



## New Product Announcement

PI4IOE5V6416Q  
PI4IOE5V6534Q

# Automotive-Compliant 16/34-bit I<sup>2</sup>C General-Purpose IO Expanders with Built-In Level-Shifter

The PI4IOE5V6416Q and PI4IOE5V6534Q are the industry's first automotive-compliant\*, dual-power rail, general-purpose I/O expanders. They provide a simple and flexible solution when additional I/Os are needed, especially when interfacing between different logic levels.

The PI4IOE5V6416Q and PI4IOE5V6534Q provide 16-bits and 34-bits of I/O expansion respectively. They can operate from 0.9V/1.8V to 5V on the GPIO-port side and 0.8V/1.65V to 5.5V on the I<sup>2</sup>C-bus interface.

This allows the PI4IOE5V6416Q and PI4IOE5V6534Q to interface with next generation microprocessors and microcontrollers on the SDA/SCL side, where supply levels are reducing to conserve power.

The PI4IOE5V6416Q is available in TSSOP-24 and the PI4IOE5V6534Q is available in W-QFN4565-46 with wettable flanks.



### The Diodes Advantage

- **Qualified to AEC-Q100 Grade 2**  
Supports ambient temperatures up to 105°C
- **Low operation power supply voltage from 0.9V to 5.5V**  
Supports latest generation of low power supply microprocessors and microcontrollers.
- **Bidirectional voltage-level translation with GPIO expansion**  
Simplified interconnection between a processor running at one voltage level to I/O devices operating at a different (usually higher) voltage level. Saves PCB area and level shifter cost in design.
- **Intelligent I/O programming features:**
  - Programmable output drive strength
  - Latchable inputs
  - Programmable pull-up/pull-down resistors
  - Maskable interrupt,
  - Programmable open-drain or push-pull outputs
- **Wettable-flank QFN package for automotive applications**  
Supports automatic optical inspection (AOI) as demanded by many automotive manufacturers

### Applications

Level-shifting and GPIO expansion in:

- Telematics
- ADAS
- Infotainment Systems

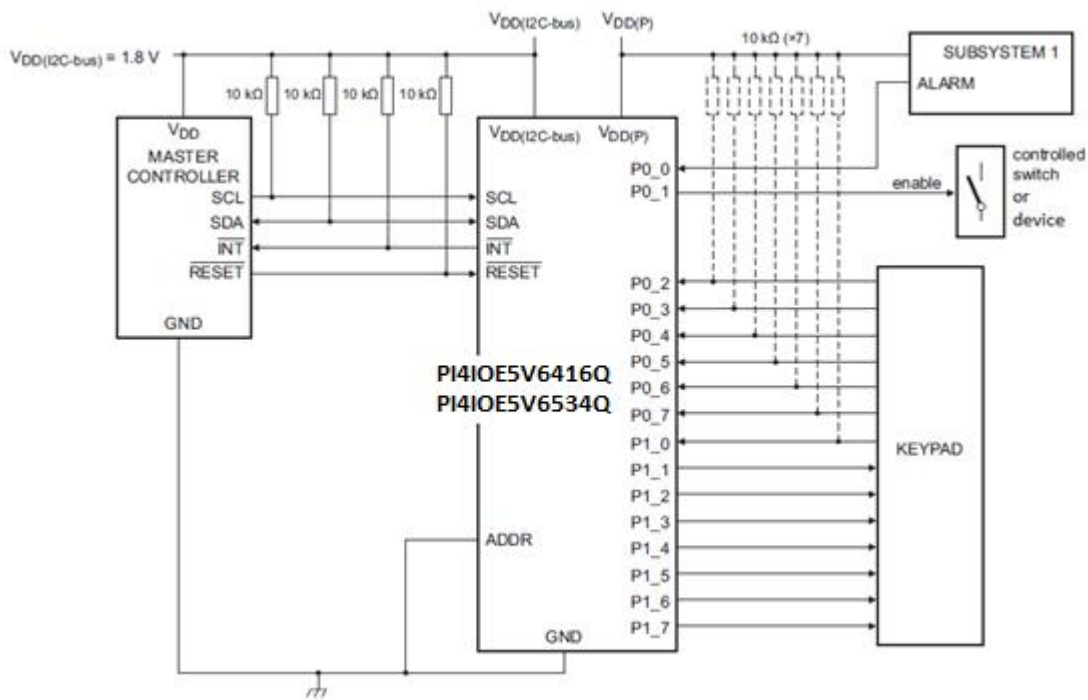
\*Automotive compliant – AEC qualified in IATF 16949 certified manufacturing sites and supports PPAP documentation



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## Typical Application Circuit



## Automotive-Compliant I/O Expander Portfolio

| Part Number                   | Interface                               | Supply Voltage (V) | Channels | Signal Type  | Ambient Temperature (°C) | Packages                      |
|-------------------------------|---|--------------------|----------|--------------|--------------------------|-------------------------------|
| <a href="#">PI4IOE5V6416Q</a> | I2C-bus I/O Expander with Level-Shifter | 1.65/5.5           | 16       | Single-Ended | -40 to 105               | TSSOP-24                      |
| <a href="#">PI4IOE5V6534Q</a> | I2C-bus I/O Expander with Level-Shifter | 0.8/5.5            | 34       | Single-Ended | -40 to 105               | W-QFN4565-46 (SWP)<br>(ZLW46) |

## Ordering Information

| Part Numbers        | Package Code | Package            | Moisture Sensitivity (MSL) | Reel Size | # per Reel |
|---------------------|--------------|--------------------|----------------------------|-----------|------------|
| PI4IOE5V6416Q2LEX   | L            | TSSOP-24           | 1                          | 13"       | 3,000      |
| PI4IOE5V6534Q2ZLWEX | ZLW          | W-QFN4565-46 (SWP) | 1                          | 13"       | 3,500      |