

TOSHIBA Diode Silicon Epitaxial Planar Type

# 1SS387CT

## Ultra High Speed Switching Application

- Small package
- Low forward voltage:  $V_F(3) = 0.98\text{ V (typ.)}$
- Fast reverse recovery time:  $t_{rr} = 1.6\text{ ns (typ.)}$
- Small total capacitance:  $C_T = 0.5\text{ pF (typ.)}$

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

Characteristics	Symbol	Rating	Unit
Maximum (peak) reverse Voltage	$V_{RM}$	85	V
Reverse voltage	$V_R$	80	V
Maximum (peak) forward current	$I_{FM}$	200	mA
Average forward current	$I_O$	100	mA
Surge current (10 ms)	$I_{FSM}$	1	A
Power dissipation	$P^*$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to 150	°C

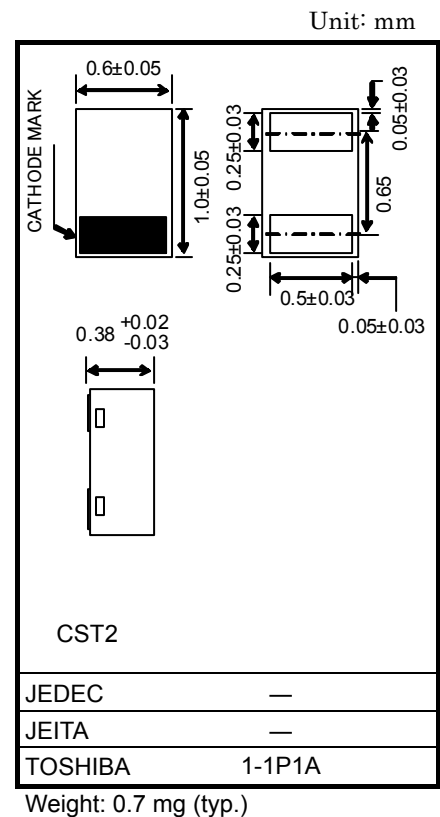
\*: Mounted on a glass epoxy circuit board of 20 mm × 20 mm, pad dimension of 4 mm × 4 mm.

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.

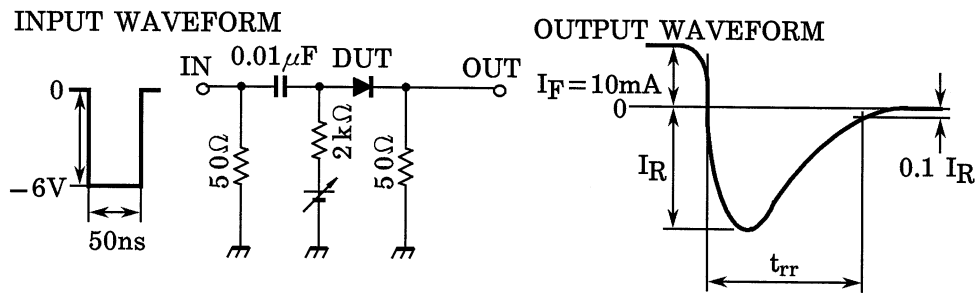
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

## Electrical Characteristics (Ta = 25°C)

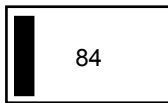
Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	—	$I_F = 1\text{ mA}$	—	0.62	—	V
	$V_F(2)$	—	$I_F = 10\text{ mA}$	—	0.75	—	
	$V_F(3)$	—	$I_F = 100\text{ mA}$	—	0.98	1.20	
Reverse current	$I_R(1)$	—	$V_R = 30\text{ V}$	—	—	0.1	μA
	$I_R(2)$	—	$V_R = 80\text{ V}$	—	—	0.5	
Total capacitance	$C_T$	—	$V_R = 0\text{ V}, f = 1\text{ MHz}$	—	0.5	—	pF
Reverse recovery time	$t_{rr}$	—	$I_F = 10\text{ mA}, \text{ Fig.1}$	—	1.6	—	ns



