



## DS3695A/DS3695AT

### Multipoint RS485/RS422 Transceiver

#### General Description

The DS3695A is a high speed differential TRI-STATE® bus/line transceiver designed to meet the requirements of EIA standard RS485 with extended common mode range (+12V to -7V), for multipoint data transmission. In addition, it is compatible with the requirements of RS422.

The driver and receiver outputs feature TRI-STATE capability. The driver outputs remain in TRI-STATE over the entire common mode range of +12V to -7V. Bus faults that cause excessive power dissipation within the device trigger a thermal shutdown circuit, which forces the driver outputs into the high impedance state.

The receiver incorporates a fail safe feature which guarantees a high output state when the inputs are left open.

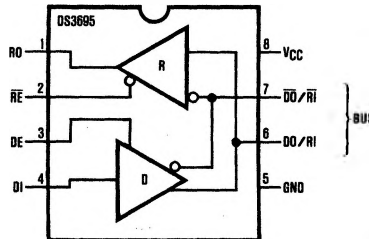
Both AC and DC specifications are guaranteed over the 0 to 70°C temperature and 4.75V to 5.25V supply voltage range.

#### Features

- Meets EIA standard RS485 for multipoint bus transmission and is compatible with RS-422
- 15 ns driver propagation delays with 2 ns skew (typical)
- Single +5V supply
- -7V to +12V bus common mode range permits  $\pm 7V$  ground difference between devices on the bus
- Thermal shutdown protection
- Power-up/down glitch-free driver outputs permit live insertion or removal of transceivers
- High impedance to bus with driver in TRI-STATE or with power off, over the entire common mode range allows the unused devices on the bus to be powered down
- Combined impedance of a driver output and receiver input is less than one RS485 unit load, allowing up to 32 transceivers on the bus
- 70 mV typical receiver hysteresis

#### Connection and Logic Diagram

##### Molded Package, Small Outline (M)



Top View

Order Number DS3695AM DS3695ATM  
See NS Package Number M08A

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