

HOLTEK New HT66FM5340 BLDC SoC MCU



In expanding its presence in the Brushless DC Motor controller application area, Holtek is delighted to announce its new BLDC Flash type MCU, the HT66FM5340. In fully integrating a microcontroller, an LDO and a pre-driver into a single chip, Holtek has produced a device which is suitable for both single phase and three phase brushless DC motor applications which have an operating voltage range of 6V~12V.

With regard to the device's resources, there is a 4K×16 capacity Flash Program Memory, 256-bytes of RAM Data Memory and an operating frequency of up to 20MHz. A fully integrated internal high accuracy RC oscillator is included along with a (6+2)-channel high speed 12-bit analog to digital converter. As for timer modules, two 10-bit and two 16-bit periodic type timer modules are provided. Three internal comparators are also provided which can be selected for user either in a Hall Sensor or Sensorless mode.

The BLDC motor control circuit along with internal over current protection circuits and a 16-bit capture timer function combine to form a comprehensive motor protection mechanism. These features make it easy to implement both current and voltage monitoring and thus offer protection. Protection is implemented by turning off the PWM function which in turn cuts off the output driving signals when a locked rotor, over current or any other emergency event occurs, thus ensuring that the motor driver system remains in a stable and safe condition.

In addition, the integrated pre-driver provides two modes. It can be used as a pre-driver to drive the external P/N MOSFETs for high power three-phase brushless DC motor applications or can be used as a direct driver, which can directly drive three-phase brushless DC motor applications which have a maximum power level of 3W at



12V. The flexibility required for Hall Sensor sinusoidal/square wave control and also Sensorless square wave control is fully supported.

The high level of functional integration within the HT66FM5340 provides a range of advantages which include smaller PCB areas, reduced material costs, improved production efficiency and consistency to name but a few. The device is supplied in 24-pin SSOP package types, which are extremely suitable in applications where space is limited.

Source: Holtek Semiconductor Inc.

Hazel Lee(hazellee@taitra.org.tw)

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