

ENERGY SAVING IN AN EFFICIENT WAY

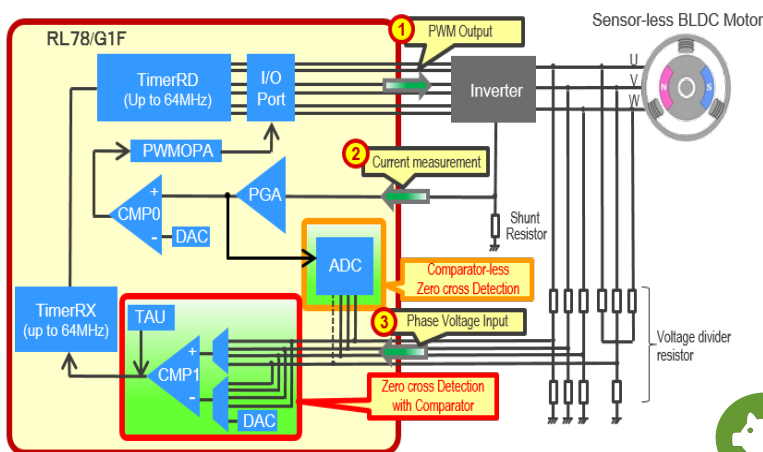
Find out how to with Handy Vacuum Cleaner Quick Solution



Sensorless 3 phase BLDC motor rotates at high speed to meet the suction strength of each power level - High (50krpm) and Low (30krpm). 120-degree conduction control is driven with a single **RL78/G1F MCU** that enables efficient use of board space and resolves problems in sensorless motor to realize a highly efficient system that saves energy with smooth and high torque startup without any compromises in safety.

EFFICIENT USE OF BOARD SPACE AND COST WITH BUILT IN FUNCTIONS

Block diagram of sensor-less BLDC motor
120-degree conduction control circuit with RL78/G1F



Save board space by conducting rotor position detection with a single RL78/G1F chip with its built-in Timer RD and 4-input comparator (CMP0).



Save energy with the built in Timer RD as it lowers power consumption by operating 2x faster than CPU clock.



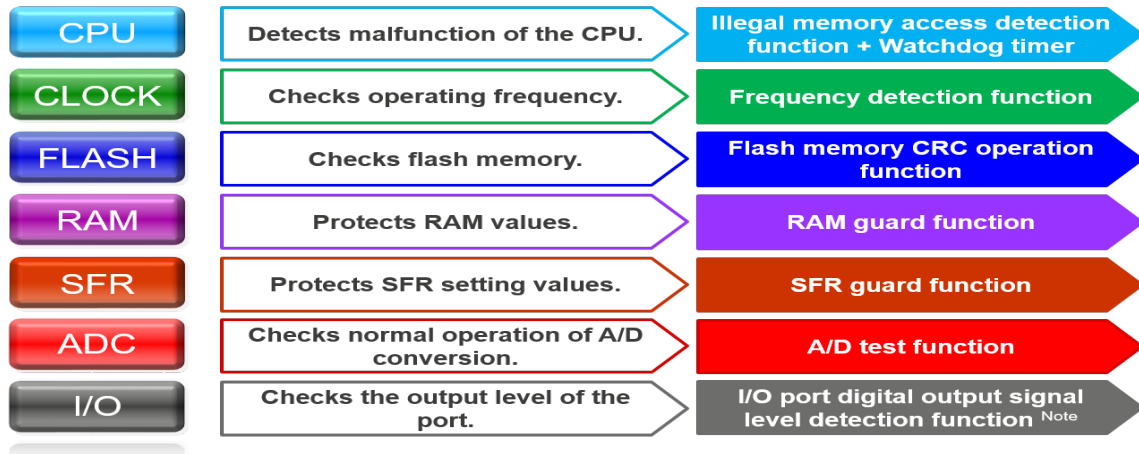
Save cost with RL78/G1F built in functions as no additional external parts are needed in the BOM.



High reliability with RL78/G1F large ROM capacity that enables Programmable Gain Amp (PGA) and comparator (CMP0) to detect over-current and force shutdown of PWM signal without CPU intervention.

MCU AND ANALOG COMBINES TO PROVIDE A HIGH LEVEL OF SAFETY DESIGN

Safety functions provided by MCU – RL78/G1F



Safety functions provided by Li-ion battery monitor IC – ISL94202



Monitors cell current and voltage to provide over-current, over-voltage and under-voltage protection.



Controls battery charge and discharge

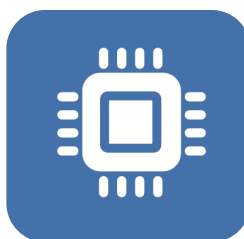


Monitors temperature

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