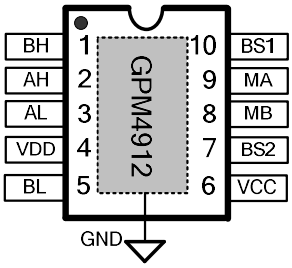
General Description

The CGPS's GPM4912 Integrated Power Module (IPM) design for Single-Phase BLDC (SBLDC) applications, offering a wide input voltage 6V to 20V to meet variety design requirements. This IPM integrates charge pump circuits to drive four N-channel high-efficiency MOSFETs, forming an H-bridge. Additionally, it also includes a built-in LDO 5V to power internal/external control circuits. The IPM has built-in protection circuitry that protects against environmental disturbances and prevents damage during overload. Included cycle-by-cycle current limit protection (OCP), under voltage protection (UVP), and thermal shutdown protection (OTP) internally. Due to the integration of power drivers and protection circuits, CGPS's IPM needs only a minimal number of external components for SBLDC system operation. The GPM4912 is available in ESSOP-10EP package.

Features

- operating voltage:
  GPM4912@12V: VCC from 6V to 20V
- operating current:
  GPM4912@12V: 2.5A(Max.30W)
- Built-in LDO 5V@20mA
- Built-in 12V Full-wave H-Bridge gate driver support circuit
- Auto fault recovery
- Current limits protect (OCP)
- Under voltage protect (UVP)
- Over voltage protect (OVP)
- Internal Thermal shut down (OTP)
- ESD(HBM)
  High Voltage Side ESD ……..…..6KV
  Others Pin ESD…… 8KV

Pin Assignment



Pin No.	Name	Function
1	BH	Logic Input 3
2	AH	Logic Input 1
3	AL	Logic Input 2
4	VDD	LDO 5V output
5	BL	Logic Input 4
6	VCC	Load Supply Voltage
7	BS2	100nF capacitor in series
8	MB	H-bridge output
9	MA	H-bridge output
10	BS1	100nF capacitor in series
EP	GND	Ground