

TOSHIBA Diode Silicon Epitaxial Planar Type

# HN2D01F

Ultra High Speed Switching Application

- HN2D01F is composed of 3 independent diodes.
- Low forward voltage :  $V_F(3) = 0.98V$  (typ.)
- Fast reverse recovery time:  $t_{rr} = 1.6ns$  (typ.)
- Small total capacitance :  $C_T = 0.5\mu F$  (typ.)

## 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	$I_{FM}$	240 (*)	mA
Average forward current	$I_O$	80 (*)	mA
Surge current (10ms)	$I_{FSM}$	1 (*)	A
Power dissipation	P	300	mW
Junction temperature	$T_j$	125	°C
Storage temperature range	$T_{stg}$	-55~125	°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.

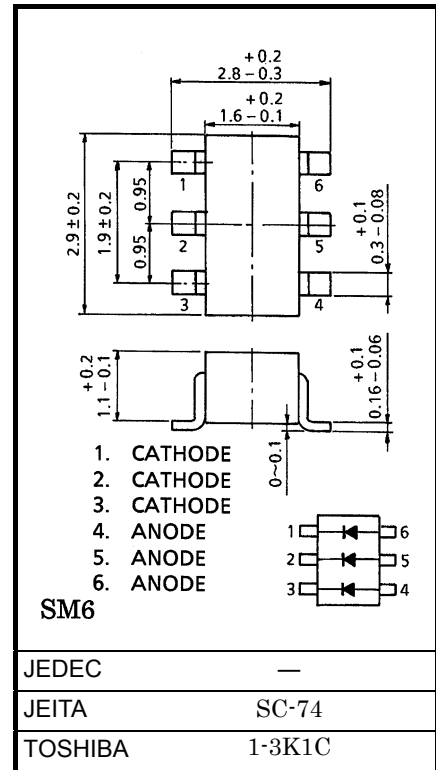
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

- (\*) This is absolute maximum rating of single diode (Q1 or Q2 or Q3).  
 In the case of using 2 or 3 diodes, the absolute maximum ratings per diodes is 75 % of the single diode one.

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

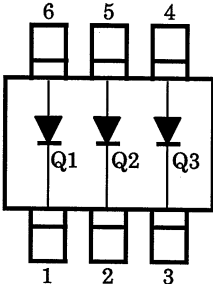
Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	—	$I_F = 1mA$	—	0.62	—	V
	$V_F(2)$	—	$I_F = 10mA$	—	0.75	—	
	$V_F(3)$	—	$I_F = 100mA$	—	0.98	1.20	
Reverse current	$I_R(1)$	—	$V_R = 30V$	—	—	0.1	$\mu A$
	$I_R(2)$	—	$V_R = 80V$	—	—	0.5	
Total capacitance	$C_T$	—	$V_R = 0, f = 1MHz$	—	0.5	3.0	pF
Reverse recovery time	$t_{rr}$	—	$I_F = 10mA$ (Fig.1)	—	1.6	4.0	ns

Unit in mm

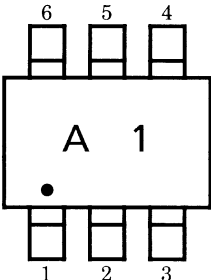


Weight: 0.015g (typ.)

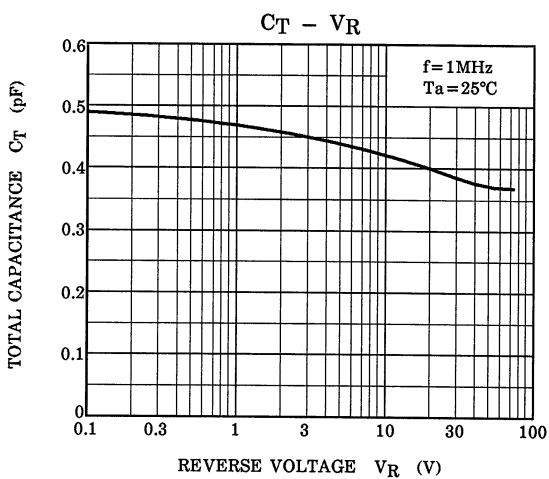
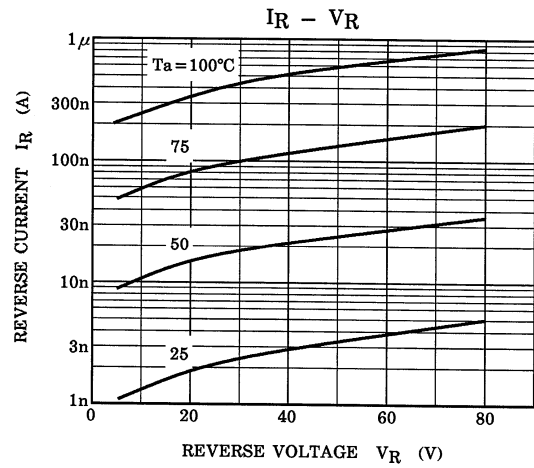
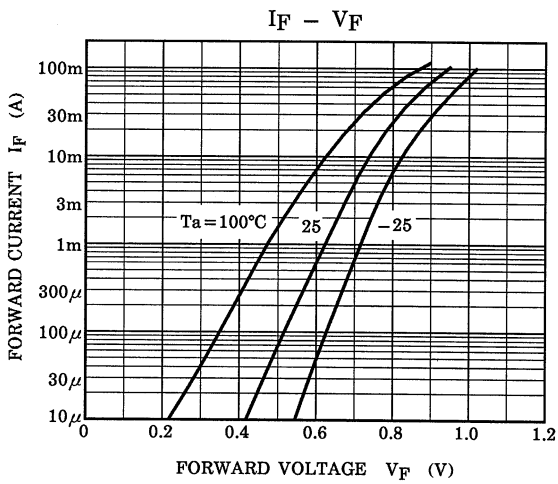
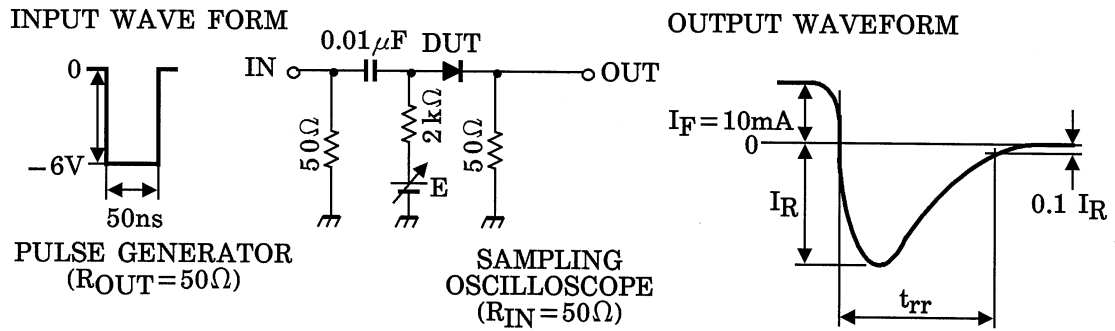
**Pin Assignment (Top View)**



**Marking**



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



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