

TOSHIBA Diode Silicon Epitaxial Planar Type

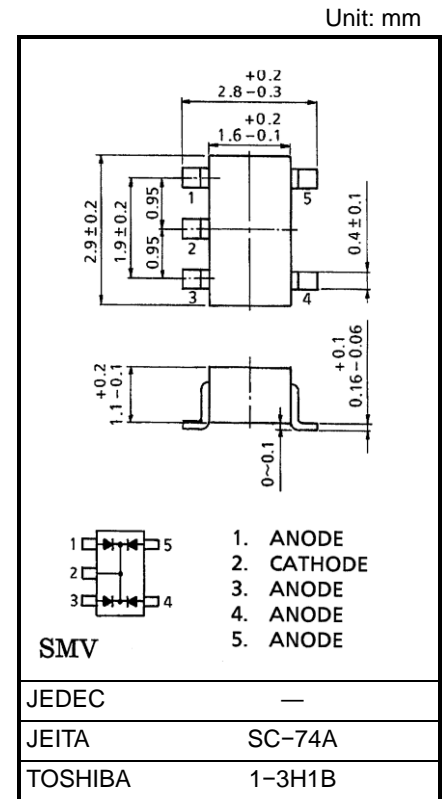
1SS309

Ultra High Speed Switching Applications

- Small package : SC-74A
- Low forward voltage : V_F (3) = 0.90V (typ.)
- Fast reverse recovery time: t_{rr} = 1.6ns (typ.)
- Small total capacitance : C_T = 0.9pF (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	V_{RM}	85	V
Reverse voltage	V_R	80	V
Maximum (peak) forward current	I_{FM}	300 (*)	mA
Average forward current	I_O	100 (*)	mA
Surge current (10ms)	I_{FSM}	2 (*)	A
Power dissipation	P_D (Note 1, 3)	300	mW
	P_D (Note 2)	200	
Junction temperature	T_j (Note 1)	150	°C
	T_j (Note 2)	125	
Storage temperature	T_{stg} (Note 1)	-55 to 150	°C
	T_{stg} (Note 2)	-55 to 125	



Weight: 0.014g (typ.)

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: Total rating.

(*): Unit rating. Total rating = unit rating × 1.5

Electrical Characteristics (Ta = 25°C)

Characteristic	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, Fig.1	—	1.6	4.0	ns

