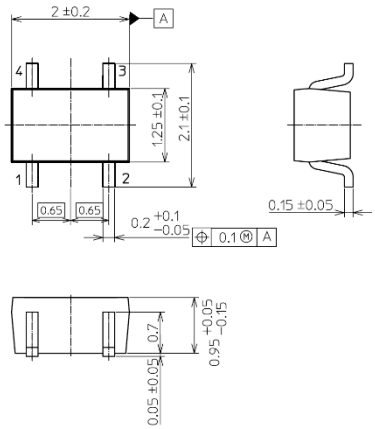
TOSHIBA Diode Silicon Epitaxial Planar Type

1SS382

Ultra High Speed Switching Application

Unit: mm

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



USQ

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

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_D (Note 1, 3)	125	mW
	P_D (Note 2, 3)	100	
Junction temperature	T_j (Note 1)	150	°C
	T_j (Note 2)	125	
Storage temperature	T_{stg} (Note 1)	−55 to 150	°C
	T_{stg} (Note 2)	−55 to 125	

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).

Note 1: For devices with the ordering part number ending in LF(T.

Note 2: For devices with the ordering part number in other than LF(T.

Note 3: Total rating.

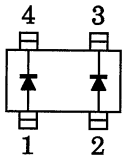
*: Unit rating. Total rating = Unit rating × 1.5.

Start of commercial production
1994-09

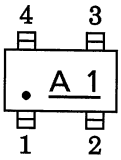
Electrical Characteristics (Ta = 25°C)

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

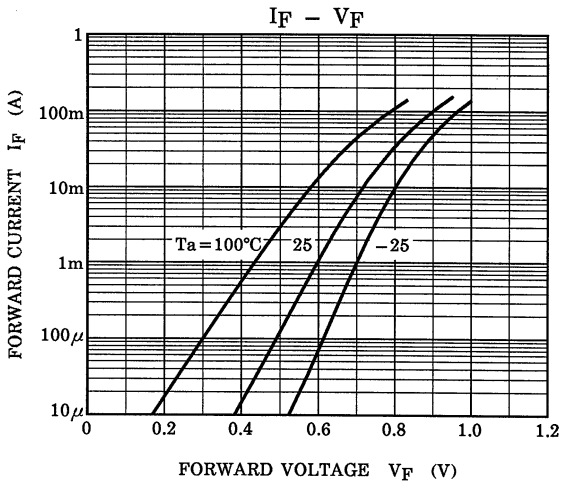
Pin Assignment (Top View)

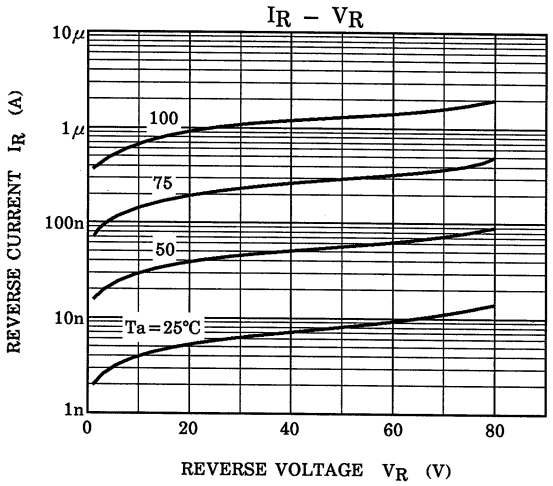


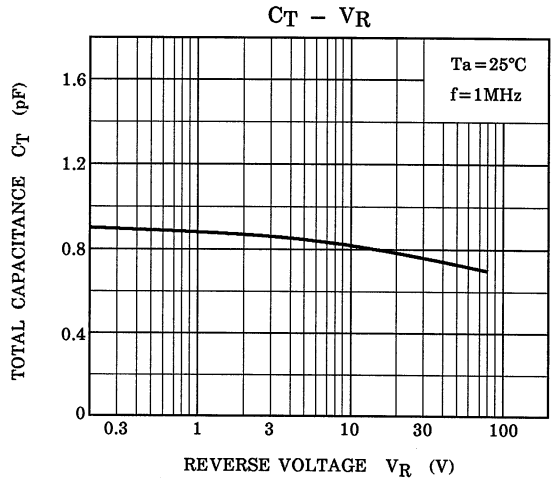
Marking

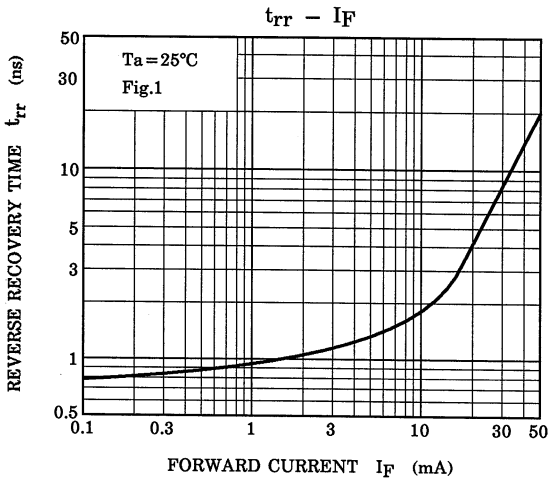


Characteristics Curves









The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

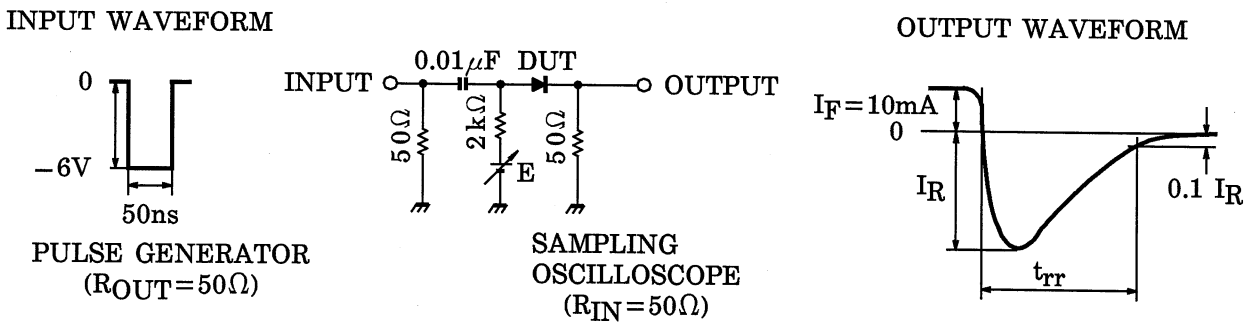


Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit

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