

Half-Duplex RS-485/422 Transceivers with ESD and EFT Protection

PRODUCTS

MxL83121	250kbps	3.3V to 5V
MxL83122	500kbps	3.3V to 5V

OVERVIEW

Supply Voltage Range	3.3V to 5V
Operating Temperature	-40°C to +125°C
Max Common Mode	±12V
Package	SOIC

PERFORMANCE

Data Rate	250kbps, 500kbps
EFT (IEC 61000-4-4)	±2kV
ESD Contact (IEC 61000-4-2)	±12kV
ESD HBM	±15kV

FEATURES

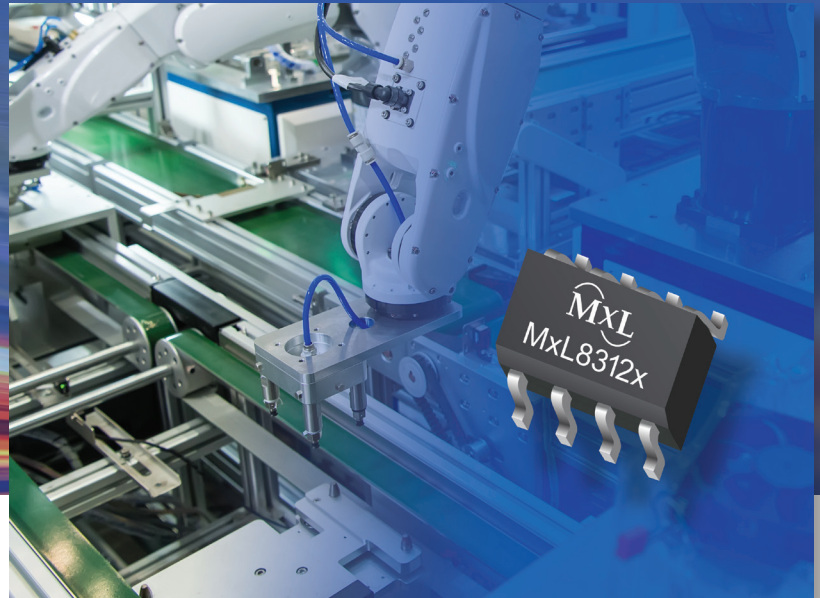
- Meets or exceeds the requirements of the TIA/EIA-485A Standard
- Up to ±2kV Electrical Fast Transient protection
- Up to ±12kV ESD Contact
- Low power shutdown mode
- Hot swap support
- Operational common mode range up to ±12V
- Extended operating temperature of -40°C to 125°C
- Advanced fail safe circuitry

BENEFITS

- ±2kV EFT tolerance protects systems from fast transients caused by relays and supply disconnects
- Reliable operation from 3.3V to 5V
- Slew-limited options for enhanced EMI immunity
- Industry standard pinout and footprint
- Advanced fail safe circuitry ensures a known Rx output when the bus is shorted, open, or idle with termination

APPLICATIONS

- Motor drives
- Automation controllers
- EV charging
- Industrial sensors



Product Description

The MxL8312x family of Half-Duplex RS-485 transceivers are specifically designed to support reliable communication in harsh industrial environments. The bus pins are designed to tolerate IEC electrical fast transients (EFT) and IEC electrostatic discharge (ESD).

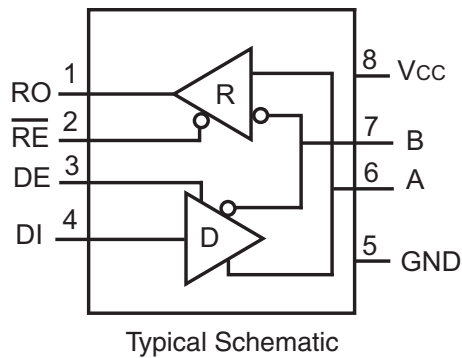
All devices operate continuously from 3.3V to 5V to ensure reliable operation under a wide range of applications and in systems where the power supply may drop below 4.5V.

Low power shutdown mode can extend the life of batteries in applications such as industrial notebooks, sensors, and solar-powered applications, while hot swap ensures a deterministic logic state upon power-up.

The combination of integrated EFT and ESD protection, an extended common mode range, and extended operating conditions, ensures this family of products is well suited for a broad range of applications.

Product Information

Part Number	Ordering Number	Data Rate (Mbps)	EFT ESD	Contact Discharge ESD	Max Common Mode	Supply	Operating Temperature	Package	Packaging Type
MxL83121	MXL83121E-ADA-R	0.25	±2kV	±12kV	±12V	3.3 to 5V	-40° to 125°C	NSOIC8	Tape and Reel
MxL83122	MXL83122E-ADA-R	0.50	±2kV	±12kV	±12V	3.3 to 5V	-40° to 125°C	NSOIC8	Tape and Reel



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