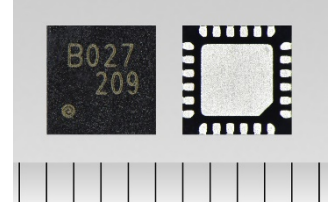


## Three-Phase Brushless Motor Control Pre-driver IC

### Features Intelligent Phase Control and Closed Loop Control

TC78B027FTG is a pre-driver IC for a three-phase brushless motor that requires only 1-Hall sensor for sine-wave PWM drive. TC78B027FTG, which drives an external FET, has been developed as a pre-driver version of TC78B025FTG, which has a built-in FET. This product is suitable for applications that require high-velocity rotation such as server fans and blowers.



#### Three features

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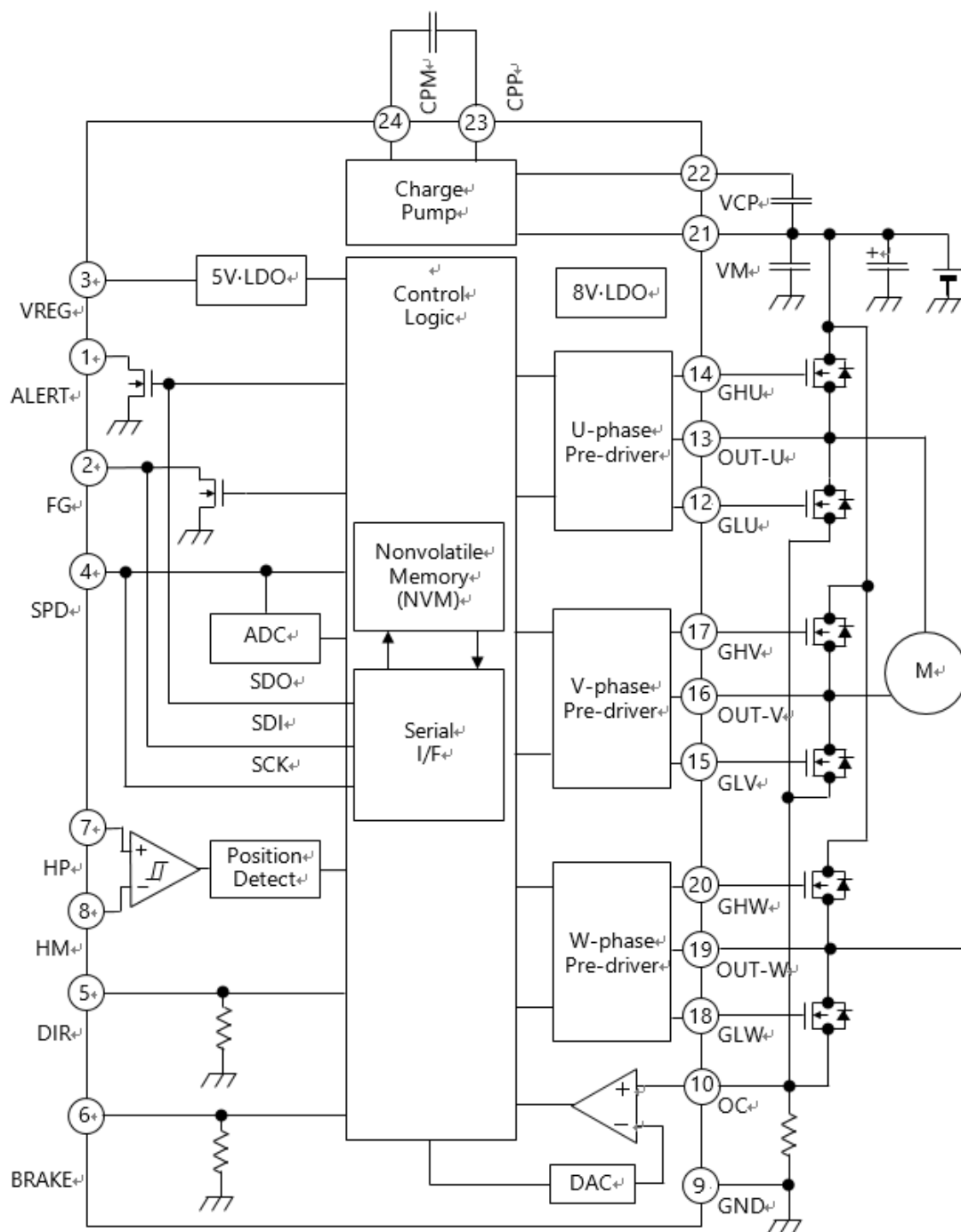
- InPAC, a technology developed by Toshiba Electronic Devices & Storage Corporation ("Toshiba"), realizes an automatically optimized high-efficiency drive in a wide range of rotational speeds.
- Closed loop control function regulates motor rotational speed fluctuations caused by changes in power supply voltage and load, without an external MCU.
- Various external FETs can be used since FET gate current can be set in the internal non-volatile memory (NVM).

