

# 1SS301

## Ultra High Speed Switching Applications

- AEC-Q101 Qualified (Note1)
- Small package : SC-70
- Low forward voltage :  $V_F(3) = 0.90\text{ V (typ.)}$
- Fast reverse recovery time :  $t_{rr} = 1.6\text{ ns (typ.)}$
- Small total capacitance :  $C_T = 0.9\text{ pF (typ.)}$
- 

Note1: For detail information, please contact to our sales.

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

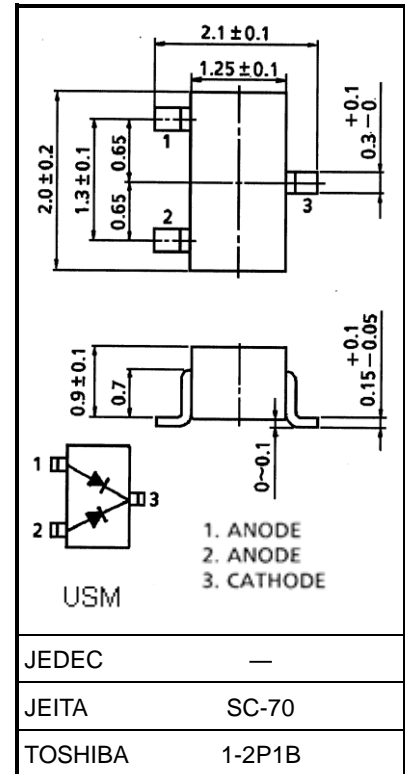
Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	$V_{RM}$	85	V
Reverse voltage	$V_R$	80	V
Maximum (peak) forward current	$I_{FM}$	300*	mA
Average forward current	$I_O$	100*	mA
Surge current (10 ms)	$I_{FSM}$	2*	A
Power dissipation	P	100	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
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

Unit: mm



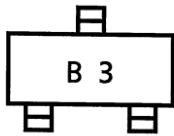
Weight: 0.006 g (typ.)

Start of commercial production  
1986-11

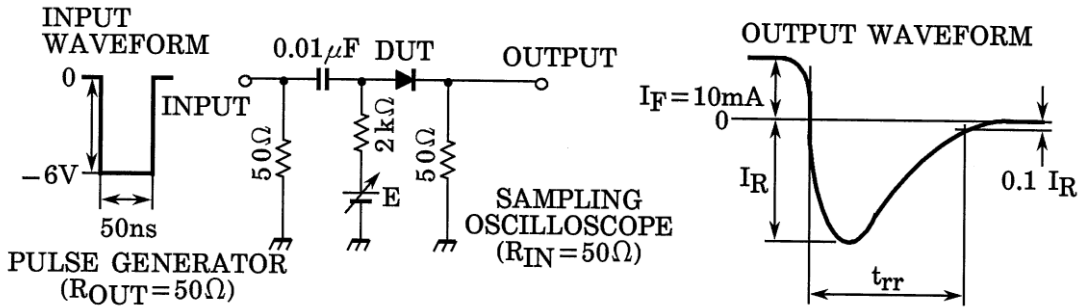
**Electrical Characteristics (Ta = 25°C)**

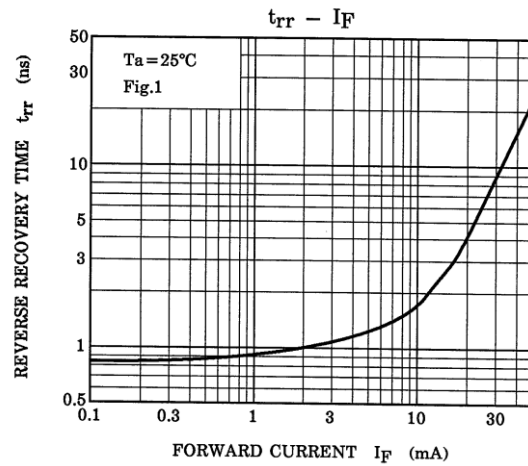
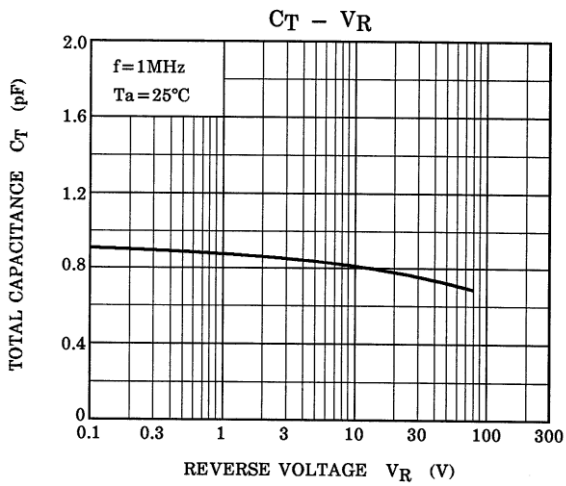
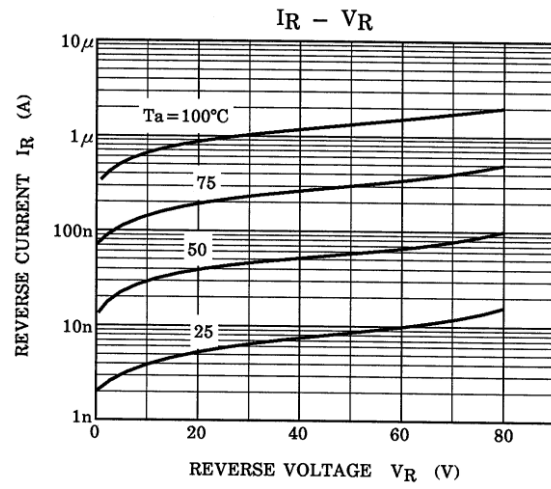
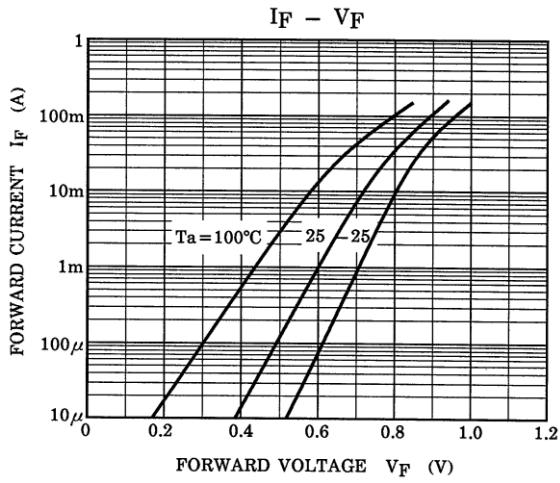
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	V <sub>F</sub> (1)	I <sub>F</sub> = 1 mA	—	0.60	—	V
	V <sub>F</sub> (2)	I <sub>F</sub> = 10 mA	—	0.72	—	
	V <sub>F</sub> (3)	I <sub>F</sub> = 100 mA	—	0.90	1.20	
Reverse current	I <sub>R</sub> (1)	V <sub>R</sub> = 30 V	—	—	0.1	μA
	I <sub>R</sub> (2)	V <sub>R</sub> = 80 V	—	—	0.5	
Total capacitance	C <sub>T</sub>	V <sub>R</sub> = 0V, f = 1 MHz	—	0.9	3.0	pF
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> = 10 mA (Fig.1)	—	1.6	4.0	ns

**Marking**



**Fig.1 Reverse Recovery Time (t<sub>rr</sub>) Test Circuit**





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