

TOSHIBA Diode Epitaxial Schottky Barrier Type

# HN2S05FU

## High-Speed Switching Applications

Unit: mm

- The HN2S05FU is composed of three (3) independent diodes.
- Excellent forward current and forward voltage characteristics:  
 $V_F = 0.23 \text{ V (typ.) @ } I_F = 5 \text{ mA}$

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Maximum (peak) reverse voltage	$V_{RM}$	15	V
Reverse voltage	$V_R$	10	V
Maximum (peak) forward current	$I_{FM}$	200 *	mA
Average forward current	$I_O$	100 *	mA
Surge current (10 ms)	$I_{FSM}$	1 *	A
Power dissipation	P	100 *	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55~125	$^\circ\text{C}$
Operating temperature range	$T_{opr}$	-40~110	$^\circ\text{C}$

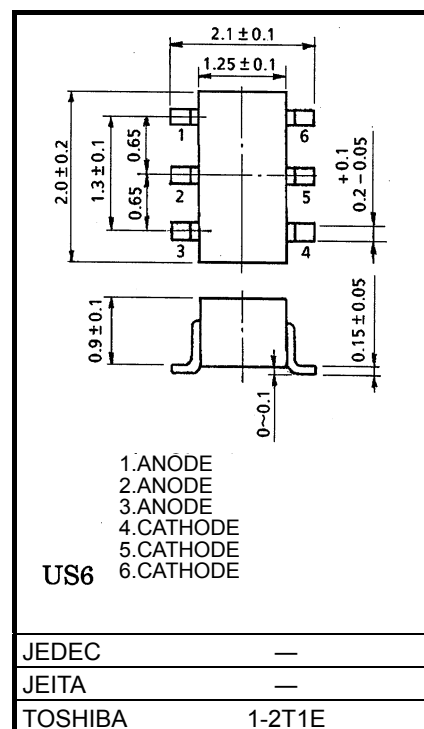
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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 the absolute maximum rating for a single diode (Q1, Q2 or Q3).

Where two or three diodes are used, the absolute maximum rating per diode is 75% that for a single diode.

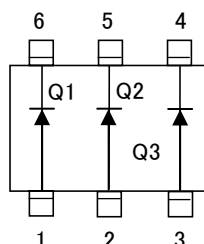
\*\* :Total rating



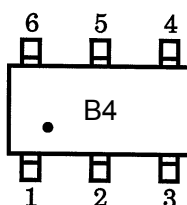
### Electrical Characteristics (Q1, Q2, Q3 Common, $T_a = 25^\circ\text{C}$ )

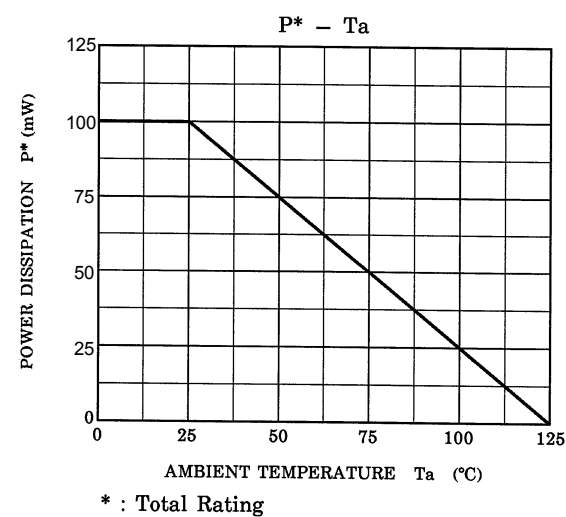
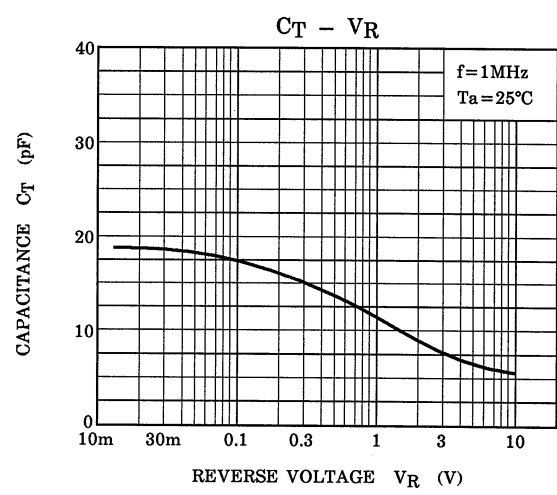
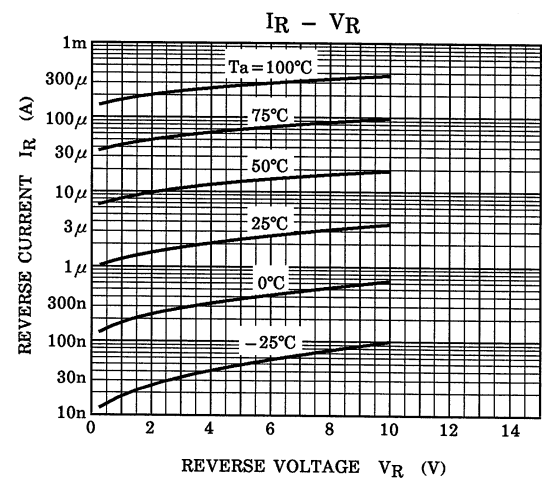
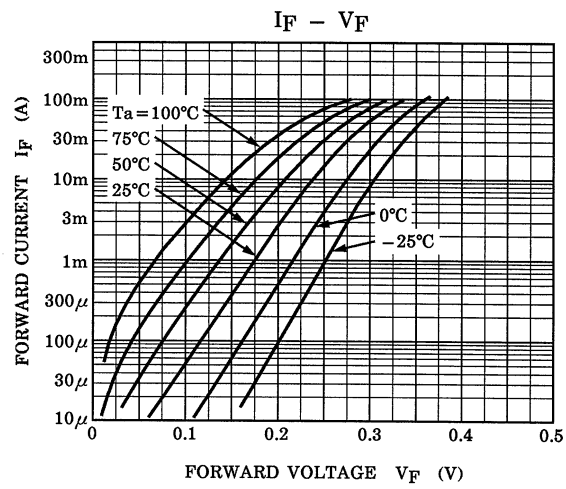
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F (1)$	$I_F = 1 \text{ mA}$	—	0.18	—	V
	$V_F (2)$	$I_F = 5 \text{ mA}$	—	0.23	0.30	
	$V_F (3)$	$I_F = 100 \text{ mA}$	—	0.35	0.50	
Reverse current	$I_R$	$V_R = 10 \text{ V}$	—	—	20	$\mu\text{A}$
Total capacitance	$C_T$	$V_R = 0, f = 1 \text{ MHz}$	—	5	—	pF

### Pin Assignment (top view)



### Marking





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20070701-EN GENERAL

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