

## Product Overview

### NLSX5014: Level Translator, 4-Bit, 100 Mbps, Configurable Dual-Supply

For complete documentation, see the data sheet.

The NLSX5014 is a 4-bit configurable dual-supply autosensing bidirectional level translator that does not require a direction control pin. The IO V<sub>cc</sub>- and IO VL-ports are designed to track two different power supply rails, V<sub>CC</sub> and VL respectively. Both the V<sub>CC</sub> and the VL supply rails are configurable from 0.9 V to 4.5 V. This allows a logic signal on the VL side to be translated to either a higher or a lower logic signal voltage on the V<sub>CC</sub> side, and vice-versa. The NLSX5014 offers the feature that the values of the V<sub>CC</sub> and VL supplies are independent. Design flexibility is maximized because VL can be set to a value either greater than or less than the V<sub>CC</sub> supply. In contrast, the majority of competitive auto sense translators have a restriction that the value of the VL supply must be equal to less than (V<sub>CC</sub>-0.4) V. The NLSX5014 has high output current capability, which allows the translator to drive high capacitive loads such as most high frequency EMI filters. Another feature of the NLSX5014 is that each IO\_VL<sub>n</sub> and IO\_VCC<sub>n</sub> channel can function as either an input or an output. An Output Enable (EN) input is available to reduce the power consumption. The EN pin can be used to disable both I/O ports by putting them in 3-state which significantly reduces the supply.

### Features

- Wide V<sub>CC</sub>, VL operating range: 0.9 V to 4.5 V
- VL and V<sub>CC</sub> are independent. VL may be greater than, equal to, or less than V<sub>CC</sub>
- High 100 pF capacitive drive capability
- High speed with 140 Mb/s guaranteed data rate for V<sub>CC</sub>, VL > 1.8 V
- Low bit to bit skew
- Overvoltage tolerant Enable and I/O pins
- Nonpreferential Power up sequencing
- Power Off protection
- Small packaging: 1.7 mm x 2.0 mm UQFN-12, SOIC-14, TSSOP-14
- These are PbFree devices

For more features, see the data sheet

### Applications

- Mobile Phones, PDAs, Other Portable Devices

### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Channels	Input Level	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	t <sub>pd</sub> Max (ns)	I <sub>O</sub> Max (mA)	Package Type
NLSX5014DR2G	0.732	Pb-free Halide free non AEC-Q and PPAP	Active	4	CMOS	0.9	4.5	11	0.02	SOIC-14
NLSX5014DTR2G	0.5499	Pb-free Halide free non AEC-Q and PPAP	Active	4	CMOS	0.9	4.5	11	0.02	TSSOP-14
NLSX5014MUTAG	0.4831	Pb-free Halide free non AEC-Q and PPAP	Active	4	CMOS	0.9	4.5	11	0.02	UQFN-12

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