# INTL9554 Product Brief

## 1. Description

The INTL9554 is a 16-pin CMOS device that provides 8 bits of general purpose parallel Input/Output (GPIO) expansion for I2C-bus/SMBus applications.

It features several improvements, including higher drive capability, 5V I/O tolerance, lower supply current, individual I/O configuration, 400 kHz clock frequency, and smaller packaging. The I/O expander is a simple solution when additional I/O is needed for ACPI power switches, sensors, push buttons, LEDs, fans, and so on.

The INTL9554 consists of an 8-bit configuration register (with input or output selection), an 8-bit input port register, an 8-bit output port register and an 8-bit polarity inversion register (active HIGH or active LOW operation). The system master can enable the I/Os as either inputs or outputs through writing to the I/O configuration bits. The data for each input or output is saved in the corresponding Input port or output port register. The polarity inversion register can invert the polarity of the read register. The system master can read all registers.

The INTL9554 open-drain interrupt output is activated when any input state differs from its corresponding input port register state. It is used to indicate to the system master that an input state has changed. The power-on reset enables the registers to set to their default values and initializes the device state machine. Three hardware pins (A0, A1, A2) vary the fixed I2C-bus address and allow up to eight devices to share the same I2C-bus/SMBus.

## 2. Features

- Operating power supply voltage range of 1.65-5.5 V
- 5 V tolerant I/Os
- Polarity Inversion register
- Active LOW interrupt output
- Low standby current
- Noise filter on SCL/SDA inputs
- No glitch on power-up
- Internal power-on reset
- 8 I/O pins which default to 8 inputs
- 0 Hz to 400 kHz clock frequency
- ESD protection exceeds 2000 V HBM per JESD22-A114 and 1000 V CDM

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per JESD22-C101

- Latch-up testing is carried out according to JEDEC Standard JESD78 at a current over 100 mA
- AEC-Q100 compliance available
- Operating Temperature=-40°C to 85°C
- Packages offered: TSSOP16(5.00mm X 4.40mm)

# 3. Applications

- Servers
- Routers (Telecom Switching Equipment)
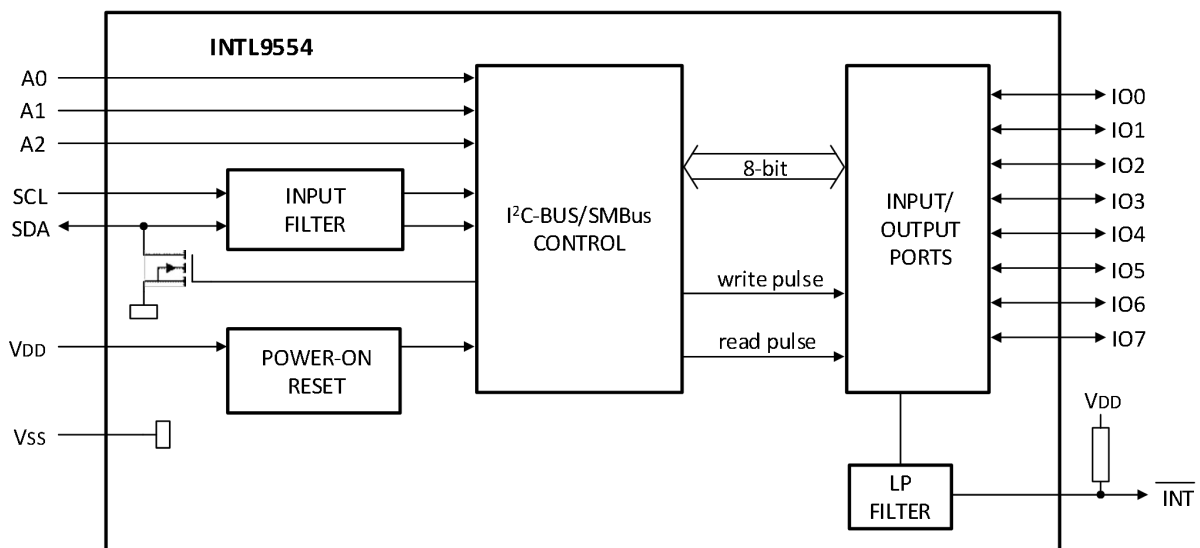- Factory Automation
- Products with I2C Slave Address Conflicts

# 4. Functional Diagram



**Figure 1 Functional Diagram**