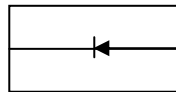
**Fig.1 Reverse Recovery Time ( $t_{rr}$ ) Test Circuit**

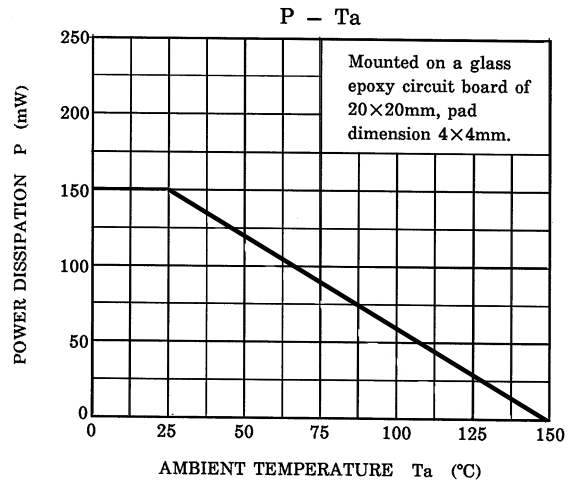
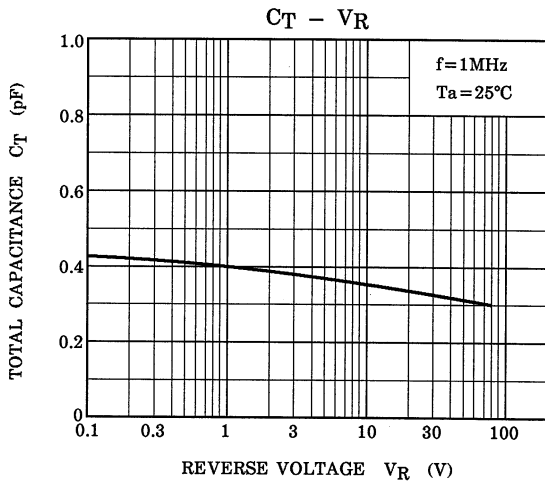
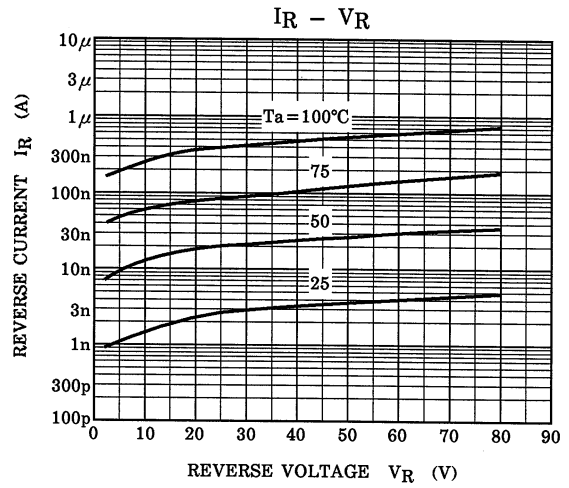
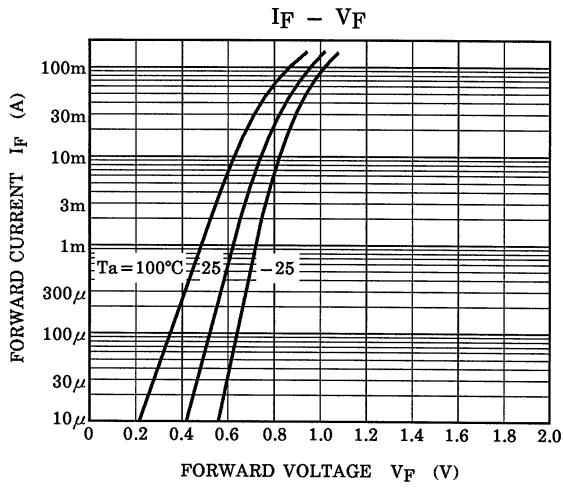


**Marking**



**Equivalent Circuit (top view)**





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