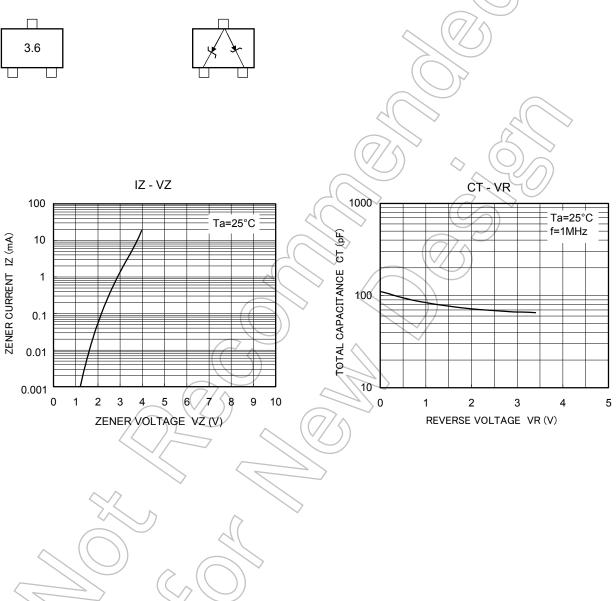
| Test Condition                      | ESD Immunity Level |
|-------------------------------------|--------------------|
| IEC61000-4-2<br>(Contact discharge) | $\pm$ 30 kV        |

Criterion: No damage to device elements



### Equivalent Circuit (top view)





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