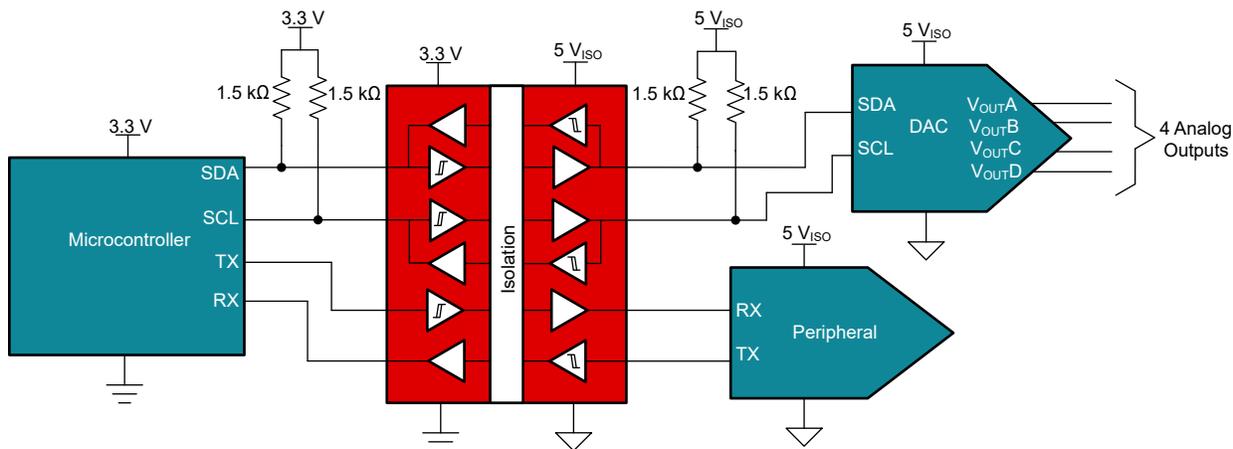


Isolating I2C Plus UART Signals



Example I2C Plus UART Isolation Block Diagram

Design Considerations

- Prevents DC and unwanted AC currents between controller devices and peripheral ICs
- Allows signal transfer between controller devices and peripheral ICs
- Protects low voltage parts in a system from high voltage circuits
- Diminishes the effect of ground potential difference
- [\[FAQ\] Why is the logic LOW level output voltage, VOL1, up to 0.8 V on Side 1 of the ISO1540/ISO1541 and ISO1640/ISO1641 bidirectional I2C isolators?](#)
- [I2C Bus Pullup Resistor Calculation](#)
- [Top 6 Design Questions about I2C Isolators](#)
- [How do Isolated I2C Buffers with Hot-Swap Capability and IEC ESD Improve Isolated I2C?](#)
- [Digital Isolator Design Guide](#)

Need additional assistance? Ask our engineers a question on the [TI E2E™ Isolation Support Forum](#)

Recommended Parts

Part Number	Voltage Range	Data Rate	Bidirectional SCL Communication	Features
ISO1642	3.0 - 5.5 V (Side 1) 2.25 - 5.5 V (Side 2)	I2C Standard Mode (0 to 100 kbps) Fast Mode (0 to 400 kbps) Fast-Mode Plus (0 to 1 Mbps) High-Speed Mode (0 to 3.4 Mbps) UART 0 to 50 Mbps	✓	High CMTI Reinforced Isolation Hot-Swappable I2C Connections Enhanced EMC Isolated UART Support (TX and RX)

For more isolated I2C devices, browse through the [online parametric tool](#); for device recommendations related to isolating UART signals without I2C, please refer to the [Isolating UART Signals](#) product overview.

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