

# DF2S6.8MFS

## 1. Applications

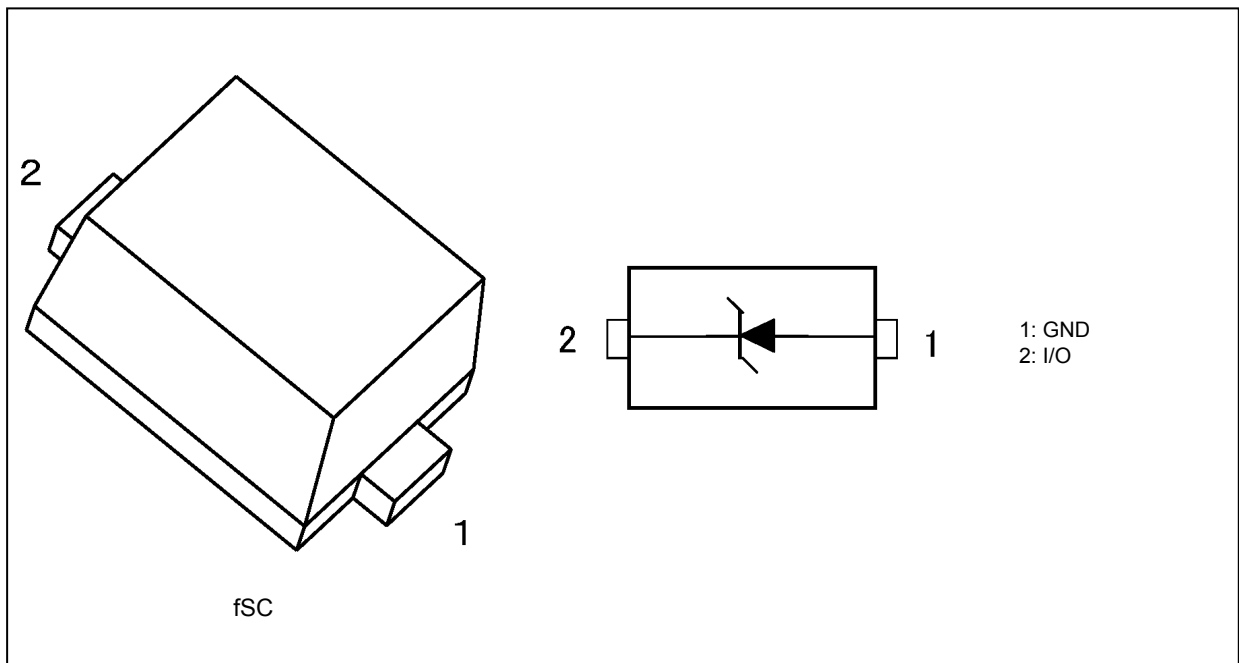
- ESD Protection

Note: This product is designed for protection against electrostatic discharge (ESD) and is not intended for any other purpose, including, but not limited to, voltage regulation.

## 2. Features

- (1) Ultra compact packaging for easy configuration in any ESD protection circuits.
- (2) Low total capacitance:  $C_t = 0.5 \text{ pF}$  (typ.).

## 3. Packaging and Internal Circuit Pin Assignment



## 4. Absolute Maximum Ratings (Note) (Unless otherwise specified, $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Note	Rating	Unit
Junction temperature	$T_j$		150	°C
Storage temperature	$T_{stg}$		-55 to 150	

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).

**5. Electrical Characteristics (Unless otherwise specified,  $T_a = 25^\circ\text{C}$ )**

Characteristics	Symbol	Note	Test Condition	Min	Typ.	Max	Unit
Working peak reverse voltage	$V_{RWM}$		—	—	—	5.0	V
Reverse breakdown voltage	$V_{BR}$		$I_R = 5 \text{ mA}$	6.0	—	—	
Reverse current	$I_R$		$V_{RWM} = 5 \text{ V}$	—	—	0.5	$\mu\text{A}$
Clamp voltage	$V_C$	Note1	$I_{PP} = 1 \text{ A}$	—	15	—	V
Total capacitance	$C_t$	Note2	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$	—	0.5	0.9	pF

Note1: Based on IEC61000 4-5 8/20 $\mu\text{s}$  pulse.

