

TOSHIBA Diode Silicon Epitaxial Planar Type

## 1SS307

## General Purpose Rectifier Applications

- Low forward voltage :  $V_F = 1.0 \text{ V (typ.)}$
- Low reverse current :  $I_R = 10 \text{ nA (max)}$
- Small total capacitance :  $C_T = 3.0 \text{ pF (typ.)}$
- Small package : SC-59

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	$V_{RM}$	35	V
Reverse voltage	$V_R$	30	V
Maximum (peak) forward current	$I_{FM}$	300	mA
Average forward current	$I_O$	100	mA
Surge current (10 ms)	$I_{FSM}$	1	A
Power dissipation	$P_D$ (Note 1, 3)	200	mW
	$P_D$ (Note 2)	150	
Junction temperature	$T_j$ (Note 1)	150	$^\circ\text{C}$
	$T_j$ (Note 2)	125	
Storage temperature range	$T_{stg}$ (Note 1)	-55 to 150	$^\circ\text{C}$
	$T_{stg}$ (Note 2)	-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: For devices with the ordering part number ending in LF(T).

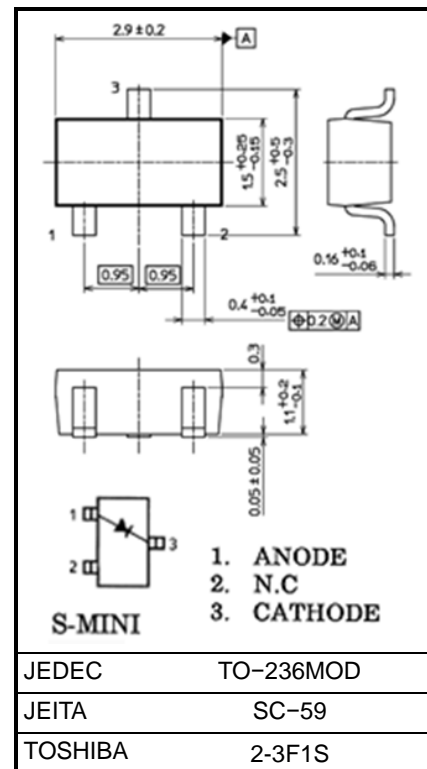
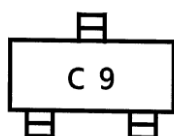
Note 2: For devices with the ordering part number in other than LF(T).

Note 3: Mounted on a FR4 board. (25.4 mm × 25.4 mm × 1.6 mm, Cu pad: 0.8 mm<sup>2</sup> × 3)

Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

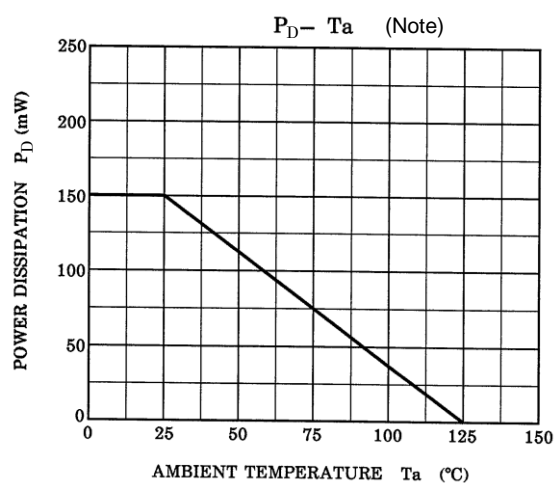
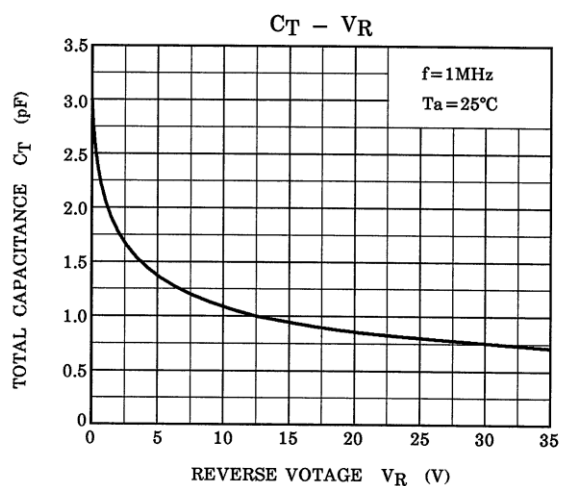
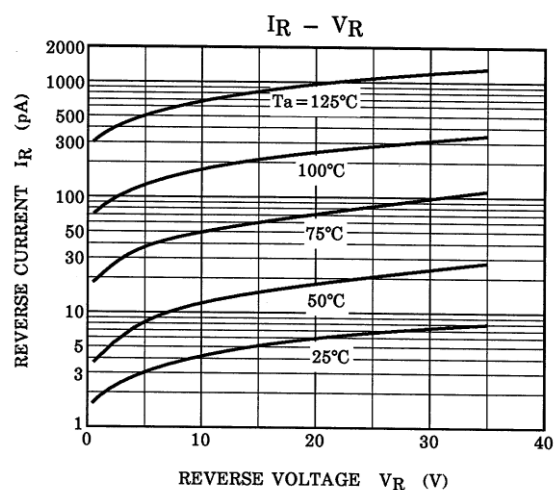
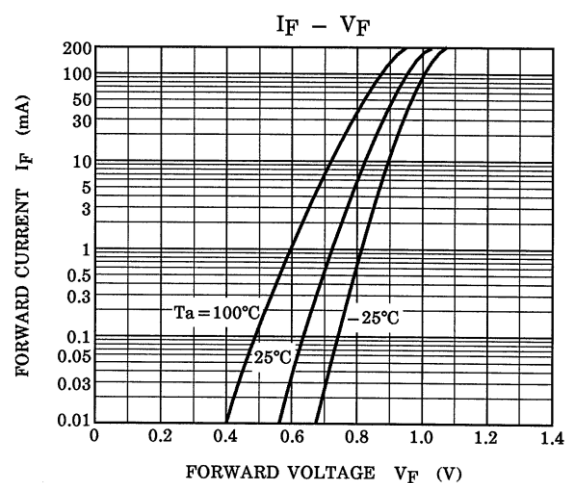
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F$	$I_F = 100 \text{ mA}$	—	1.0	1.3	V
Reverse current	$I_R$	$V_R = 30 \text{ V}$	—	—	10	nA
Total capacitance	$C_T$	$V_R = 0 \text{ V, } f = 1 \text{ MHz}$	—	3.0	6.0	pF

## Marking

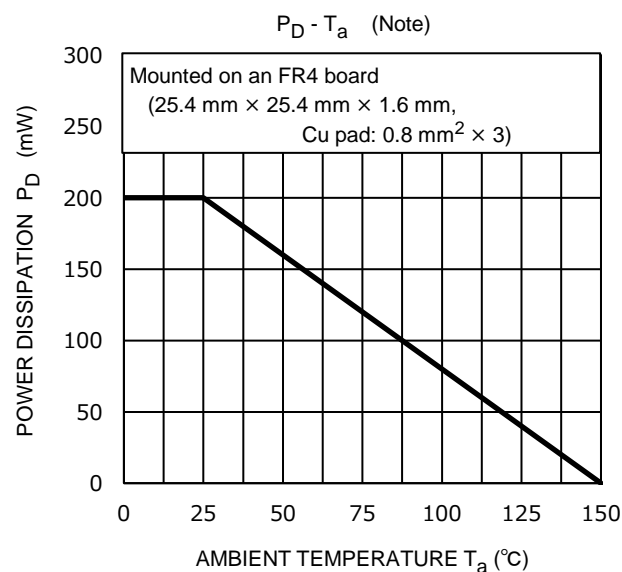


Weight: 12 mg (typ.)

## Characteristics Curves



Note: Reference only with  $T_j$  of  $125^\circ\text{C}$ .



Note: Reference only with  $T_j$  of  $150^\circ\text{C}$ .

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

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