

TOSHIBA Diode Silicon Epitaxial Planar Type

1SS306

Ultra High Speed Switching Application

Unit: mm

- Small package: SC-61
- Low forward voltage: $V_F(2) = 0.90\text{ V (typ.)}$
- Fast reverse recovery time: $t_{rr} = 30\text{ ns (typ.)}$
- Small total capacitance: $C_T = 1.5\text{ pF (typ.)}$

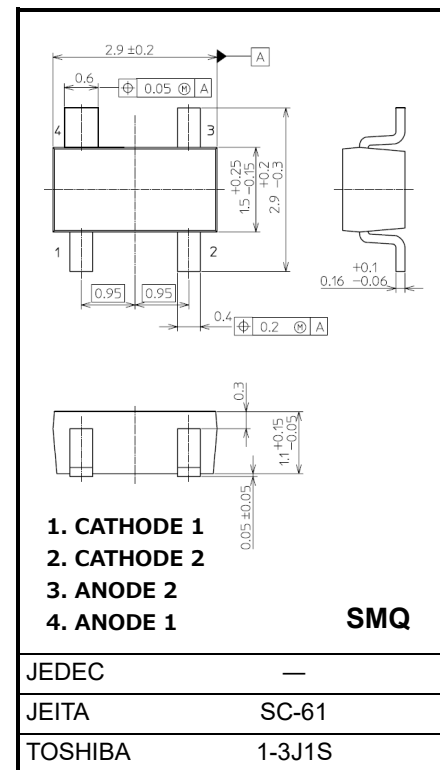
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	V_{RM}	250	V
Reverse voltage	V_R	200	V
Maximum (peak) forward current	I_{FM}	300 *	mA
Average forward current	I_O	100 *	mA
Surge current (10 ms)	I_{FSM}	2 *	A
Power dissipation	P	150	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to 125	$^\circ\text{C}$

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).

*: Unit rating. Total rating = unit rating \times 1.5



Weight: 13 mg (typ.)

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

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	$I_F = 10\text{ mA}$	—	0.72	1.0	V
	$V_F(2)$	$I_F = 100\text{ mA}$	—	0.9	1.2	
Reverse current	$I_R(1)$	$V_R = 50\text{ V}$	—	—	0.1	μA
	$I_R(2)$	$V_R = 200\text{ V}$	—	—	1.0	
Total capacitance	C_T	$V_R = 0\text{ V}, f = 1\text{ MHz}$	—	1.5	3.0	pF
Reverse recovery time	t_{rr}	$I_F = 10\text{ mA, Fig.1}$	—	30	60	ns

Start of commercial production
1986-10

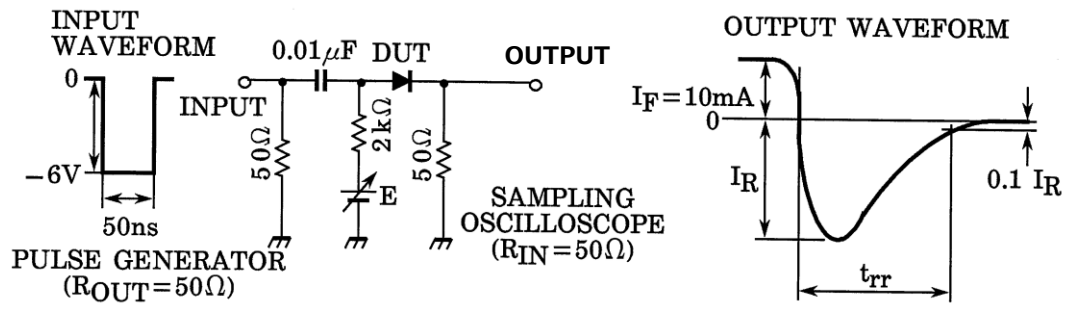
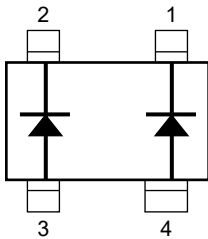
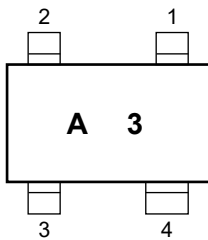


Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit

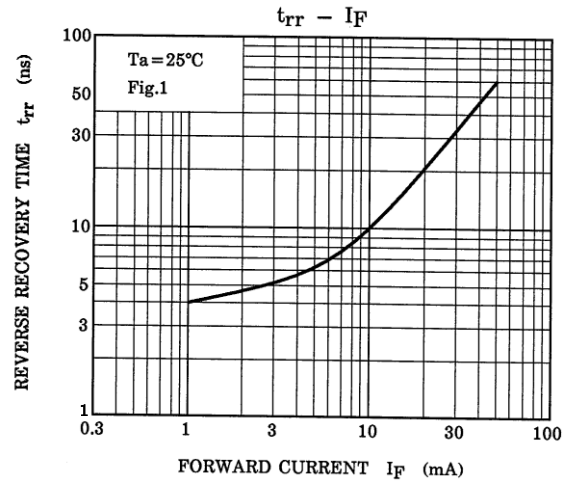
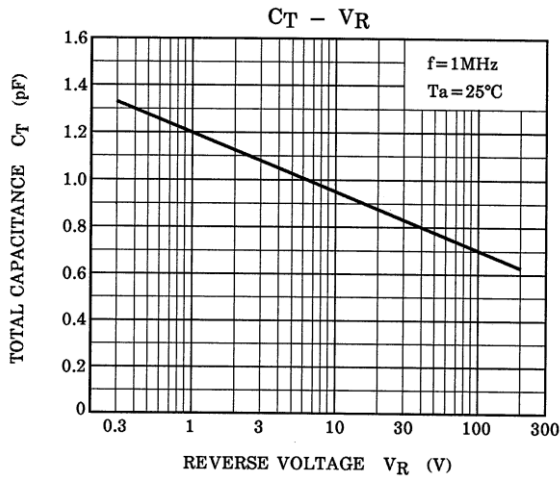
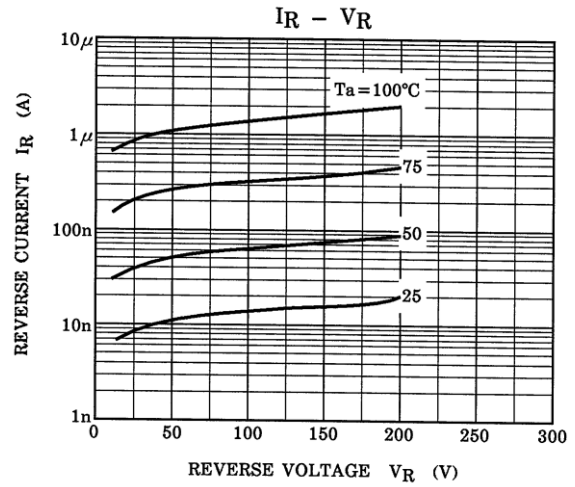
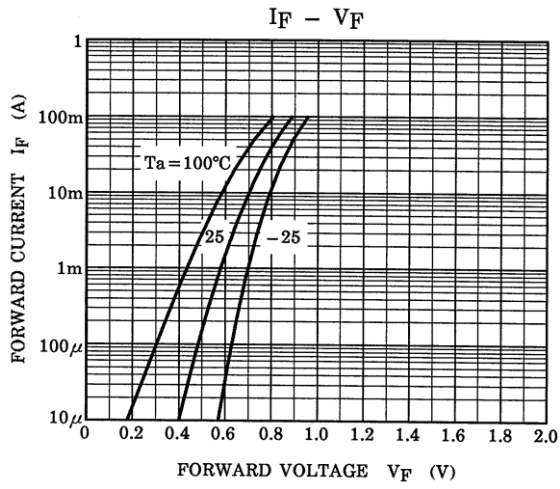
Equivalent circuit (Top view)



Marking



Electrical Characteristics (Ta = 25°C)



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

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