Switching Diodes Silicon Epitaxial Planar

1SS226

1. Applications

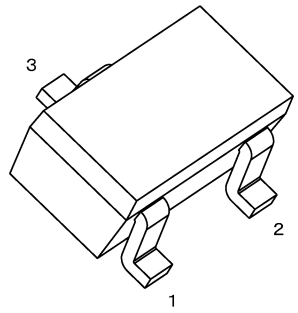
- Ultra-High-Speed Switching

2. Features

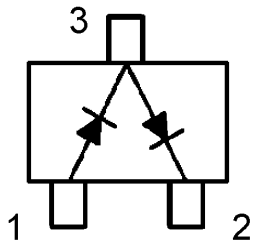
(1) AEC-Q101 qualified (Note 1)

Note 1: For detail information, please contact our sales.

3. Packaging and Internal Circuit



S-Mini



1: Anode 1
2: Cathode 2
3: Cathode1 / Anode 2

Start of commercial production
1982-09

4. Absolute Maximum Ratings (Note) (Unless otherwise specified, T_a = 25 °C)

Characteristics	Symbol	Note	Rating	Unit
Peak reverse voltage	V_{RM}		85	V
Reverse voltage	V_R		80	
Peak forward current	I_{FM}	(Note 1)	300	mA
Average rectified current	I_O	(Note 1)	100	
Power dissipation	P_D	(Note 2), (Note 3)	200	mW
		(Note 4)	150	
Non-repetitive peak forward surge current	I_{FSM}	(Note 1), (Note 5)	2	A
Junction temperature	T_j	(Note 3)	150	°C
		(Note 4)	125	
Storage temperature	T_{stg}	(Note 3)	-55 to 150	°C
		(Note 4)	-55 to 125	

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).

Note 1: Unit rating. Total rating = Unit rating × 70%

Note 2: Mounted on an FR4 board (25.4 mm × 25.4 mm × 1.6 mmt, Cu pad: 0.8 mm^2 × 3)

Note 3: For devices with the ordering part number ending in LF(T.

Note 4: For devices with the ordering part number in other than LF(T.

Note 5: Pulse width 10 ms

5. Electrical Characteristics (Unless otherwise specified, T_a = 25 °C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_{F(1)}$	I_F = 1 mA	—	0.60	—	V
	$V_{F(2)}$	I_F = 10 mA	—	0.72	—	
	$V_{F(3)}$	I_F = 100 mA	—	0.90	1.20	
Reverse current	$I_{R(1)}$	V_R = 30 V	—	—	0.1	μA
	$I_{R(2)}$	V_R = 80 V	—	—	0.5	
Total capacitance	C_t	V_R = 0 V, f = 1 MHz	—	0.9	3.0	pF
Reverse recovery time	t_{rr}	I_F = 10 mA See Fig. 5.1.	—	1.6	4.0	ns

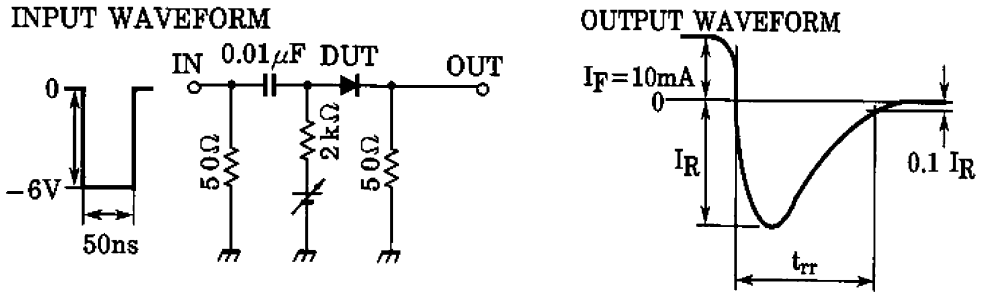


Fig. 5.1 Reverse recovery time (t_{rr}) Test circuit

6. Marking

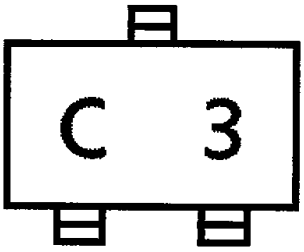


Fig. 6.1 Marking

7. Land Pattern Dimensions (for reference only)

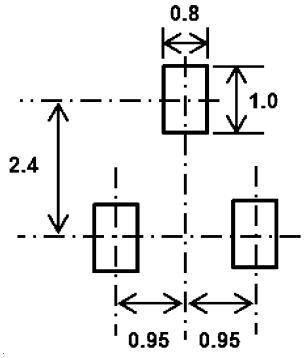


Fig. 7.1 S-Mini (Unit: mm)

