

TOSHIBA Diodes for Protecting against ESD

## DF5A3.6CJE

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 four devices on an ultra-compact package allows the number of parts and the mounting cost to be reduced.
- Low terminal capacitance :  $C_T = 52$  pF (typ.)

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

Characteristic	Symbol	Rating	Unit
Power dissipation	P	100	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to 150	$^\circ\text{C}$

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).

JEDEC	—
JEITA	—
TOSHIBA	1-2W1A

Weight: 0.0062 g (typ.)

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

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Zener voltage	$V_Z$	$I_Z = 5$ mA	3.4	3.6	3.8	V
Dynamic impedance	$Z_Z$	$I_Z = 5$ mA	—	—	130	$\Omega$
Reverse current	$I_R$	$V_R = 1.8$ V	—	—	100	$\mu\text{A}$
Terminal capacitance (between Cathode and Anode)	$C_T$	$V_R = 0$ V, $f = 1$ MHz	—	52	—	pF

## Guaranteed Level of ESD Immunity

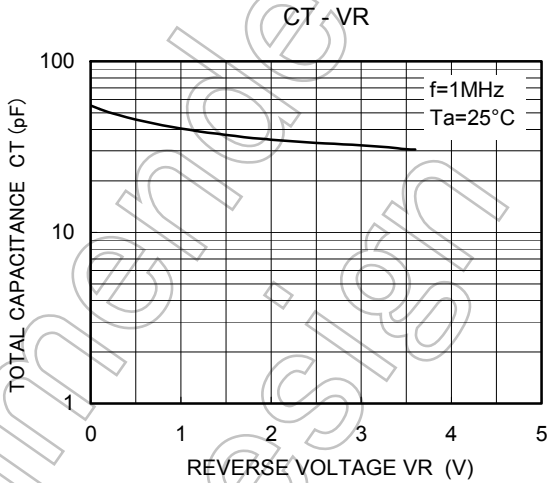
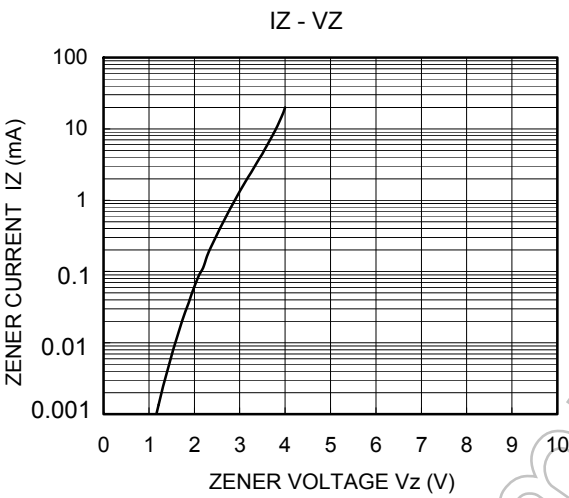
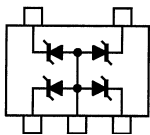
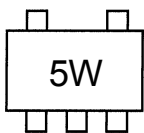
Test Condition	ESD Immunity Level
IEC61000-4-2 (Contact discharge)	$\pm 15$ kV

Criterion: No damage to device elements

Start of commercial production  
2003-07

Marking

Equivalent Circuit (Top View)



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