

TOSHIBA Diodes for Protecting against ESD Epitaxial Planar Type

DF2S5.1ASL

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

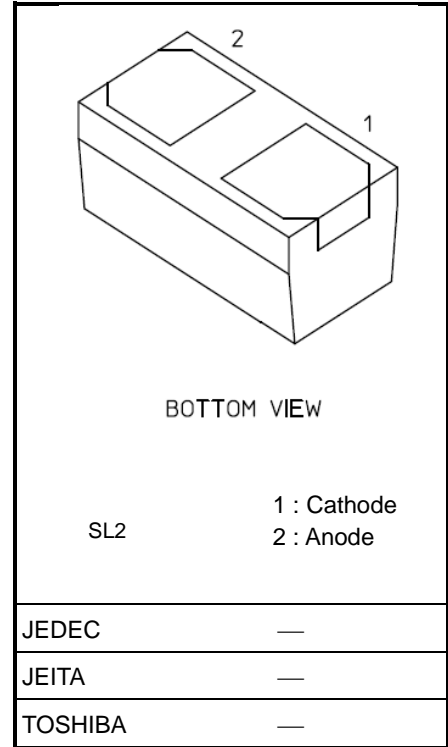
* This product is for protection against electrostatic discharge (ESD) only and is not intended for any other usage, including without limitation, the constant voltage diode application.

Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Electrostatic discharge voltage IEC61000-4-2 (Contact) IEC610004-2(Air)	V_{ESD} (Note 1)	±30	kV
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55~150	°C

Note1 : according to IEC61000-4-2

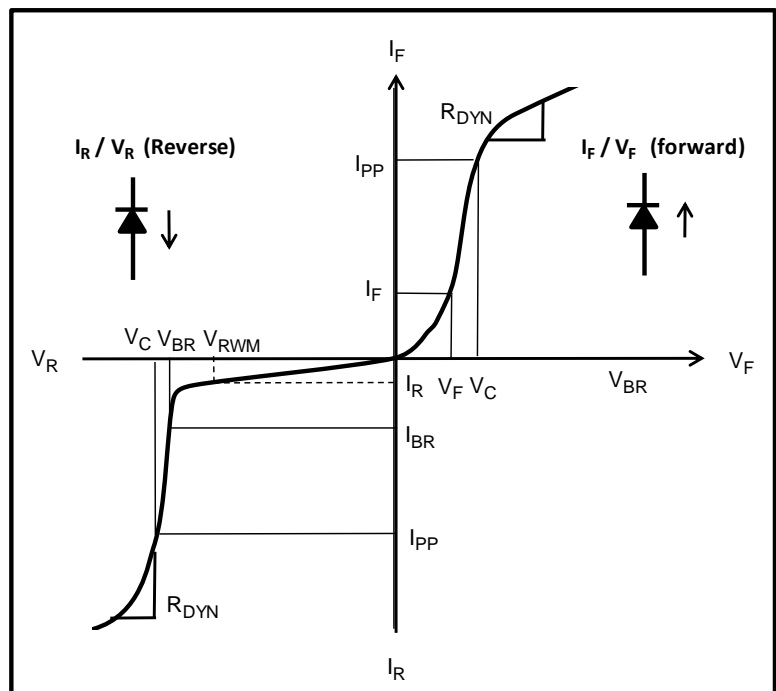
Note2:Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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: 0.2 mg (typ.)

Electrical Characteristics (Ta = 25°C)

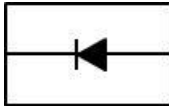
- V_{RWM} : Reverse working voltage maximum
- V_{BR} : Breakdown voltage
- I_{BR} : Breakdown current
- I_R : Reverse current
- V_C : Clamp voltage
- I_{PP} : Peak pulse current
- R_{DYN} : Dynamic resistance
- I_F : Forward current
- V_F : Forward voltage



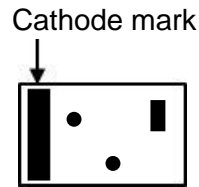
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Working peak reverse voltage	V_{RWM}	—	—	—	1.5	V
Zener voltage (Reverse breakdown voltage)	V_Z (V_{BR})	$I_Z = 5\text{mA}$ ($I_{BR} = 5\text{mA}$)	4.8	5.1	5.4	V
Dynamic impedance	Z_Z	$I_Z = 5\text{mA}$ ($I_{BR} = 5\text{mA}$)	—	—	70	Ω
Reverse current	I_R	$V_{RWM} = 1.5\text{V}$	—	—	1	μA
Total capacitance	C_t	$V_R = 0\text{V}$, $f = 1\text{MHz}$ (Note:1)	—	45	—	pF

Note1 : Guaranteed by design.

