

TOSHIBA Diodes for Protecting against ESD Epitaxial Planar Type

DF3A6.8LFE

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.

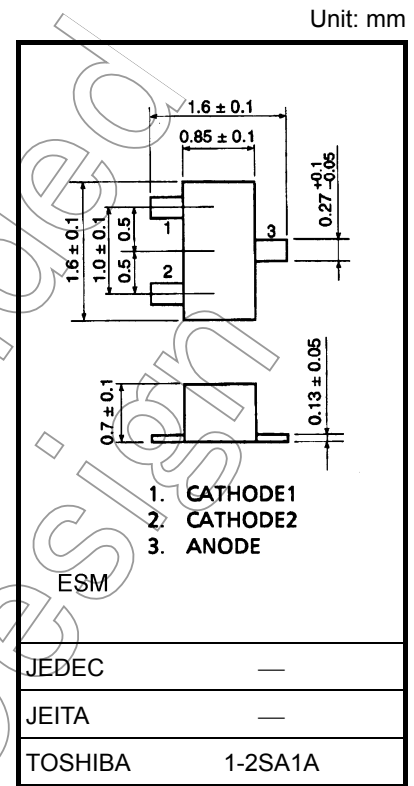
- The mounting of two devices on an ultra-compact package allows the number of parts and the mounting cost to be reduced.
- Low terminal capacitance: $C_T = 6.0 \text{ pF}$ (typ.)

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: 0.0023 g (typ.)

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

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

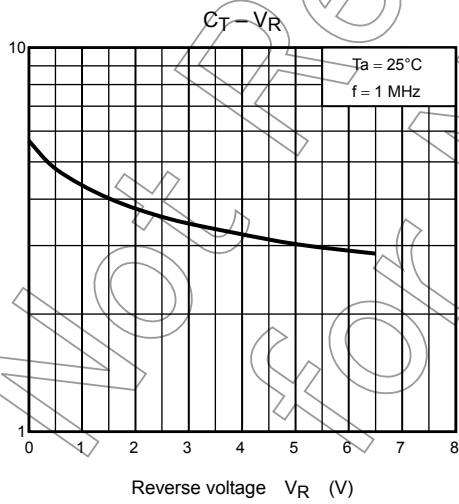
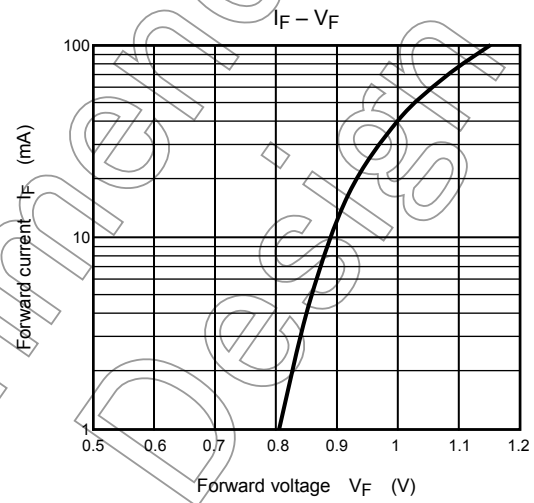
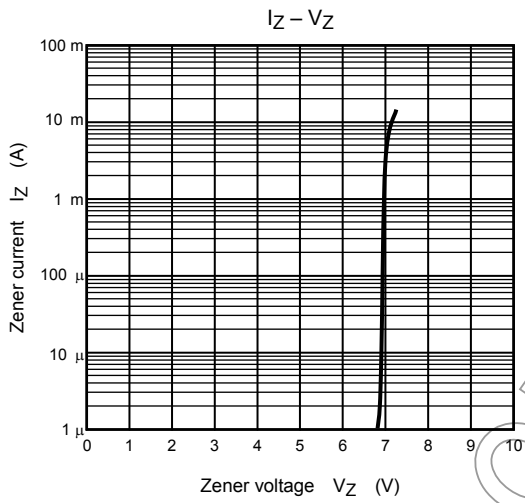
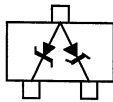
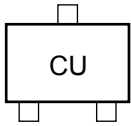
Guaranteed Level of ESD Immunity

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

Criterion: No damage to device elements

Marking

Equivalent Circuit (top view)



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