

## Features

- Exceeds Requirements of EIA-485 Standard
- Hot Plug Circuitry - Tx and Rx Outputs Remain Three-State During Power-up/Power-down
- Supply voltage: 3.0 V ~ 5.5 V
- Data Rate: 500 kbps isolated RS485
- Full Fail-safe Receiver (Open, Short, Terminated)
- Up to 5 kV RMS Isolation Rating
- 10 kV Surge Capability
- $\pm 150$  kV/ $\mu$ s CMTI
- Latch-Up performance exceeds 500 mA
- Bus-Pin Protection:
  - $\pm 12$  kV IEC61000-4-2 Contact Discharge
  - $\pm 15$  kV IEC61000-4-2 Air Discharge
- Safety-Related Certifications:
  - VDE Reinforced Insulation according to DIN VDE V 0884-11: 2017-01
  - 5000 Vrms Isolation Rating per UL 1577
  - CSA C22.2 No. 62368-1:19 3rd, IEC 62368-1:2018 Ed. 3 and EN 62368-1:2020
  - TUV Certification according to EN 60950-1 and EN 61010-1
  - CQC Certification per GB4943.1-2011

## Applications

- Home Appliance
- Motor Drives
- Industrial Control
- Communication Infrastructure

## Description

The TPT7487 is a  $\pm 15$  kV IEC61000 ESD protected, 3.0 V ~ 5.5 V isolated RS485 transceivers that meet the RS-485 and RS-422 standards for Half Duplex communication. The TPT7488 is isolated Full Duplex RS485.

The TPT748x features a fail-safe receiver, which support the output of the receiver to be logic high when the differential input (bus pin A/B) of the receiver is open, short or idle.

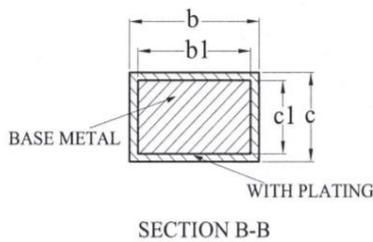
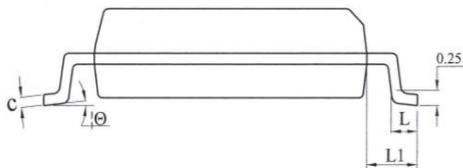
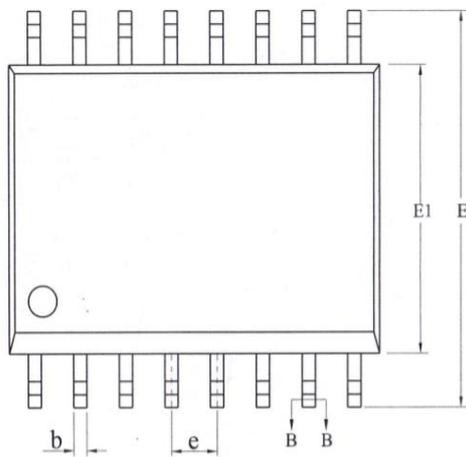
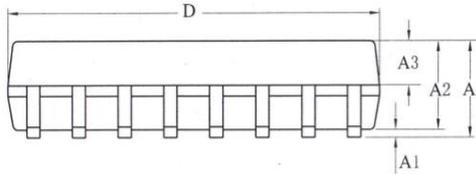
Transmitters in this family deliver exceptional differential output voltages into the RS-485 required 54  $\Omega$  load. The 500 kbps device has very low bus currents so they present a true “1/8 unit load” to the RS-485 bus. This allows up to 256 transceivers on the network without using repeaters. Receiver (Rx) inputs feature a “Full Fail-Safe” design, which ensures a logic high Rx output if Rx inputs are floating, shorted, or on a terminated but undriven bus.

The TPT748x is available in WSOP-16 package and is characterized from  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ .

## Functional Block Diagram

Package Outline Dimensions

SOBR (WSOP16)



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	—	—	2.65
A1	0.10	—	0.30
A2	2.25	2.30	2.35
A3	0.97	1.02	1.07
b	0.35	—	0.44
b1	0.34	0.37	0.39
c	0.25	—	0.31
c1	0.24	0.25	0.26
D	10.10	10.30	10.50
E	10.26	10.41	10.60
E1	7.30	7.50	7.70
e	1.27BSC		
L	0.55	—	0.85
L1	1.40BSC		
θ	0	—	8°

## Order Information

Order Number	Operating Temperature Range	Package	Marking Information	MSL	Transport Media, Quantity	Eco Plan
TPT7487-SOBR	-40 to 125°C	16-Pin WSOP	T7487	MSL3	Tape and Reel, 1500	Green
TPT7488-SOBR	-40 to 125°C	16-Pin WSOP	T7488	MSL3	Tape and Reel, 1500	Green

**Green:** 3PEAK defines "Green" to mean RoHS compatible and free of halogen substances.

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