Switching Diodes Silicon Epitaxial Planar

BAS516

1. Applications

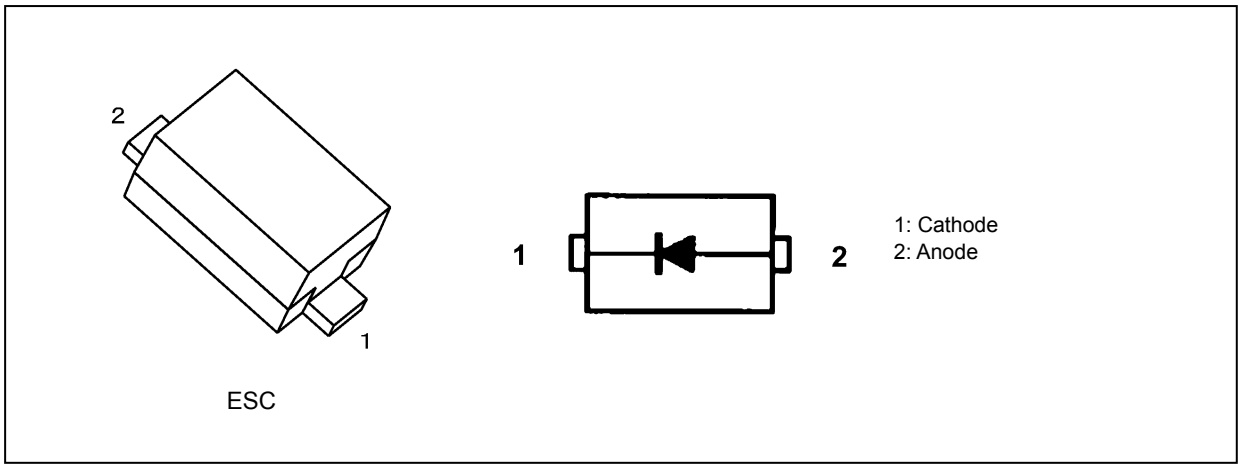
- Ultra-High-Speed Switching

2. Features

(1) AEC-Q101 qualified (Note 1)

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

3. Packaging and Internal Circuit



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

Characteristics	Symbol	Note	Rating	Unit
Peak reverse voltage	V_{RM}		100	V
Reverse voltage	V_R		100	
Peak forward current	I_{FM}		500	mA
Average rectified current	I_O		250	
Non-repetitive peak forward surge current	I_{FSM}	(Note 1)	1	A
Power dissipation	P_D	(Note 2)	150	mW
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).

Note 1: Pulse width 10 ms

Note 2: Mounted on an FR4 board (20 mm × 20 mm, Cu pad: 4 mm × 4 mm)

Start of commercial production
2016-08

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	—	—	0.715	V
	V_F (2)	I_F = 10 mA	—	—	0.855	
	V_F (3)	I_F = 50 mA	—	—	1.00	
	V_F (4)	I_F = 150 mA	—	—	1.25	
Reverse current	I_R (1)	V_R = 25 V	—	—	30	nA
	I_R (2)	V_R = 80 V	—	—	200	
Total capacitance	C_t	V_R = 0 V, f = 1 MHz	—	0.35	—	pF
Reverse recovery time	t_{rr}	I_F = 10 mA, See Fig. 5.1.	—	—	3.0	ns

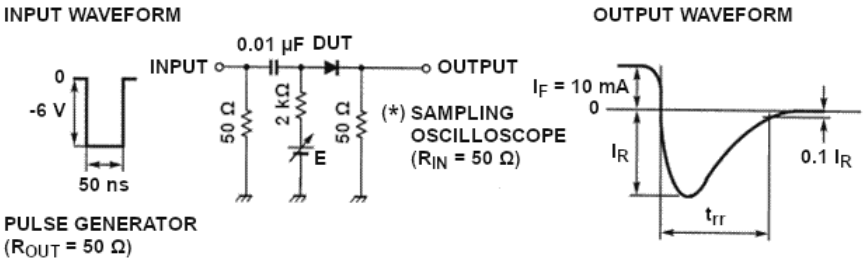
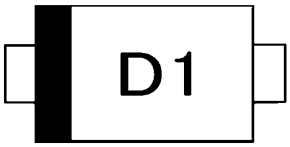
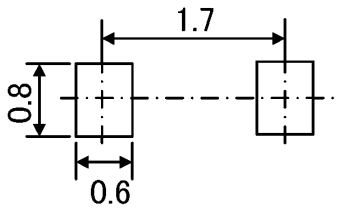


