



2-, 4-, and 8-channel
level translators

NTS030x Ultra-Low-Voltage Level Translators

OVERVIEW

NXP's voltage level translators offer lower voltage and superior performance in pin-to-pin compatible packages with industry-standard footprints. These bi-directional level translators address the various applications that need a transition of voltage signals through multiple domains. With auto-direction sensing and the ultra-low 0.95 V minimum supply, these families match up well with the latest low-voltage μ Cs and FPGAs.

NTS030x "smart one-shot" translators deliver better operation in higher capacitance systems with minimal overshoot compared to previous generations of level translators and are optimized for I²C-bus and other open-drain applications.

APPLICATIONS

- ▶ Laptops
- ▶ Smart phones
- ▶ Communications systems
- ▶ Set-top boxes
- ▶ Low-voltage edge computing
- ▶ Smart cards: debit/credit

KEY FEATURES

- ▶ Simple to Use
 - Dual-supply translating transceiver family with auto direction sensing enables bi-directional voltage level translation without need for direction control
- ▶ Highly Robust
 - IEC61000-4-2 class 4, 8 kV contact ESD protection for B-side port (only NTS030xE)
 - "Smart one-shot" functionality with 50 ns pulse and EMI rejection
- ▶ Wide Voltage Level Translation
 - NTS VCC(A): 0.95 V to 3.6 V and VCC(B): 1.65 V to 5.5 V
 - Voltage nodes 1.2 V, 1.8 V, 2.5 V, 3.3 V, and 5.0 V
- ▶ Complete Family
 - Updated family of 2, 4 and 8-channel level translators
 - Multiple pin-compatible package options



NTS030X FAMILY FEATURES

- ▶ Dual supplies to pair with low-voltage digital IC and higher voltage peripherals
- ▶ Auto-sensing bi-directional—no direction pin required
- ▶ Best for open drain outputs like I²C-bus but can also be used for push-pull applications to 20 Mbit/s
- ▶ Integrated pull-up resistors reduce component cost
- ▶ Longer one shot for faster low-to-high transition in high-capacitance applications

VOLTAGE LEVEL TRANSLATOR SELECTION

	2-channel	4-channel	8-channel
FET w/ one-shot output(s)	NTS0302JK	NTS0304EPW NTS0304EUK	NTS0308EPW

