

TOSHIBA Diode Silicon Epitaxial Planar Type

1SS403

High Voltage Switching Applications

- AEC-Q101 Qualified (Note1)
- Two-pin small packages are suitable for higher mounting densities.
- Excellent in forward current and forward voltage characteristics : $V_F(2) = 0.90\text{ V (typ.)}$
- Fast reverse recovery time : $t_{rr} = 60\text{ ns (max)}$
- Small total capacitance : $C_T = 1.5\text{ pF (typ.)}$

Note1: For detail information, please contact our sales.

Absolute Maximum Ratings (Ta = 25°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_D (Note 4)	200	mW
Junction temperature	T_j (Note 2)	150	°C
	T_j (Note 3)	125	
Storage temperature range	T_{stg} (Note 2)	−55 to 150	°C
	T_{stg} (Note 3)	−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 2: For devices with the ordering part number ending in H3F(T).

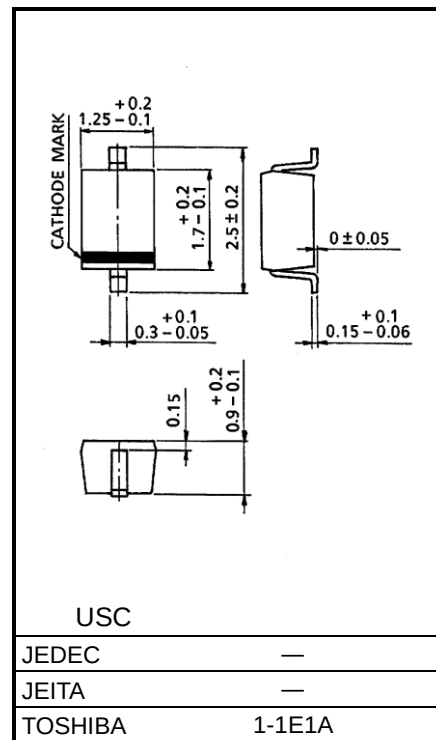
Note 3: For devices with the ordering part number in other than H3F(T).

Note 4: Mounted on a glass epoxy circuit board of 20 mm × 20 mm, Pad dimension of 4 mm × 4 mm.

Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	V _F (1)	I _F = 10 mA	—	0.72	1.0	V
	V _F (2)	I _F = 100 mA	—	0.90	1.2	
Reverse current	I _R (1)	V _R = 50 V	—	—	0.1	μA
	I _R (2)	V _R = 200 V	—	—	1.0	
Total capacitance	C _T	V _R = 0 V, f = 1 MHz	—	1.5	3.0	pF
Reverse recovery time	t _{rr}	I _F = 10 mA (Fig. 1)	—	10	60	ns

Unit: mm



Weight: 0.0045g (typ.)

Start of commercial production
1998-10

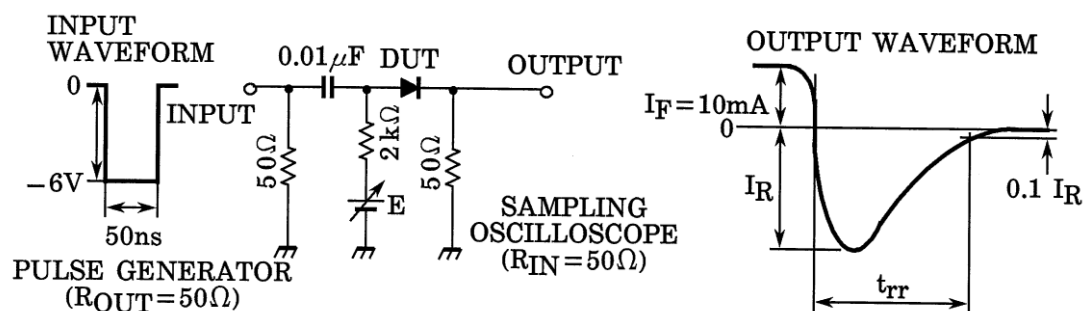
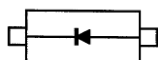


Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit

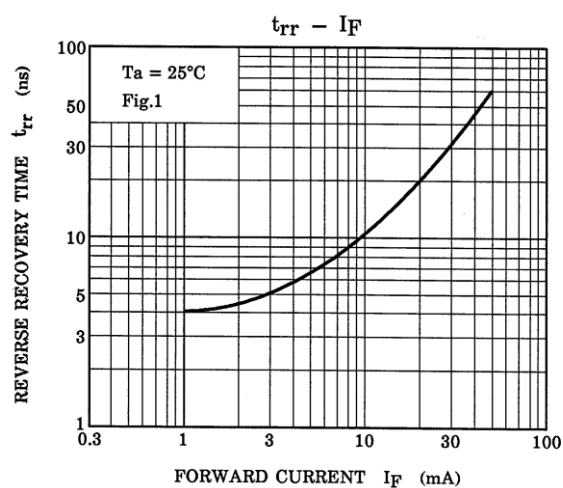
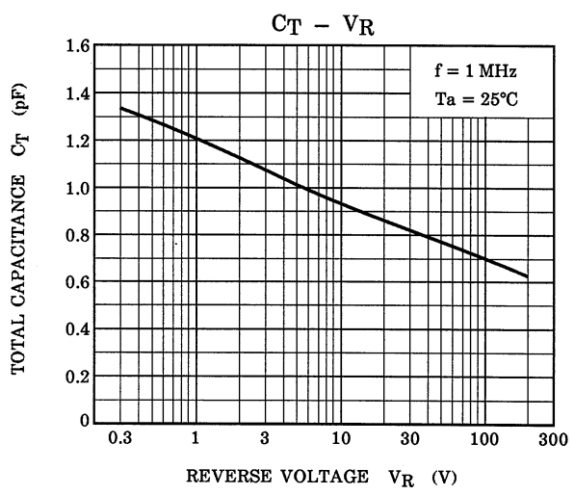
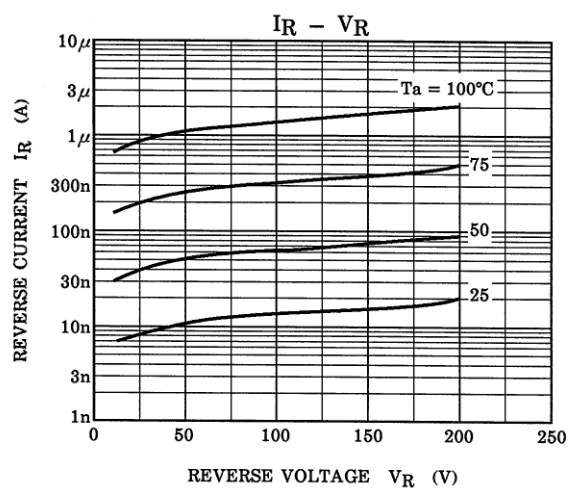
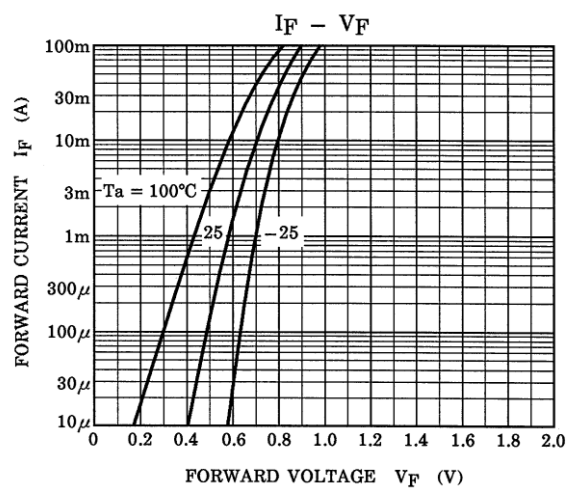
Equivalent Circuit (Top View)



Marking



Characteristics Curves



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

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