Note2: Guaranteed by design.

**6. Guaranteed ESD Protection (Note)**

Test Condition	ESD Protection
IEC61000-4-2 (Contact discharge)	$\pm 8 \text{ kV}$

Note: Criterion: No damage to devices.

**7. Marking**

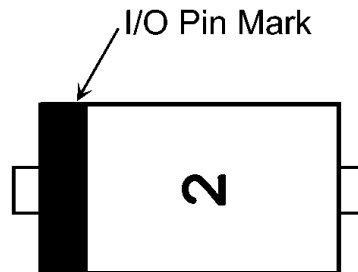


Fig. 7.1 Marking

Marking Code	Part Number
2 (90°anti-clockwise)	DF2S6.8MFS

**8. Land Pattern Dimensions for Reference Only**

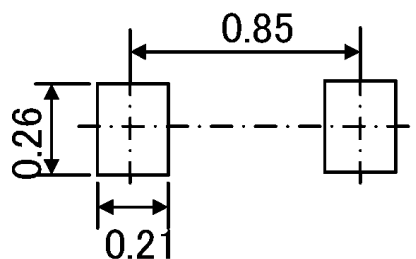
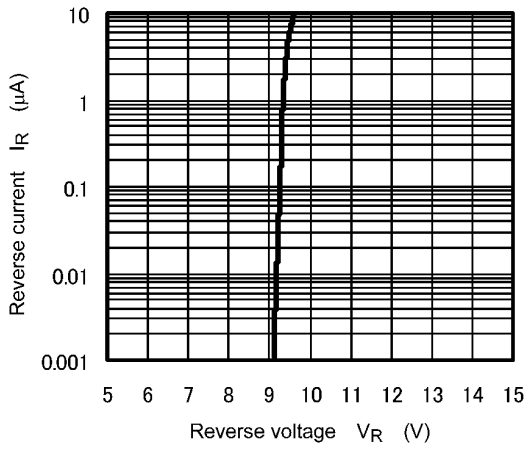
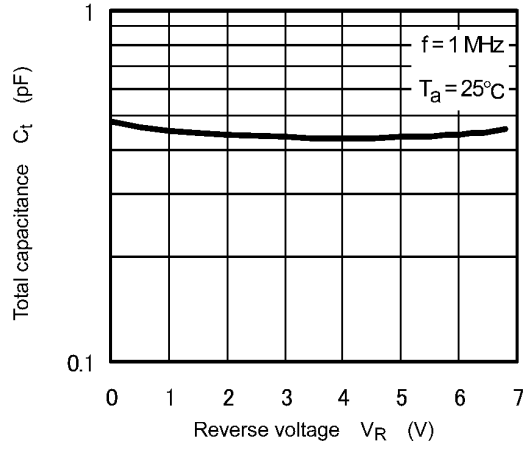


Fig. 8.1 Land Pattern Dimensions for Reference Only (Unit: mm)

