



# IR Emitter and Detector Product Data Sheet LTDL-TX12P03

Spec No.: DS50-2002-033

Effective Date: 10/12/2002

Revision: A

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

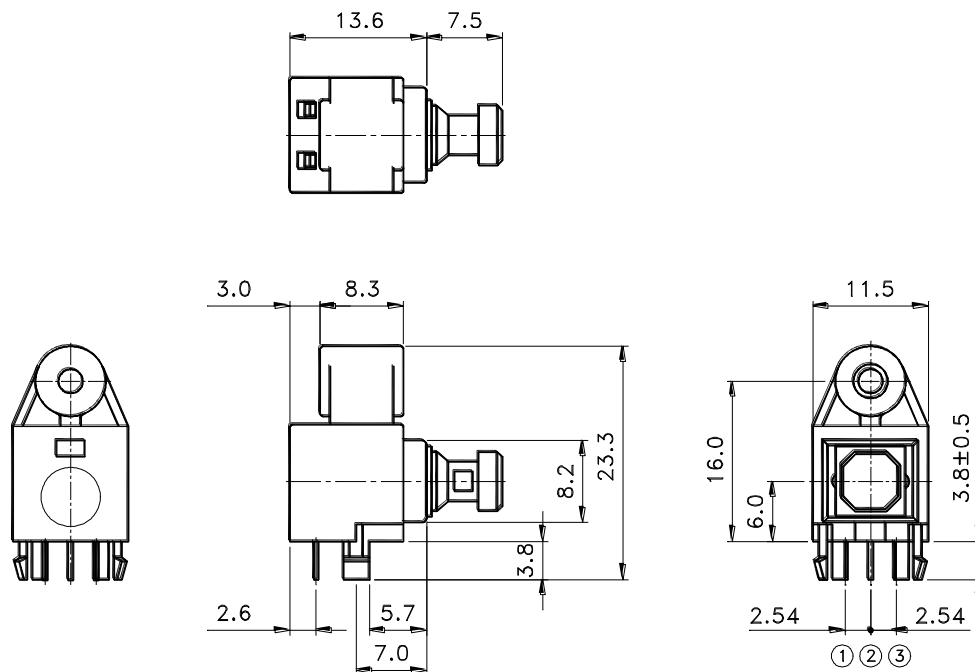
## FEATURES

- \* High speed transmission ( 13.2 Mbps , NRZ code )
- \* Build-in LED driving circuit allows connecting directly to modulation IC for digital audio equipment.
- \* Wide range of operating voltage from 3V to 5V
- \* Same package as fiber optic receiving module LTDL-RX16P03

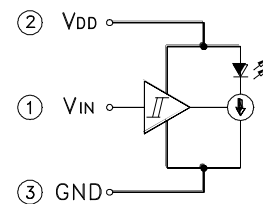
## APPLICATIONS

- \* Digital audio system
- \* CD & DVD players

## PACKAGE DIMENSIONS



LTDL-TX12P03



## NOTES:

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.3$  mm unless otherwise noted.



# LITE-ON TECHNOLOGY CORPORATION

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## ELECTRO—OPTICAL CHARACTERISTICS

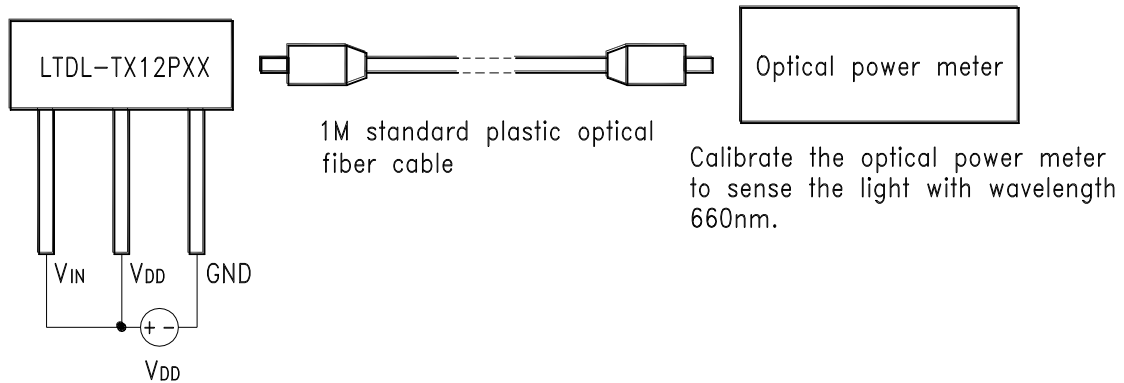
ABSOLUTE MAXIMUM RATINGS AT TA=25°C

PARAMETER	MAXIMUM RATING	UNIT
Supply Voltage (V <sub>DD</sub> )	-0.5 ~ +7	V
Input Voltage (V <sub>IN</sub> )	-0.5 ~ V <sub>DD</sub> +0.5	V
Operating Temperature Range	-20 °C to +70 °C	
Storage Temperature Range	-30 °C to +80 °C	
Lead Soldering Temperature [1.6mm(.063") From Body]	260°C for 5 Seconds	

