

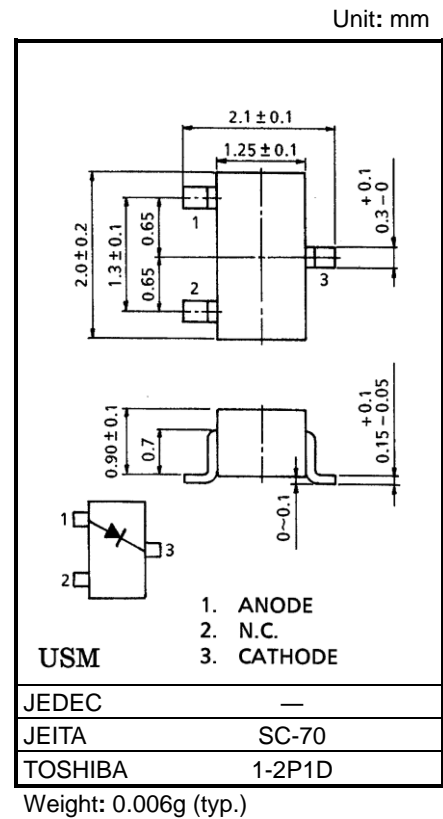
# 1SS397

## High Voltage, High Speed Switching Applications

- Small package : SC-70
- Low forward voltage :  $V_F = 1.0V$  (typ.)
- High voltage :  $V_R = 400V$  (min)
- Fast reverse recovery time:  $t_{rr} = 0.5\mu s$  (typ.)
- Small total capacitance :  $C_T = 2.5pF$  (typ.)

### Absolute Maximum Ratings ( $T_a = 25^\circ C$ )

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse Voltage	$V_{RM}$	420	V
Reverse voltage	$V_R$	400	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	100	mW
Junction temperature	$T_j$	125	$^\circ C$
Storage temperature range	$T_{stg}$	-55 to 125	$^\circ C$



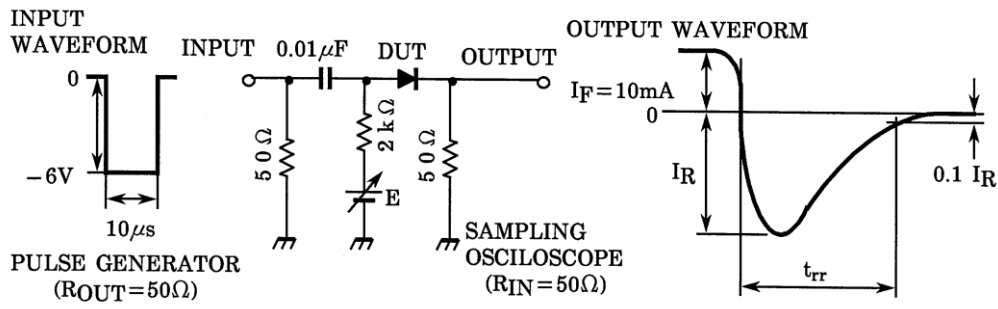
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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).

### Electrical Characteristics ( $T_a = 25^\circ C$ )

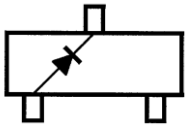
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F$ (1)	$I_F = 10mA$	—	0.8	—	V
	$V_F$ (2)	$I_F = 100mA$	—	1.0	1.3	
Reverse current	$I_R$ (1)	$V_R = 300V$	—	—	0.1	$\mu A$
	$I_R$ (2)	$V_R = 400V$	—	—	1.0	
Total capacitance	$C_T$	$V_R = 0 V, f = 1MHz$	—	2.5	5.0	pF
Reverse recovery time	$t_{rr}$	$I_F = 10mA$ (Fig.1)	—	0.5	—	$\mu s$

Start of commercial production  
1995-10

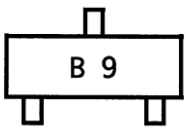
**Fig.1 Reverse Recovery Time ( $t_{rr}$ ) Test Circuit**