Start of commercial production
1987-07

Marking

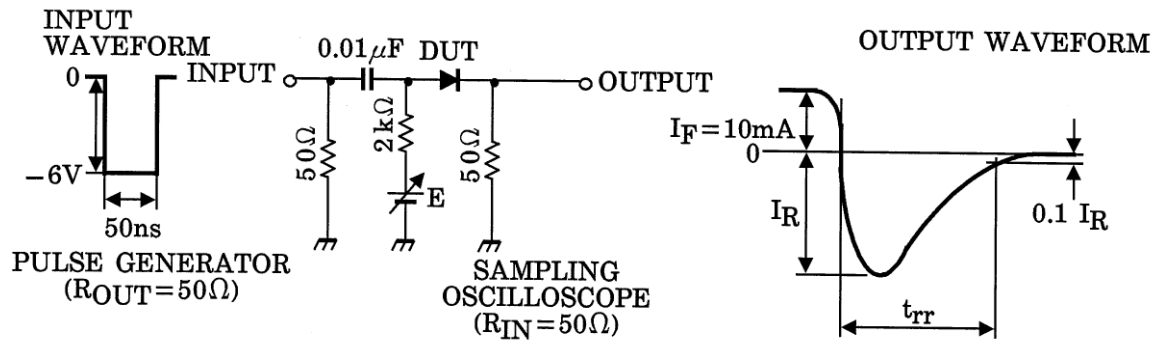
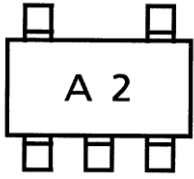
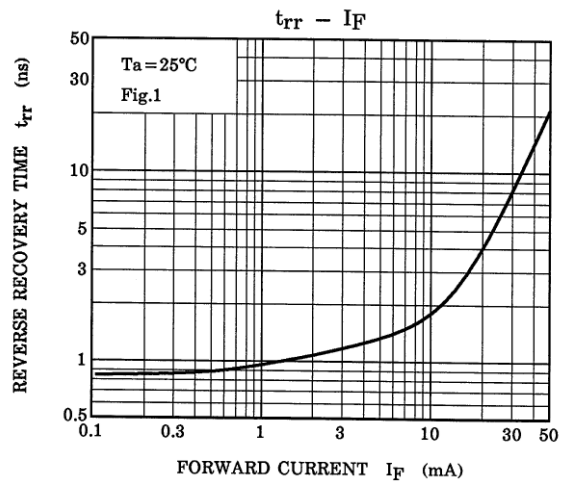
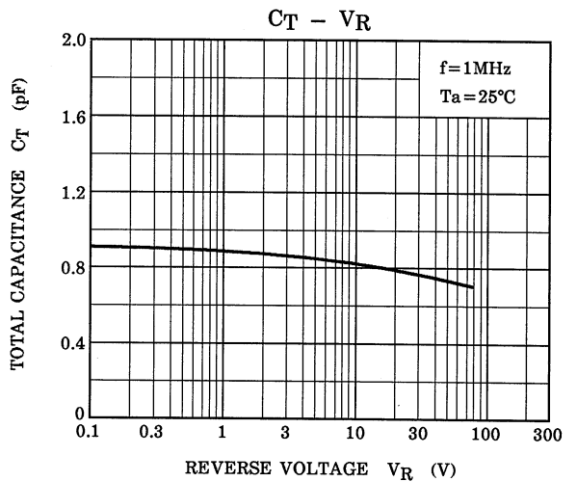
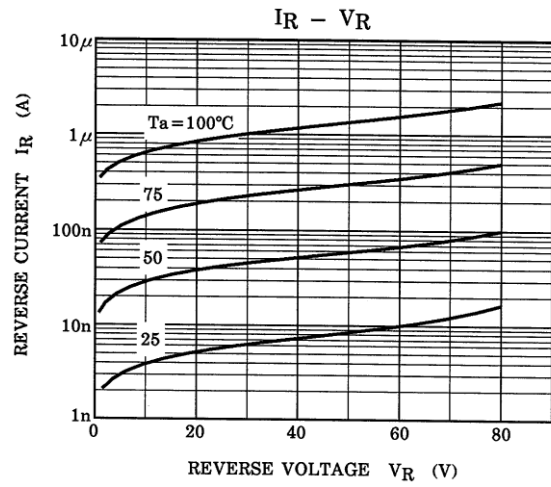
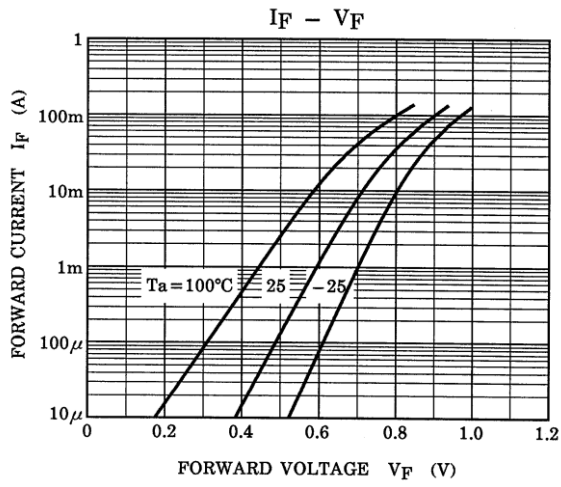


Fig.1 Reverse recovery time (t_{rr}) test circuit

Characteristics Curves



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

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