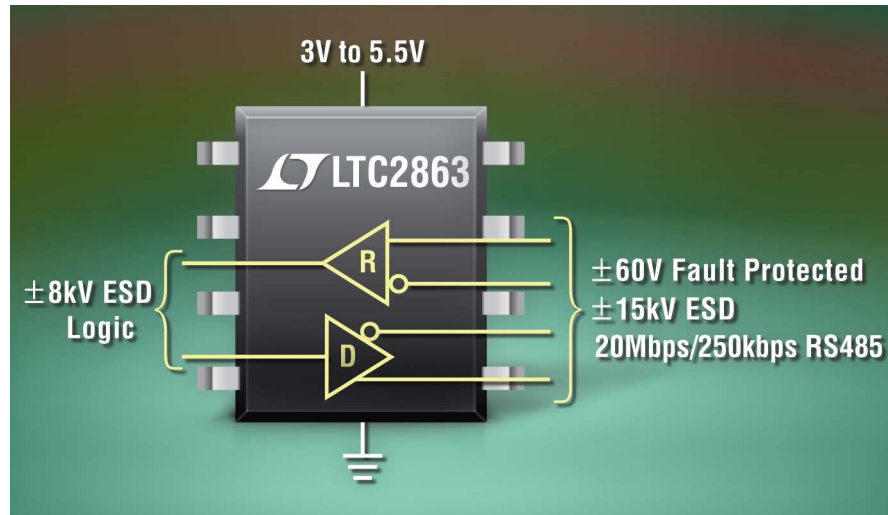


Ultra Rugged $\pm 60\text{V}$ RS485 Transceivers



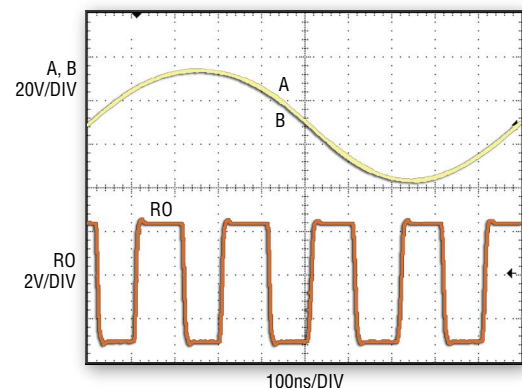
Run Full RS485 Levels at Up to 20Mbps with 3.3V or 5V Operation

The LTC®2862–LTC2865 is a family of exceptionally rugged, high voltage tolerant RS485/RS422 transceivers that helps eliminate field failures without the need of costly external protection devices. $\pm 60\text{V}$ overvoltage fault protection on the data transmission lines protects bus pins during operation and power shutdown, while an extended $\pm 25\text{V}$ input common mode range and full failsafe operation improve data communications reliability in electrically noisy environments and in the presence of ground loop voltages. Enhanced ESD protection allows these devices to withstand $\pm 15\text{kV}$ (HBM and IEC-1000-4-2 air discharge) on the transceiver pins without latchup or damage; all other pins are protected to $\pm 8\text{kV}$ HBM.

Features

- Protected from Overvoltage Line Faults to $\pm 60\text{V}$
- 3V to 5.5V Supply Voltage
- 20Mbps or Low EMI 250kbps Data Rate
- $\pm 15\text{kV}$ ESD Interface Pins, $\pm 8\text{kV}$ All Other Pins
- Extended Common Mode Range: $\pm 25\text{V}$
- Guaranteed Failsafe Receiver Operation
- Supports up to 256 Nodes
- Separate 1.65V to 5.5V Logic Supply Pin (LTC2865)
- Temperature Range: -55°C to 125°C

LTC2865 Receiving 10Mbps $\pm 200\text{mV}$ Signal with 1MHz $\pm 25\text{V}$ Common Mode Sweep



Part Number	Max Data Rate	Duplex	SHDN	Comments	Package
LTC2862-1/-2	20Mbps/250kbps	Half	Yes	Pin-Compatible with LT®1785A	SO-8, 3 x 3 DFN-8
LTC2863-1/-2	20Mbps/250kbps	Full	No	Pin-Compatible with LTC490	SO-8, 3 x 3 DFN-8
LTC2864-1/-2	20Mbps/250kbps	Full	Yes	Pin-Compatible with LT1791A	SO-14, 3 x 3 DFN-10
LTC2865	20Mbps/250kbps	Full	Yes	Logic Supply Pin, SLO Pin	MSOP-12, 4 x 3 DFN-12



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Linear Technology RS485/RS422 Transceivers