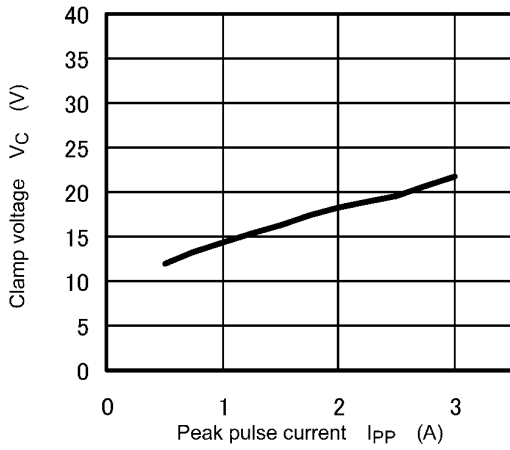
**9. Characteristics Curves (Note)**



**Fig. 9.1  $I_R - V_R$**



**Fig. 9.2  $C_t - V_R$**

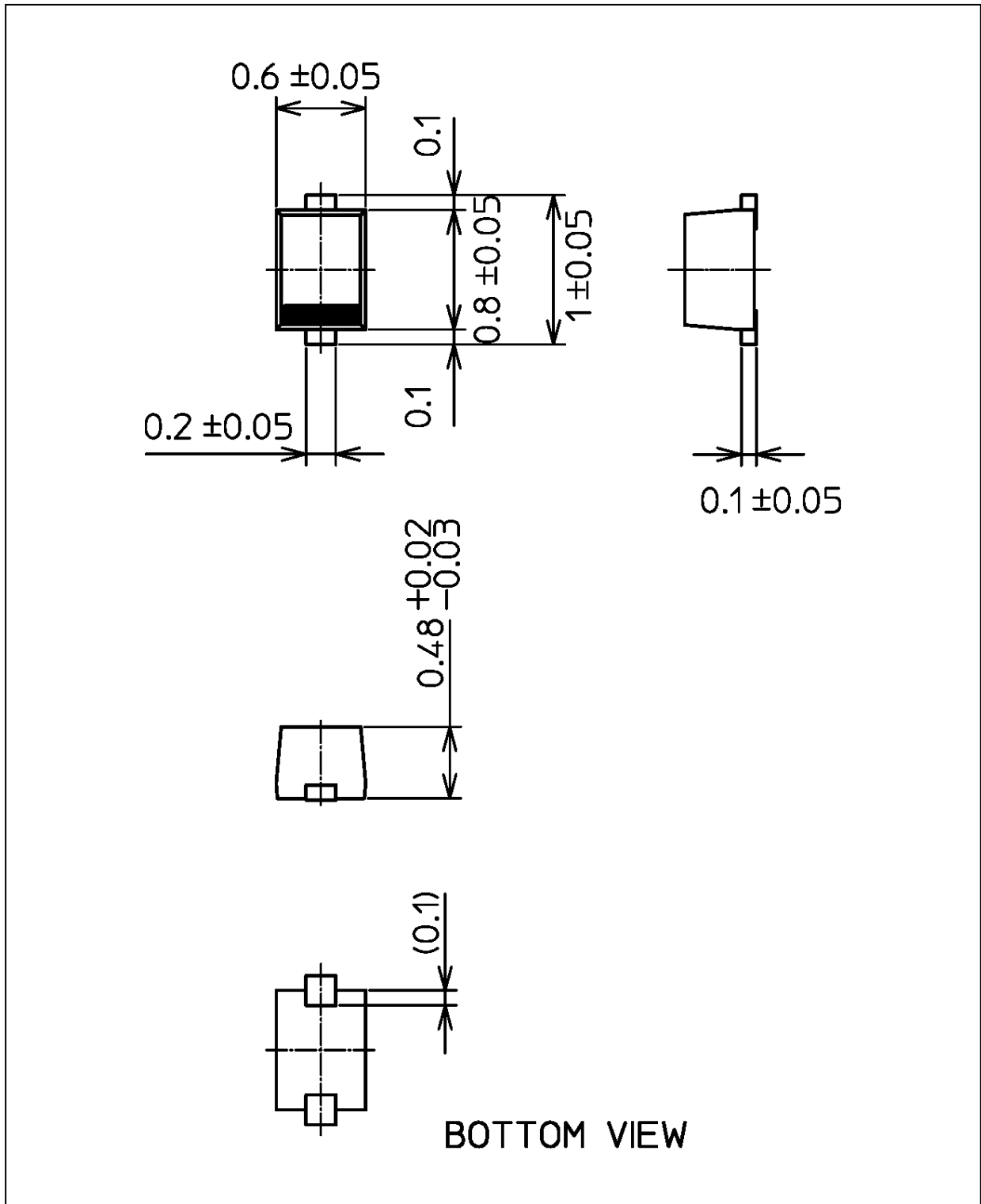


**Fig. 9.3  $V_C - I_{PP}$**

Note: The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

Package Dimensions

Unit: mm



Weight: 0.6 mg (typ.)

Package Name(s)
Nickname: fSC

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