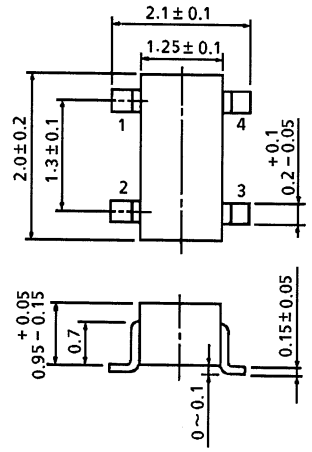
TOSHIBA Diode Silicon Epitaxial Planar Type

1SS382

Ultra High Speed Switching Application

- Small package
- Composed of 2 independent diodes.
- Low forward voltage : $V_{F\ (3)}$ = 0.92V (typ.)
- Fast reverse recovery time : T_{rr} = 1.6ns (typ.)

Unit: mm



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

USQ

JEDEC	—
JEITA	—
TOSHIBA	1-2U1A

Weight: 0.006g (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	100 *	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55~125	°C

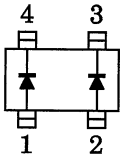
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

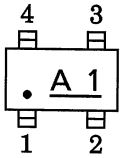
Electrical Characteristics (Ta = 25°C)

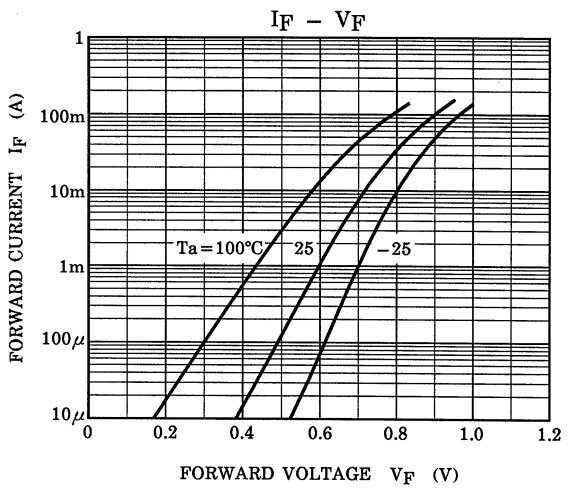
Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_{F\ (1)}$	—	I_F = 1mA	—	0.61	—	V
	$V_{F\ (2)}$	—	I_F = 10mA	—	0.74	—	V
	$V_{F\ (3)}$	—	I_F = 100mA	—	0.92	1.20	V
Reverse current	$I_{R\ (1)}$	—	V_R = 30V	—	—	0.1	μA
	$I_{R\ (2)}$	—	V_R = 80V	—	—	0.5	μA
Total capacitance	CT	—	VR = 0, f = 1MHz	—	0.9	2.0	pF
Reverse recovery time	trr	—	IF = 10mA, Fig.1	—	1.6	4.0	ns

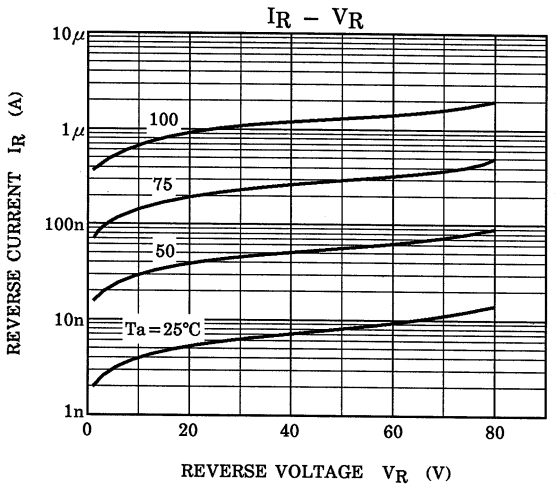
Pin Assignment (Top View)

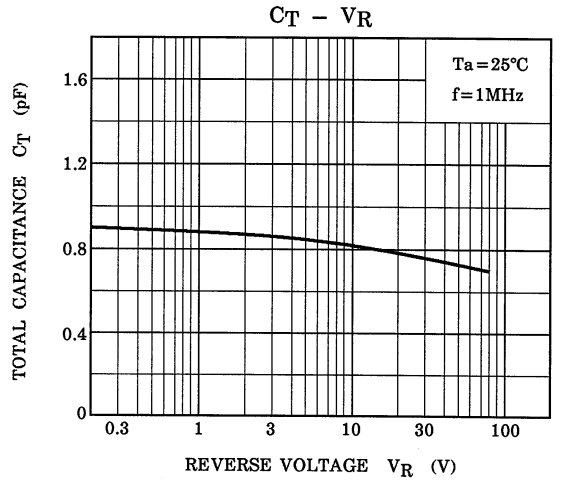


Marking









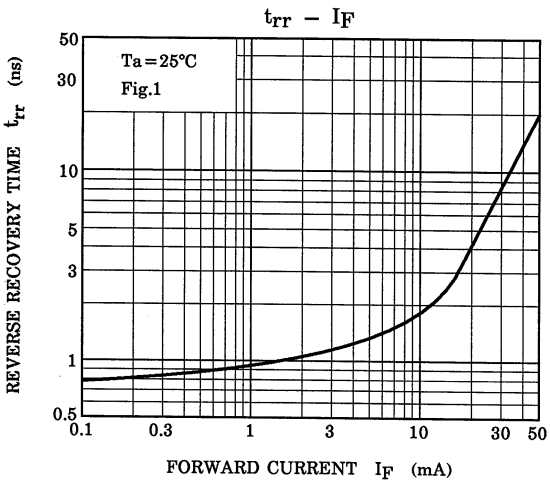
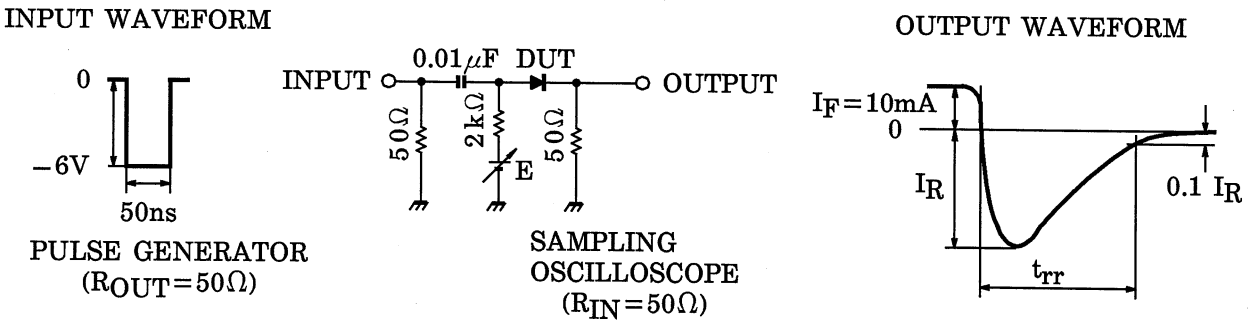


Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit



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