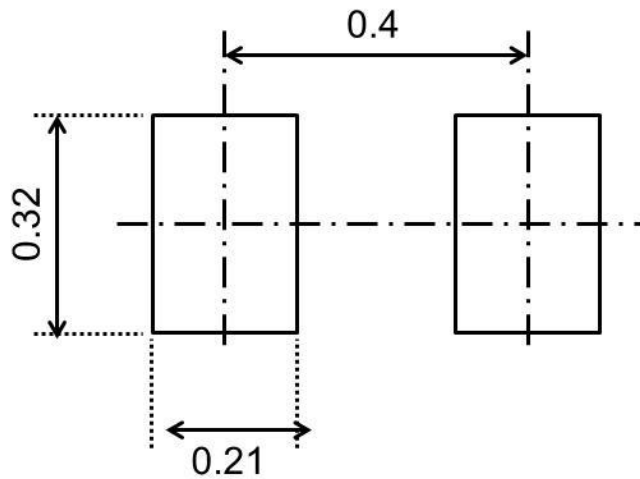
Equivalent Circuit (Top View)



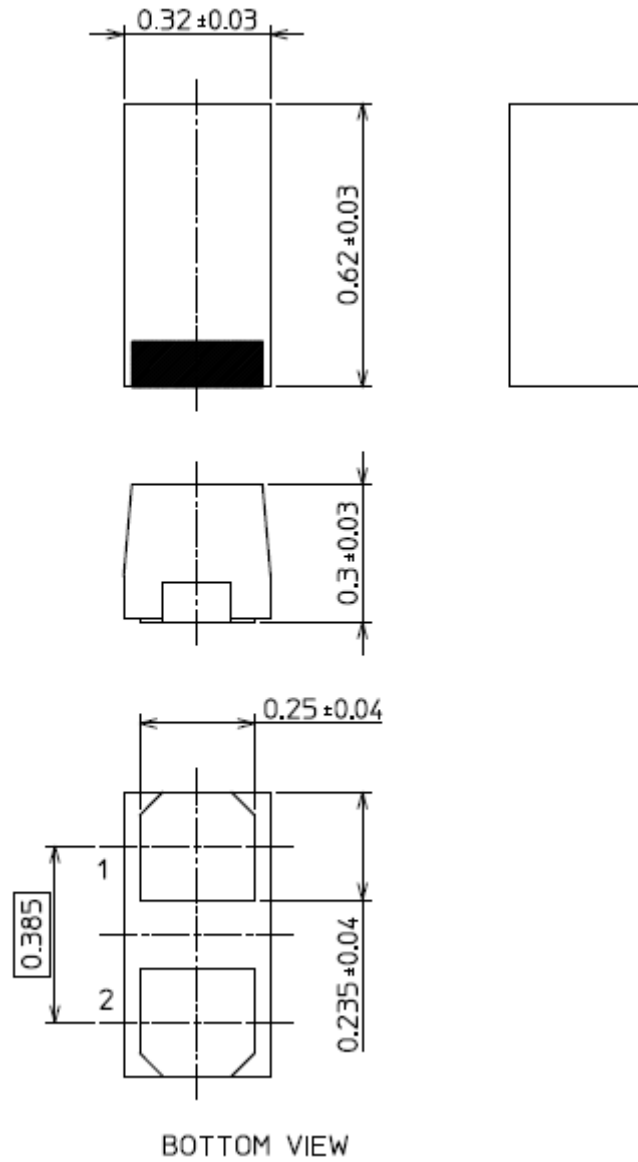
Marking



Land Pattern Dimensions for Reference Only (Unit : mm)



Land Pattern Dimensions for Reference Only (Unit : mm)



Weight: 0.2 mg (typ.)

Package Name(s)	
TOSHIBA:	
Nickname:	SL2

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