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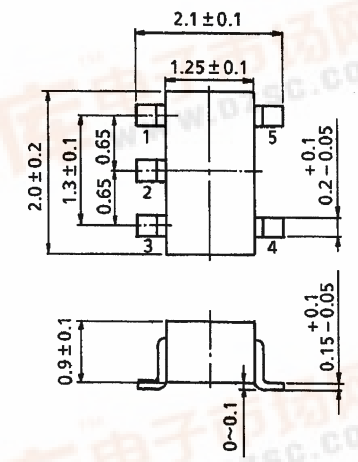
TOSHIBA Diode Silicon Epitaxial Planar Type

HN4D01JU

Ultra High Speed Switching Applications

- Low forward voltage : $V_{F\ (3)}$ = 0.92V (typ.)
- Fast reverse recovery time : t_{rr} = 1.6ns (typ.)
- Small total capacitance : C_T = 2.2pF (typ.)

Unit: mm



1. CATHODE1
2. ANODE
3. CATHODE2
4. CATHODE3
5. CATHODE4

USV

JEDEC	—
EIAJ	—
TOSHIBA	—

Weight: 0.0062g(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}	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	°C
Storage temperature	T_{stg}	−55~150	°C

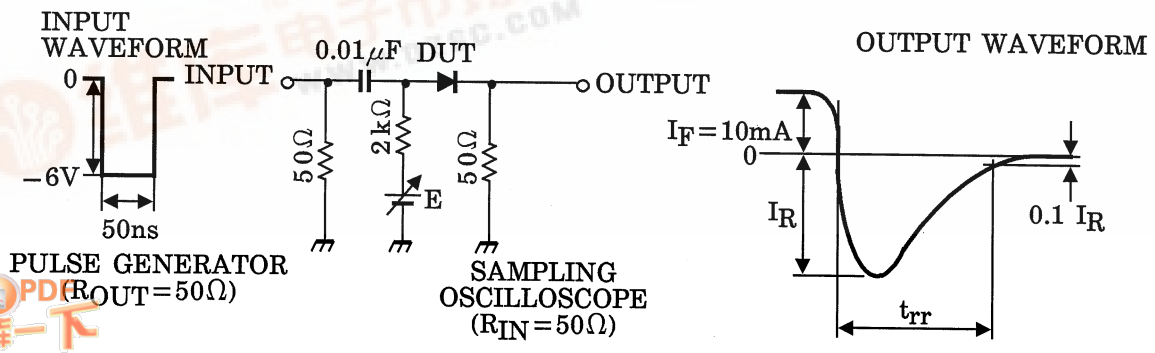
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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 × 1.5
** :Total rating

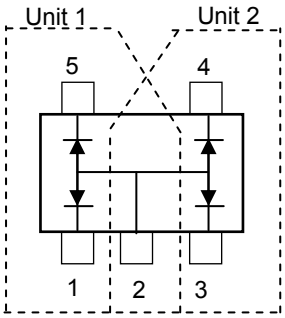
Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_{F\ (1)}$	—	I_F = 1mA	—	0.61	—	V
	$V_{F\ (2)}$	—	I_F = 10mA	—	0.74	—	
	$V_{F\ (3)}$	—	I_F = 100mA	—	0.92	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	—	2.2	—	pF
Reverse recovery time	t_{rr}	—	I_F = 10mA, Fig.1	—	1.6	—	ns

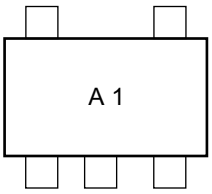
Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit

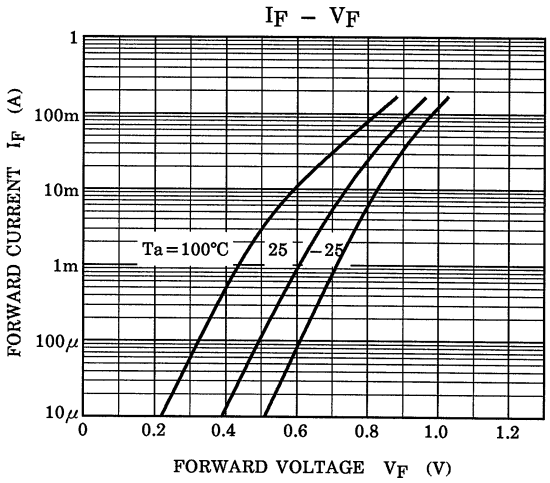


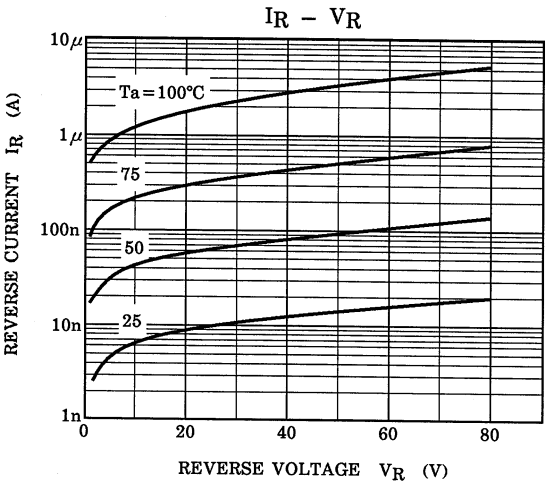
Equivalent Circuit (Top View)

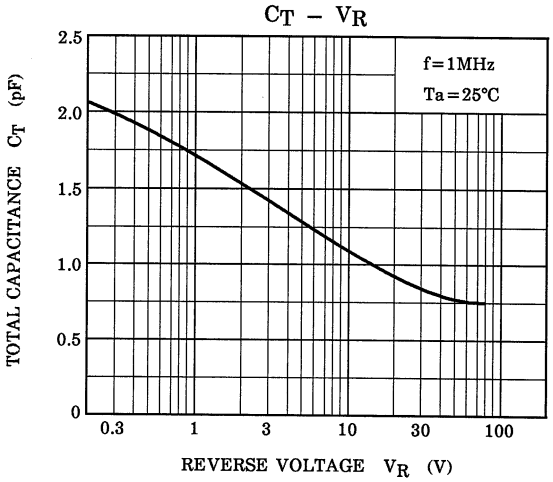


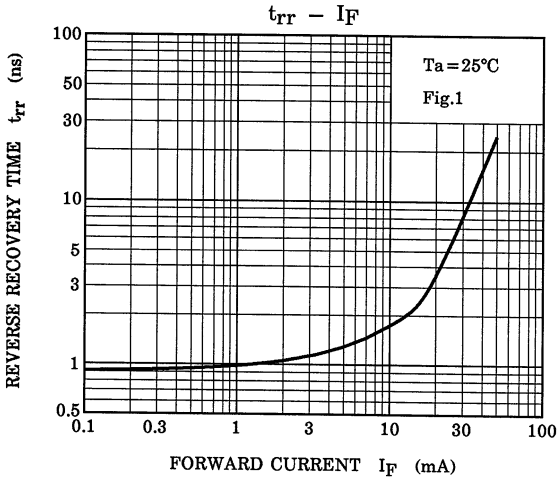
Marking











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20070701-EN GENERAL

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