

TOSHIBA Diode Silicon Epitaxial Planar Type

HN2D03F

High-Speed Switching Application

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

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 to 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).

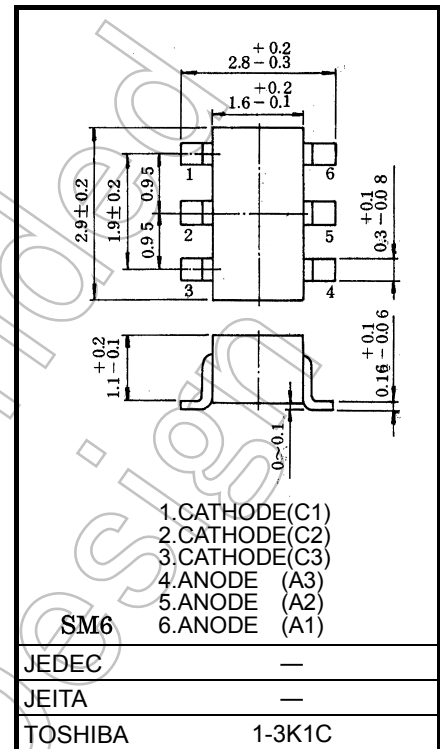
*: Absolute Maximum Ratings per each one of Q1, Q2 or Q3. In case of simultaneous use, the Absolute Maximum Ratings per diode shall be derated to 75%.

** : Total rating

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

Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	—	$I_F = 10\text{ mA}$	—	0.8	—	V
	$V_F(2)$	—	$I_F = 100\text{ mA}$	—	0.94	1.3	
Reverse current	$I_R(1)$	—	$V_R = 300\text{ V}$	—	—	0.05	μA
	$I_R(2)$	—	$V_R = 400\text{ V}$	—	—	0.1	
Total capacitance	C_T	—	$V_R = 0\text{ V}, f = 1\text{ MHz}$	—	2.5	—	pF
Reverse recovery time	t_{rr}	—	$I_F = 10\text{ mA}$ (fig.1)	—	0.5	—	μs

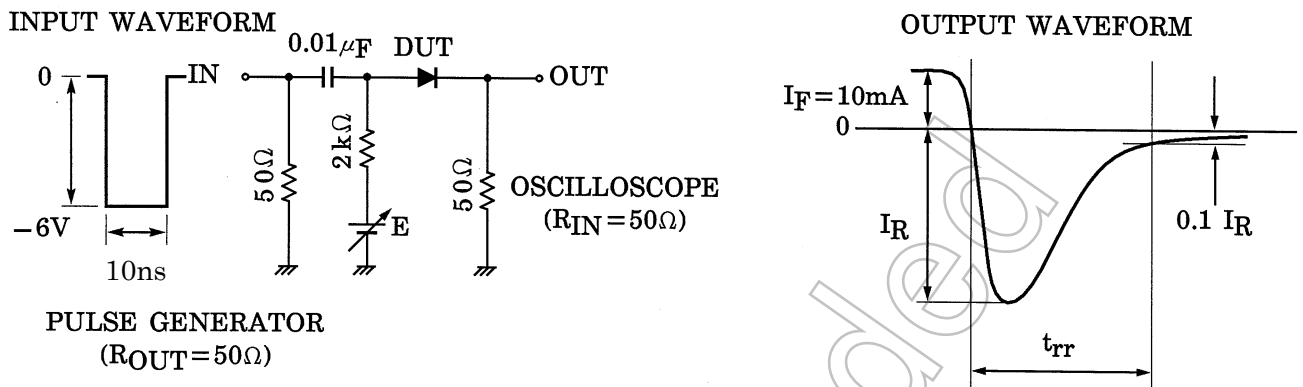
Unit: mm



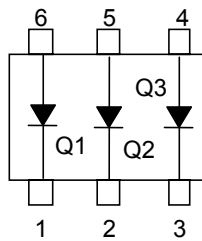
Weight: 15 mg (typ.)

