

TOSHIBA Diode Silicon Epitaxial Planar Type

1SS403

High Voltage Switching Applications

- Two-pin small packages are suitable for higher mounting densities.
- Excellent in forward current and forward voltage characteristics : $V_F(2) = 0.90V$ (typ.)
- Fast reverse recovery time : $t_{rr} = 60ns$ (max)
- Small total capacitance : $C_T = 1.5pF$ (typ.)

Absolute Maximum Ratings ($T_a = 25^\circ C$)

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	V_{RM}	250	V
Reverse voltage	V_R	200	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	200 *	mW
Junction temperature	T_j	125	$^\circ C$
Storage temperature range	T_{stg}	-55 to 125	$^\circ C$

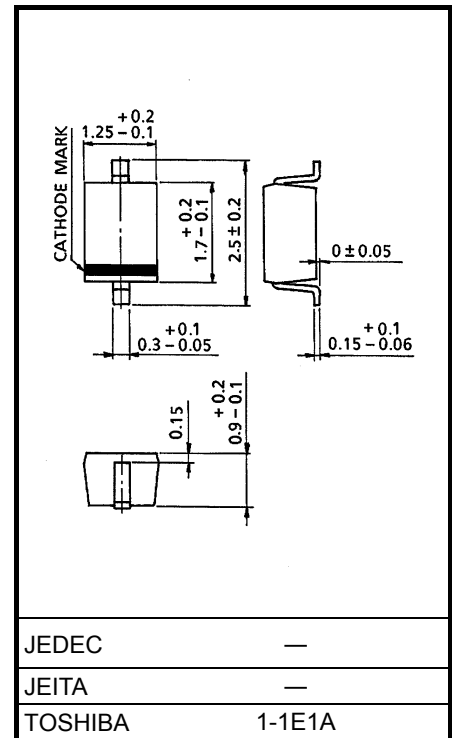
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

*: When mounted on a glass epoxy board PCB: 20 mm × 20 mm, with copper pad 4 mm × 4 mm.

Electrical Characteristics ($T_a = 25^\circ C$)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	—	$I_F = 10mA$	—	0.72	1.0	V
	$V_F(2)$	—	$I_F = 100mA$	—	0.90	1.2	
Reverse current	$I_R(1)$	—	$V_R = 50V$	—	—	0.1	μA
	$I_R(2)$	—	$V_R = 200V$	—	—	1.0	
Total capacitance	C_T	—	$V_R = 0, f = 1MHz$	—	1.5	3.0	pF
Reverse recovery time	t_{rr}	—	$I_F = 10mA$ (Fig. 1)	—	10	60	ns

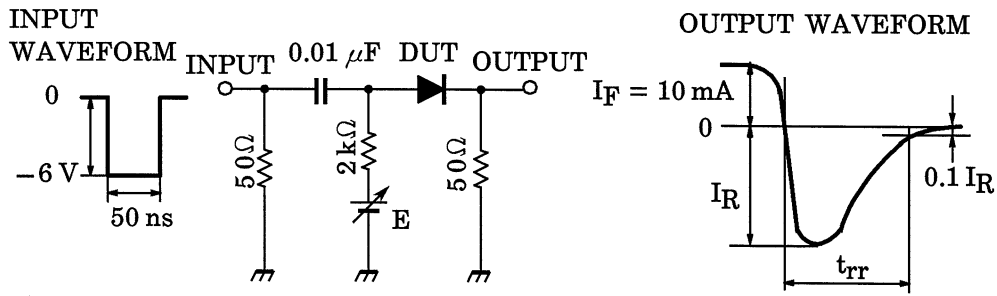
Unit: mm



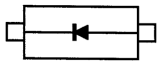
Weight: 0.0045g (typ.)

Start of commercial production
1998-10

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

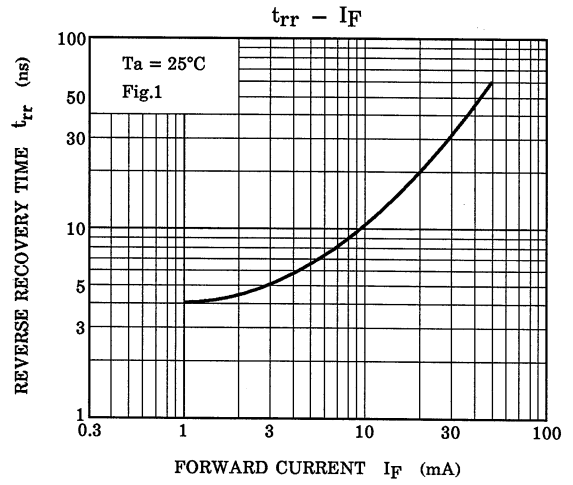
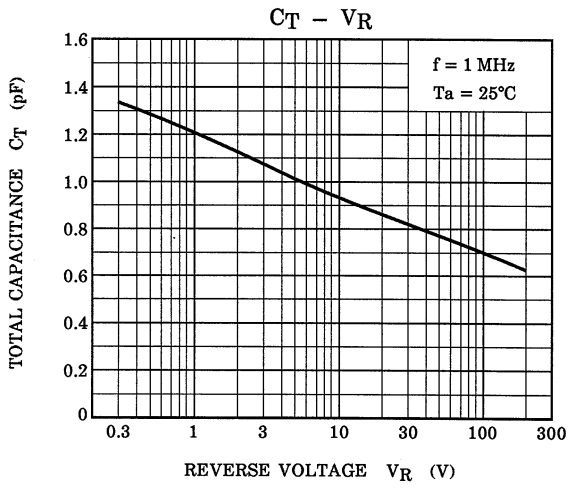
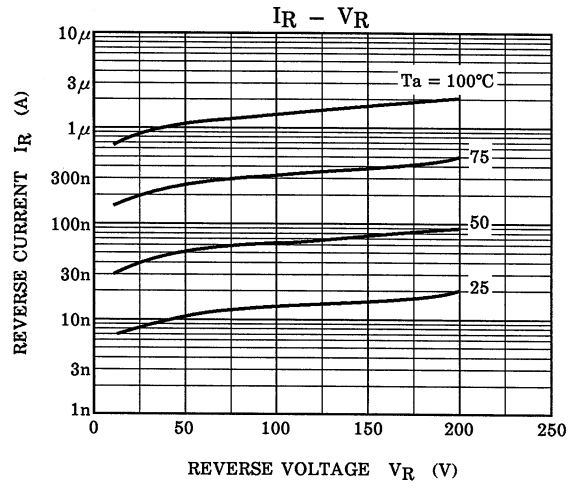
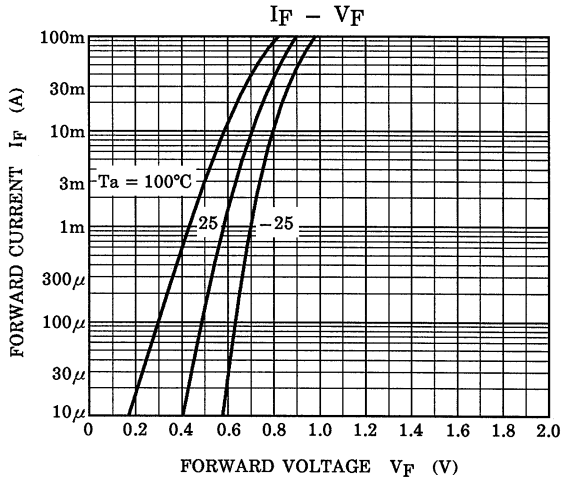


Equivalent Circuit (Top View)



Marking





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