



# New Product Announcement

## PI3CLS9606

### High-Performance, Ultra-Low Voltage Level Shifter for SMBus, I2C, and I3C in Data Center and AI Server Applications

The PI3CLS9606 is a 2-bit, dual-supply translating transceiver with auto-direction sensing. It enables bidirectional voltage level translation for traditional open-drain I2C-bus/SMBus applications, and next-generation push-pull I3C-bus in computing and smartphone applications.

With a wide voltage range of 0.72V to 1.98V for both  $V_{CC}(A)$  and  $V_{CC}(B)$ , the PI3CLS9606 easily translates between low-voltage nodes, including 0.8V, 1.2V, and 1.8V.

The PI3CLS9606 features two 1-bit input-output ports (An and Bn) controlled by one output-enable input (OE).

As processor geometries continue to shrink while legacy peripherals remain at 3.3V, the PI3CLS9606 level shifter bridges this gap by translating voltage levels between disparate components, ensuring smooth communication and data integrity.

The PI3CLS9606 is available in the very small X1-DFN1410-8 package occupying only 1.4mm<sup>2</sup>.

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#### The DIODES Advantage

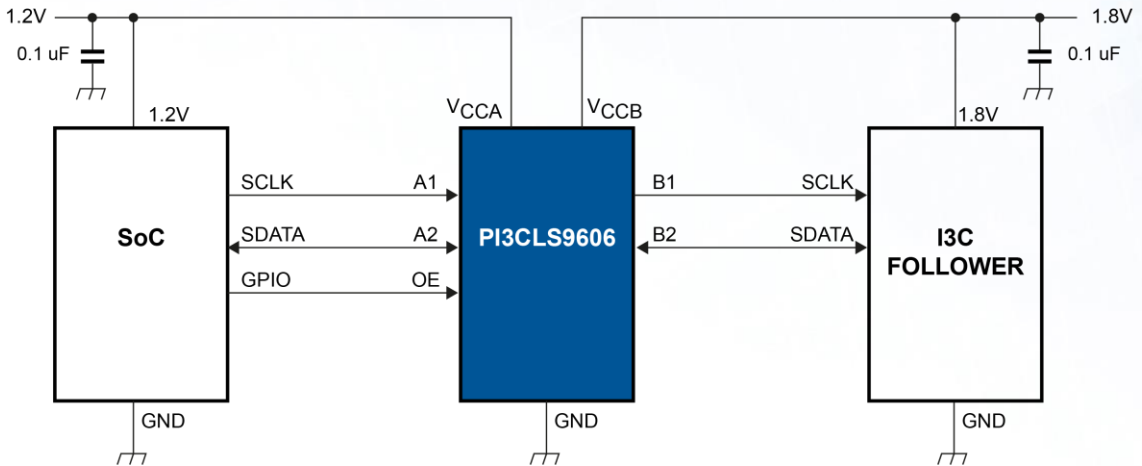
**The PI3CLS9606 provides seamless voltage level translation and reliable data communication across diverse voltage domains.**

- **Voltage Translation Between I2C-Bus, SMBus, and I3C-Bus Devices**  
Ensures compatibility between devices with different voltage levels in server systems
- **Wide Voltage Level Translation Including 0.8V, 1.2V, and 1.8V**  
Integrates ultra-low voltage level shifters that allow circuits to operate at lower voltages, enabling further scaling and miniaturization of electronic systems
- **Smaller and Thinner Package**  
Meets very small and compact system design requirements
- **I<sub>OFF</sub> Circuitry Provides Partial Power-Down Mode Operation**  
Minimizes current leakage in power-down mode, making the device a reliable and safe solution for circuit design needs

#### Applications

- AI servers
- Data centers
- Notebooks
- Smartphones

### Typical Application



### Product Portfolio

Part Number	Translation		Auto-Direction Sensing	Shift	Max Signal Rate	Package
	From (V)	To (V)			Mhz	
<a href="#">PI3CLS9606</a>	0.72 ~ 1.98	0.72 ~ 1.98	Yes	Bidirectional	12.5	X1-DFN1410-8

### Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package	Moisture Sensitivity	Packing	
				Quantity	Reel
<a href="#">PI3CLS9606HKEX</a>	<a href="#">Standard</a>	X1-DFN1410-8 (HK8)	MSL-1	3,000	7" Tape & Reel