Part Number	Supply (V)	Max Data Rate (Bits/s)	# Dr	# Rec	Duplex	SHDN	ESD (kV)	Failsafe	Comments	Temp Grade	Package
2500V_{RMS} Isolation											
LTM®2881-3/-5	3.3/5	20M	1	1	Full	Yes	±15	Type 2	No External Components Required, Isolated 1W DC/DC Converter, Switchable, 120Ω Termination, UL File #E151738	C, I, H, MP	15 × 11.25 × 2.8 LGA, 15 × 11.25 × 3.4 BGA
LTC1535	5	250k	1	1	Full	No	±8	Type 2	UL File #E151738	C, I	SO(W)-28
±60V Fault Protection											
LTC2862-1/-2	3 to 5.5	20M/250k	1	1	Half	Yes	±15	Type 2	Pin-Compatible with LT1785A	C, I, H, MP	SO-8, 3 × 3 DFN-8
LTC2863-1/-2	3 to 5.5	20M/250k	1	1	Full	No	±15	Type 2		C, I, H, MP	SO-8, 3 × 3 DFN-8
LTC2864-1/-2	3 to 5.5	20M/250k	1	1	Full	Yes	±15	Type 2	Pin-Compatible with LT1791A	C, I, H, MP	SO-14, 3 × 3 DFN-10
LTC2865	3 to 5.5	20M/250k	1	1	Full	Yes	±15	Type 2	Logic Supply Pin, SLO Pin	C, I, H	MSOP-12, 4 × 3 DFN-12
LT1785A	5	250k	1	1	Half	Yes	±15	Type 2	Pin-Compatible with LTC485	C, I, H	SO-8, DIP-8
LT1791A	5	250k	1	1	Full	Yes	±15	Type 2	Pin-Compatible with LTC491	C, I, H	SO-14, DIP-14
Integrated Switchable 120Ω Termination											
LTC2854	3.3	20M	1	1	Half	Yes	±25	Type 2	Low Power	C, I, H	3 × 3 DFN-10
LTC2859	5	20M/250k	1	1	Half	Yes	±15	Type 2	Slew Rate Control, Low Power	C, I, H	3 × 3 DFN-10
LTC2855	3.3	20M	1	1	Full	Yes	±15	Type 2	Low Power	C, I, H	4 × 3 DFN-12, SSOP-16
LTC2861	5	20M/250k	1	1	Full	Yes	±15	Type 2	Slew Rate Control, Low Power	C, I	4 × 3 DFN-12, SSOP-16
3.3V Supply Operation											
LTC2850	3.3	20M	1	1	Half	Yes	±15	Type 2	Low Power	C, I, H	SO-8, MSOP-8, 3 × 3 DFN-8
LTC2851	3.3	20M	1	1	Full	No	±15	Type 2	Low Power	C, I, H	SO-8, MSOP-8, 3 × 3 DFN-8
LTC2852	3.3	20M	1	1	Full	Yes	±15	Type 2	DE and RE Pins, Low Power	C, I, H	SO-14, MSOP-10, 3 × 3 DFN-10
LTC1480	3.3	2.5M	1	1	Half	Yes	±3.5	Type 1	Low Power	C, I	SO-8, DIP-8
Low Power											
LTC2856-1/-2	5	20M/250k	1	1	Half	Yes	±15	Type 2	Hot Swap™ Capable	C, I, H	MSOP-8, 3 × 3 DFN-8
LTC2857-1/-2	5	20M/250k	1	1	Full	No	±15	Type 2	Hot Swap Capable	C, I, H	MSOP-8, 3 × 3 DFN-8
LTC2858-1/-2	5	20M/250k	1	1	Full	Yes	±15	Type 2	Hot Swap Capable	C, I, H	MSOP-10, 3 × 3 DFN-10
LTC1690	5	5M	1	1	Full	No	±15	Type 2		C, I	MSOP-8, SO-8, DIP-8
LTC1481	5	2.5M	1	1	Half	Yes	±10	Type 1		C, I	SO-8, DIP-8
LTC1482	5	4M	1	1	Half	Yes	±15	Type 2	Carrier Detect	C, I	MSOP-8, SO-8, DIP-8
LTC1483	5	150k	1	1	Half	Yes	±10	Type 1	Low EMI	C, I	SO-8, DIP-8
LTC1484	5	4M	1	1	Half	Yes	±15	Type 2		C, I	MSOP-8, SO-8, DIP-8
LTC1485	5	10M	1	1	Half	No	±10	Type 1		C, I	SO-8, DIP-8
LTC1487	5	250k	1	1	Half	Yes	±10	Type 1	Low EMI	C	SO-8, DIP-8
LTC485	5	2.5M	1	1	Half	No	±4	Type 1		C, I, M	SO-8, DIP-8, CERDIP-8
LTC490	5	2.5M	1	1	Full	No	±10	Type 1		C, I	SO-8, DIP-8
LTC491	5	2.5M	1	1	Full	No	±10	Type 1	DE and RE Pins	C, I	SO-14, DIP-14
High Speed											
LTC1685	5	52M	1	1	Half	No	±4	Type 2		C, I	SO-8
LTC1686	5	52M	1	1	Full	No	±4	Type 1		C, I	SO-8
LTC1687	5	52M	1	1	Full	No	±4	Type 1	DE and RE Pins	C, I	SO-14
Quad Drivers and Receivers											
LTC1688/89	5	100M	4	0		No	±4		Hot Swap Capable, 1/2 DE Pins	C, I	SO-16
LTC486/87	5	10M	4	0		No	±4	Type 1	Low Power, 1/2 DE Pins	C, I	SO(W)-16, DIP-16
LTC1518/19	5	52M	0	4		No	±4	Type 2		C, I	SO-16
LTC488/89	5	10M	0	4		No	±10	Type 1	1/2 DE Pins	C, I	SO(W)-16, DIP-16
LTC1520	5	50M	0	4		No	±4		High Speed, LVDS-Compatible	C	SO-16
RS232/RS485 Multiprotocol											
LTC2870	3 to 5.5	20M/500k	1	1	Both	Yes	±26	Type 2	Two RS232 Transceivers	C, I	4 × 5 QFN-28, TSSOP-28
LTC2871	3 to 5.5	20M/500k	1	1	Both	Yes	±16	Type 2	Two RS232 Transceivers	C, I	5 × 7 QFN-38, TSSOP-38
LTC2872	3 to 5.5	20M/500k	2	2	Both	Yes	±16	Type 2	Four RS232 Transceivers	C, I	5 × 7 QFN-38

Type 1 = Open; Type 2 = Idle, Open, Short