

TOSHIBA Diodes for Protecting against ESD Epitaxial Planar Type

## DF3A6.8LFU

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.

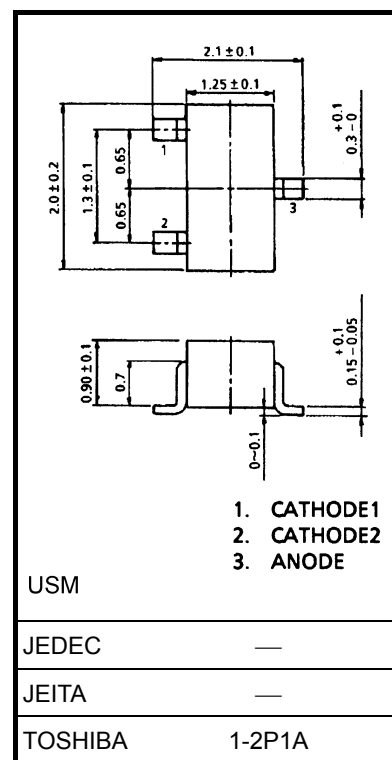
- The mounting of two devices on an ultra-compact package allows the number of parts and the mounting cost to be reduced.
- Low terminal capacitance:  $C_T = 6.0$  pF (typ.)

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Characteristics           | Symbol    | Rating    | Unit             |
|---------------------------|-----------|-----------|------------------|
| Power dissipation         | P         | 100       | mW               |
| Junction temperature      | $T_j$     | 125       | $^\circ\text{C}$ |
| Storage temperature range | $T_{stg}$ | -55 ~ 125 | $^\circ\text{C}$ |

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: 0.006 g (typ.)

Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

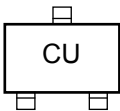
| Characteristics                                  | Symbol   | Test Condition           | Min | Typ. | Max | Unit          |
|--------------------------------------------------|----------|--------------------------|-----|------|-----|---------------|
| Zener voltage                                    | $V_Z$    | $I_Z = 5$ mA             | 6.5 | 6.8  | 7.1 | V             |
| Dynamic impedance                                | $Z_Z$    | $I_Z = 5$ mA             | —   | —    | 50  | $\Omega$      |
| Knee dynamic impedance                           | $Z_{ZK}$ | $I_Z = 0.5$ mA           | —   | —    | 100 | $\Omega$      |
| Reverse current                                  | $I_R$    | $V_R = 5$ V              | —   | —    | 0.5 | $\mu\text{A}$ |
| Terminal capacitance (between Cathode and Anode) | $C_T$    | $V_R = 0$ V, $f = 1$ MHz | —   | 6.0  | —   | pF            |

## Guaranteed Level of ESD Immunity

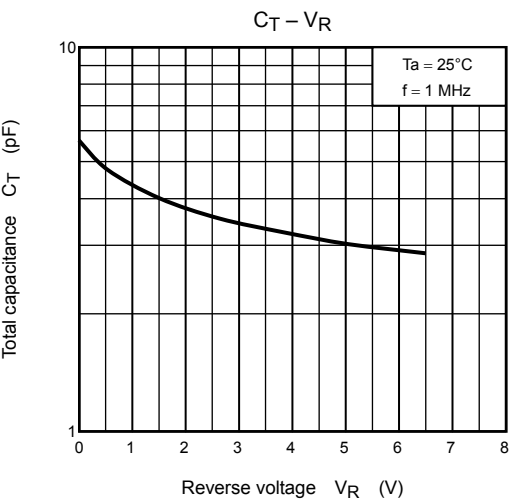
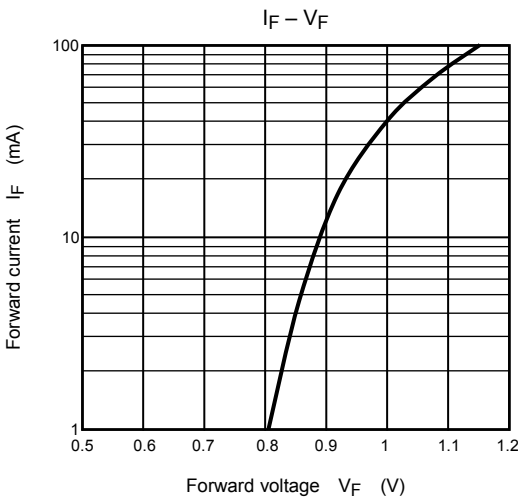
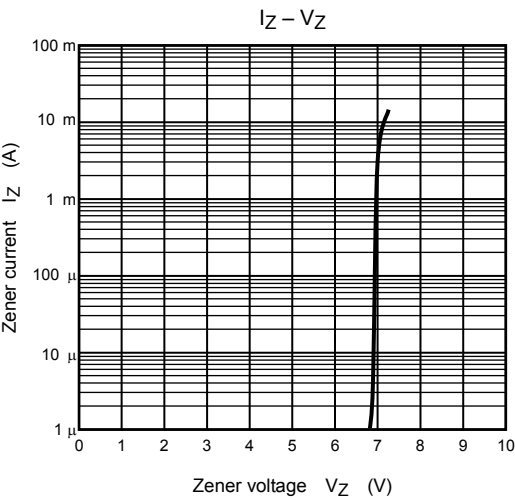
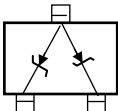
| Test Condition                   | ESD Immunity Level |
|----------------------------------|--------------------|
| IEC61000-4-2 (Contact discharge) | $\pm 8$ kV         |

Criterion: No damage to device elements

Marking



Equivalent Circuit (top view)



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