

TOSHIBA Diodes for Protecting against ESD

# 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.

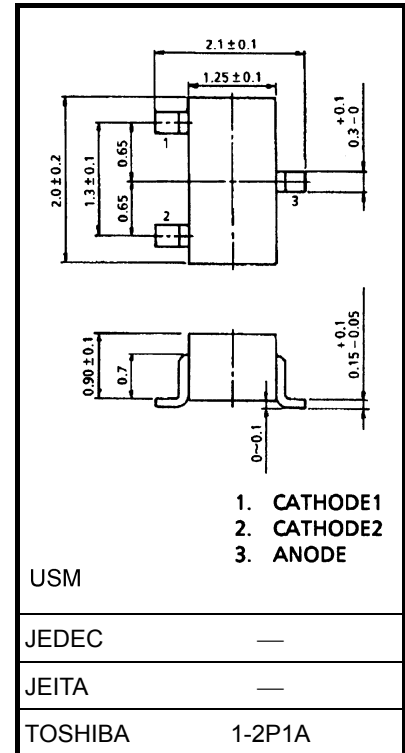
- The mounting of two devices on an ultra-compact package allows the number of parts and the mounting cost to be reduced.
- Low terminal capacitance:  $C_T = 6.0 \text{ pF}$  (typ.)

### 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 to 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	$V_Z$	$I_Z = 5 \text{ mA}$	6.5	6.8	7.1	V
Dynamic impedance	$Z_Z$	$I_Z = 5 \text{ mA}$	—	—	50	$\Omega$
Knee dynamic impedance	$Z_{ZK}$	$I_Z = 0.5 \text{ mA}$	—	—	100	$\Omega$
Reverse current	$I_R$	$V_R = 5 \text{ V}$	—	—	0.5	$\mu\text{A}$
Terminal capacitance (between Cathode and Anode)	$C_T$	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$	—	6.0	—	pF

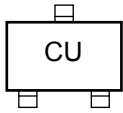
### Guaranteed Level of ESD Immunity

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

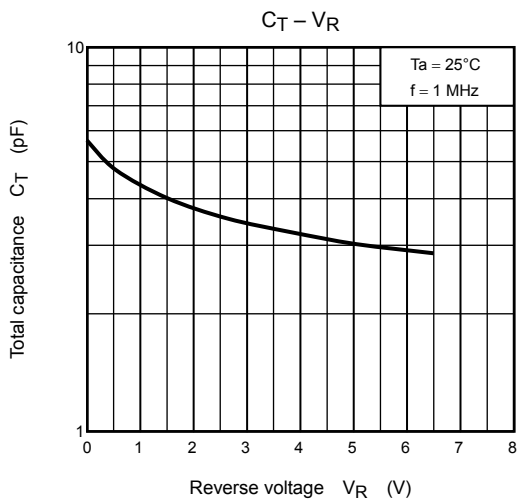
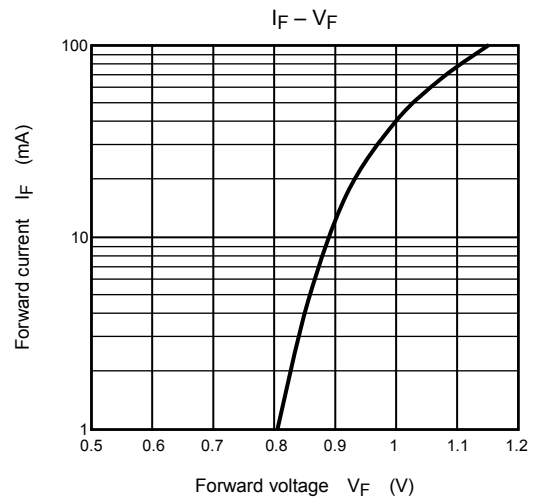
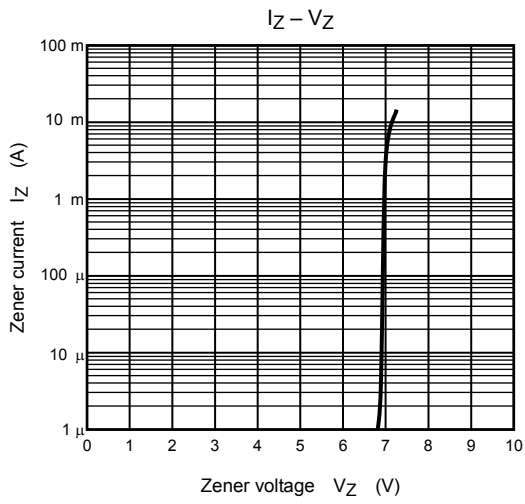
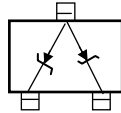
Criterion: No damage to device elements

Start of commercial production  
1999-04

## Marking



## Equivalent Circuit (top view)



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