



I3C/I²C-Bus ± 0.5 °C Accurate Digital Temperature Sensor

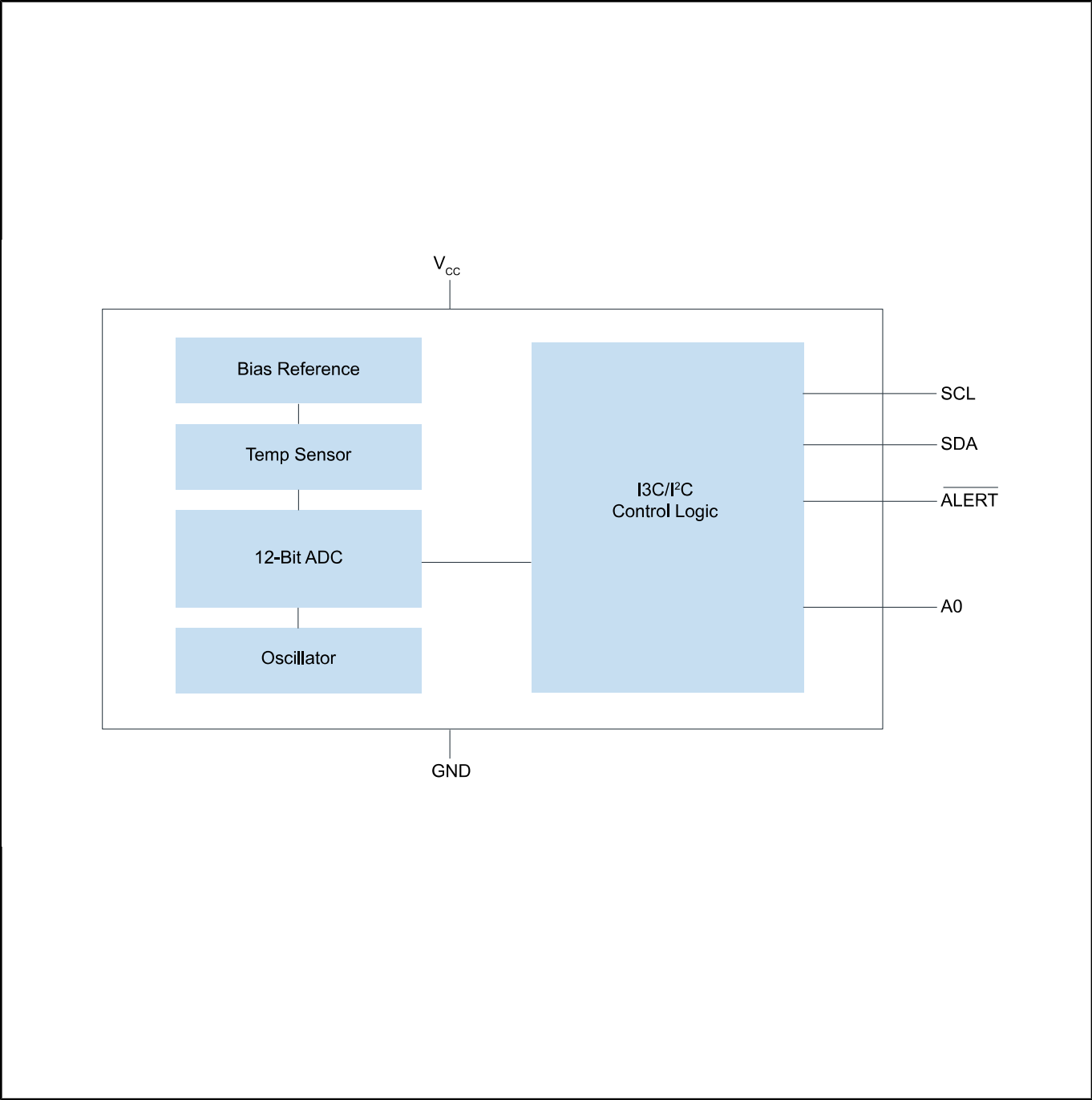
P3T1085UK

Last Updated: Feb 14, 2025

P3T1085UK is a $\pm 0.5^{\circ}\text{C}$ accurate temperature-to-digital converter with a -40°C to $+125^{\circ}\text{C}$ range. It uses an on-chip band gap temperature sensor and A-to-D conversion technique with overtemperature detection. The temperature register always stores a 12-bit complement data, giving a temperature resolution of 0.0625°C .

P3T1085UK can be configured for different operation conditions: continued conversion, one-shot mode or shutdown mode. The device supports 2-wire serial I3C (up to 12.5 MHz) and I²C (up to 3.4 MHz) as communication interface. In I²C, the device supports up to four target addresses and an alert function. In I3C, the devices supports in-band interrupt (IBI), where the same bus is used to report the alert interrupts.

P3T1085UK Block Diagram Block Diagram



View additional information for [I3C/I²C-Bus \$\pm 0.5\$ °C Accurate Digital Temperature Sensor](#).

Note: The information on this document is subject to change without notice.

www.nxp.com

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2025 NXP B.V.