# INTL9511 Product Brief

## 1. Description

The INTL9511 is a hot swappable I2C-bus which supports I/O card insertion into a live backplane without corruption of the data and clock lines. Control circuitry prevents the backplane from being connected to the card until a stop command or bus idle occurs on the backplane without bus contention on the card. When the connection is made, this device provides bidirectional buffering, keeping the backplane and card capacitances isolated.

When the I2C bus is idle，the INTL9511 can be put into shutdown mode by setting the EN pin low, reducing power consumption. When EN pin is pulled high, this chip will enter normal mode, it also includes an open drain READY output pin, which indicates that the backplane and card sides are connected together.

The INTL9511 is available in MSOP8 package, this product is rate over an operating temperature range of -40℃ to 85℃.

## 2. Applications

- Automotive electronics
- Factory Automation
- IT infrastructure (servers, storages)
- 5g communication
- Network system, including switches and routers

## 3. Key Features

- Supports bidirectional data transfer of I2C bus signals.
- Supports clock stretching, arbitration and synchronization
- Built-in rise time accelerators on all SDA and SCL lines (0.6V threshold) requires the bus pull-up voltage and supply voltage (VCC) to the same
- Active high ENABLE input
- High-impedance SDA and SCL pins for VCC = 0V
- 1V pre-charge on all SDA and SCL lines.
- Operating power supply voltage range: 2.3V to 5.5V
- 0 Hz to 400 kHz clock frequency

# 4. Functional Diagram

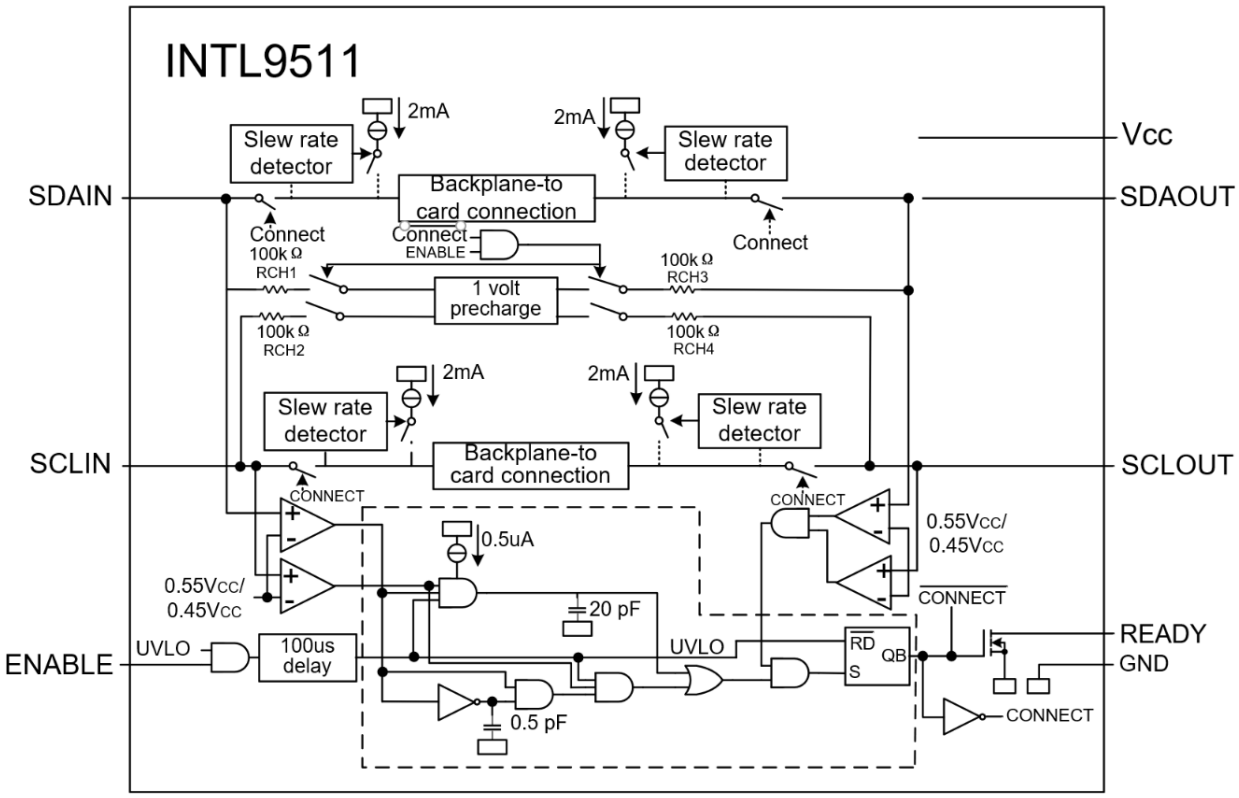


**Figure 1 Functional Diagram**

# 5. Pin Maps

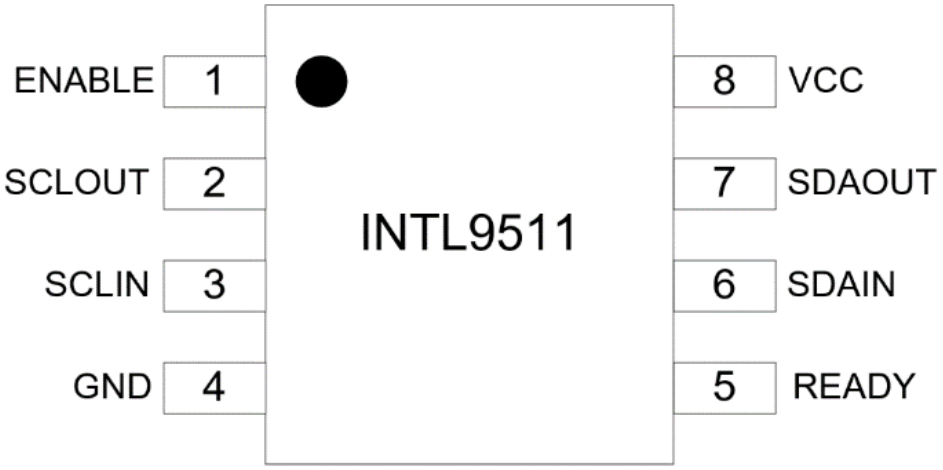


**Figure 2 Pin Assignment Diagram - MSOP8**

# 6. Pin Descriptions

**Table 1 Pin Descriptions**

| Symbol | Pin | Type | Description |
|---|---|---|---|
| ENABLE | 1 | input | Active-high chip enable pin. If this pin status is low, this chip enters to a low current mode, it also disables the rise-time accelerators, isolates SDAIN from SDAOUT and isolates SCLIN from SCLOUT.EN should be high for normal mode. |
| SCLOUT | 2 | input/output | Serial clock output. Connect this pin to the SCL bus on the card |
| SCLIN | 3 | input/output | Serial clock input. Connect this pin to the SCL bus on the backplane. |
| GND | 4 | power | Ground |
| READY | 5 | output | The READY pin is low when SADIN and SCLIN are disconnected from SADOUT and SCLOUT, The READY pin is high when SADIN and SCLIN are connected from SADOUT and SCLOUT. |
| SDAIN | 6 | input/output | Serial data input. Connect this pin to the SDA bus on the backplane. |
| SDAOUT | 7 | input/output | Serial data output. Connect this pin to the SDA bus on the card |
| VCC | 8 | power | Power supply |