Digital Temperature Sensor and Thermal Watchdog with Two-Wire Interface

Features

- **SMBus interface**
- **Programmable Trip Point (T_{OS}) and Hysteresis (T_{HYST})**
- **Separate open-drain output pin operates as interrupt or comparator at output**
- **Register readback capability**
- **Power up defaults permit stand-alone operation as thermostat**
- **Shutdown mode to minimize power consumption**
- **Up to 8 G751s can be connected to a single bus**

Key Specifications

- **Supply Voltage** **3.0V to 5.5V**
- **Supply Current** **operating** **280µA (typ)**
  1mA (max)
  shutdown **2µA(typ)**
- **Temperature Accuracy**
  -25°C to 100°C **±2°C (max)**
  -55°C to 125°C **±3°C (max)**

Applications

- **System Thermal Management**
- **Personal Computers**
- **Office Electronics**
- **Electronic Test Equipment**

General Description

The G751 is a temperature sensor, Delta-Sigma analog-to-digital converter, and digital over- temperature detector with SMBus interface. The host can query the G751 at any time to read temperature. The open-drain Over temperature Shutdown (O.S.) output becomes active when the temperature exceeds a programmable limit. This pin can operate in either "Comparator" or "Interrupt" mode.

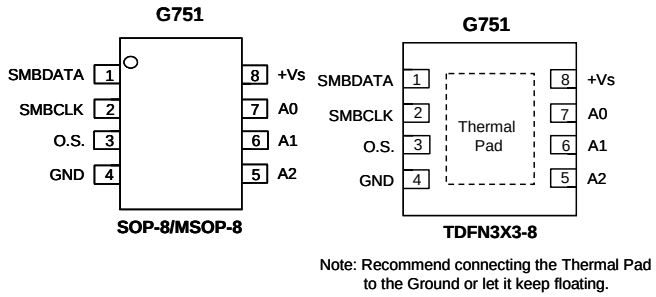
The host can program both the temperature alarm threshold (T_{OS}) and the temperature at which the alarm condition goes away (T_{HYST}). In addition, the host can read back the contents of the G751's T_{OS} and T_{HYST} registers. The sensor powers up in Comparator mode with default thresholds of 50°C T_{OS} 45°C $T_{HYST.}$ for G751-1 and 80°C T_{OS} , 75°C T_{HYST} for G751-2.

Ordering Information

ORDER NUMBER (Pb free/Green)	T_{OS} T_{HYST}	PACKAGE
G751-1P1f	50°C/45°C	SOP-8
G751-2P1f	80°C/75°C	SOP-8
G751-2P8f	80°C/75°C	MSOP-8
G751-2RDf	80°C/75°C	TDFN3X3-8

P1: SOP-8; P8: MSOP-8; RD: TDFN3X3-8

Pin Configuration



Note: Recommend connecting the Thermal Pad to the Ground or let it keep floating.

Typical Application Circuit