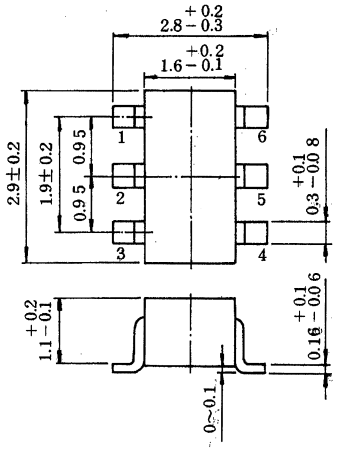
TOSHIBA Diode Silicon Epitaxial Planar Type

HN2D03F

High Speed Switching Application

- Small package
- Low forward voltage : $V_{F\ (2)}$ = 0.94V (typ.)
- Small total capacitance : C_T = 2.5pF (typ.)

Unit in mm



1.CATHODE(C1)
2.CATHODE(C2)
3.CATHODE(C3)
4.ANODE (A3)
5.ANODE (A2)
6.ANODE (A1)

SM6

JEDEC	—
JEITA	—
TOSHIBA	1-3K1C

Weight: 0.015mg(typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	V_{RM}	420	V
Reverse voltage	V_R	400	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	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).

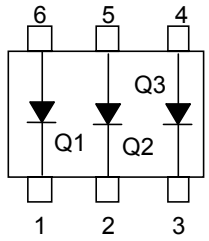
*: Absolute Maximum Ratings per each one of Q1,Q2 or Q3. In case of simultaneous use, the Absolute Maximum Ratings per diode shall be derated to 75%.

**: Total rating

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 = 10mA	—	0.8	—	V
	$V_{F\ (2)}$	—	I_F = 100mA	—	1.0	1.3	
Reverse current	$I_{R\ (1)}$	—	V_R = 300V	—	—	0.1	μA
	$I_{R\ (2)}$	—	V_R = 400V	—	—	1.0	
Total capacitance	C_T	—	V_R = 0, f = 1MHz	—	2.5	—	pF
Reverse recovery time	t_{rr}	—	I_F = 10mA (fig.1)	—	0.5	—	us

Pin Assignment (Top View)



Marking

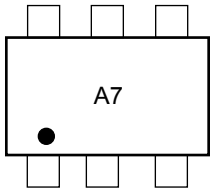
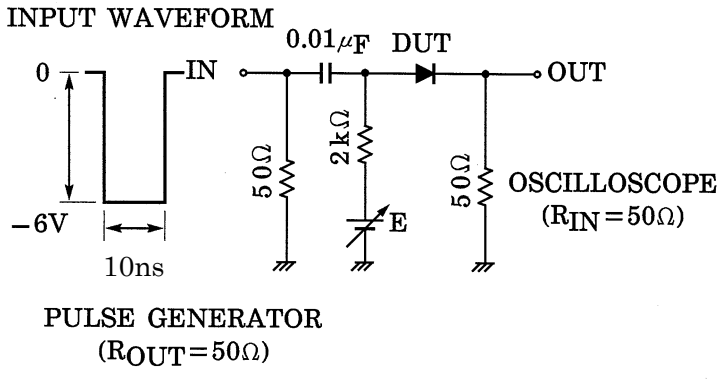
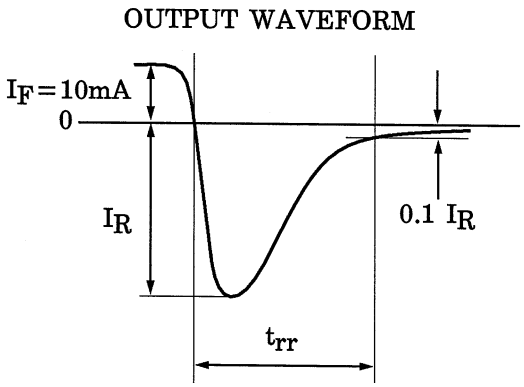
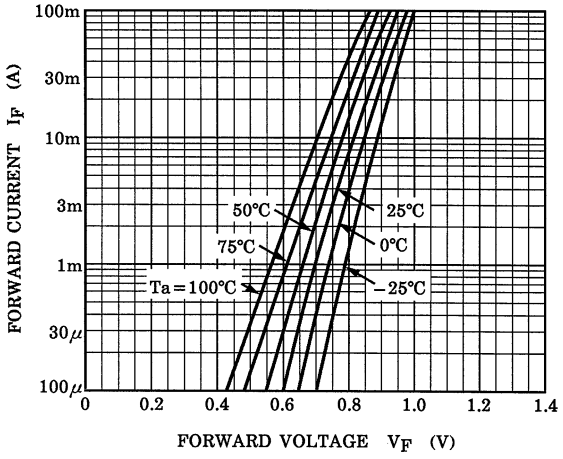


Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit

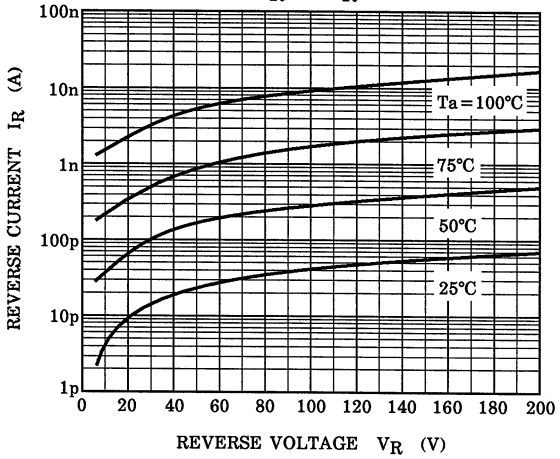




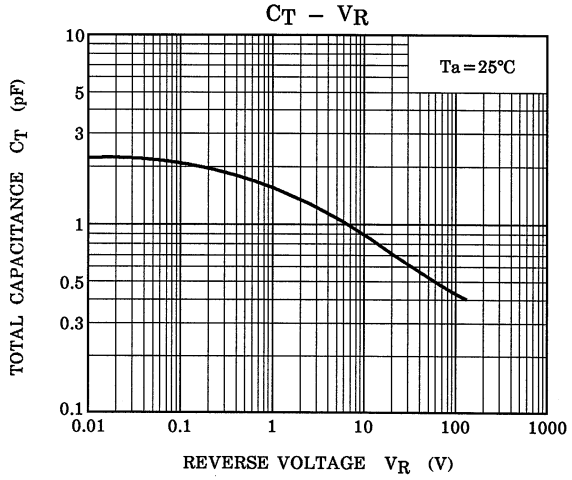
$I_F - V_F$



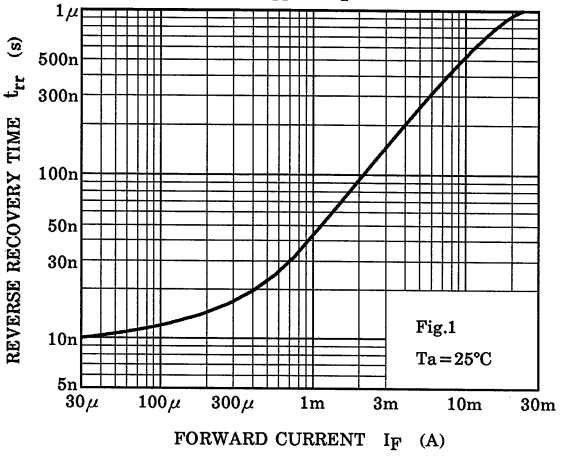
$I_R - V_R$



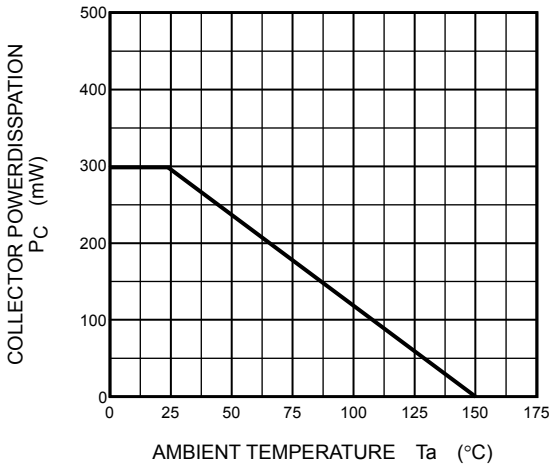
$C_T - V_R$



$t_{rr} - I_F$



$P_C^* - Ta$



*Total Rating.

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20070701-EN GENERAL

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