Start of commercial production
2002-04

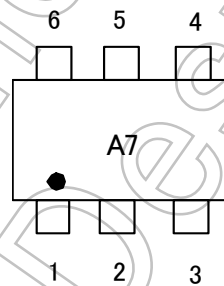
Fig.1 Reverse Recovery Time (t_{rr}) Test Circuit



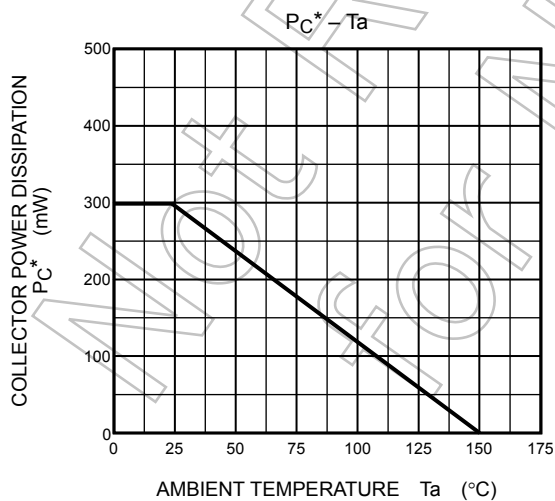
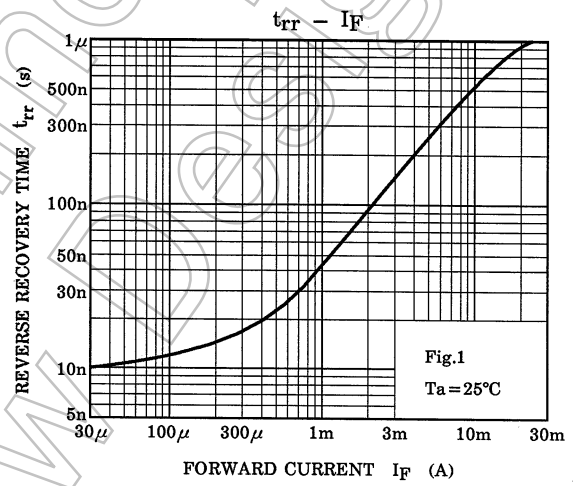
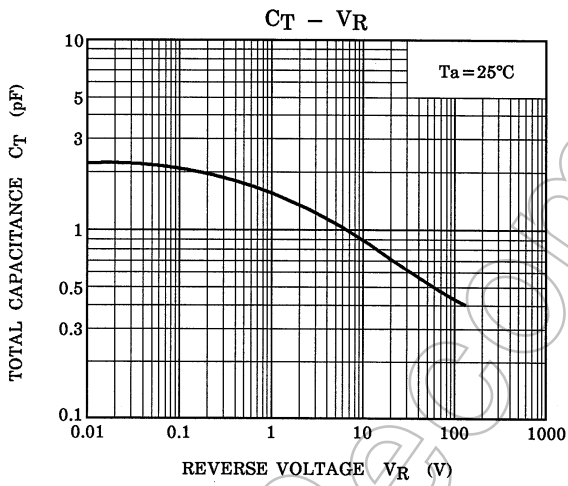
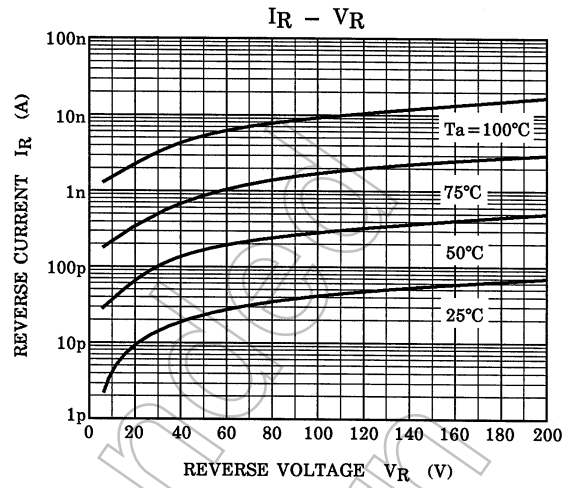
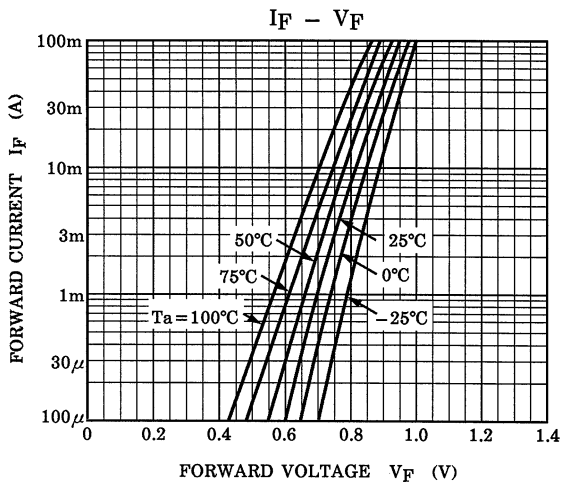
Pin Assignment (top view)



Marking



Not Recommended for New



*Total Rating.

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