

TOSHIBA Diode Silicon Epitaxial Planar Type

HN1D02FU

Ultra High Speed Switching Applicatio

- AEC-Q101 Qualified (Note1)
- HN1D02FU is composed of 2 unit of cathode common.
- Low forward voltage : $V_F(3) = 0.90\text{ V (typ.)}$
- Fast reverse recovery time : $t_{rr} = 1.6\text{ ns (typ.)}$
- Small total capacitance : $C_T = 0.9\text{ pF (typ.)}$

Note1: For detail information, please contact our sales.

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

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 4)	200	mW
Junction temperature	T_j (Note 2)	150	°C
	T_j (Note 3)	125	
Storage temperature	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 LF(T).

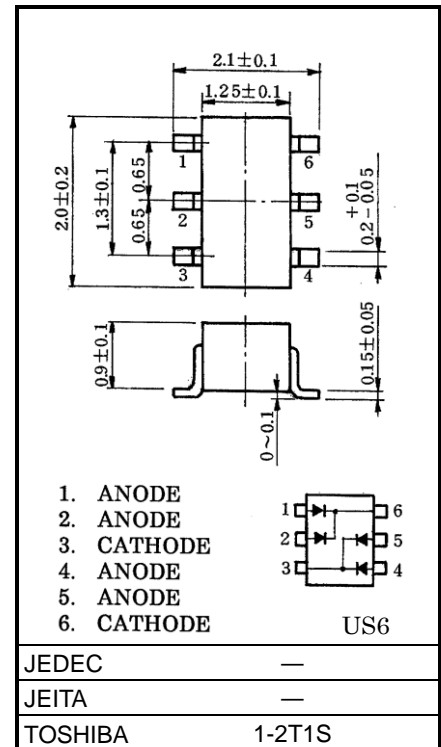
Note 3: For devices with the ordering part number in other than LF(T).

Note 4: Total rating, Mounted on a FR4 board. (25.4 mm x 25.4 mm x 1.6 mm, Cu pad: 0.32 mm² x 6).

*: This is the Absolute Maximum Ratings of single diode (Q1 or Q2 or Q3 or Q4).

In the case of using Unit 1 and Unit 2 independently or simultaneously, the Absolute Maximum Ratings per diode is 75% of the single diode one.

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	1-2T1S

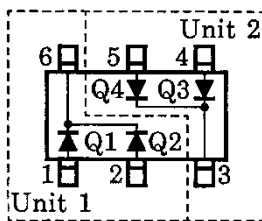
Weight: 6.8mg (typ.)

Start of commercial production
1992-05

Electrical Characteristics (Q1, Q2, Q3, Q4 Common, Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	V _F (1)	I _F = 1 mA	—	0.60	—	V
	V _F (2)	I _F = 10 mA	—	0.72	—	
	V _F (3)	I _F = 100 mA	—	0.90	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	3.0	pF
Reverse recovery time	t _{rr}	I _F = 10 mA (fig.1)	—	1.6	4.0	ns

Pin Assignment (Top View)



