

Switching Diodes Silicon Epitaxial Planar

## 1SS307E

### 1. Applications

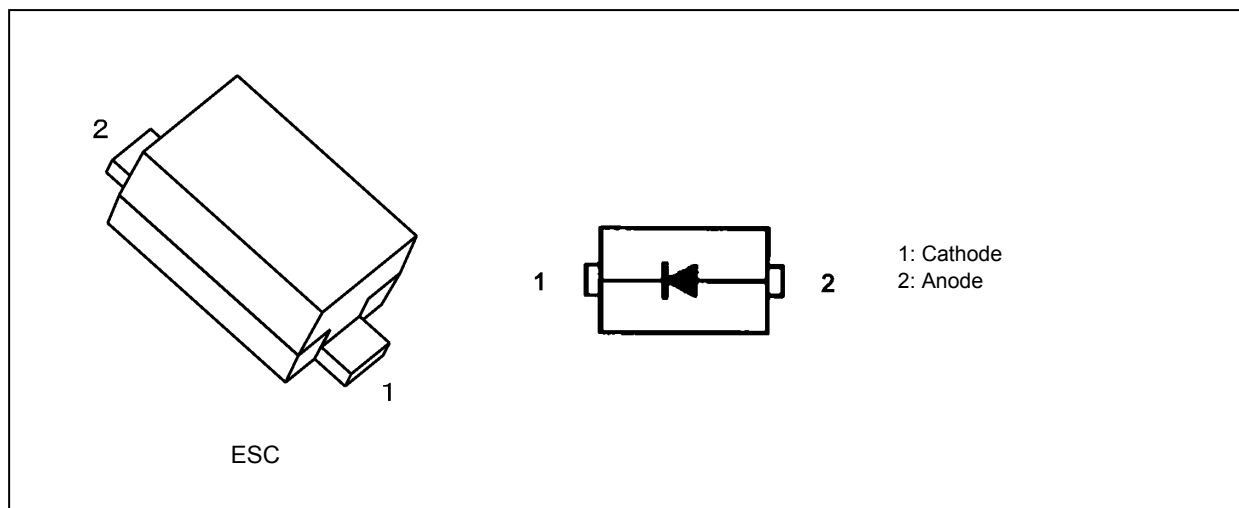
- General-Purpose Rectifiers

### 2. Features

- (1) Very low reverse current. :  $I_R = 10 \text{ nA (max)}$
- (2) AEC-Q101 qualified (Note 1)

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

### 3. Packaging and Internal Circuit



Start of commercial production

2014-12

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

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

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: Mounted on a glass epoxy circuit board of 20 mm × 20 mm, Pad dimension of 4 mm × 4 mm.

Note 2: Measured with a 10 ms pulse.

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

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F$	$I_F = 100\text{ mA}$	—	0.9	1.3	V
Reverse current	$I_R$	$V_R = 80\text{ V}$	—	—	10	nA
Total capacitance	$C_t$	$V_R = 0\text{ V}, f = 1\text{ MHz}$	—	2.0	6.0	pF

## 6. Marking

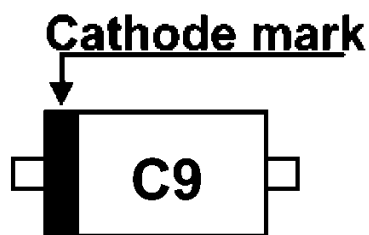


Fig. 6.1 Marking

## 7. Land Pattern Dimensions (for reference only)

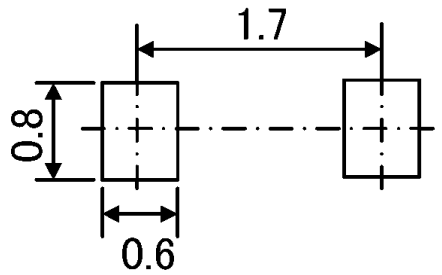


Fig. 7.1 ESC (Unit: mm)

