

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.)

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 to 125	°C

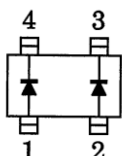
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

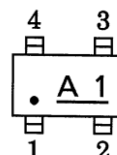
Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test 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	C_T	—	$V_R = 0, f = 1MHz$	—	0.9	2.0	pF
Reverse recovery time	t_{rr}	—	$I_F = 10mA, Fig.1$	—	1.6	4.0	ns

Pin Assignment (Top View)

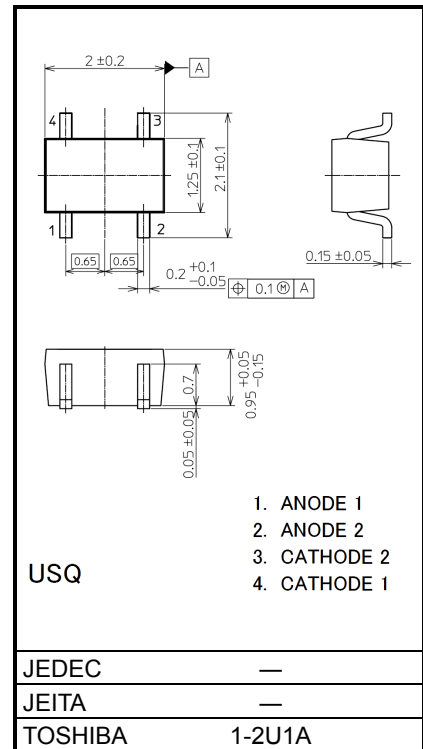


Marking



Start of commercial production
1994-09

Unit: mm



Weight: 0.006g (typ.)

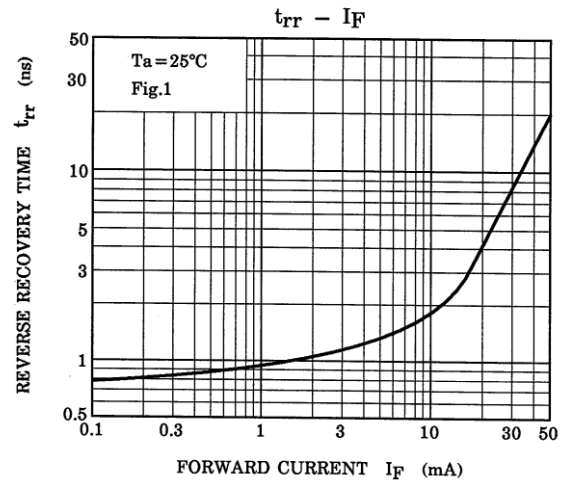
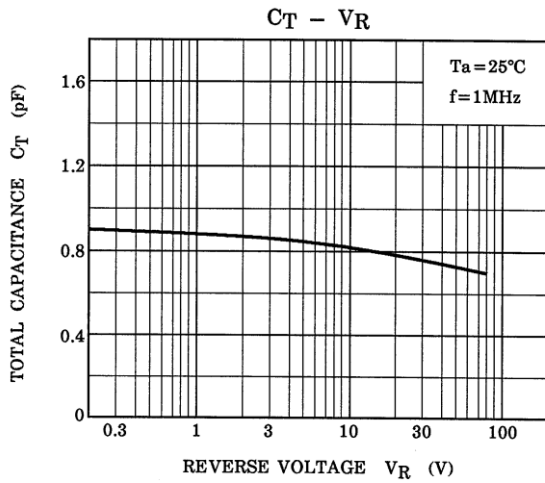
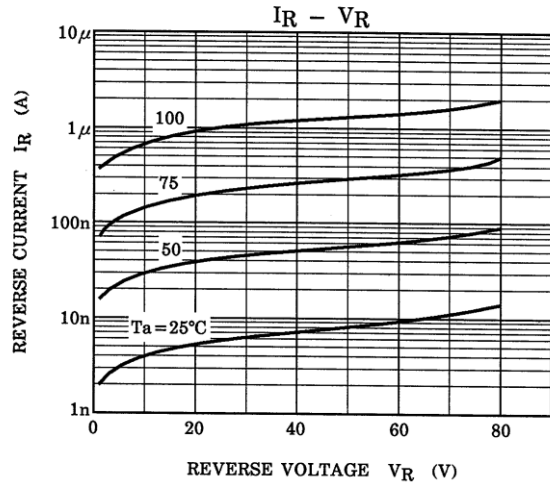
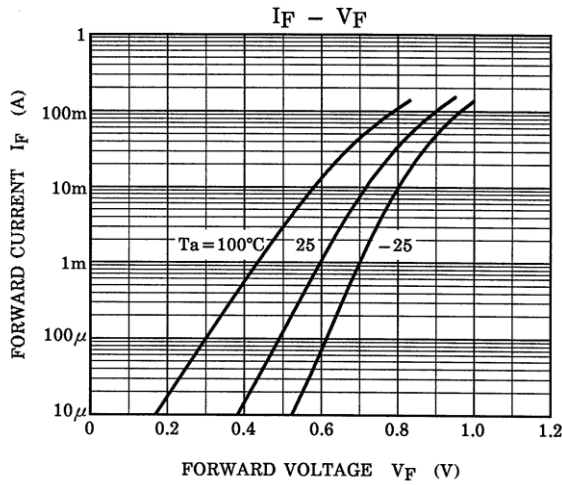
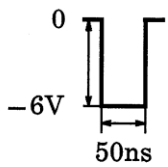
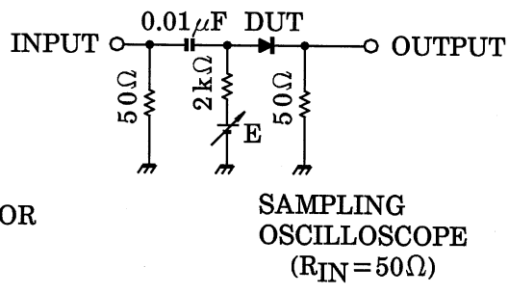


Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit

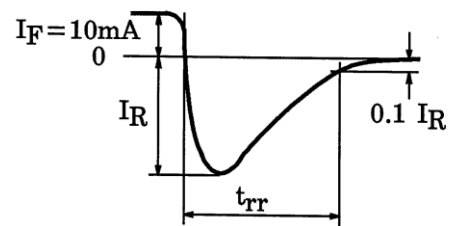
INPUT WAVEFORM



PULSE GENERATOR
($R_{OUT} = 50\Omega$)



OUTPUT WAVEFORM



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