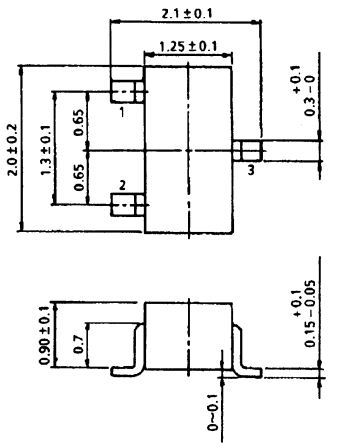
TOSHIBA Diodes for Protecting against ESD

DF3A6.8LFU

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

Unit: mm



1. CATHODE1
2. CATHODE2
3. ANODE

USM	
JEDEC	—
JEITA	—
TOSHIBA	1-2P1A

Weight: 0.006 g (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 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 (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Power dissipation	P	100	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55 to 125	°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).

Electrical Characteristics (Ta = 25°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	Ω
Knee dynamic impedance	Z_{ZK}	I_Z = 0.5 mA	—	—	100	Ω
Reverse current	I_R	V_R = 5 V	—	—	0.5	μA
Terminal capacitance (between Cathode and Anode)	C_T	V_R = 0 V, f = 1 MHz	—	6.0	—	pF

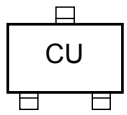
Guaranteed Level of ESD Immunity

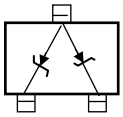
Test Condition	ESD Immunity Level
IEC61000-4-2 (Contact discharge)	± 8 kV

Criterion: No damage to device elements

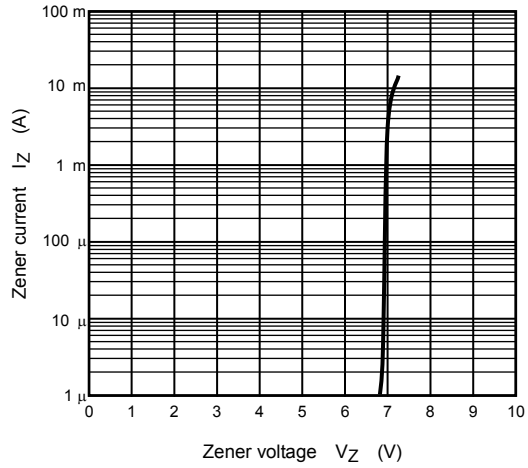
Start of commercial production
1999-04

Marking **Equivalent Circuit (top view)**

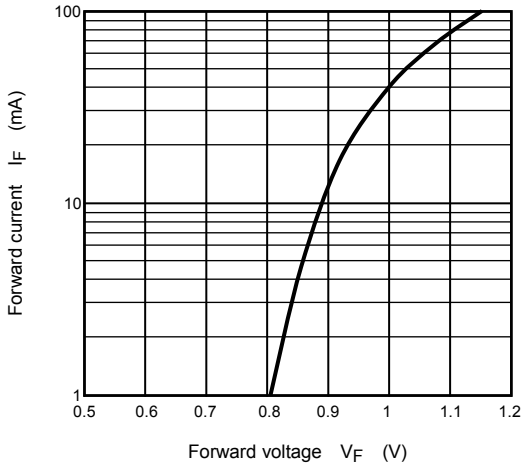




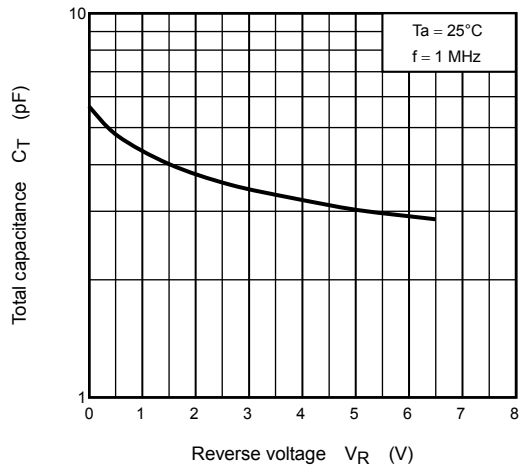
$I_Z - V_Z$



$I_F - V_F$



$C_T - V_R$



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