8. Characteristics Curves (Note)

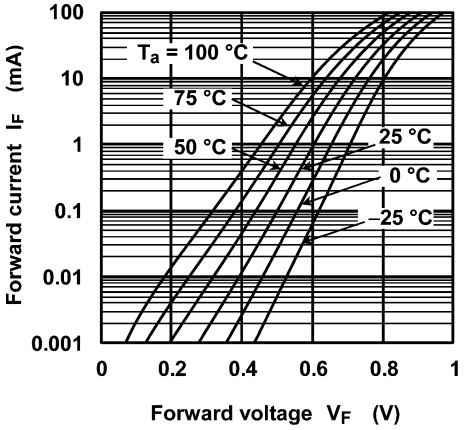


Fig. 8.1 I_F - V_F

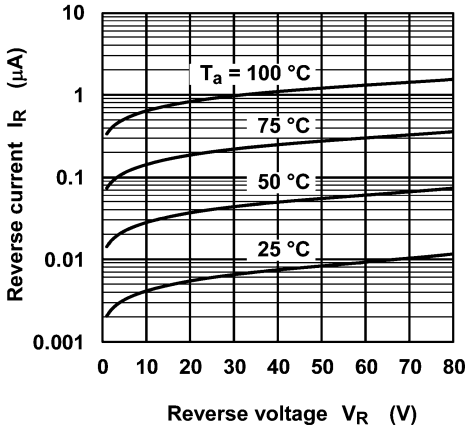


Fig. 8.2 I_R - V_R

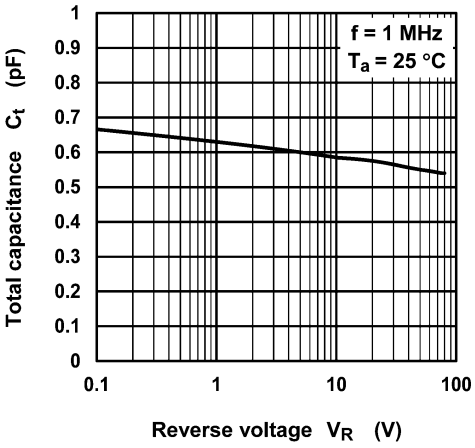


Fig. 8.3 C_t - V_R

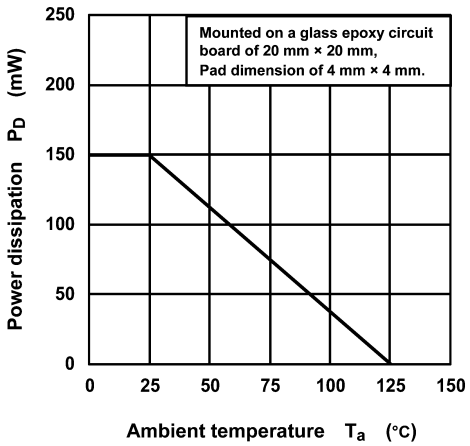


Fig. 8.4 P_D - T_a
Reference only with T_j of 125 °C.

