

GXT51x

Low-Cost Temperature Switches with Selectable Hysteresis

1 Features

- No External Components Required
- Factory-Programmed Thresholds
- Threshold Accuracy: $\pm 0.5^{\circ}\text{C}$
- Pin-Selectable Hysteresis: 2°C , 5°C , 10°C
- Temperature Range: $-55^{\circ}\text{C} \sim +150^{\circ}\text{C}$
- Power Supply Range: $1.6\text{V} \sim 5.5\text{V}$
- Quiescent Current: $16\ \mu\text{A}$
- Open-Drain Output (GXT511/GXT513/GXT515)
- Push-Pull Output (GXT512/GXT514/GXT516)

2 Applications

- Temperature Alarms
- Thermostat Control
- Thermal Protection
- Fan Control

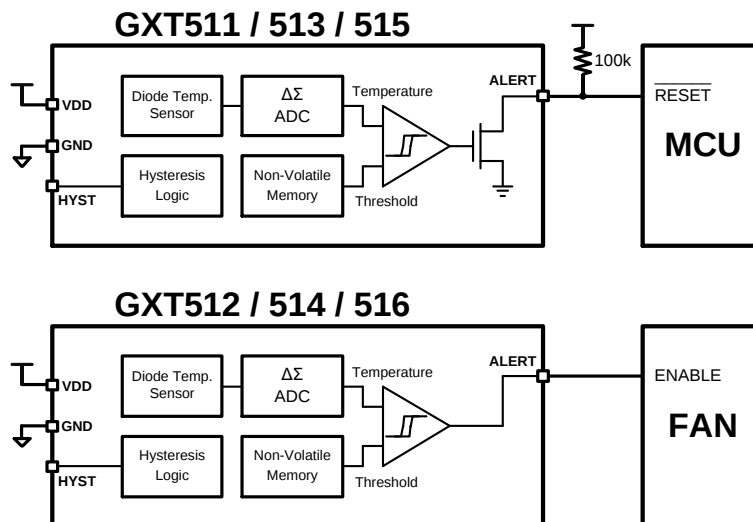
3 Description

The GXT51x is a fully-integrated temperature switch that provides overheat or undercooling alarm without any external components. The GXT511/513/515 are active-low open-drain outputs; The GXT512/514/516 are active-high push-pull outputs.

The thresholds of the GXT51x are pre-programmed by the factory, supporting sixteen standard temperatures from -45°C to $+115^{\circ}\text{C}$ with a step size of 10°C . For any non-standard temperature within the range of -55°C to $+127^{\circ}\text{C}$ with a step size of 1°C , please consult the relevant sales staff for customized solutions.

Device Information

DEVICE NAME	PACKAGE	BODY SIZE (NOM)
GXT51xS	SOT23-5	2.90 mm × 1.60 mm
GXT51xG	SOT563	1.60 mm × 1.20 mm



9 Ordering Information

ORDER CODE	DEVICE	PACKAGE	QUANTITY	NOTES
GXT511SP035-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT511SP045-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT511SP055-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT511SP065-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT511SP075-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT511SP085-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT511SP095-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT511SP105-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT511SP115-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT512SP035-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT512SP045-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT512SP055-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT512SP065-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT512SP075-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT512SP085-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT512SP095-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT512SP105-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT512SP115-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT513SN045-T&R	GXT513S	SOT23-5	3000	Tape&Reel
GXT513SN035-T&R	GXT513S	SOT23-5	3000	Tape&Reel
GXT513SN025-T&R	GXT513S	SOT23-5	3000	Tape&Reel
GXT513SN015-T&R	GXT513S	SOT23-5	3000	Tape&Reel
GXT513SN005-T&R	GXT513S	SOT23-5	3000	Tape&Reel
GXT513SP005-T&R	GXT513S	SOT23-5	3000	Tape&Reel
GXT513SP015-T&R	GXT513S	SOT23-5	3000	Tape&Reel
GXT514SN045-T&R	GXT514S	SOT23-5	3000	Tape&Reel
GXT514SN035-T&R	GXT514S	SOT23-5	3000	Tape&Reel
GXT514SN025-T&R	GXT514S	SOT23-5	3000	Tape&Reel
GXT514SN015-T&R	GXT514S	SOT23-5	3000	Tape&Reel
GXT514SN005-T&R	GXT514S	SOT23-5	3000	Tape&Reel
GXT514SP005-T&R	GXT514S	SOT23-5	3000	Tape&Reel
GXT514SP015-T&R	GXT514S	SOT23-5	3000	Tape&Reel

Note: In the suffix information, P/N represents positive and negative thresholds respectively; the three digits are the optional threshold temperature points, expressed in decimal notation.

