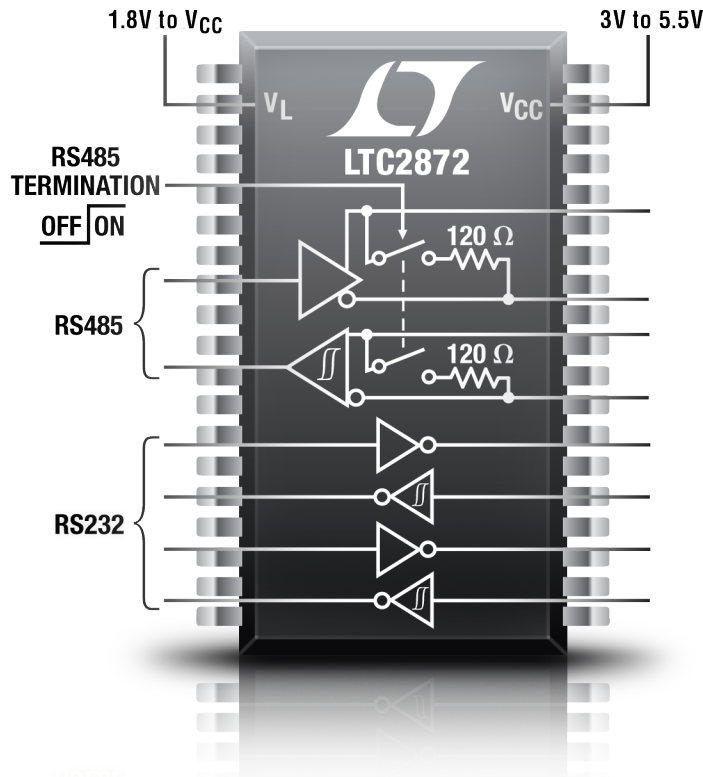


# LTC2870/LTC2871/LTC2872 Multiprotocol Transceivers



The LTC<sup>®</sup>2870/71/72 is a family of multiprotocol transceivers with switchable integrated termination for 3.3V and 5V systems. These devices integrate pin-controlled termination resistors that automatically switch in or out to match the transceiver's protocol selection of RS232 or RS485, allowing for easy interface reconfiguration and elimination of external resistors and control relays. The LTC2870 and LTC2871 can be configured as two RS232 single-ended transceivers or one RS485 differential transceiver on shared (LTC2870) or dedicated (LTC2871) I/O lines, while the LTC2872 can be configured as four RS232 transceivers or two RS485 transceivers, or combinations of both, on shared I/O lines. This on-the-fly configurability helps reduce component count for multiprotocol networks.

## Features

- 3V to 5.5V Supply Voltage Range
- One RS485 or Two RS232 Transceivers per Port
- 20Mbps RS485 and 500kbps RS232
- Automatic Selection of Integrated RS485 (120Ω) and RS232 (5kΩ) Termination Resistors
- Pin-Selectable Half- or Full-Duplex Mode RS485
- Logic Loopback Mode
- High ESD: ±26kV (LTC2870) or ±16kV (LTC2871/LTC2872) On Line I/O; ±4kV On All Other Pins
- 1.7V to 5.5V Logic Interface
- Supports Up to 256 RS485 Nodes
- Full Failsafe RS485 Receiver Eliminates UART Lockup

	LTC2870	LTC2871	LTC2872
Number of Ports	1	1	2
Possible Configurations (RS485 Transceivers + RS232 Transceivers)	0+0, 0+2, 1+0	0+0, 0+1, 0+2, 1+0, 1+1, 1+2	0+0, 0+2, 0+4, 1+0, 2+0, 1+2
RS232 and RS485 I/O Pin Sharing per Port	Shared	Dedicated	Shared
HBM ESD Rating	±26kV	±16kV	±16kV
Packages	4mm × 5mm QFN-28, TSSOP-28	5mm × 7mm QFN-38, TSSOP-38	5mm × 7mm QFN-38



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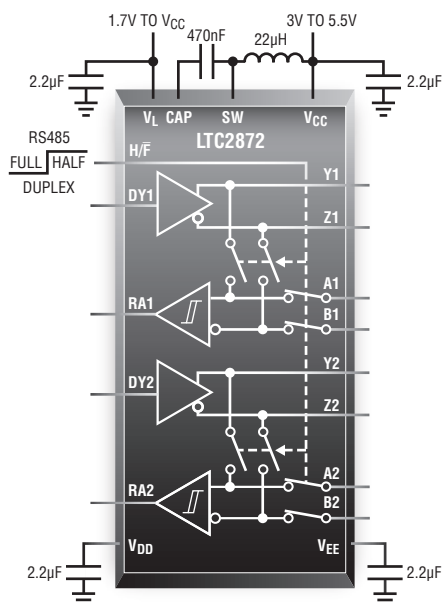
[www.BD11C.com/Linear](http://www.BD11C.com/Linear)

