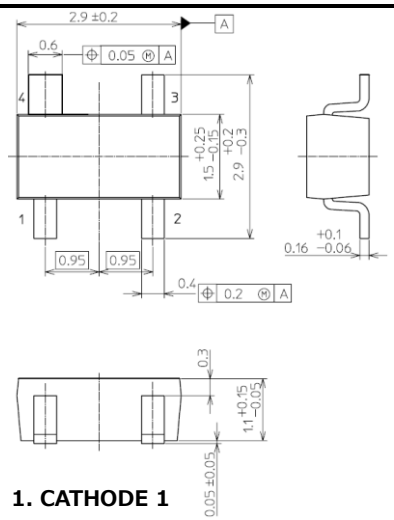
TOSHIBA Diode Silicon Epitaxial Planar Type

1SS272

Ultra High Speed Switching Application

- Low forward voltage: $V_{F\ (3)}$ = 0.92V (typ.)
- Fast reverse recovery time: t_{rr} = 1.6ns (typ.)
- Small total capacitance: C_T = 0.9pF (typ.)

Unit: mm



1. CATHODE 1
2. CATHODE 2
3. ANODE 2
4. ANODE 1

SMQ

JEDEC	—
JEITA	SC−61
TOSHIBA	1−3J1S

Weight: 13 mg (typ.)

Absolute Maximum Ratings (Ta = 25°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 (10ms)	I_{FSM}	2 *	A
Power dissipation	P	150 *	mW
Junction temperature	T_j	125	°C
Storage temperature range	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.

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_{F\ (1)}$	I_F = 1mA	—	0.61	—	V
	$V_{F\ (2)}$	I_F = 10mA	—	0.74	—	
	$V_{F\ (3)}$	I_F = 100mA	—	0.92	1.2	
Reverse current	$I_{R\ (1)}$	V_R = 30V	—	—	0.1	μA
	$I_{R\ (2)}$	V_R = 80V	—	—	0.5	
Total capacitance	C_T	V_R = 0V , f = 1MHz	—	0.9	2.0	pF
Reverse recovery time	t_{rr}	I_F = 10mA, Fig.1	—	1.6	4.0	ns

Start of commercial production
1984-10

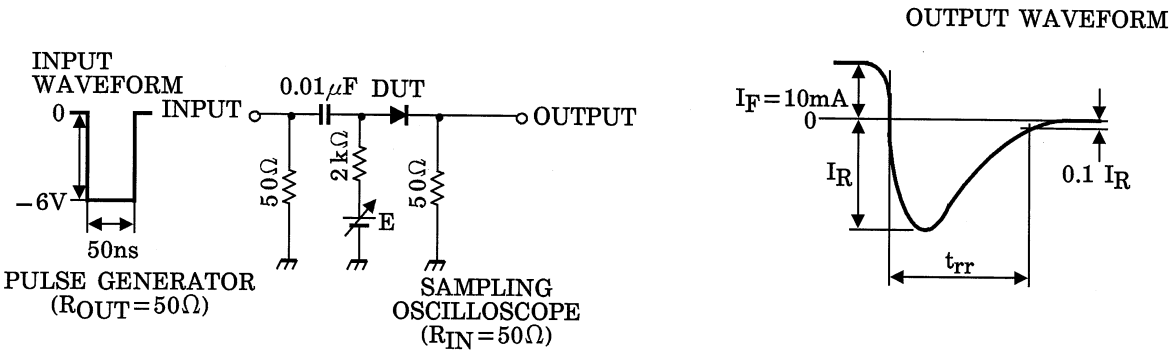
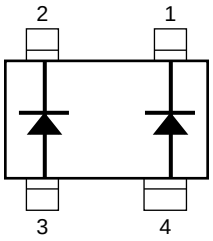
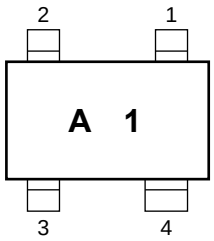


