

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 (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 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).

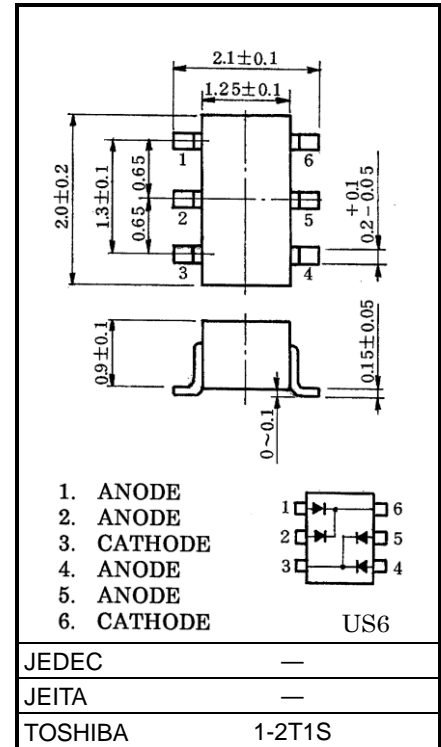
Note 3: For devices with the ordering part number in other than LF(T).

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

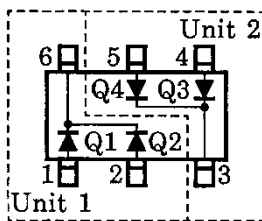


Start of commercial production
1992-05

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

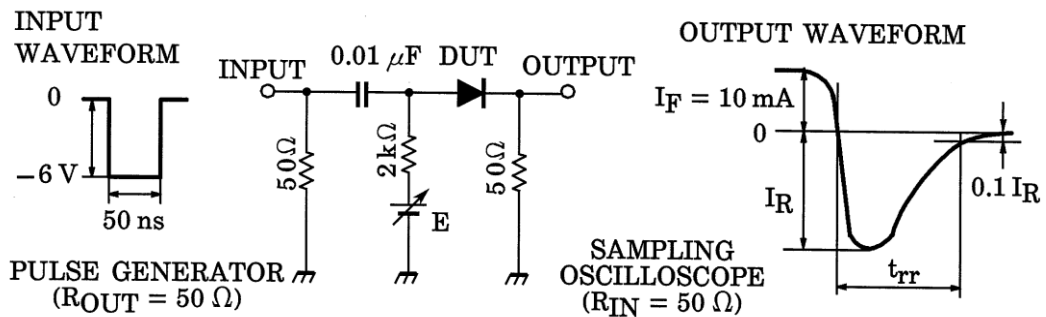
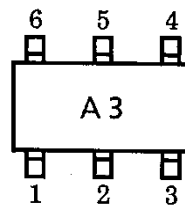
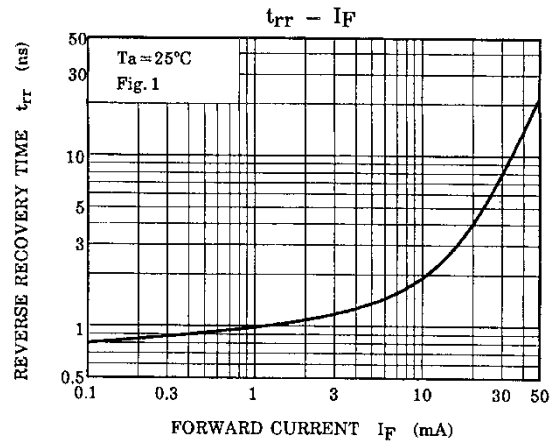
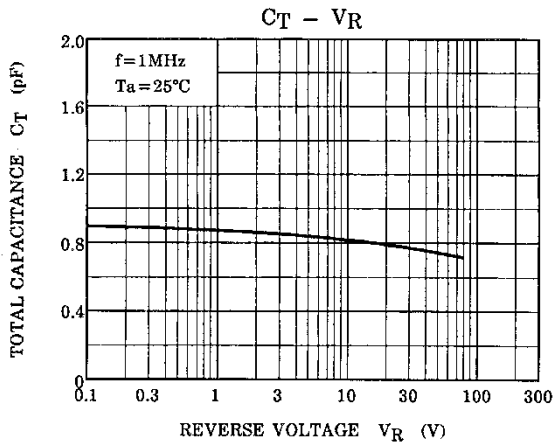
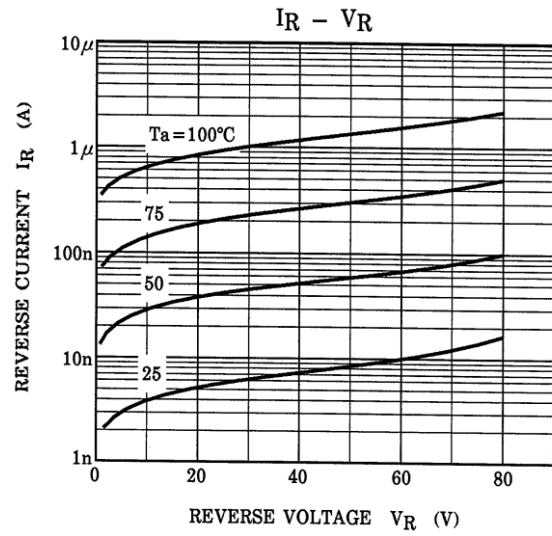
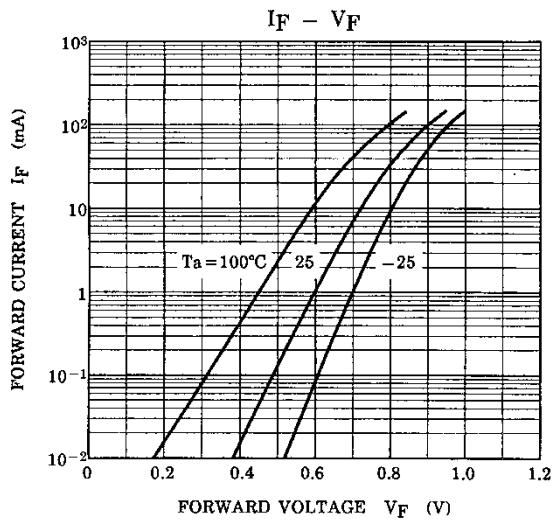


Fig.1 Reverse Recovery Time (trr) Test Circuit

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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