

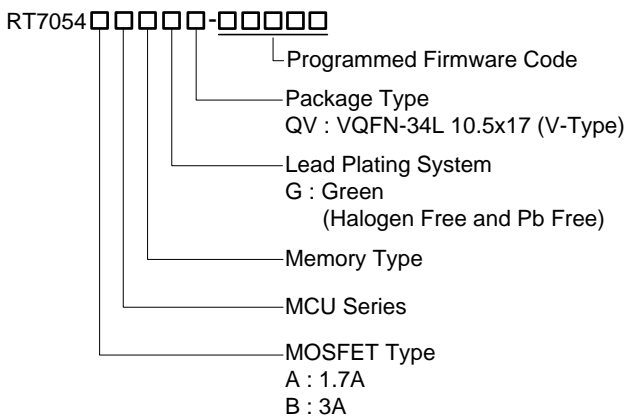
System Integrated Power Module (sIPM[®]) for PMSM/BLDC Motor Drive

General Description

The RT7054 is one of Richtek's sIPM[®] family, which are designed for advanced motor drive applications. This ASIC consists of a PMSM/BLDC controller, LDOs, the gate driver, bootstrap diodes and MOSFETs. It optimizes these devices specifically designed for PMSM/BLDC motor applications so as to provide great benefits to users with cost-effectiveness, easy design, board space saving and high reliability.

The RT7054 is available in a VQFN-34L 10.5x17 package.

Ordering Information



Note :


Richtek products are :

- ▶ RoHS compliant and compatible with the current requirements of IPC/JEDEC J-STD-020.
- ▶ Suitable for use in SnPb or Pb-free soldering processes.

Marking Information

For marking information, contact our sales representative directly or through a Richtek distributor located in your area.

Features

- Integrated 3-Phase PMSM/BLDC Controller, LDOs, Gate Driver and Bootstrap Diodes and MOSFETs
- Sensorless and Sinewave Field Oriented Control
- Optimized Switching Loss and EMI Trade-Offs
- Built-In Short Circuit, Under-Voltage-Lockout (UVLO) and Locked-Rotor Protection
- Temperature Sensor Embedded
- Motor Controller
 - ▶ ARM 32-bit Cortex-M0 CPU, Frequency up to 60MHz
 - ▶ Memories Size 16KB MTP, Internal ROM with Embedded Motor Control Library and 4KB SRAM
 - ▶ Deep Sleep Mode for Power Saving
 - ▶ I²C and UART Communication Interface
 - ▶ 7-Channel 10-bit ADC
 - ♦ AD0 to AD5 are used for Differential Mode Current Sense
 - ♦ AD6 to AD9 are used for System Application
 - ▶ 1-Channel Type 8-bit DAC for Debugging
- Gate Driver
 - ▶ Built-In UVLO Function
 - ▶ Shoot Through Prevention
 - ▶ Matched Propagation Delay
- MOSFETs
 - ▶ Low On-Resistance
 - ▶ Low Reverse Recovery Charge
- RT7054A1MGQV and RT7054B1MGQV with Firmware Code UXXX1 Certified by UL for IEC 60730-1 Class B Compliance with Recognized Marking : 
- UL Certified No. E478780 (UL 60730-1)

Applications

- PMSM/BLDC Motor
- Ceiling Fan
- Air Conditioner Indoor/Outdoor Fan
- Pump