

TOSHIBA Diodes for Protecting against ESD

DF3A3.3FU

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.

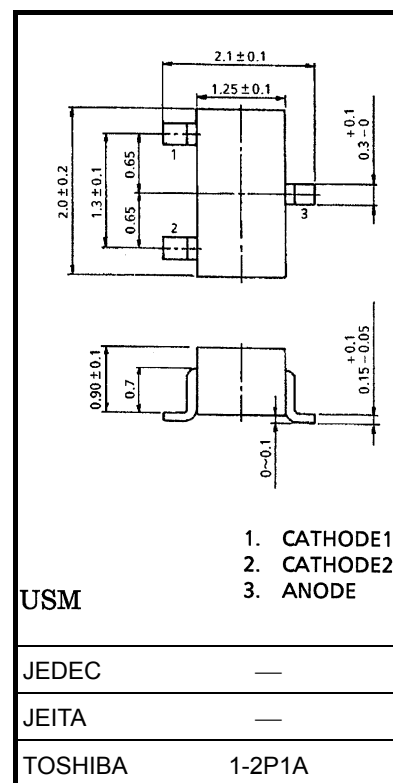
- The mounting of two devices on an ultra-compact package allows the number of parts and the mounting cost to be reduced.

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).



Weight: 0.006 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Zener voltage	V _Z	I _Z = 5 mA	3.1	3.3	3.5	V
Dynamic impedance	Z _Z	I _Z = 5 mA	—	—	130	Ω
Reverse current	I _R	V _R = 1 V	—	—	20	μA
Terminal capacitance (between Cathode and Anode)	C _T	V _R = 0, f = 1 MHz	—	115	—	pF

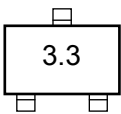
Guaranteed Level of ESD Immunity

Test Condition	ESD Immunity Level
IEC61000-4-2 (Contact discharge)	± 30 kV

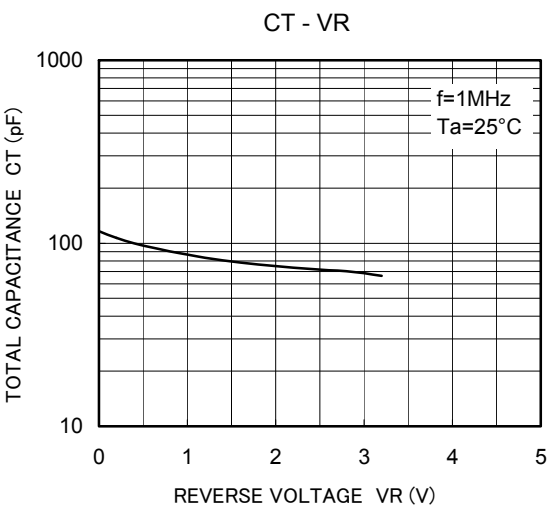
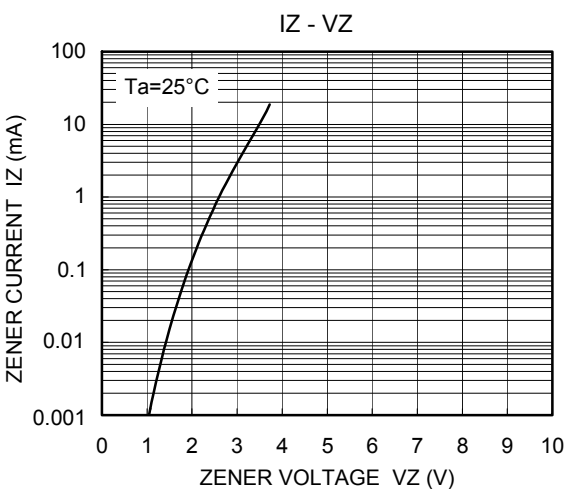
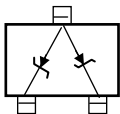
Criterion: No damage to device elements

Start of commercial production
2002-06

Marking



Equivalent Circuit
(top view)



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