

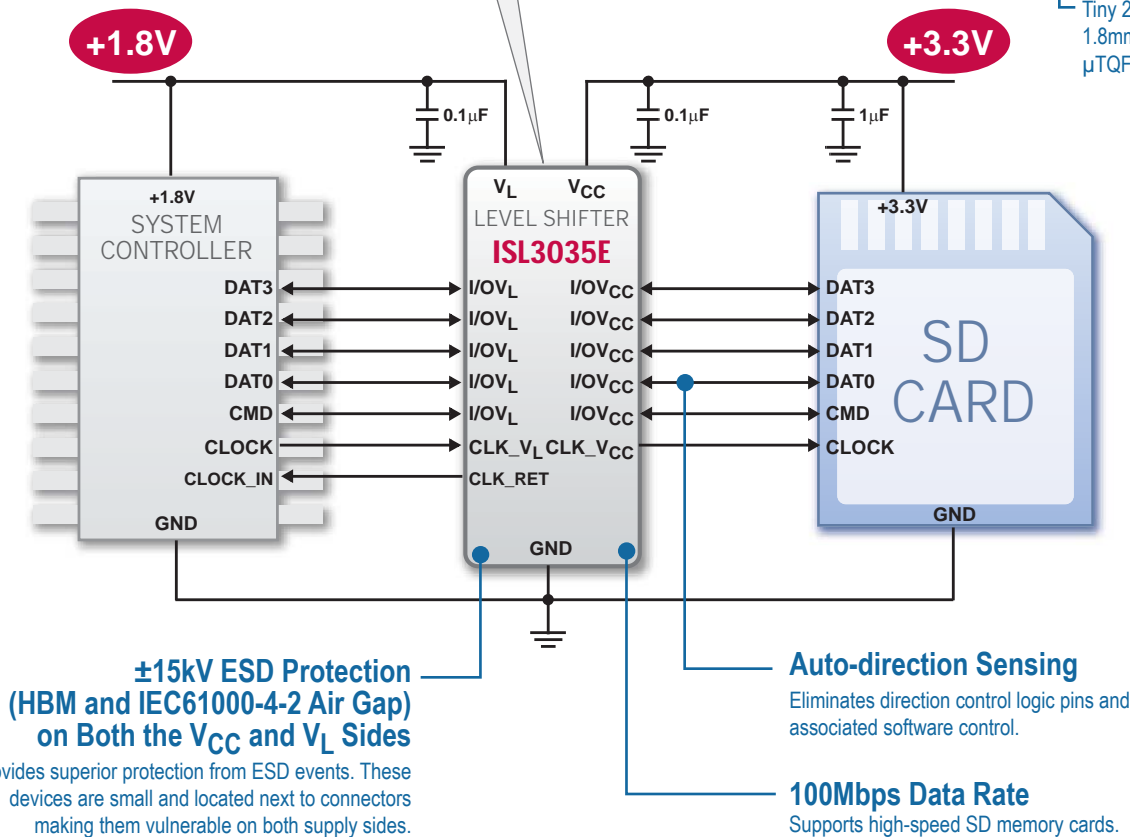
Best-in-Class ESD Protected Level Translators

The **ISL3034E/35E/36E** run at 100Mbps in 4/6 channel configurations.

Connecting the level shifter to the two-system supplies allows it to shift voltages up/down for compatibility in mixed supply systems.



Tiny 2.6mm x 1.8mm 16 leadless μ TQFN package.

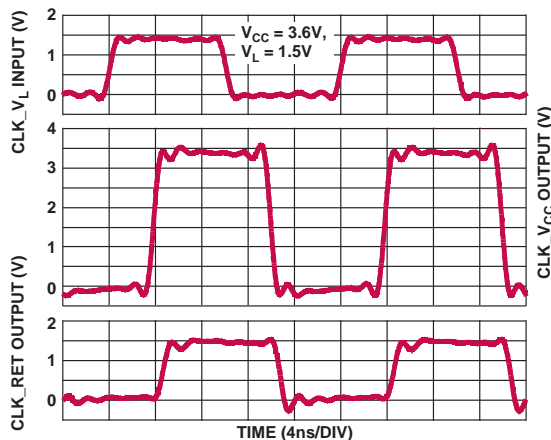


Intersil's Voltage Level Translators

Part Number	Package Type	Data Rate (Mbps)	Number of Channels	EN Pin?	I/O V_L SHDN State	I/O V_{CC} SHDN State
ISL3034E	16 Ld μ TQFN, 16 Ld TQFN	100	6	YES	16.5k Ω to V_L	16.5k Ω to V_{CC}
ISL3035E	16 Ld μ TQFN, 16 Ld TQFN	100	6	NO	75k Ω to V_L	High Impedance
ISL3036E	16 Ld μ TQFN, 14 Ld QFN	100	4	YES	16.5k Ω to V_L	16.5k Ω to V_{CC}

Voltage Level Translators Key Features

High-Speed Data Transfer



ISL3035E CLOCK WAVEFORMS (100Mbps)

- **Voltage range**
 - $+1.35V < V_L < +3.2V$ (lower voltage logic supply)
 - $+2.2V < V_{CC} < +3.6V$ (higher voltage peripheral supply)
- **Fast data rates**
 - 100Mbps for $V_L \geq 1.62V$
 - 85Mbps for $V_L \geq 1.35V$
- **Auto-direction sensing**
- **IEC61000-4-2 ESD protection on the V_L and V_{CC} I/O pins**
 - 15kV air gap, 9kV contact
- **6 bidirectional channels**
 - ISL3035E - Additional clock return pin
 - ISL3034E - Enable pin for software-controlled power down
- **4 bidirectional channels**
 - ISL3036E - Enable pin for software-controlled power down
- **Industrial temp range (-40°C to +85°C)**
- **Small TQFN and μ TQFN package options**

Why are level shifters needed?

- **Simplifies the interconnection between two ICs operating at different supply voltages**
 - Interface components (RS-232/RS-485 transceivers, memory cards, etc.) typically operate at supply voltages of 3.3V or higher
 - Core components (baseband processors, μ Controllers, ASICs, and FPGAs) operate at lower supply voltages (currently 1.8V)
 - Lower V_{CC} logic typically cannot drive higher V_{CC} logic without translation circuitry
- **Dual-supply level shifters solve the interfacing problem**
 - Shifts logic levels up/down to be compatible with each of the supply voltages
 - Gives designers more flexibility in choosing components for the application

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