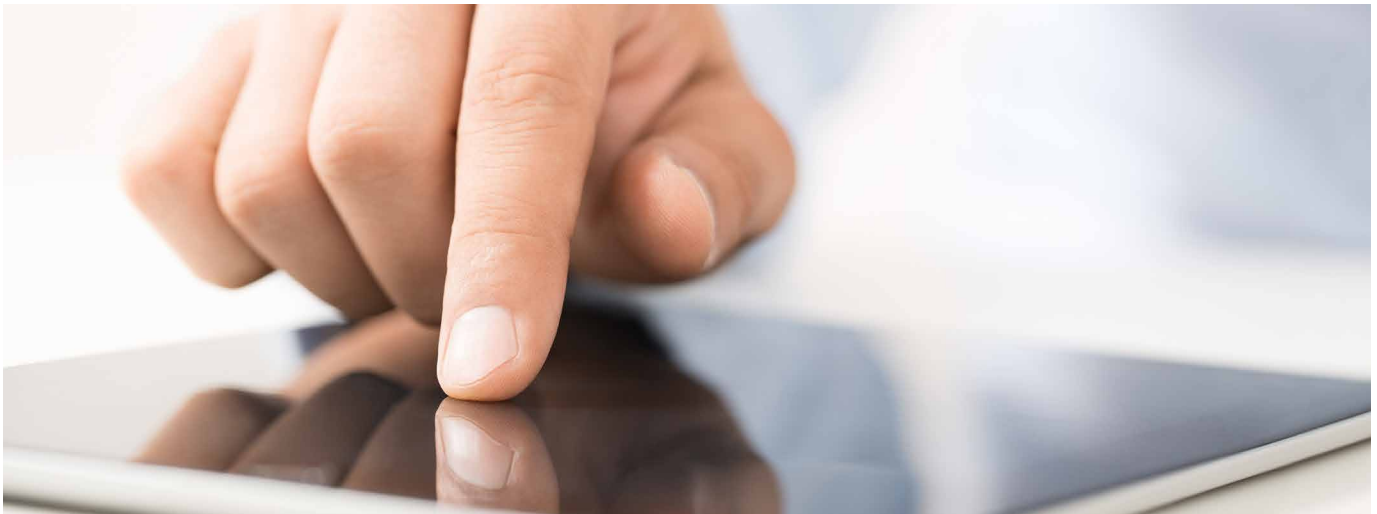


P3A9606, LOW VOLTAGE TRANSLATOR FOR I3C BUS APPLICATIONS



Dual supply, 0.72 V to 1.98 V translator with auto direction sensing, enables bidirectional voltage level translation without the need for direction control in I3C, I²C-bus and SPI applications.

The P3A9606 is a 2-bit, dual supply translating transceiver with auto direction sensing, that enables bidirectional voltage level translation for both open-drain as well as push-pull application which allows for I3C, I²C and SPI protocols level translation. The device was specifically designed to support I3C which initiates the communication sequence using an open-drain I²C-bus, then switches to the 12.5 MHz push-pull I3C bus. The device is useful in any low voltage open-drain or push-pull bidirectional signal translation application.

EASY TO USE

The P3A9606, a dual supply translating transceiver with auto direction sensing, enables bidirectional voltage level translation without the need for direction control up to 26 MHz.

WIDE VOLTAGE LEVEL TRANSLATION

- $V_{CC(A)}$: 0.72 V to 1.98 V and $V_{CC(B)}$: 0.72 V to 1.98 V with $V_{CC(A)} \leq V_{CC(B)}$
- Voltage nodes 0.8 V, 1.0 V, 1.2 V, 1.5 V and 1.8 V

SMALLER AND THINNER PACKAGE

X2SON8, super-thin package, with 0.35 mm pitch, and 1.35 mm x 1.0 mm x 0.32 mm body

