

TOSHIBA Diode Silicon Epitaxial Planar Type

# HN1D02F

## Ultra High Speed Switching Application

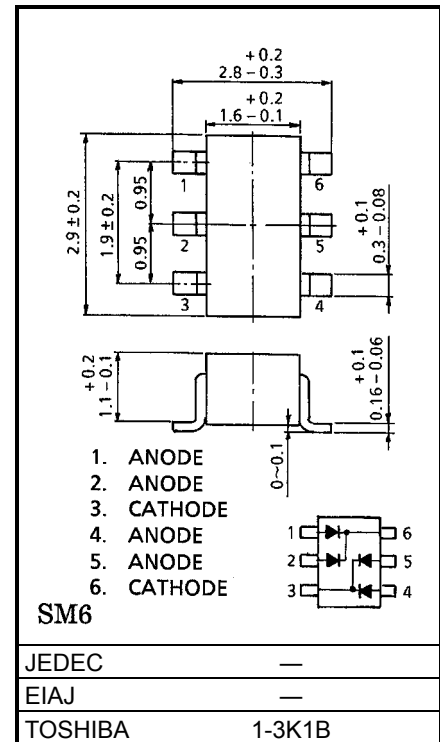
- HN1D02F is composed of 2 unit of cathode common.
- Low forward voltage :  $V_F(3) = 0.90V$  (typ.)
- Fast reverse recovery time:  $t_{rr} = 1.6ns$  (typ.)
- Small total capacitance :  $C_T = 0.9pF$  (typ.)

## 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	300	mW
Junction temperature	$T_j$	125	°C
Storage temperature	$T_{stg}$	-55~125	°C

(\*) This is the 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 Maximum Ratings per diode is 75% of the single diode one.

Unit: mm

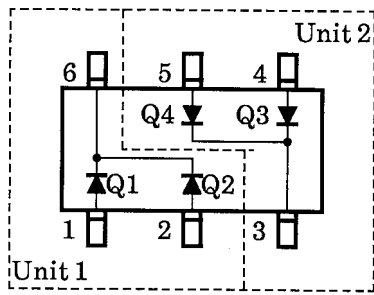


Weight: 0.015g

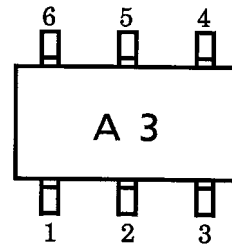
## Electrical Characteristics (Q1, Q2, Q3, Q4 Common, Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	—	$I_F = 1mA$	—	0.60	—	V
	$V_F(2)$	—	$I_F = 10mA$	—	0.72	—	
	$V_F(3)$	—	$I_F = 100mA$	—	0.90	1.20	
Reverse current	$I_R(1)$	—	$V_R = 30V$	—	—	0.1	μA
	$I_R(2)$	—	$V_R = 80V$	—	—	0.5	
Total capacitance	$C_T$	—	$V_R = 0, f = 1MHz$	—	0.9	3.0	pF
Reverse recovery time	$t_{rr}$	—	$I_F = 10mA$ (Fig.1)	—	1.6	4.0	ns

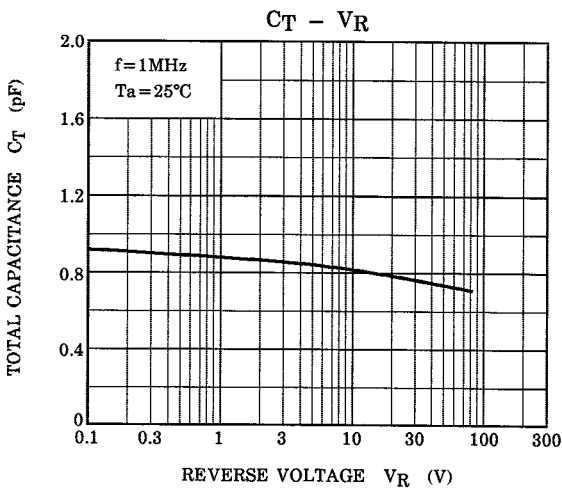
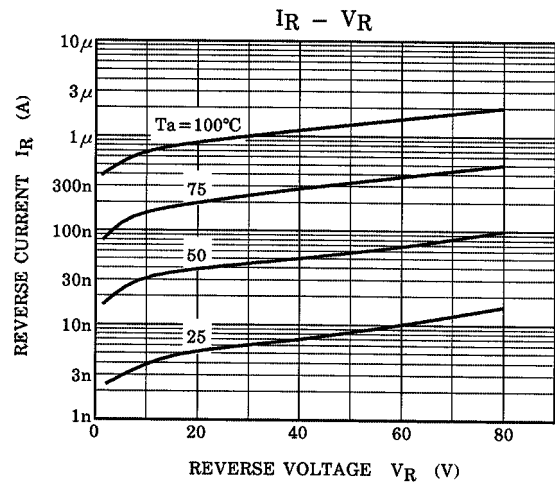
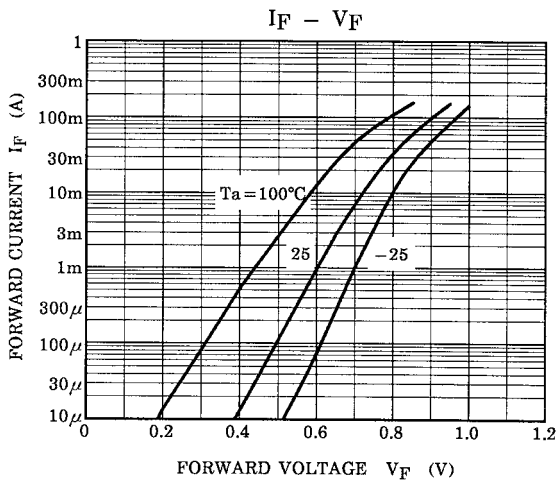
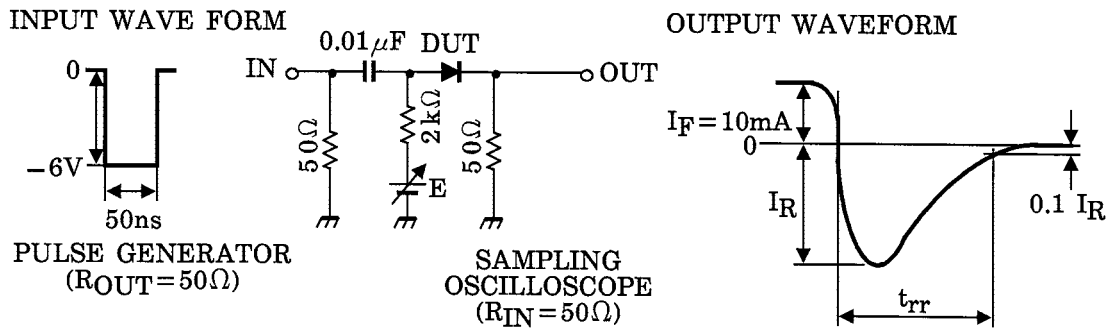
**Pin Assignment (Top View)**



**Marking**



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



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