Fig. 5.1 Reverse recovery time (t_{rr}) Test circuit

6. Marking



7. Land Pattern Dimensions (for reference only)



Land Pattern Dimensions (Unit: mm)

8. Characteristics Curves (Note)

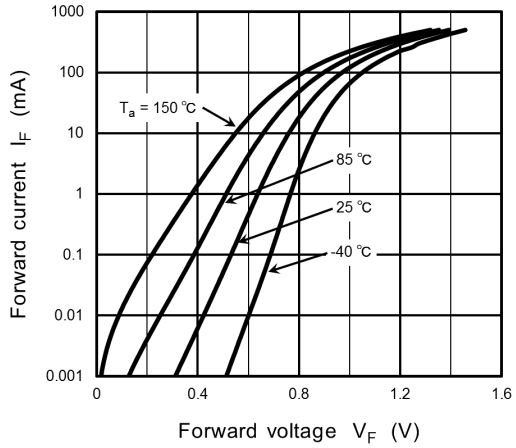


Fig. 8.1 I_F - V_F

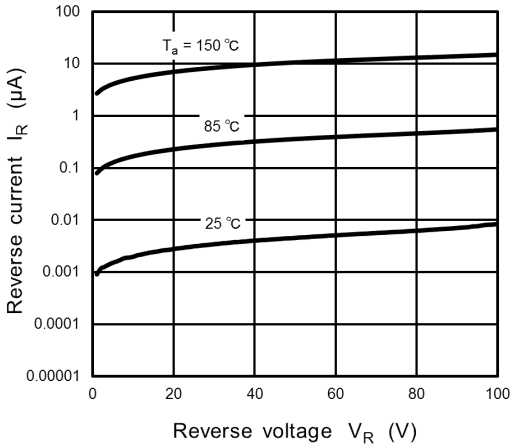


Fig. 8.2 I_R - V_R

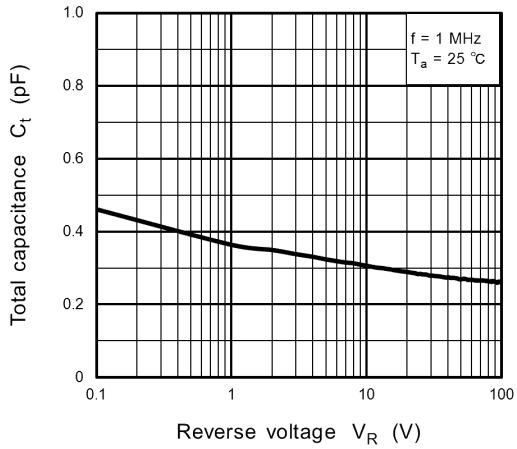