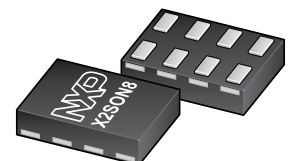
PROTECTIVE CIRCUITRY

- I_{OFF} circuitry provides partial power-down mode operation
- Accepts voltage inputs up to 1.98 V with overvoltage tolerance to 1.98 V

KEY FEATURES AND ADVANTAGES

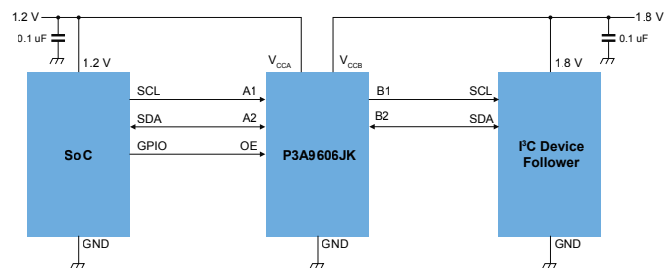
Applications

- I3C Bus, I²C-bus and SPI level translation
- Servers
- Notebooks/Tablets
- Smartphones

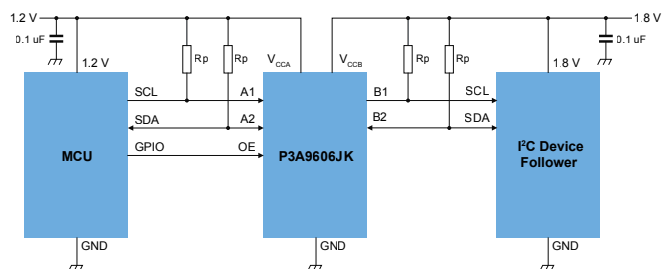


Application diagrams

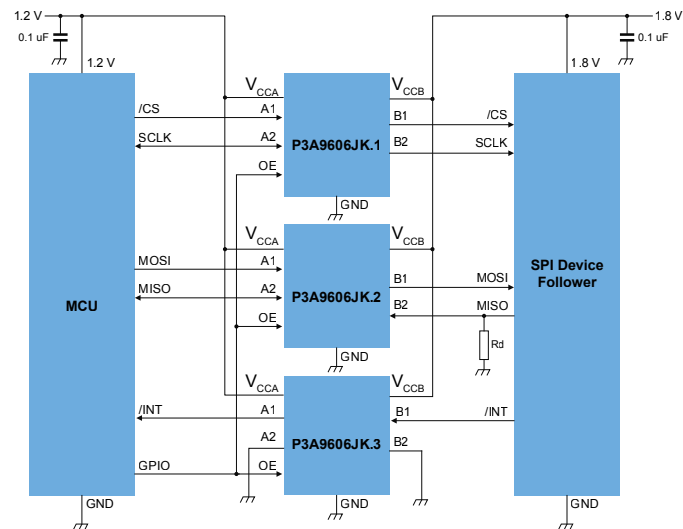
I3C BUS LEVEL TRANSLATION



I²C-BUS LEVEL TRANSLATION



SPI LEVEL TRANSLATION



ORDERING INFORMATION

| Type number | Top-side marking | Package | | |
|-------------|-------------------|---------|---|-----------|
| | | Name | Description | Version |
| P3A9606JK | Tx ^[1] | X2SON8 | super thin small outline package, no leads; 8 terminals; 0.35 mm pitch; 1.35 mm x 1.0 mm x 0.32 mm body | SOT2015-1 |

^[1] "x" changes based on date code.

ORDERING OPTIONS

| Type number | Orderable part number | Package | Packing method | Minimum order quantity | Temperature |
|-------------|-----------------------|---------|--|------------------------|--------------------------------------|
| P3A9606JK | P3A9606JKZ | X2SON8 | Reel 13" Q1/T1 *standard mark SMD with SSB ^[1] | 20000 | T _{amb} = -40 °C to +125 °C |

^[1] This packing method uses a Static Shielding Bag (SSB) solution. Material should be kept in the sealed bag between uses.