## 8. Characteristics Curves (Note)

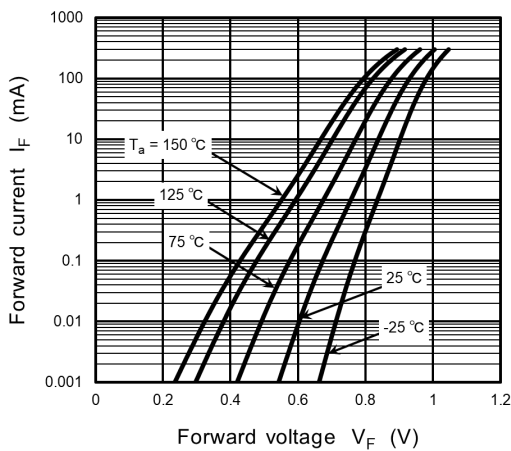


Fig. 8.1  $I_F - V_F$

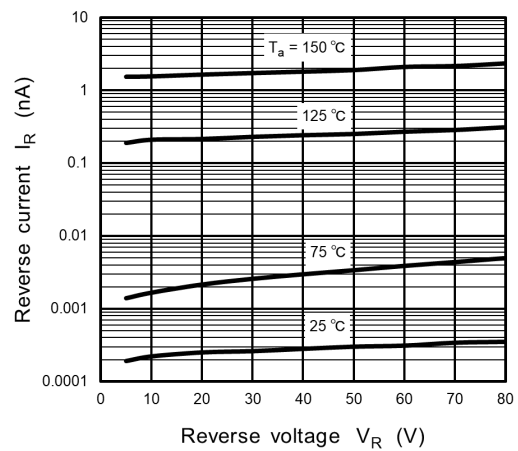


Fig. 8.2  $I_R - V_R$

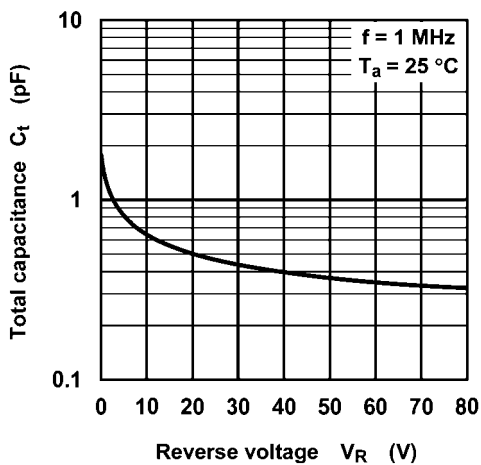


Fig. 8.3  $C_t - V_R$

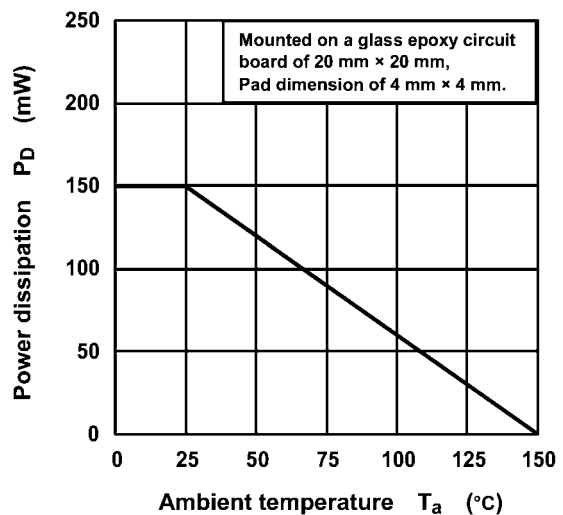
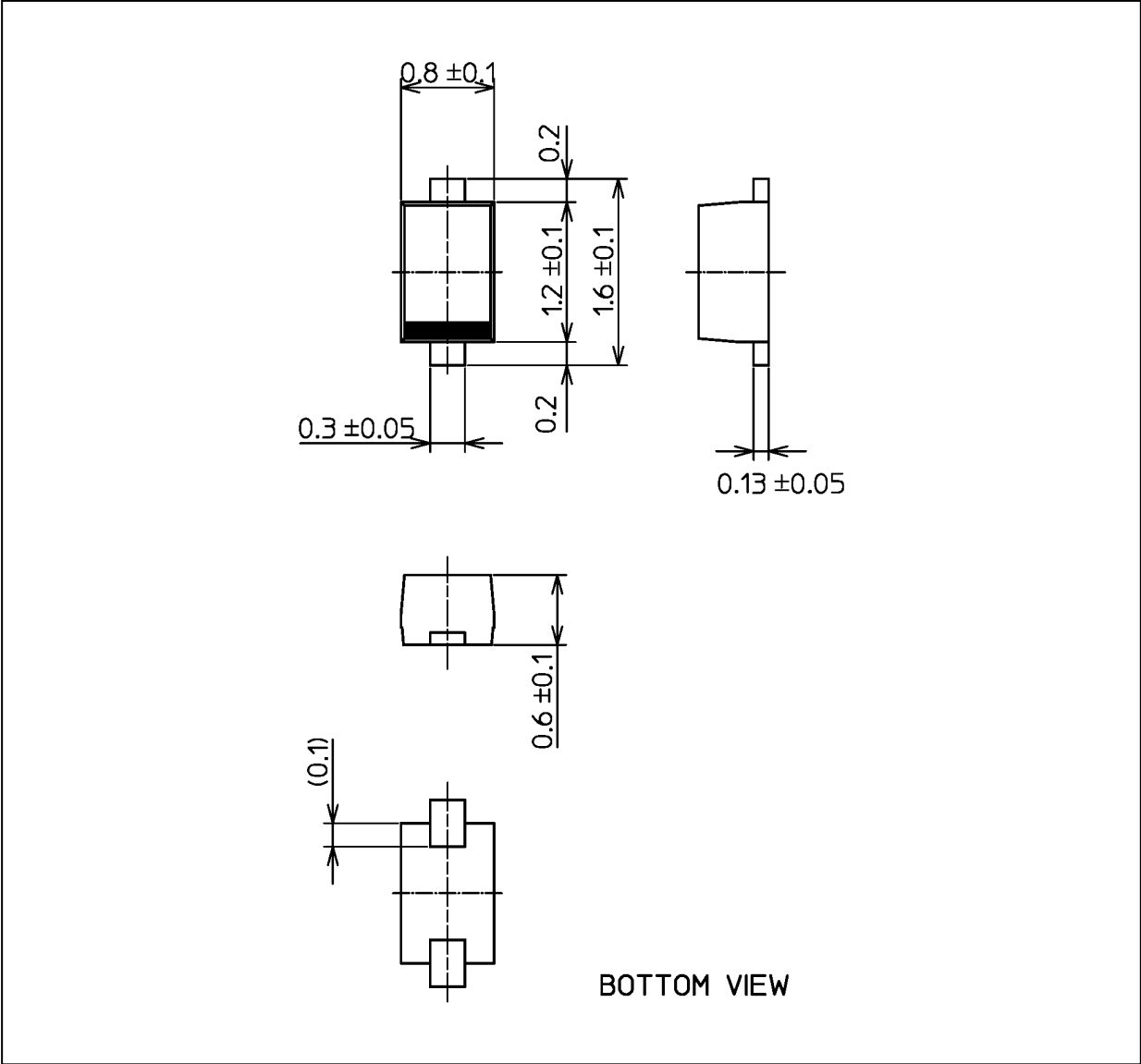


Fig. 8.4  $P_D - T_a$

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)
TOSHIBA: 1-1G1S
Nickname: ESC

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