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SP3495E

3.3V High Speed RS-485/RS-422 Transceivers, Advanced Fail-safe, Hot Swap Protection, $\pm 15\text{kV}$ ESD-Protected

Features

- Half Duplex RS-485 Transceiver
- 3.3V Single Supply Operation
- High Speed Data Rate – 32Mbps
- Receiver fail-safe on open, short or terminated lines
- 1/2 Unit Load, 64 transceivers on bus
- Hot Swap glitch protection on control inputs
- Driver short circuit current limit and thermal shutdown for overload protection
- 1 μA shutdown mode
- Industry standard package footprints
- Robust ESD Specifications:
 - $\pm 15\text{KV}$ Human Body Model

Applications

- Factory Automation Controls
- Motor Control
- Industrial Process Control
- Building Automation
- Security Systems
- Remote Utility Meter Reading
- Long or un-terminated transmission lines

Description

The SP3495E - SP3497E transceivers are suitable for high speed bidirectional communication on multipoint bus transmission lines. They are designed for balanced data transmission and comply with both RS-485 and RS-422 EIA standards. Each device contains one differential driver and one differential receiver.

Driver differential outputs and receiver differential inputs are connected internally to form a half-duplex input/output to the RS-485 bus. The RE and DE pins enable and disable the driver and receiver independently or may be externally connected together as a direct control. The device enters a low power shutdown mode if both driver and receiver are disabled. The bus-pin outputs of disabled or powered down device are in high impedance state. The high impedance driver output is maintained over the entire common-mode voltage range of -7V to +12V.

SP3495E - SP3497E operates from a single 3.3V power supply. SP3495E - SP3497E transceivers load the data bus only half as much as standard RS-485 unit load. This allows up to 64 devices to be connected simultaneously on a bus without violating required RS-485 signal margin and without using repeaters. Excessive power dissipation caused by bus contention or by shorting outputs to ground or a voltage source is prevented by short circuit protection and thermal shutdown. This feature forces the driver output into high impedance state if the absolute value of the output current exceeds 250mA or if junction temperature exceeds 165°C. Receivers will fail-safe to a logic high output state if inputs are unconnected (floating) or shorted. All RS-485 inputs and outputs are ESD protected up to $\pm 15\text{kV}$ Human Body Model.

For technical support or help choosing a product please email Exar's Serial Technical Support group at: serialtechsupport@exar.com.

Part Number	Pkg Code	RoHS	Min Temp. (°C)	Max Temp. (°C)	Status	Buy Now	Order Samples
SP3495EEN-L	NSOIC8		-40	85	Active		
SP3495EEN-L/TR	NSOIC8		-40	85	Active		

Part Status Legend

Active - the part is released for sale, standard product.

EOL (End of Life) - the part is no longer being manufactured, there may or may not be inventory still in stock.

CF (Contact Factory) - the part is still active but customers should check with the factory for availability. Longer lead-times may apply.

PRE (Pre-introduction) - the part has not been introduced or the part number is an early version available for sample only.

OBS (Obsolete) - the part is no longer being manufactured and may not be ordered.

NRND (Not Recommended for New Designs) - the part is not recommended for new designs.

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