Table Continued: SOT563 package

ORDER CODE	MODEL	PACKAGING	STANDARD PACK QUANTITY	NOTES
GXT511GP035-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT511GP045-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT511GP055-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT511GP065-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT511GP075-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT511GP085-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT511GP095-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT511GP105-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT511GP115-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT512GP035-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT512GP045-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT512GP055-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT512GP065-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT512GP075-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT512GP085-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT512GP095-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT512GP105-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT512GP115-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT513GN045-T&R	GXT513G	SOT563	3000	Tape&Reel
GXT513GN035-T&R	GXT513G	SOT563	3000	Tape&Reel
GXT513GN025-T&R	GXT513G	SOT563	3000	Tape&Reel
GXT513GN015-T&R	GXT513G	SOT563	3000	Tape&Reel
GXT513GN005-T&R	GXT513G	SOT563	3000	Tape&Reel
GXT513GP000-T&R	GXT513G	SOT563	3000	Tape&Reel
GXT513GP005-T&R	GXT513G	SOT563	3000	Tape&Reel
GXT513GP015-T&R	GXT513G	SOT563	3000	Tape&Reel
GXT514GN045-T&R	GXT514G	SOT563	3000	Tape&Reel
GXT514GN035-T&R	GXT514G	SOT563	3000	Tape&Reel
GXT514GN025-T&R	GXT514G	SOT563	3000	Tape&Reel
GXT514GN015-T&R	GXT514G	SOT563	3000	Tape&Reel
GXT514GN005-T&R	GXT514G	SOT563	3000	Tape&Reel
GXT514GP005-T&R	GXT514G	SOT563	3000	Tape&Reel
GXT514GP015-T&R	GXT514G	SOT563	3000	Tape&Reel

Note: In the suffix information, P/N represents positive and negative thresholds respectively; the three digits are the optional threshold temperature points, expressed in decimal notation.

Table Continued: Non-Standard Thresholds

ORDER CODE	DEVICE	PACKAGE	QUANTITY	NOTES
GXT511Sxxxx-T&R	GXT511S	SOT23-5	3000	Tape&Reel
GXT512Sxxxx-T&R	GXT512S	SOT23-5	3000	Tape&Reel
GXT513Syyyy-T&R	GXT513S	SOT23-5	3000	Tape&Reel
GXT514Syyyy-T&R	GXT514S	SOT23-5	3000	Tape&Reel
GXT515Syyyyxxxx-T&R	GXT515S	SOT23-5	3000	Tape&Reel
GXT516Syyyyxxxx-T&R	GXT516S	SOT23-5	3000	Tape&Reel
ORDER CODE	DEVICE	PACKAGE	QUANTITY	NOTES
GXT511Gxxxx-T&R	GXT511G	SOT563	3000	Tape&Reel
GXT512Gxxxx-T&R	GXT512G	SOT563	3000	Tape&Reel
GXT513Gyyyy-T&R	GXT513G	SOT563	3000	Tape&Reel
GXT514Gyyyy-T&R	GXT514G	SOT563	3000	Tape&Reel
GXT515Gyyyyxxxx-T&R	GXT515G	SOT563	3000	Tape&Reel
GXT516Gyyyyxxxx-T&R	GXT516G	SOT563	3000	Tape&Reel

Note: In the suffix information, xxxx represents the overheat alarm threshold and yyyy represents the overcooling alarm threshold. They are composed of one letter (P/N) and three digits respectively, and have the same meaning as above.

10 Revision History

VERSION	DATE	REVISION	PAGES
V1.0	2023-3	The first edition	-
V1.1	2023-7	Add packaging and ordering information	10~13
V1.2	2023-10	Add SOT563 package	11~12, 14~15
V1.3	2023-12	Add standard threshold of 0°C to the GXT513G	14

Note: Page numbers for previous revisions may differ from page numbers in the current version.