

To: Dear Customers

Sep.2024

Toshiba Electronic Devices and Storage Corporation
Semiconductor Application Engineering Center
Motor Control Application Engineering Dept.

Transition Notification of TB67H450/451FNG type to TB67H450/451AFNG type

Toshiba Device & Storage Corporation is here to inform you that two of brushed motor drivers, TB67H450/H451 FNG type will be not recommended for new design and new model with information below.

Part Number affected:

TB67H450FNG
TB67H451FNG

Effective Date :

1st October 2024

Alternative Part :

TB67H450AFNG
TB67H451AFNG

TB67H450AFNG URL Link

<https://toshiba.semicon-storage.com/ap-en/semiconductor/product/motor-driver-ics/brushed-dc-motor-driver-ics/detail.TB67H450AFNG.html>

TB67H451AFNG URL Link

<https://toshiba.semicon-storage.com/ap-en/semiconductor/product/motor-driver-ics/brushed-dc-motor-driver-ics/detail.TB67H451AFNG.html>

Toshiba thanks you for the business and seeks your kind understanding and supporting on this matter. For questions regarding this notification, please contact your local sales office for information.

* More information can be found next page for the difference between FNG type / AFNG type.

Comparison Table (TB67H450)

TB67H450AFNG is fully Pin Compatible with TB67H450FNG

	TB67H450FNG	TB67H450AFNG
Pin Assignment	No Change	
Absolute Maximum Ratings	No Change	
Electrical Characteristics	No Change	
Front-end location	Japan	
Back-end location	Taiwan	
Standby Mode Input Signal Timing	With limitation	No limitation Details on page 3
package	P-HSOP8-0405-1.27-001 (Etching frame)	P-HSOP8-0405-1.27-002 (Press frame)

※TB67H450AFNG share the same input signal timing chart as of TB67H450FNG.

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Comparison table (TB67H451)

TB67H451AFNG Version is fully Pin Compatible with TB67H451FNG

	TB67H451FNG	TB67H451AFNG
Pin Assignment	No change	
Absolute Maximum Ratings	No change	
Electrical Characteristics	No change	
Front-end location	Japan	
Back-end location	Taiwan	
Standby Mode Input Signal Timing	With limitation	No limitation Details on page 3
Package	P-HSOP8-0405-1.27-002 (Etching frame)	P-HSOP8-0405-1.27-002 (Press frame)

※TB67H451AFNG share the same input signal timing chart as of TB67H451FNG.

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Input Signal Timing

AFNG Version with free standby limitation is more user friendly

TB67H450/451FNG

TB67H450/451AFNG

Extraction from Data Sheet page 6

With timing limitation

Standby mode

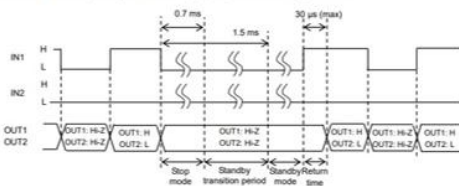
When both IN1 and IN2 pins are set to L for 1 ms (typ.), the operation mode translates to the standby mode.

Item	Min	Typ.	Max	Unit
Time to standby	0.7	1	1.5	ms

The following period in which both IN1 and IN2 pins are set to L is the standby transition period. Do not change the input states during this period since the IC becomes unstable.

- If [STOP] mode is used, set period of IN1 =L and IN2 =L to 0.7 ms or less.
- If [Standby] mode is used, set period of IN1 =L and IN2 =L to 1.5 ms or more.

In standby mode, when IN1 or IN2 is set to H, the mode returns from the standby mode, and enters to the operation mode. Maximum 30 μs is required for the return time from the standby release. The OUT1 and OUT2 outputs operate after 30 μs (max) from the standby release.



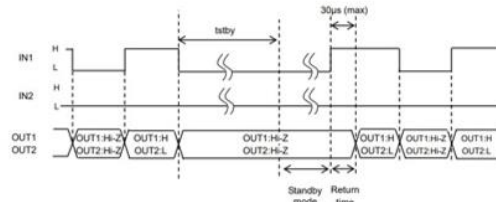
Extraction from Data Sheet page 6

Standby mode

When both IN1 and IN2 pins are set to L for tsbty (1 ms (typ.)), the operation mode translates to the standby mode.

In standby mode, when IN1 or IN2 is set to H, the mode returns from the standby mode, and enters to the operation mode. Maximum 30 μs is required for the return time from the standby release. The OUT1 and OUT2 outputs operate after 30 μs (max) from the standby release.

No Timing Limitation



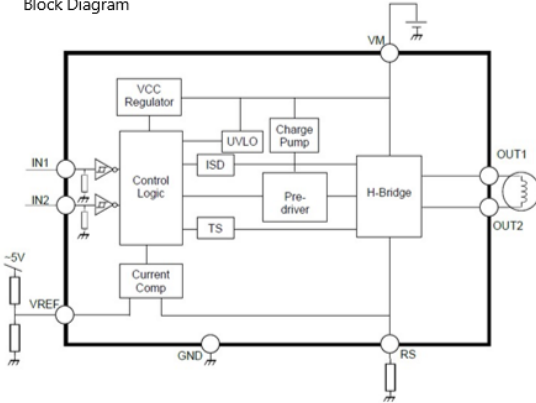
Internal Circuit

Only the standby judgment circuit is modified

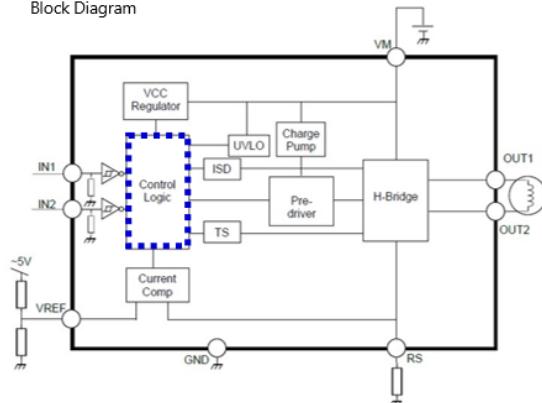
TB67H450/451FNG

TB67H450/451AFNG

Block Diagram



Block Diagram



Only standby mode (Input signal control timing) of Control logic is modified.