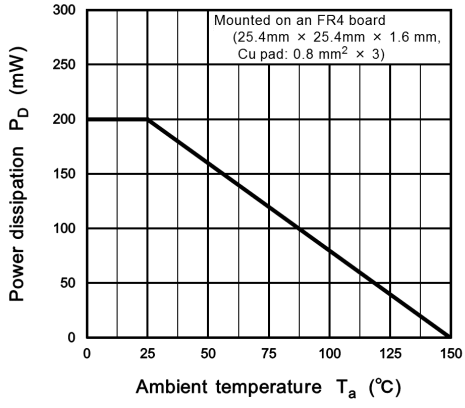
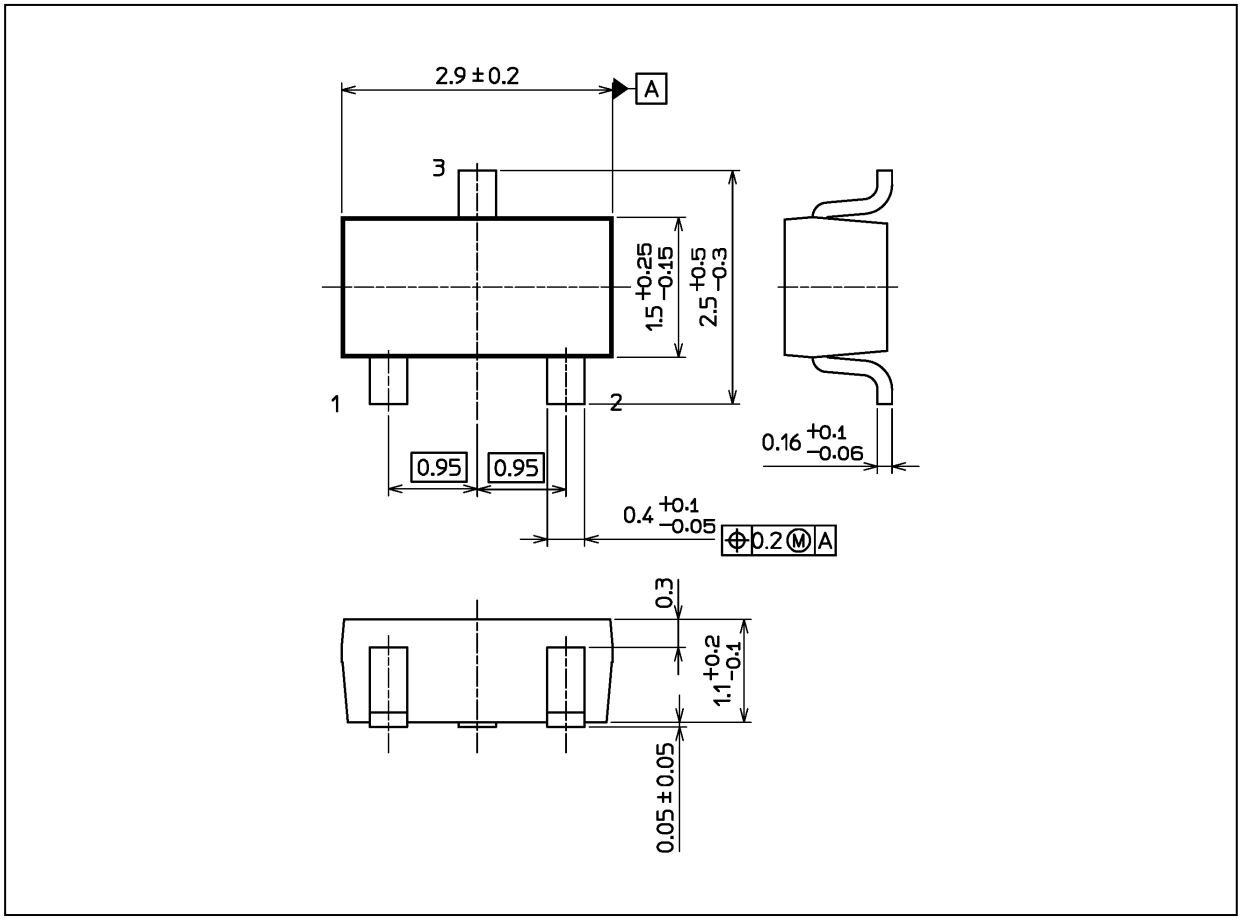


Fig. 8.5 P_D - T_a
Reference only with T_j of 150 °C.

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

Package Dimensions

Unit: mm



Weight: 12 mg (typ.)

Package Name(s)
TOSHIBA: 2-3F1S
Nickname: S-Mini

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