

TOSHIBA Diode Silicon Epitaxial Planar Type

# 1SS306

High Voltage, High Speed Switching Applications

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 :  $C_T = 1.5\text{ pF (typ.)}$

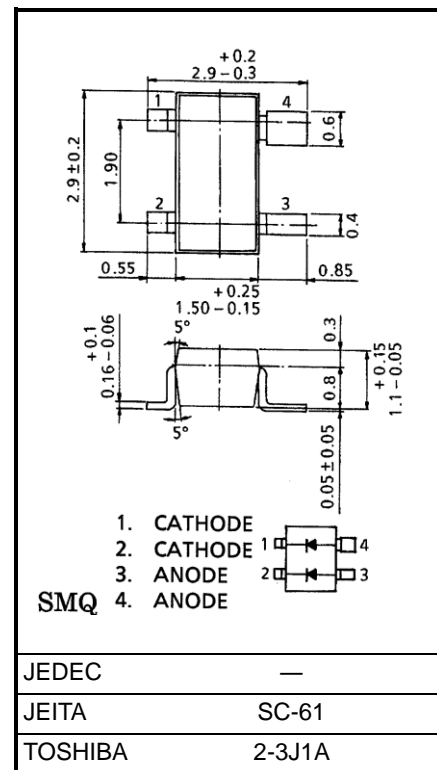
## Absolute Maximum Ratings (Ta = 25°C)

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	°C
Storage temperature	$T_{stg}$	-55 to 125	°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 × 1.5



Weight: 0.013 g (typ.)

## Electrical Characteristics (Ta = 25°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	$t_{rr}$	$I_F = 10\text{ mA}, \text{ Fig.1}$	—	30	60	ns

Start of commercial production  
1986-10

Marking

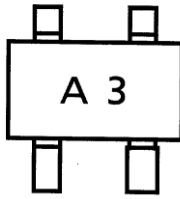
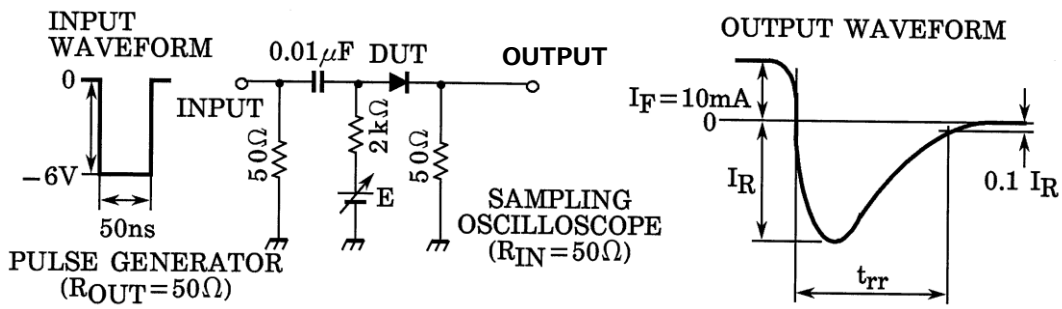
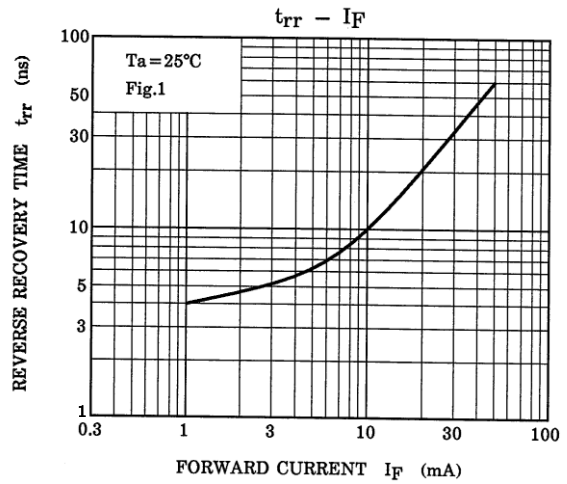
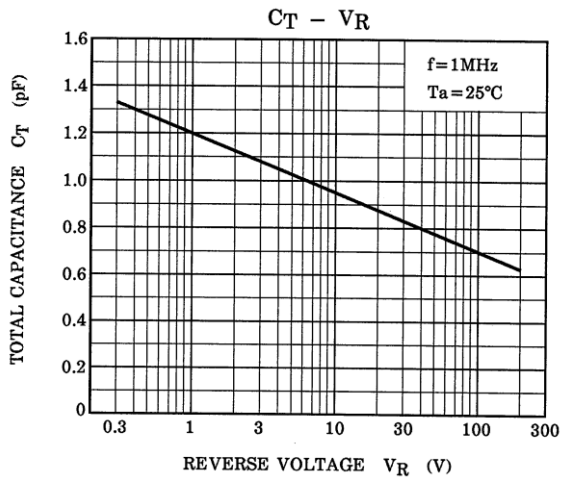
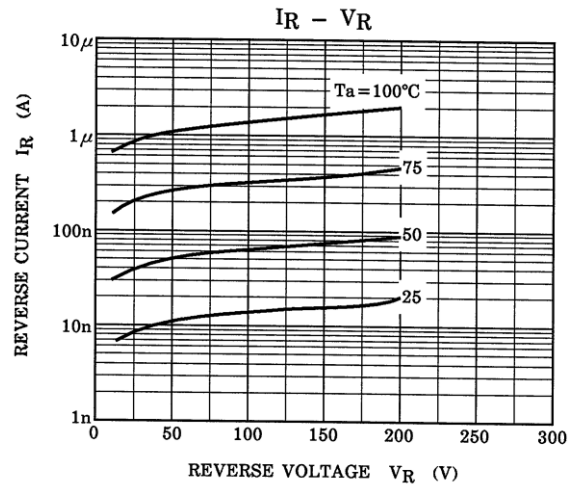
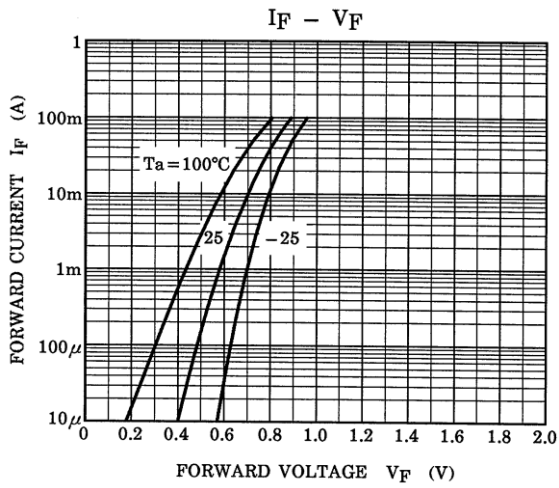


Fig.1 Reverse Recovery Time ( $t_{rr}$ ) Test Circuit





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