

TOSHIBA Diodes for Protecting against ESD

# DF3A6.8UFU

## ESD Protection Diode

\* This device is intended for electrostatic discharge (ESD) protection and should not be used for any other purpose, including the constant-voltage diode applications.

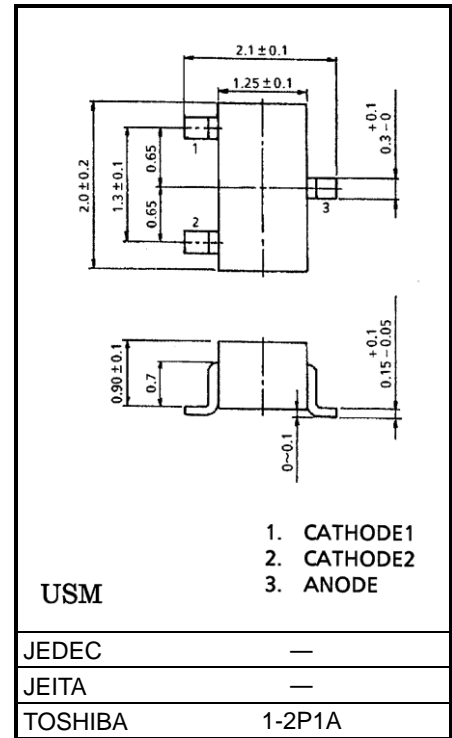
## Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Power dissipation	P	100	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55 to 150	°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).

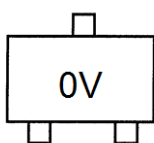
Unit: mm



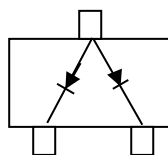
## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse stand-off voltage	V <sub>RWM</sub>	—	—	—	5.0	V
Reverse voltage	V <sub>R</sub>	I <sub>R</sub> = 1 mA	5.3	6.8	—	V
Reverse current	I <sub>R</sub>	V <sub>RWM</sub> = 5 V	—	—	0.5	μA
Total capacitance (between Cathode and Anode)	C <sub>T</sub>	V <sub>R</sub> = 0 V, f = 1 MHz	—	—	2.5	pF
Forward stand-off voltage	V <sub>F</sub>	I <sub>F</sub> = 1 mA	—	25	—	V

## Marking



## Equivalent Circuit (top view)



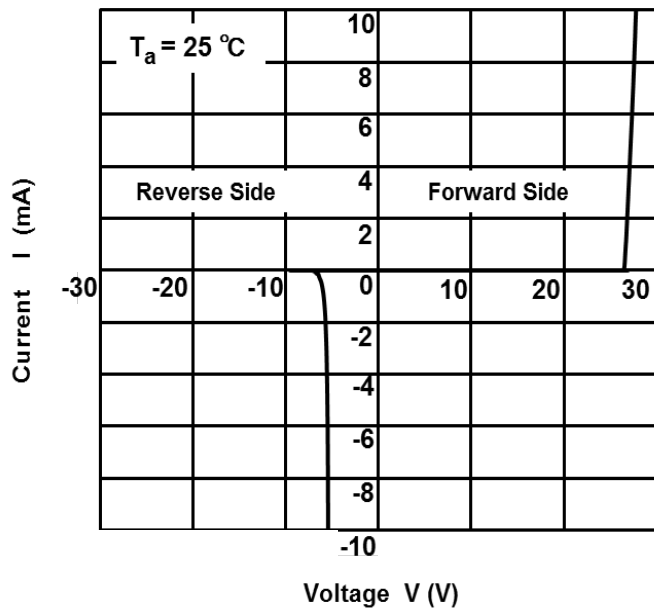
Start of commercial production  
2007-11

**Guaranteed Level of ESD Immunity**

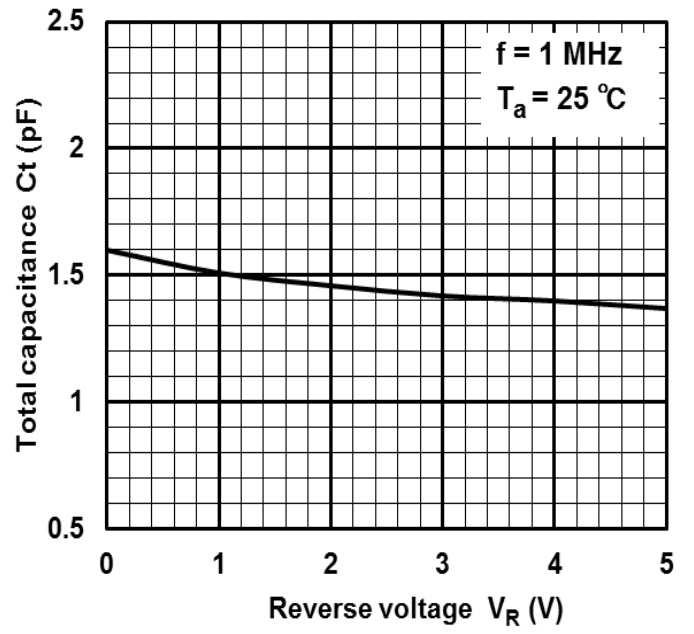
Test Condition	ESD Immunity Level
IEC61000-4-2 (Contact discharge)	±8kV

Criterion: No damage to device elements

**I – V**



**C<sub>t</sub> – V<sub>R</sub>**



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