

GXI330 1.6 V I²C Communication, 30V High/Low Side Voltage, Current and Power Consumption Monitoring Chip

1 Features

- Bus voltage (V_{BUS}) measurement range: **0~30 V**
- Support **High/Low Side** voltage divider measurement
- Monitor voltage, current and power consumption in real-time
- High measurement accuracy: **$\pm 0.5\%$ ($-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$)**

25 ppm (-40°C ~ +125°C)

- Package form: **12-BALL WLCSP**
10-PIN MSOP
- Package size: **1.56 mm × 1.43 mm (WLCSP)**
3.00 mm × 3.00 mm (MSOP)
- Supply voltage: **2.7 ~ 5.5 V**
I2C communication voltage: **1.6V ~ 5.5V**
- Programmable output averaging times
- Programmable alarm thresholds
- Power-on conversion mode:
Continuous conversion mode (**GXI330A**)
Shutdown mode (**GXI330B**)

2 Applications

- Smartphones, tablets
- Servers
- Power management equipment
- Battery charging equipment
- Test instrument

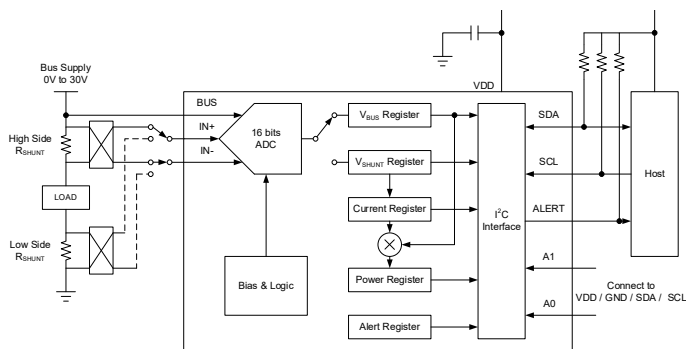
3. Description

GXI330 is a high/low-side voltage, current, and power consumption monitoring chip. The chip integrates 16 bits ADC which continuously measures the bus voltage V_{BUS} and the divider value R_{SHUNT} of the high/low side resistor on the bus, so as to calculate the current flowing through the bus and the power consumption generated on the bus. The bus voltage range that GXI330 can measure is 0~30V. GXI330 can directly output the current measurement result in amperes (A) and the power measurement result in watts (W), which greatly reduces subsequent data processing of the host.

The power supply voltage range of GXI330 is 2.7~5.5V, and the current consumption is typically 300μA during normal operation. The typical operating temperature range of GXI330 is -40~+125 °C. GXI330 is compatible with standard I2C interfaces with communication as low as 1.6V, and has 16 programmable slave addresses. GXI330 provides two package forms: 12-BALL WLCSP (GXI330W) and 10-PIN MSOP (GXI330U).

GXI330 can be configured to only measure V_{BUS} or V_{SHUNT} , with a single minimum conversion time of only 140 μ s. GXI330 can provide average output to achieve more accurate measurement results. GXI330 has an ALERT pin and a programmable alarm threshold to provide real-time protection for other devices on the bus in various usage scenarios.

Diagram of High/Low Side Measurement of GXI330



9 Ordering Information

Ordering Number	Chip Model	Packaging Information	Standard Packing Quantity	Note
GXI330AW-T&R	GXI330AW	12-BALL WLCSP (1.56mm × 1.43mm)	3000	Tape & Reel
GXI330BW-T&R	GXI330BW	12-BALL WLCSP (1.56mm × 1.43mm)	3000	Tape & Reel
GXI330AU-T&R	GXI330AU	10-PIN MSOP (3.00mm × 3.00mm)	4000	Tape & Reel
GXI330BU-T&R	GXI330BU	10-PIN MSOP (3.00mm × 3.00mm)	4000	Tape & Reel

Note: A and B in the above table represent different power-on default conversion modes of the chip. A is powered on in continuous conversion mode, and B is powered on in shutdown mode.

W indicates the packaging form of WLCSP, and U indicates the packaging form of MSOP;