

TOSHIBA Diode Epitaxial Schottky Barrier Type

# HN2S04FU

## High-Speed Switching Application

- The HN2S04FU consists of three separate diodes.
- Low forward voltage:  $V_F(3) = 0.36V$  (typ.)
- Low reverse current:  $I_R = 50 \mu A$  (max)
- Small total capacitance:  $C_T = 46 \text{ pF}$  (typ.)

## Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Maximum (peak) reverse Voltage	$V_{RM}$	25	V
Reverse voltage	$V_R$	20	V
Maximum (peak) forward current	$I_{FM}$	450 *	mA
Average forward current	$I_O$	200 *	mA
Surge current (10 ms)	$I_{FSM}$	1 *	A
Power dissipation	P	200 **	mW
Junction temperature	$T_j$	125	°C
Storage temperature range	$T_{stg}$	-55 to 125	°C
Operating temperature range	$T_{opr}$	-40 to 100	°C

\*: Per one diode.

When more than one diode is used, the surge current rating is reduced to 75% of  $I_{FSM}$ .

\*\*: Total rating

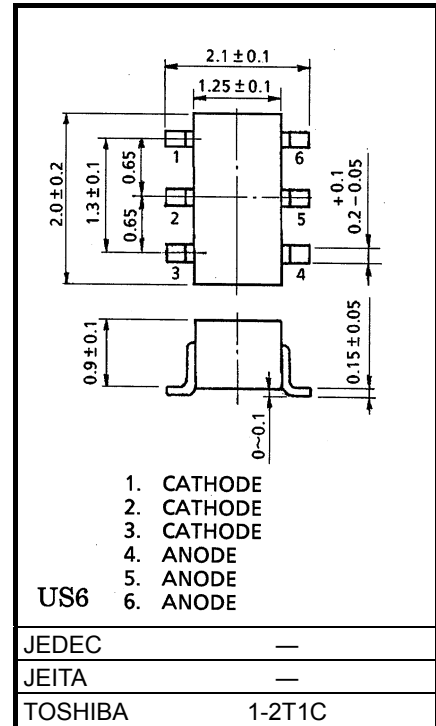
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

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

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F(1)$	$I_F = 1 \text{ mA}$	—	0.16	—	V
	$V_F(2)$	$I_F = 10 \text{ mA}$	—	0.22	—	
	$V_F(3)$	$I_F = 200 \text{ mA}$	—	0.36	0.42	
Reverse current	$I_R$	$V_R = 20 \text{ V}$	—	—	50	$\mu A$
Total capacitance	$C_T$	$V_R = 0, f = 1 \text{ MHz}$	—	46	—	pF

Unit: mm

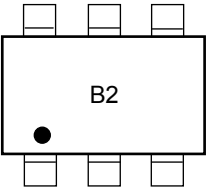
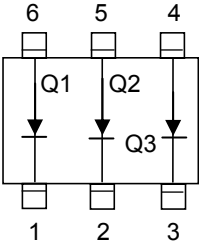


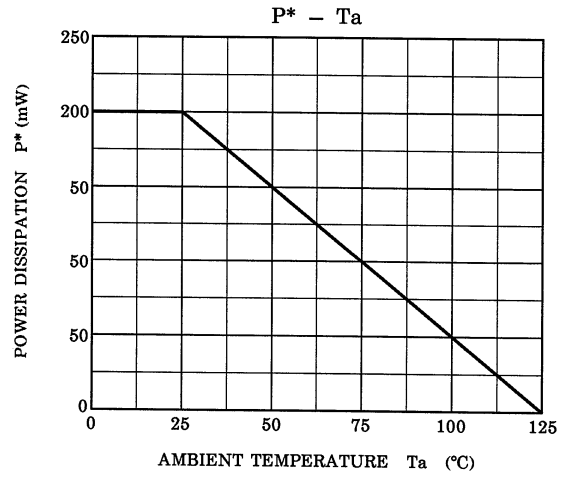
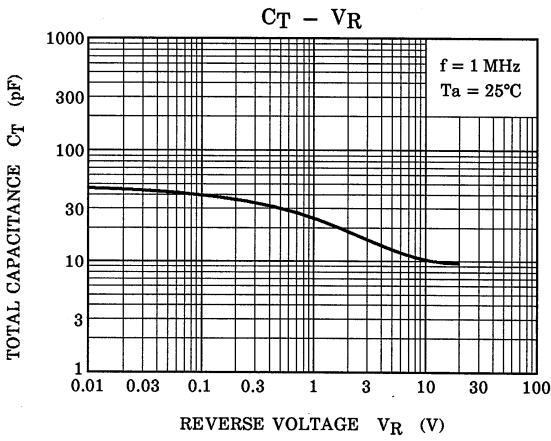
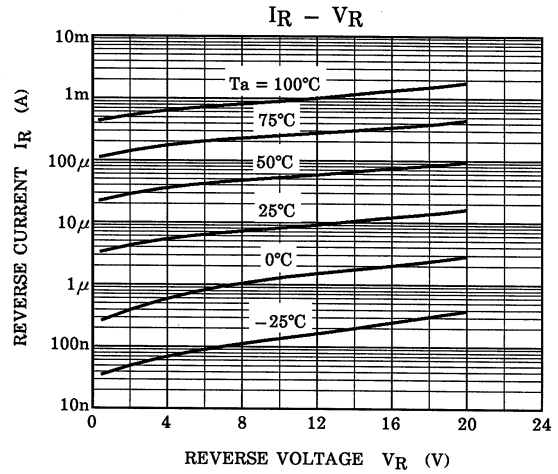
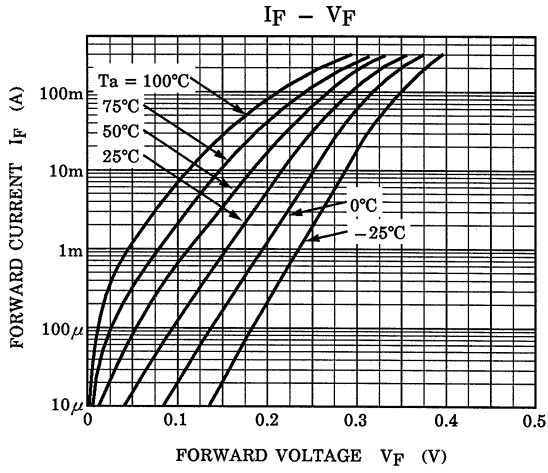
Weight: 0.0062 g (typ.)

Start of commercial production  
2006-04

**Pin Assignment (top view)**

**Marking**





\* : Total Rating

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