Fig. 8.3 C_t - V_R

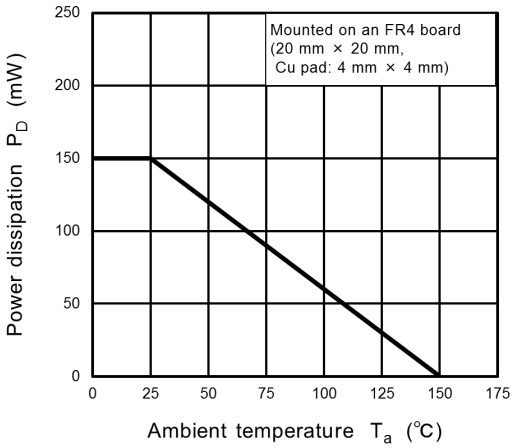
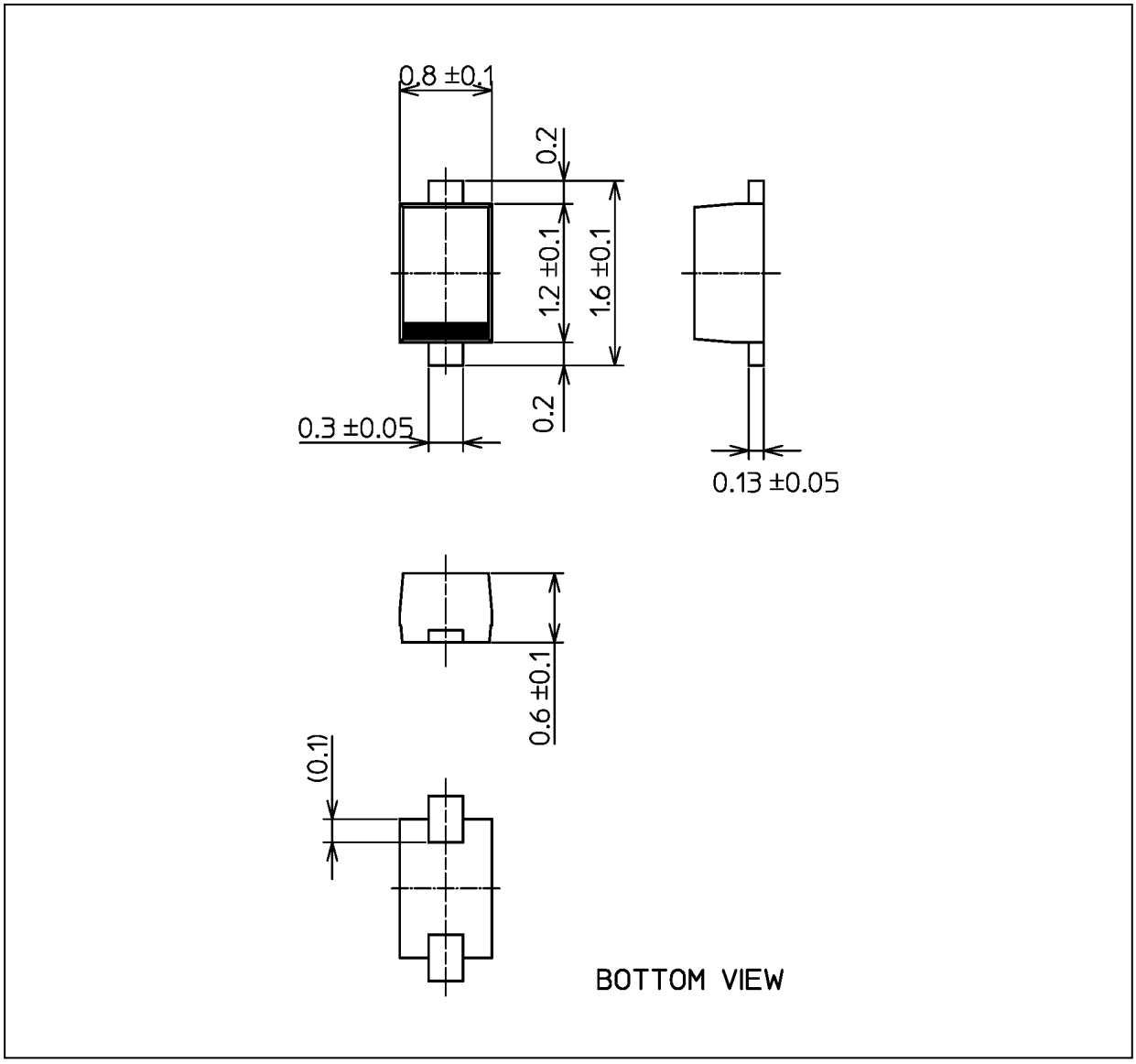


Fig. 8.4 P_D - T_a

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

Package Dimensions

Unit: mm



Weight: 1.4 mg (typ.)

Package Name(s)
Nickname: ESC

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