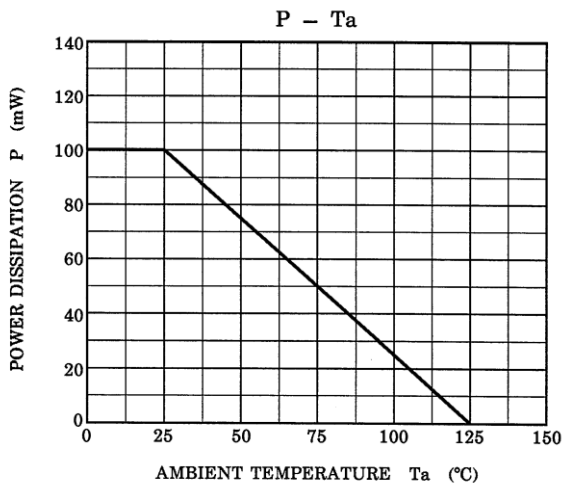
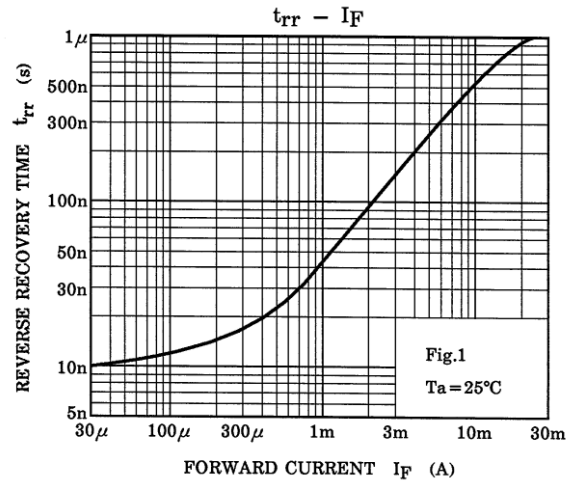
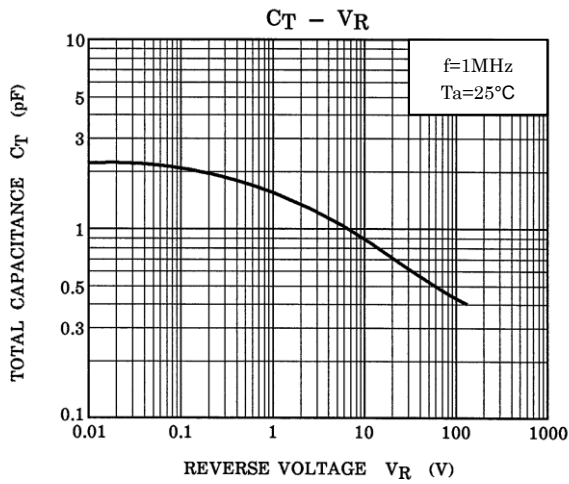
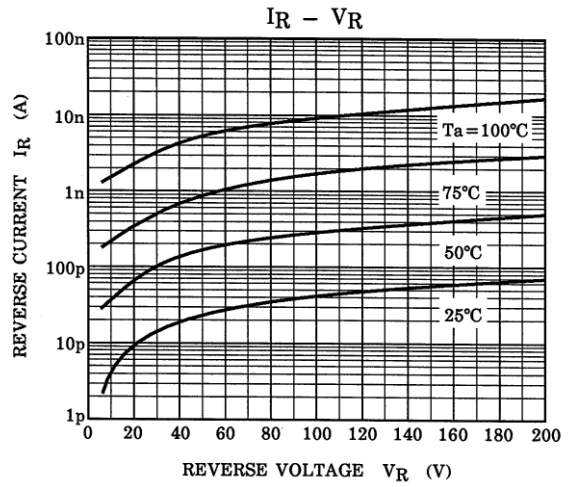
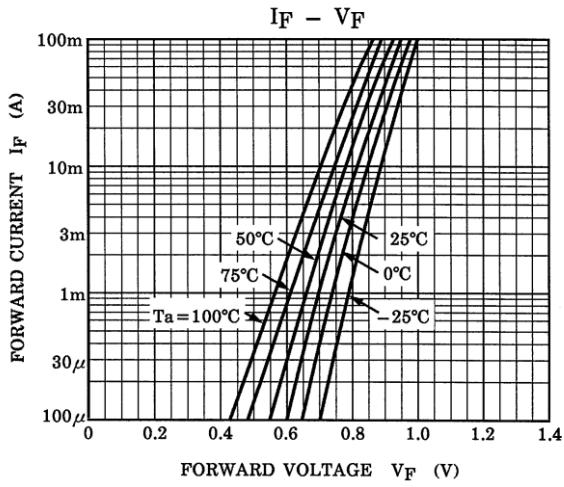


**Equivalent Circuit (Top View)**



**Marking**





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