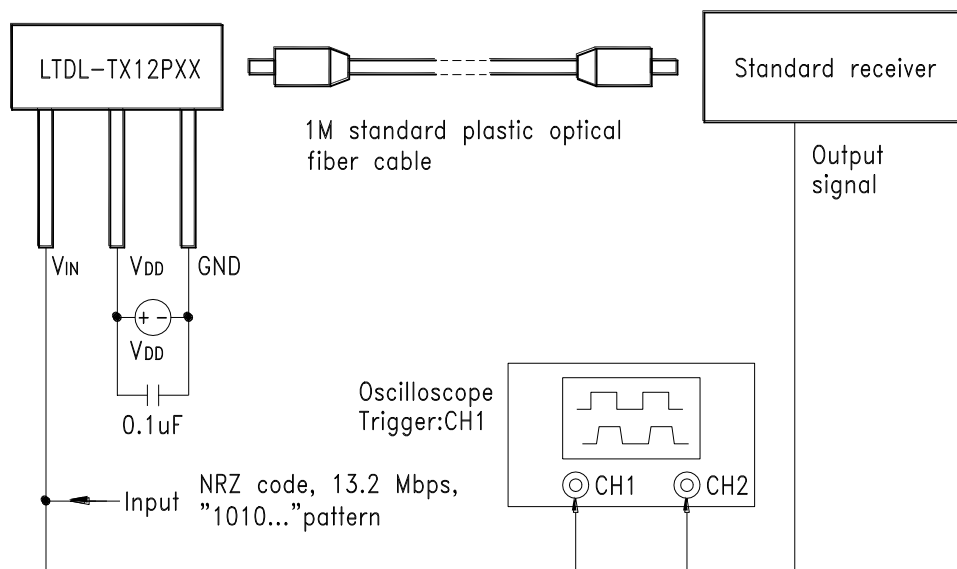
ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Data Rate	T <sub>s</sub>	—	—	13.2	Mbps	NRZ code
Operating Voltage	V <sub>DD</sub>	2.75	—	5.25	V	
Peak Emission Wavelength	λ <sub>Peak</sub>	630	650	690	nm	
Fiber Coupling Light Output	P <sub>c</sub>	-21	-17	-15	dBm	*1
Current Consumption	I <sub>DD</sub>	—	6	8	mA	
High Level Input Voltage	V <sub>IH</sub>	2	—	—	V	
Low Level Input Voltage	V <sub>IL</sub>	—	—	0.8	V	
“Low→High”propagation delay time	t <sub>PLH</sub>	—	—	166	ns	*2
“High→Low”propagation delay time	t <sub>PHL</sub>	—	—	155	ns	
Pulse Width Distortion	Δt <sub>w</sub>	-18	—	+18	ns	
Jitter	Δt <sub>j</sub>	—	1	18	ns	*2

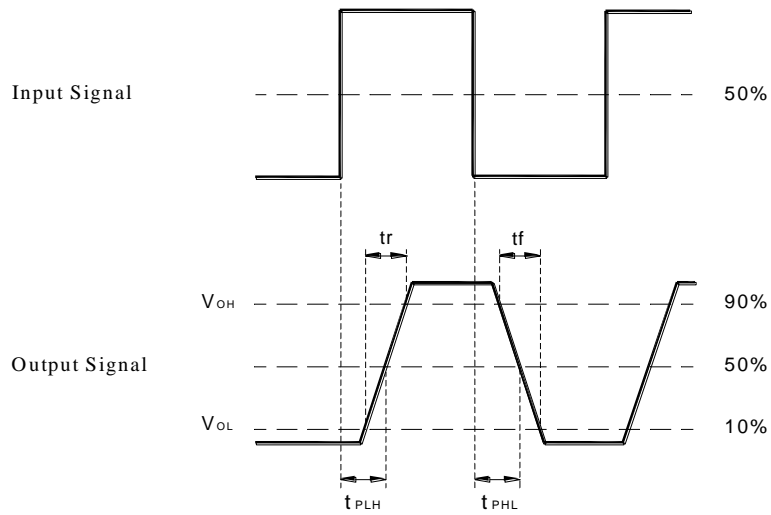
## \*1 Measuring method of fiber coupling optical power output



## \*2 Measuring method of pulse response and jitter



## Rise and Fall Times and Pulse Width Distortion



$$\text{Pulse Width Distortion} = \Delta t_w = t_{PHL} - t_{PLH}$$

## Jitter

