Operational amplifier with a built-in spiral inductor

MM1969

Outline

MM1969 contains a low noise operational amplifier with a spiral inductor.
This inductor detects a magnetic field generated when AC current flows through the power line.
MM1969 amplifies the detected electromotive force with the built-in low noise operational amplifier (the gain can be set by changing external resistance), and transmits analog signals to an external ADC and microcontroller.

Applications

- Power monitor
- Current detection of inverter, servo motor, and others
- Current detection in protection circuits and control circuits of various devices

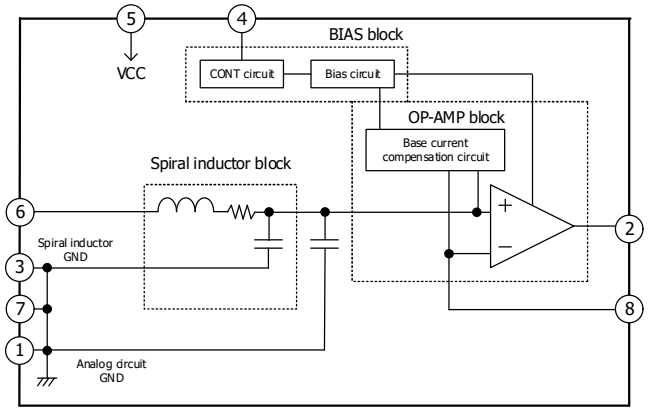
Features

- VCC operating voltage : 3.0 to 5.5 V
- Output current : 1 mA
- Operating temperature range : -40 to +85℃
- With standby mode control function
- Current consumption at standby : 2 μA (VCC = 3.3 V)
- LPF of 17.5 kHz built in the spiral inductor suppresses high-frequency noise.

Specification

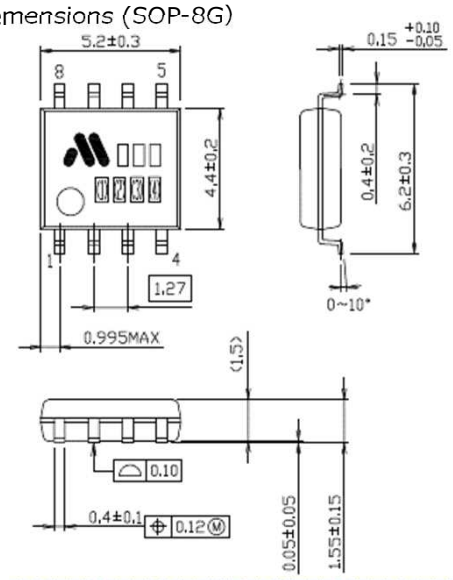
Parameter	Specifications	Unit
Operating Temperature	-40 ～ 85	℃
Operating Voltage	3.0 ～ 5.5	V
Supply Current	0.8	mA
Stand-by Current	2.0	μA max
Spiral-inductor Resistance	32	kΩ
Spiral-inductor Input Capacitance	420	p F
Cutoff Frequency	17.5	kHz
Common-mode Voltage Range	0.2 ～ Vcc-1.7	V
Output Voltage "H"	Vcc-0.3	V
Output Voltage "L"	0.1	V
Output Source Cureent	1	mA min
Output Sink Current	1	mA min

Block Diagram



Package

・Demensions (SOP-8G)



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