



Accurate, reliable
temperature measurement
throughout the car

KTY silicon temperature sensors

Combining accuracy, reliability and stability, NXP's silicon temperature sensors are the ideal choice for automotive applications from climate control to engine monitoring. An extensive selection of operating ranges, packages, resistances and tolerances ensures designers can find the perfect solution to their temperature monitoring needs.

Key features

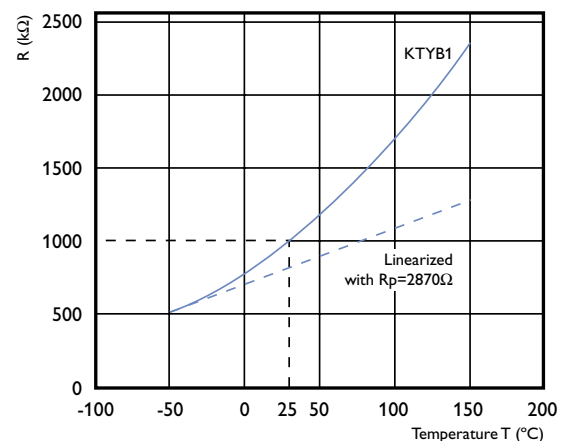
- ▶ High accuracy and reliability
- ▶ Long-term stability
- ▶ Positive temperature coefficient – fail-safe behavior
- ▶ Virtually linear characteristics

Key applications

- ▶ Oil temperature
- ▶ Oil module
- ▶ Transmission
- ▶ Engine cooling
- ▶ Climate control
- ▶ Overheating protection
- ▶ Heating control systems

From engine management to climate control, systems throughout today's vehicles rely on accurate and reliable temperature measurement to improve safety, performance and comfort. And that's precisely what NXP KTY silicon temperature sensors deliver. Thanks to a number of intrinsic characteristics, they boast better performance and operational advantages over traditional passive-based techniques using thermistors.

KTY sensors display a virtually linear temperature coefficient over their entire temperature range, ensuring highly accurate measurements. A linearization resistor can be easily added where further linearization is required. As the temperature coefficient is positive, the sensors exhibit fail-safe operation when a system overheats. Furthermore silicon is inherently stable, so KTY sensors are extremely reliable and have very long operational lifetimes.



RT curve of KTY81, linearized with parallel resistor

An unbeatable range

NXP has one of the widest ranges of silicon temperature sensors on the market, with families specified according to package, nominal resistance, tolerance and operating range. The KTY81 and KTY82 families use a twin-sensor technology for polarity-independent sensing. Delivered in a hermetically sealed glass package, the KTY83 and KTY84 series are designed for use in fluids such as oil or water. The KTY84 range offers operating temperatures up to 300 °C so is ideal for use in exhaust and heating systems.

Product overview

Family type	Package	R ₂₅ (Ohm)	Available tolerances	T _{oper} Range (°C)
KTY81-1	SOD70	1000	+/- 5% down to +/-1%	-55 to 150
KTY81-2	SOD70	2000	+/- 5% down to +/-1%	-55 to 150
KTY82-1	SOT23	1000	+/- 5% down to +/-1%	-55 to 150
KTY82-2	SOT23	2000	+/- 5% down to +/-1%	-55 to 150
KTY83-1	SOD68	1000	+/- 5% down to +/-1%	-55 to 175
KTY84-1	SOD68	1000 (R ₁₀₀)	+/- 5% down to +/- 3%	-40 to 300

Customized tolerances / selections are available on request



KTY sensors are supplied in a choice of leaded (glass or plastic) and SMD (plastic) packages.

www.nxp.com

founded by

PHILIPS

© 2007 NXP B.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.

Date of release: August 2007

Document order number: 9397 750 16148

Printed in the Netherlands