

Features

- Supply Voltage Range from 2.7V to 5.5V
- Wide Common-Mode Input Range: 0V to 36V
- Rail-to-rail Input Capability
- Low Offset Voltage: $\pm 500\mu\text{V}$ (Max)
- Low Offset Drift: $0.5\mu\text{V}/^\circ\text{C}$ (Max)
- Selectable Response Times:
10us, 50uS, 100uS
- Programmable Threshold Voltage:
From 0mV to 250mV
- Selectable Hysteresis Voltage:
2mV, 4mV, 8mV
- Low Current Consumption
- Open-Drain Output with Latch Mode Available
- Packages: TDFN10-2x2
- Green Product (RoHS, Lead-Free,
Halogen-Free Compliant)

Applications

- Overcurrent Protection (High-Side/Low-Side)
- Notebook Computers
- Battery Chargers
- Power Management
- Telecom
- Automotive

General Description

The GS5105 is a small, low cost, rail-to-rail, precision current-sensing Comparator. It can measure the voltage across Current-Sensing resistor at common mode voltage from 0V to 36V, independent of supply voltage. It is capable of operating on a single power supply of 2.7V to 5.5V. It features an adjustable threshold range of 0 mV to 250 mV which is set by a single external resistor. It also designs three selectable response-time modes: 10uS, 50uS, and 100uS, which purpose is to offer a trade-off between a faster alert response and a more precise over-current threshold level detection.

With a low offset voltage of $500\mu\text{V}$ and a low offset voltage drift of $0.5\mu\text{V}/^\circ\text{C}$, the GS5105 provides equivalent accuracy across a wide input signal range.

The GS5105 is specified over the extended operating temperature range from -40°C to $+125^\circ\text{C}$, and offered in TDFN10-2x2 package.