

GX1820 Programmable Resolution 1Wire Digital Thermometer

1. Features

- 1-Wire Interface Requires Only One Port Pin for Communication
- Each chip has an independent 64-bit serial number
- Multidrop Capability Simplifies Distributed Temperature-Sensing Applications
- Requires No External Components
- Can be powered by the data line.
the supply voltage range is: 2.5V~5.5V
- Measuring Range: -55°C to +125°C
- $\pm 0.5^{\circ}\text{C}$ Accuracy from -10°C to +70°C
- Thermometer Resolution is User Selectable from 9 to 12 Bits
- Converts Temperature to 12-Bit Digital Word in 750ms (Max)
- User-Definable Nonvolatile (NV) Alarm Settings
- Alarm Search Command Identifies and Addresses Devices Whose Temperature is Outside Programmed Limits
- Superb electrostatic protection capability: HBM 7000V, MM 700V
- Available in 3-pin TO-92 package

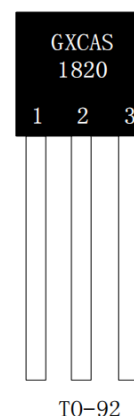
2. Application Scenario

- Temperature control
- Industrial system
- Consumer goods
- Grain temperature measurement
- Thermometer
- Any thermal system

3. Description

The GX1820 digital thermometer provides 9-bit to 12-bit Celsius temperature measurements and has an alarm function with nonvolatile user- programmable upper and lower trigger points. The GX1820 communicates over a 1-Wire bus that by definition requires only one data line (and ground) for communication with a central microprocessor. It has an operating temperature range of -55° C to +125° C and is accurate to $\pm 0.5^{\circ}\text{C}$ over the range of -10° C to +70° C. In addition, the GX1820 can derive power directly from the data line ("parasite power"), eliminating the need for an external power supply. Each GX1820 has a unique 64-bit serial code, which allows multiple GX1820s to function on the same 1-Wire bus. Thus, it is simple to use one microprocessor to control many GX1820s distributed over a large area (not more than 50 is recommended.). Applications that can benefit from this feature include HVAC environmental controls, temperature monitoring systems inside buildings, equipment, or machinery, and process monitoring and control systems.

Pin Configurations



17. Ordering Information

Purchase Number	Device	Package	SPQ	Remarks
GX1820-Bu	GX1820	TO92	2000	Bulk