Fig.1 Reverse recovery time (t_{rr}) test circuit

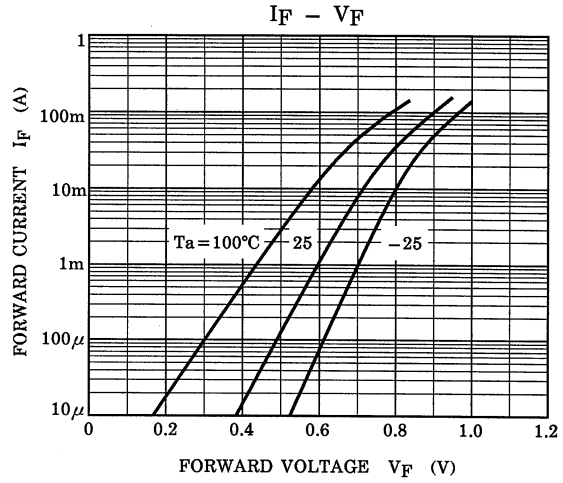
Equivalent circuit (Top view)

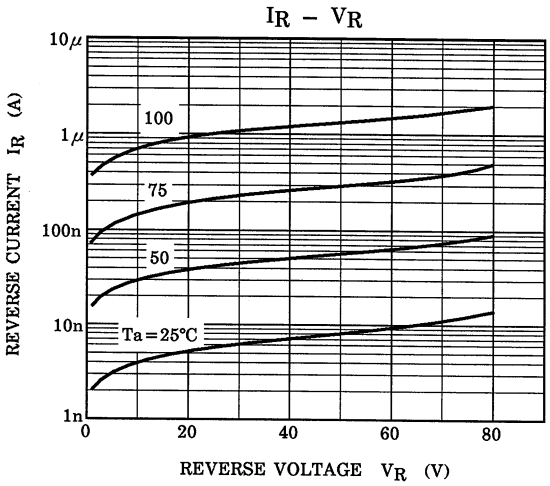


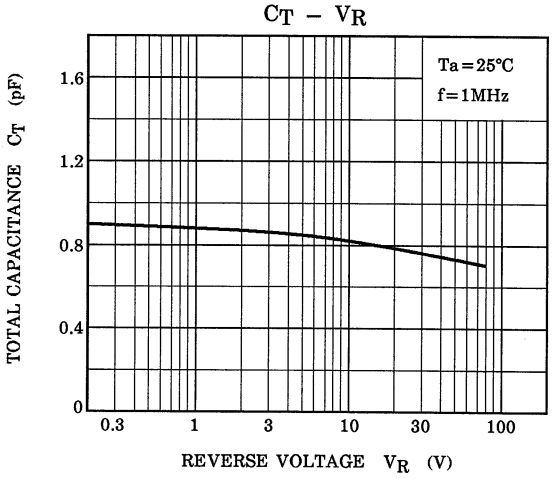
Marking

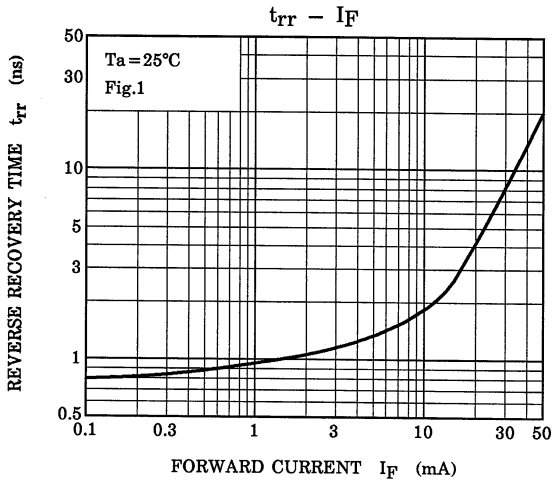


Electrical Characteristics (Ta = 25°C)









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