

## **GX18B20H 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 (-67°F to +257°F)
- $\pm 0.1^{\circ}\text{C}$  Accuracy from 0°C to +50°
- 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
- Available in MSOP8 and 3-Pin TO-92,Packages

### **2.Application Scenario**

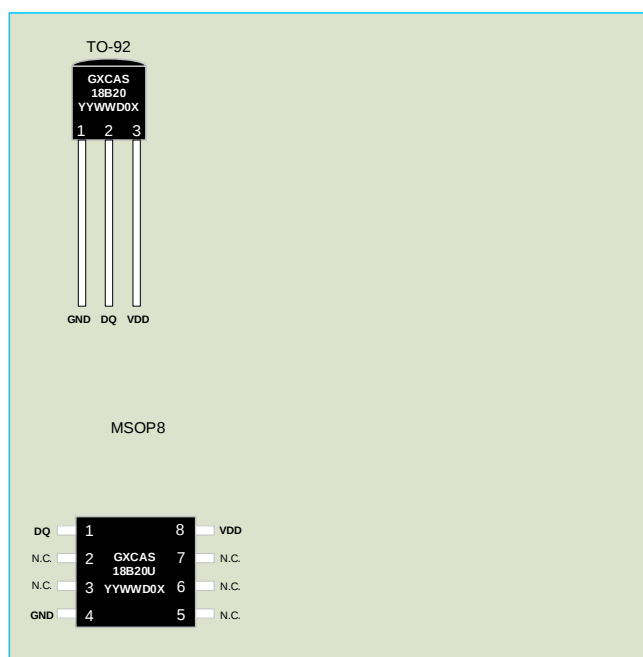
- temperature control
- industrial system
- consumer goods
- grain temperature measurement
- thermometer
- any thermal system

### **3.DESRIPTION**

The GX18B20H 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 GX18B20H 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  $\pm 0.1^{\circ}\text{C}$  over the range of 0° C to +50° C. In addition, the GX18B20H can derive power directly from the data line (“parasite power”), eliminating the need for an external power supply. Each GX18B20H has a unique 64-bit serial code, which allows multiple GX18B20Hs to function on the same 1-Wire bus. Thus, it is simple to use one microprocessor to control many GX18B20Hs distributed over a large area. 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.

### **4.PIN CONFIGURATIONS**



**Ordering Information**

| Purchase Number | Device    | PIN-Package | SPQ  | Remarks       |
|-----------------|-----------|-------------|------|---------------|
| GX18B20H-Bu     | GX18B20H  | TO92(3)     | 2000 | Bulk          |
| GX18B20UH-T&R   | GX18B20UH | MSOP8       | 4000 | Tape and reel |