

INTL9545 Product Brief

1. Description

The INTL9545 is a quad bidirectional translating switch controlled via the I2C bus. The SCL/SDA input pair fans out to four SDL/SCL pairs. Any individual SCn/SDn channel or combination of channels can be selected, determined by the contents of the programmable control register. Four interrupt inputs (INT3–INT0), one pair SDA/SCL has one interrupt provided. An active-low reset (RESET) input allows the INTL9545 to recover from a situation which one of the I2C buses is stuck in a low state. Pulling RESET low to reset the I2C state machine and causes all the channels to be deselected, as does the internal power-on reset function. The pass gates of the switches are constructed such that the VCC terminal can be used to limit the maximum high voltage, this allows the use of different bus voltages on each pair, so that 1.8V, 2.5V, or 3.3V parts can communicate with 5V parts, without any additional protection. External pull-up resistors pull the bus up to the desired voltage level for each channel and all I/O terminals are 5.5V tolerant.

2. Applications

- Automotive electronics
- Factory Automation

- IT infrastructure (servers, storages)
- 5g communication

3. Key Features

- of-4 Bidirectional Translating Switches
- I2C Bus and SMBus Compatible
- Four Active-Low Interrupt Inputs
- Active-Low Interrupt Output
- Active-Low Reset Input
- Two Address Terminals, Allowing up to Four
- Channel Selection via I2C Bus
- Power-Up with All Switch Channels Deselected
- Low RON Switches
- Allows Voltage-Level Translation Between 1.8V, 2.5V, 3.3V, and 5V Buses
- No Glitch on Power-Up
- Low Standby Current
- Operating Power-Supply Voltage from 1.65 V to 5.5 V
- 0 to 400-kHz Clock Frequency

4. Functional Diagram

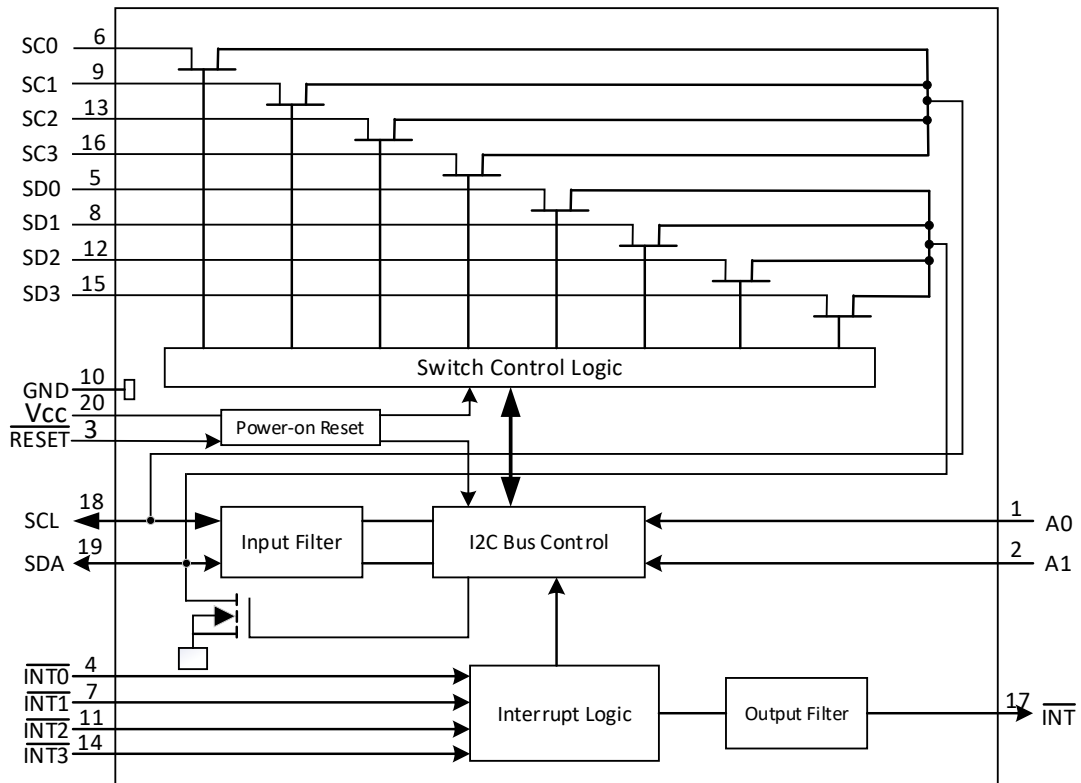


Figure 1 Functional Diagram

5. Pin Maps

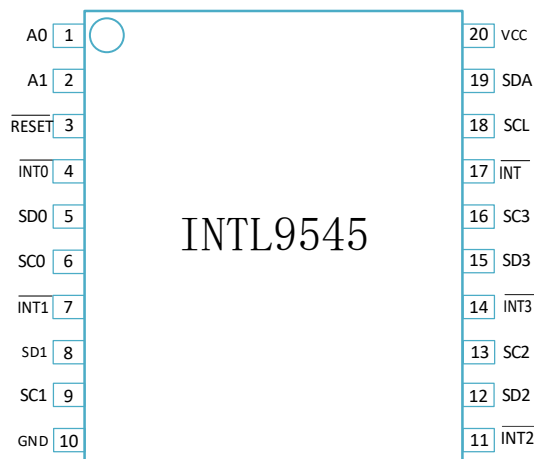


Figure 2 Pin Assignment Diagram

6. Pin Descriptions

Table 1 Pin Descriptions

Pin name	number	Description
A0	1	Address input 0. Connect directly to VCC or ground.
A1	2	Address input 1. Connect directly to VCC or ground.
$\overline{\text{RESET}}$	3	Active-low reset input. Connect to reference voltage through a pull-up resistor, if not used.
$\overline{\text{INT0}}$	4	Active-low interrupt input 0. Connect to channel 0 reference voltage through a pull-up resistor.
SD0	5	Serial data 0. Connect to channel 0 reference voltage through a pull-up resistor.
SC0	6	Serial clock 0. Connect to channel 0 reference voltage through a pull-up resistor.
$\overline{\text{INT1}}$	7	Active-low interrupt input 1. Connect to channel 1 reference voltage through a pull-up resistor.
SD1	8	Serial data 1. Connect to channel 1 reference voltage through a pull-up resistor.
SC1	9	Serial clock 1. Connect to channel 1 reference voltage through a pull-up resistor.
GND	10	Ground
$\overline{\text{INT2}}$	11	Active-low interrupt input 2. Connect to channel 2 reference voltage through a pull-up resistor.
SD2	12	Serial data 2. Connect to channel 2 reference voltage through a pull-up resistor.
SC2	13	Serial clock 2. Connect to channel 2 reference voltage through a pull-up resistor.
$\overline{\text{INT3}}$	14	Active-low interrupt input 3. Connect to channel 3 reference voltage through a pull-up resistor.
SD3	15	Serial data 3. Connect to channel 3 reference voltage through a pull-up resistor.
SC3	16	Serial clock 3. Connect to channel 3 reference voltage through a pull-up resistor.
$\overline{\text{INT}}$	17	Active-low interrupt output. Connect to reference voltage through a pull-up resistor.
SCL	18	Serial clock line. Connect to reference voltage through a pull-up resistor.
SDA	19	Serial data line. Connect to reference voltage through a pull-up resistor.
VCC	20	Supply power