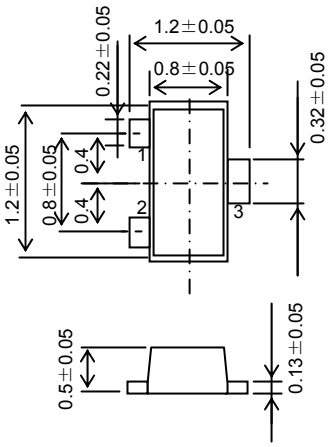
TOSHIBA Diodes for Protecting against ESD

# DF3A5.6LFV

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

Unit: mm




VESM

1. CATHODE1
2. CATHODE2
3. ANODE

| | |
|---|---|
| JEDEC | ― |
| JEITA | ― |
| TOSHIBA | 1-1Q1B |

Weight: 1.5 mg (typ.)

* 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.

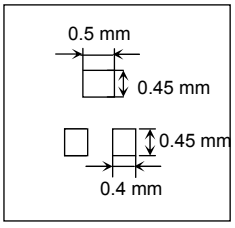
- The mounting of two devices in an ultra-compact package enables a reduction in the number of parts and in the mounting cost.
- Low terminal capacitance: $C_T$ = 8.0 pF (typ.)

## 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 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 an FR4 board (25.4 mm × 25.4 mm × 1.6 mmt)




## 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 | ― | 3 | ― | Ω |
| Reverse current | $I_R$ | $V_R$ = 3.5 V | ― | ― | 1.0 | μA |
| Terminal capacitance (between cathode and anode) | $C_T$ | $V_R$ = 0 V, f = 1 MHz | ― | 8 | ― | pF |

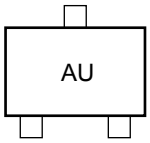
Start of commercial production
2005-05

## Guaranteed Level of ESD Immunity

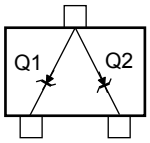
| Test Condition | ESD Immunity Level |
|---|---|
| IEC61000-4-2 (Contact discharge) | ± 8 kV |

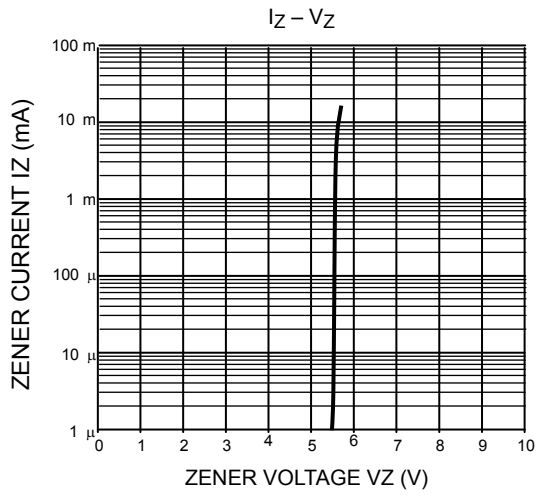
Criterion: No damage to device elements

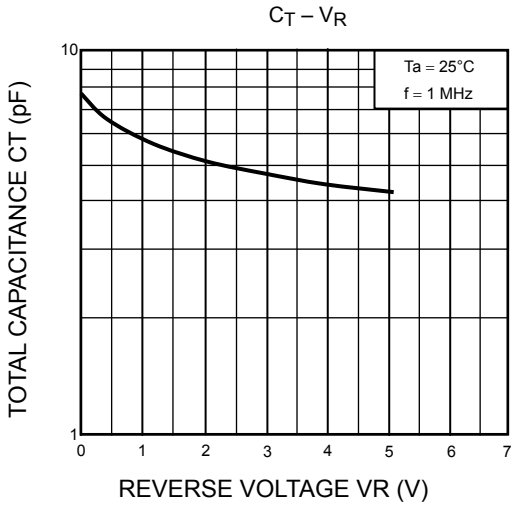
## Marking




## Equivalent Circuit (top view)



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