## Multiprotocol Transceivers

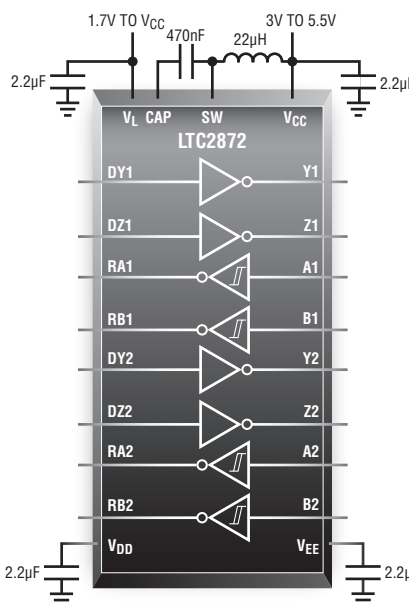
Part Number	# of Drivers	# of Receivers	Supply (V)	Protocols Supported	Supported Data Rate				Termination	DCE or DTE	Signals	Additional Signals	ESD (kV)	Temp Grade	Packages
					RS232/RS562	RS422/RS485	V.35 (Async)	V.35 (Sync)							
LTC1321	2	2	±5	RS232, RS562, RS422, RS485	120kbps	10Mbps						10	C, I	SW-24, N-24	
LTC1322	4	4	±5	RS232, RS562, RS422, RS485	120kbps	10Mbps						4	C, I	SW-24, N-24	
LTC1323	2	3	±5	LocalTalk, RS232, RS422	120kbps	2Mbps			DTE	Data, Control		4		SW-24, SO-24	
LTC1334	4	4	5	RS232, RS562, RS422, RS485	120kbps	5Mbps						10	C, I	SSOP-28, SW-28, N-28	
LTC1335	4	4	5	RS562, RS422, RS485	120kbps	10Mbps						4	C, I	SW-24, N-24	
LTC1343	4	4	5	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21			8Mbps	4Mbps	DTE or DCE	Data, Clock or Control	LL, RL, TM	4	C, I	SSOP-44	
LTC1344			5	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21					•			4	C, I	SSOP-24	
LTC1344A			5	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21					•			4	C, I	SSOP-24	
LTC1345	3	3	5	V.35			10Mbps	5Mbps	DTE or DCE	Data, Clock		4	C, I	SW-28, N-28	
LTC1346A	3	3	±5	V.35			10Mbps	5Mbps	DTE or DCE	Data, Clock		4	C, I	SW-24	
LTC1387	2	2	5	RS232, RS562, RS422, RS485	128kbps	150kbps or 5Mbps						4	C, I	SSOP-20, SW-20	
LTC1543	3	3	5	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21	128kbps	10Mbps	10Mbps	5Mbps	DTE or DCE	Data, Clock		4	C, I	SSOP-28	
LTC1544	4	4	5	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21	128kbps	10Mbps	10Mbps	5Mbps	DTE or DCE	Control	LL	4	C, I	SSOP-28	
LTC1545	5	5	5	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21	128kbps	10Mbps	10Mbps	5Mbps	DTE or DCE	Control	LL, RL, TM	4	C, I	SSOP-36	
LTC1546	3	3	5	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21	128kbps	10Mbps	10Mbps	5Mbps	•	DTE or DCE	Data, Clock	2	C, I	SSOP-28	
LTC2844	4	4	3.3	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21	128kbps	10Mbps	10Mbps	5Mbps	DTE or DCE	Control	LL	4	C, I	SSOP-28	
LTC2845	5	5	3.3	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21	128kbps	10Mbps	10Mbps	5Mbps	DTE or DCE	Control	LL, RL, TM	4	C, I	SSOP-36	
LTC2846	3	3	3.3	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21	128kbps	10Mbps	10Mbps	5Mbps	•	DTE or DCE	Data, Clock	4	C, I	SSOP-36	
LTC2847	3	3	5	EIA530, EIA530-A, RS232, RS449, V.35, V.36, X.21	128kbps	10Mbps	10Mbps	5Mbps	•	DTE or DCE	Data, Clock	4	C, I	QFN-38	
LTC2870	2	2	3 to 5	RS232, RS485, RS422	500kbps	20Mbps			•	DTE or DCE		26	C, I	QFN-28, TSSOP-28	
LTC2871	2	2	3 to 5	RS232, RS485, RS422	500kbps	20Mbps			•	DTE or DCE		16	C, I	QFN-38, SSOP-38	
LTC2872	4	4	3 to 5	RS232, RS485, RS422	500kbps	20Mbps			•	DTE or DCE		16	C, I	QFN-38	

## LTC2872 Typical Applications

### RS485 Mode with Duplex Control



### RS232 Mode



### Mixed Mode with RS485 Termination