#### Applications

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- Cooling fans for servers
- Blowers, etc.

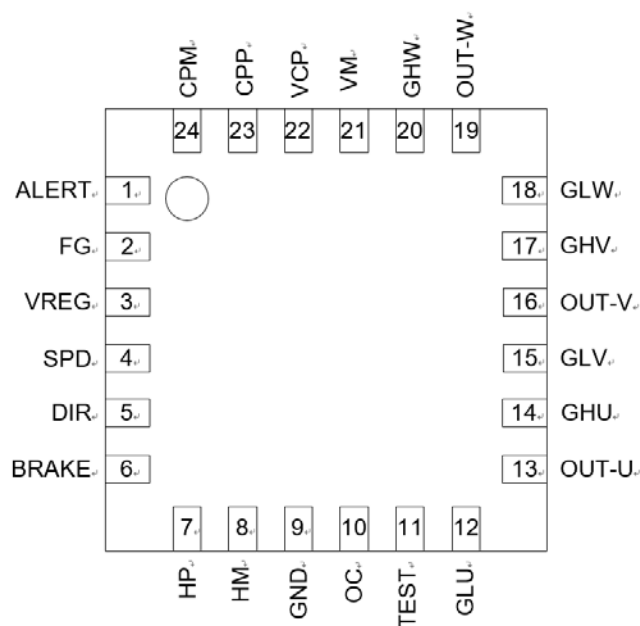
## Block diagram



Note: Some of the functional blocks, circuits, or constants in the block diagram may be omitted or simplified for explanatory purposes.

## Product specifications

Product name	TC78B027FTG
Supply voltage (operating range)	5V to 16V
Drive mode	Sine-wave drive
Features	Intelligent Phase Control (InPAC)
	Selectable closed loop or open loop speed control
	Standby function
	FET gate current configuration
	Soft start function
	Supports speed control by PWM signal input and analog voltage input
	Supports Hall element analog or Hall IC digital position signal
Package	VQFN24 (4 mm × 4 mm × 0.9 mm)

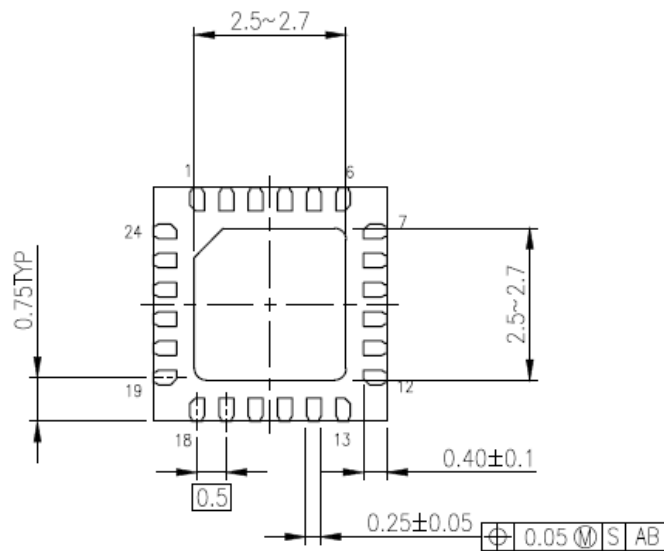
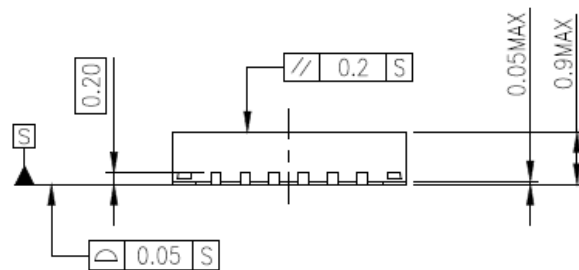
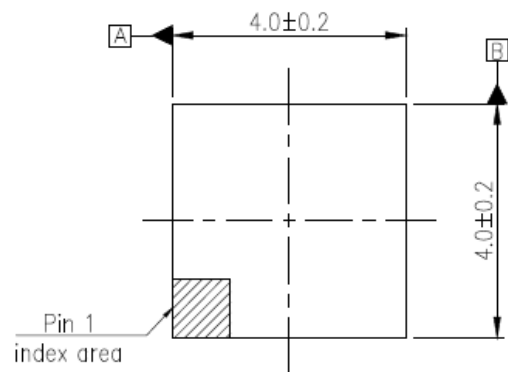


**Pin assignment (Top View)**

# Package dimensions

P-VQFN24-0404-0.50-003

Unit: mm



Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant information of this document and the instructions for the application that Product will be used with or for.

**TOSHIBA ELECTRONIC DEVICES & STORAGE CORPORATION**

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4 / 4

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