

TOSHIBA Diodes for Protecting against ESD

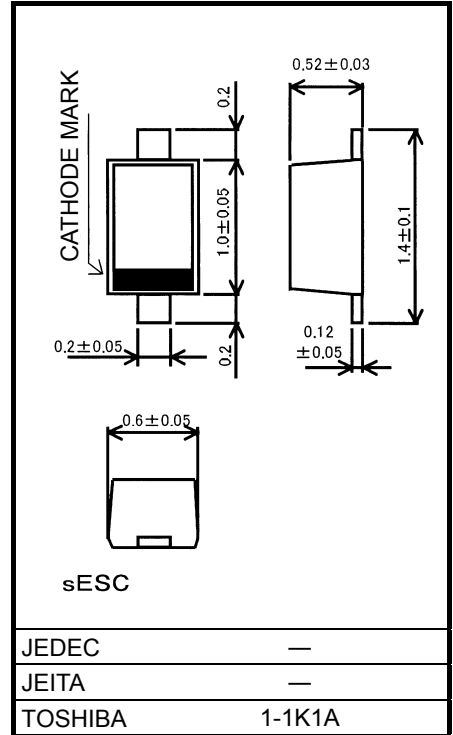
DF2S5.6S

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.

- 2terminal ultra small package suitable for mounting on small space.

Unit: mm



Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Power dissipation	P	150*	mW
Junction temperature	T _j	150	°C
Storage temperature range	T _{stg}	-55~150	°C

*: Mounted on a glass-epoxy circuit board of 20 × 20 mm, pad dimensions of 4 × 4 mm.

Electrical Characteristics (Ta = 25°C)

Weight: 0.0011 g (typ.)

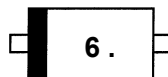
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Zener voltage	V _Z	I _Z = 5 mA	5.3	5.6	6.0	V
Dynamic impedance	Z _Z	I _Z = 5 mA	—	—	30	Ω
Reverse current	I _R	V _R = 3.5 V	—	—	1	μA
Total capacitance	C _T	V _R = 0 V, f = 1 MHz	—	40	—	pF

Guaranteed Level of ESD Immunity

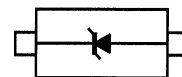
Test Condition	ESD Immunity Level
IEC61000-4-2 (contact discharge)	±30 kV

Criterion: No damage to device elements

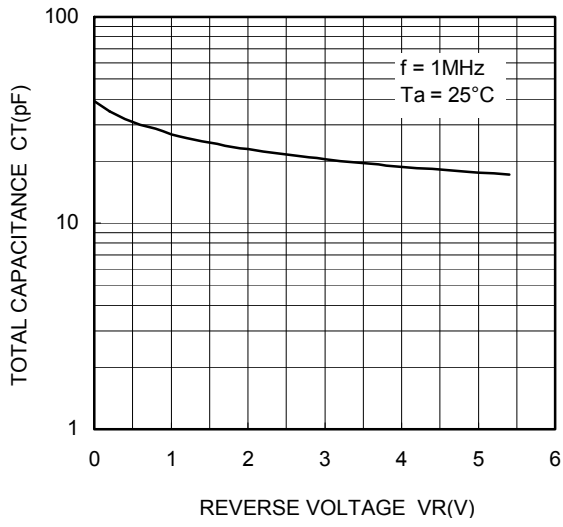
Marking



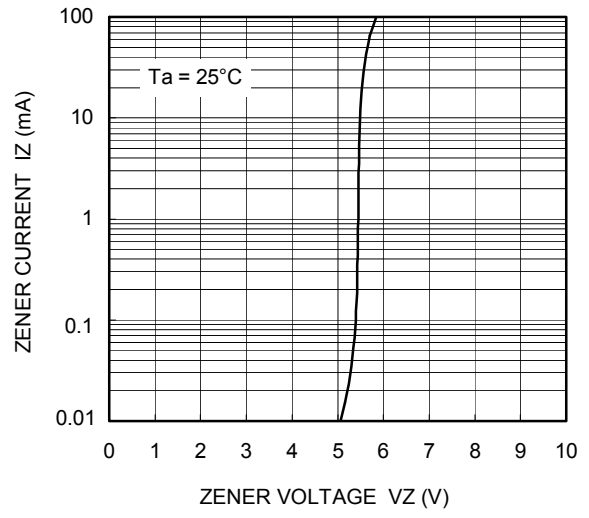
Equivalent Circuit (Top View)



CT - VR



I_Z - V_Z



RESTRICTIONS ON PRODUCT USE

20070701-EN

- The information contained herein is subject to change without notice.
- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.
In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc.
- The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.
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