

TOSHIBA Diode Silicon Epitaxial Planar Type

## HN4D02JU

## Ultra High Speed Switching Applications

- 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.)

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

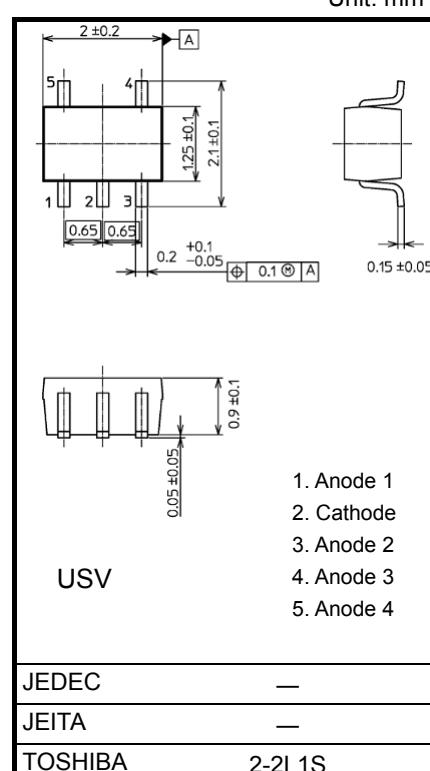
Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	$V_{RM}$	85	V
Reverse voltage	$V_R$	80	V
Maximum (peak) forward current	$I_{FM}$	300*	mA
Average forward current	$I_O$	100*	mA
Surge current (10ms)	$I_{FSM}$	2*	A
Power dissipation	$P$	200**	mW
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to ~150	$^\circ C$

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).

\* : Unit rating; Total rating = unit rating  $\times 1.5$

\*\* : Total rating



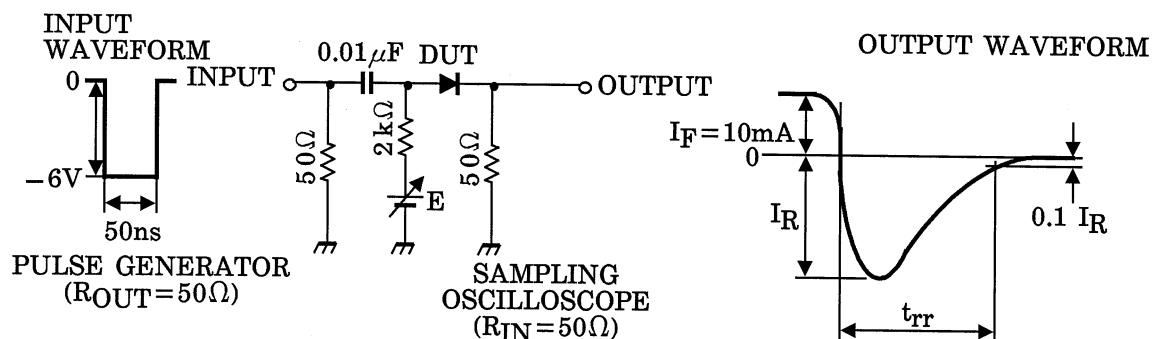
Weight: 0.0062 g (typ.)

Electrical Characteristics ( $Q1, Q2, Q3, Q4$  COMMON,  $T_a = 25^\circ C$ )

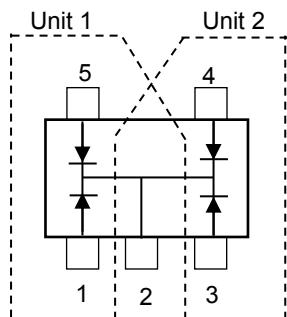
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	$I_F = 1mA$	—	0.60	—	V
	$V_F(2)$	$I_F = 10mA$	—	0.72	—	
	$V_F(3)$	$I_F = 100mA$	—	0.90	1.20	
Reverse current	$I_R(1)$	$V_R = 30V$	—	—	0.1	$\mu A$
	$I_R(2)$	$V_R = 80V$	—	—	0.5	
Total capacitance	$C_T$	$V_R = 0V, f = 1MHz$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

