

TOSHIBA Diodes for Protecting against ESD

# DF2S10FS

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

\*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.

- 2-pin ultra-small package suitable for high-density mounting

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

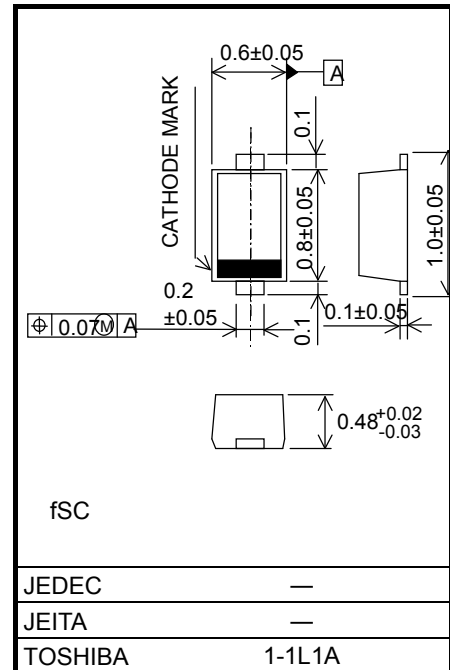
Characteristics	Symbol	Rating	Unit
Power dissipation	P	150*	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55 to 150	°C

\*: Mounted on a glass epoxy circuit board of 20 mm × 20 mm, Cu pad dimension of 4 mm × 4 mm.

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.

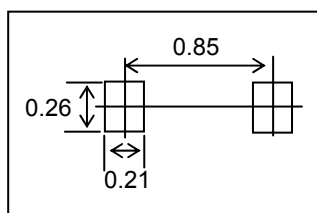
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook (“Handling Precautions”/“Derating Concept and Methods”) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Unit: mm



Weight: 0.6 mg (typ.)

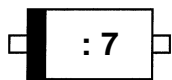
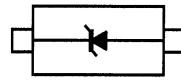
## Pad Dimension (Reference)



Unit: mm

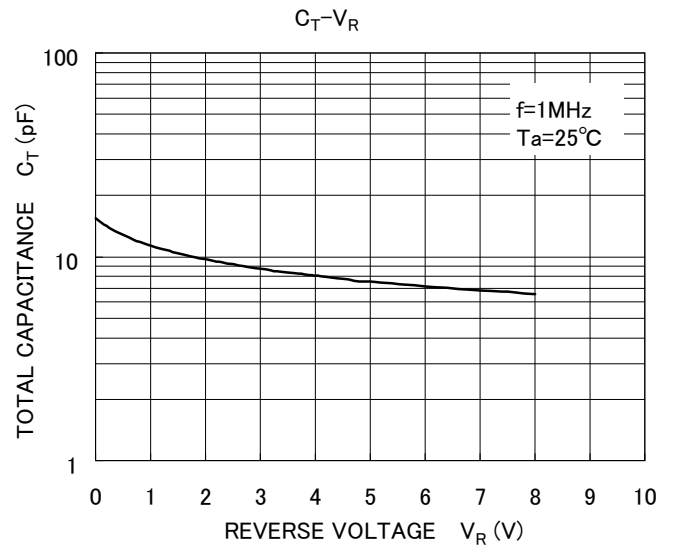
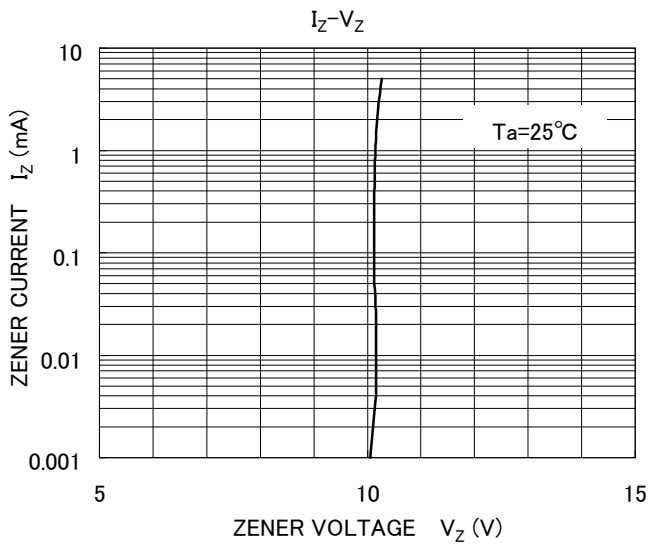
## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Zener voltage	V <sub>Z</sub>	I <sub>Z</sub> = 5 mA	9.4	10	10.6	V
Dynamic impedance	Z <sub>Z</sub>	I <sub>Z</sub> = 5 mA	—	—	30	Ω
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 8 V	—	—	0.5	μA
Total capacitance (between Cathode and Anode)	C <sub>T</sub>	V <sub>R</sub> = 0 V, f = 1 MHz	—	16	—	pF

**Marking****Equivalent Circuit (top view)****Guaranteed Level of ESD Immunity**

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

Criterion: No damage to device elements



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