Marking

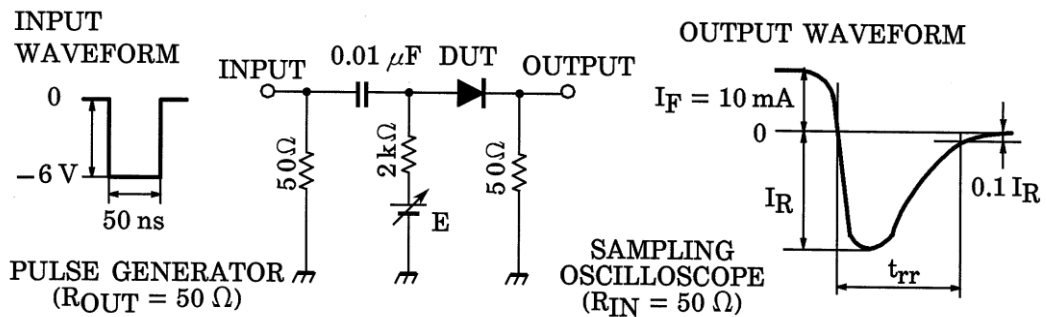
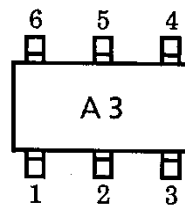
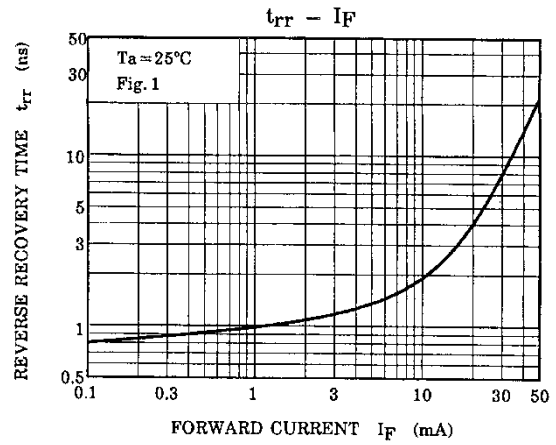
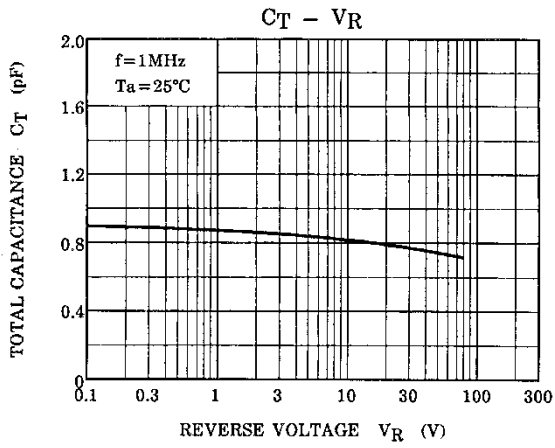
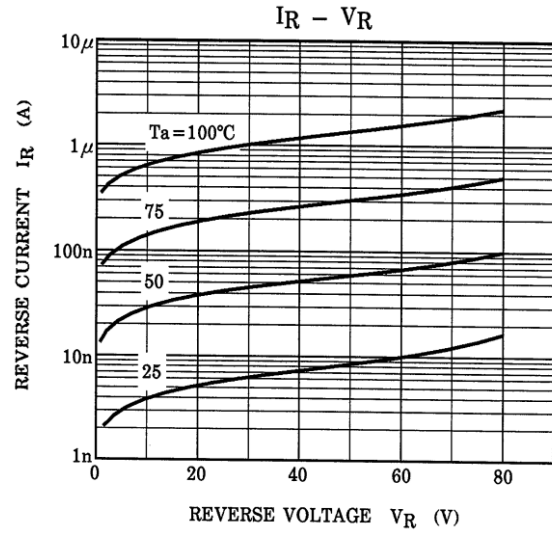
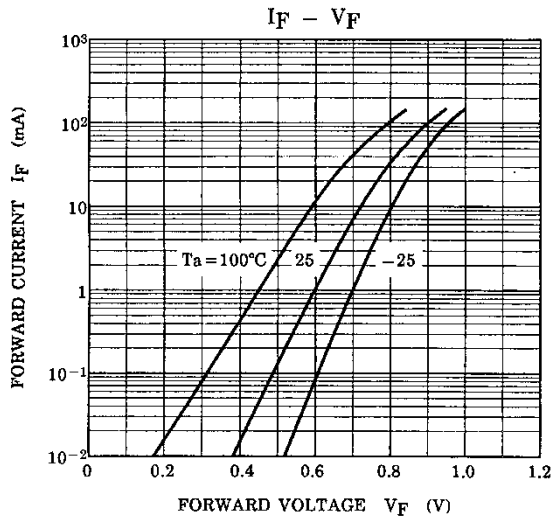


Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit

Characteristics Curves (Q1, Q2, Q3, Q4 Common)



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

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