MAXLINEAR

MxL83101, MxL83102, MxL83111, MxL83112

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

PRODUCTS

MxL83101	250kbps	5V
MxL83102	500kbps	5V
MxL83111	250kbps	3.3V to 5V
MxL83112	500kbps	3.3V to 5V

OVERVIEW

Supply Voltage Range	5V only, 3.3V to 5V
Operating Temperature	-40°C to 125°C
Max Common Mode	-7V to 12V
Package	SOIC

PERFORMANCE

Data Rate	250Kbps, 500Kbps
EFT (IEC 61000-4-4)	±2kV
ESD Contact (IEC 61000-4-2)	±8kV
ESD HBM	±15kV

FEATURES

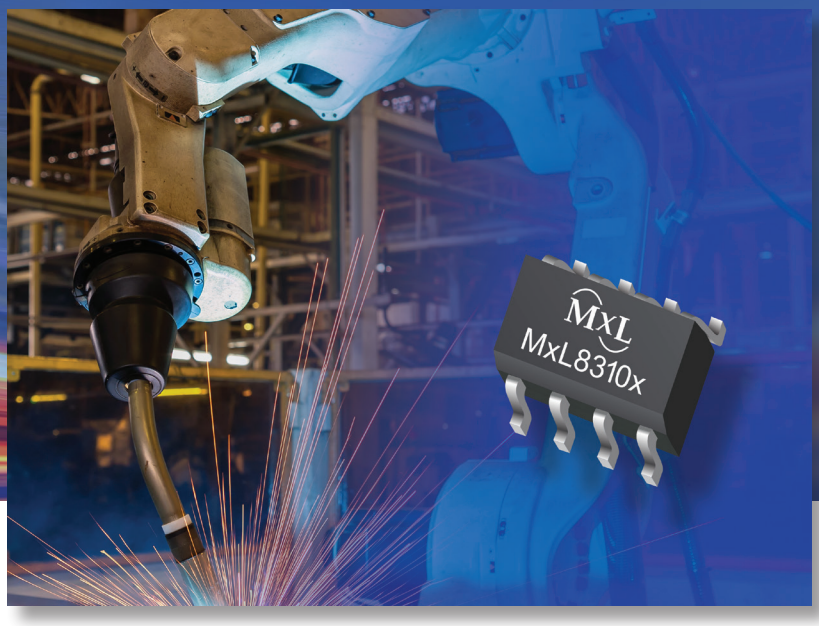
- Meets or exceeds the requirements of the TIA/EIA-485A Standard
- Up to ±2kV Electrical Fast Transient protection
- Up to ±8kV ESD Contact
- Low power shutdown mode
- Hot swap support
- Extended operating temperature of -40°C to 125°C
- Advanced fail safe circuitry

BENEFITS

- ±2kV EFT tolerance protects systems from fast transients caused by relays and supply disconnects
- Both 5V only and 3.3V to 5V variations
- Slew-limited drivers 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

- Process automation
- Building automation
- Industrial sensors



Product Description

The MxL8310x/MxL8311x 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).

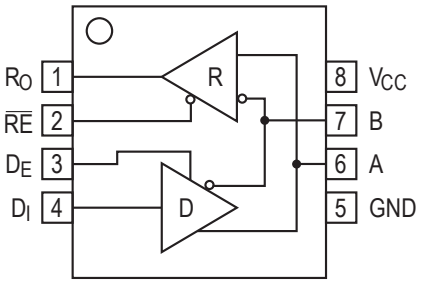
Wide supply devices (3.3V to 5V) ensure reliable operation under a wide range of applications and in systems where the power supply may drop below 4.5V.

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.

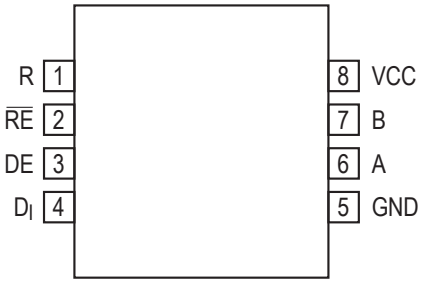
The combination of integrated EFT and ESD protection, low slew-limiting drivers, and extended operating conditions, ensures this family of products is well suited for a broad range of applications.

Product Information

Part Number	Ordering Number	Data Rate (Mbps)	EFT ESD	Contact Discharge ESD	Supply	Operating Temperature	Package	Packaging Type
MxL83101	MXL83101E-ADA-R	0.25	±2kV	±8kV	5V	-40° to 125°C	NSOIC8	Tape and Reel
MxL83102	MXL83102E-ADA-R	0.50	±2kV	±8kV	5V	-40° to 125°C	NSOIC8	Tape and Reel
MxL83111	MXL83111E-ADA-R	0.25	±2kV	±8kV	3.3 to 5V	-40° to 125°C	NSOIC8	Tape and Reel
MxL83112	MXL83112E-ADA-R	0.50	±2kV	±8kV	3.3 to 5V	-40° to 125°C	NSOIC8	Tape and Reel



Typical Schematic



Pinout

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