Start of commercial production  
2001-03

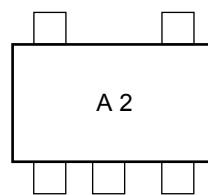
Fig. 1 Reverse Recovery Time (trr) Test Circuit

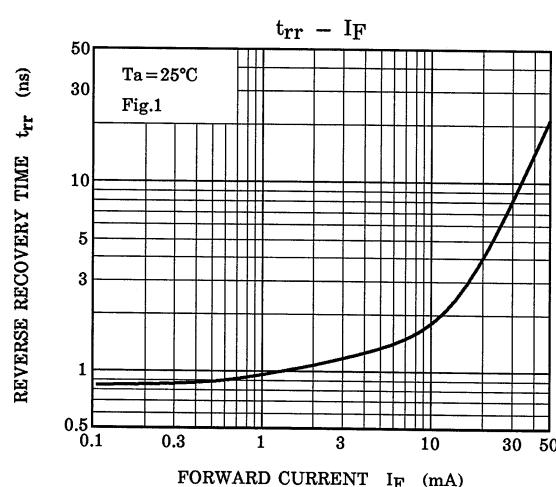
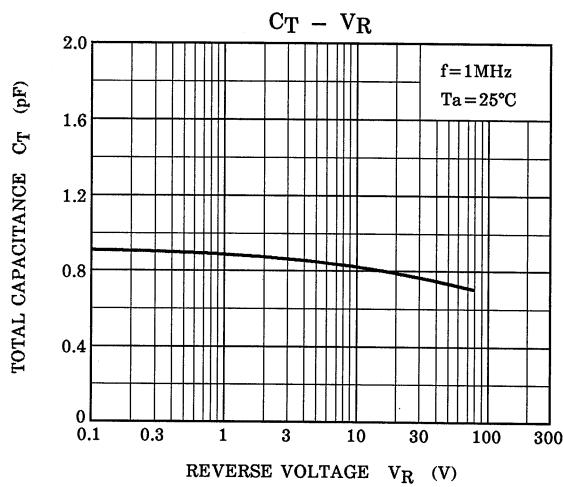
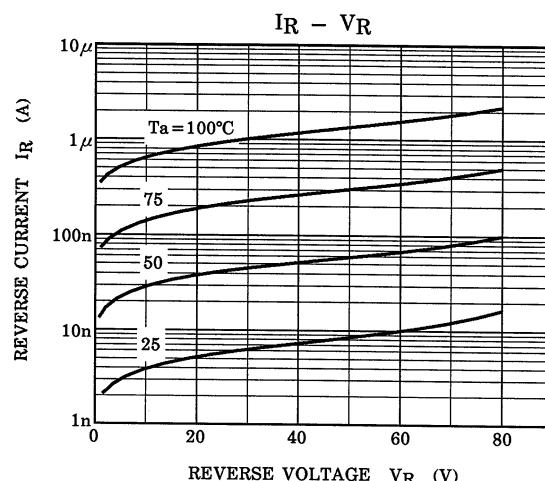
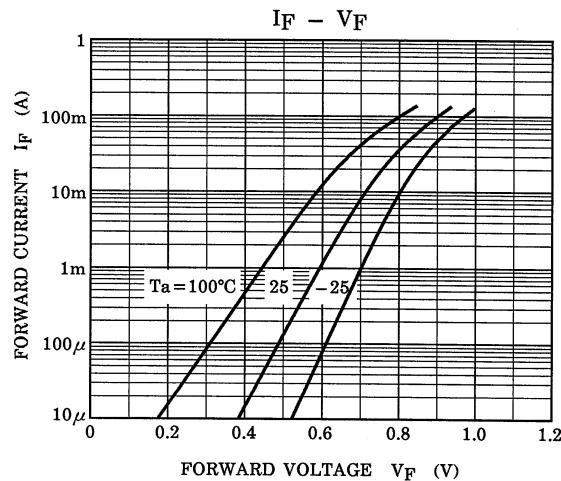


Equivalent Circuit (Top View)



Marking





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