



# LITE-ON TECHNOLOGY CORPORATION

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## DESCRIPTION

The LTDL-RA16A is a optical data link interface. The LTDL-RA16A consists of an optical sensor with an I/V amplifier, a Schmitt trigger, and a TTL output interface operating at data rates between 100K baud and 16 M baud.

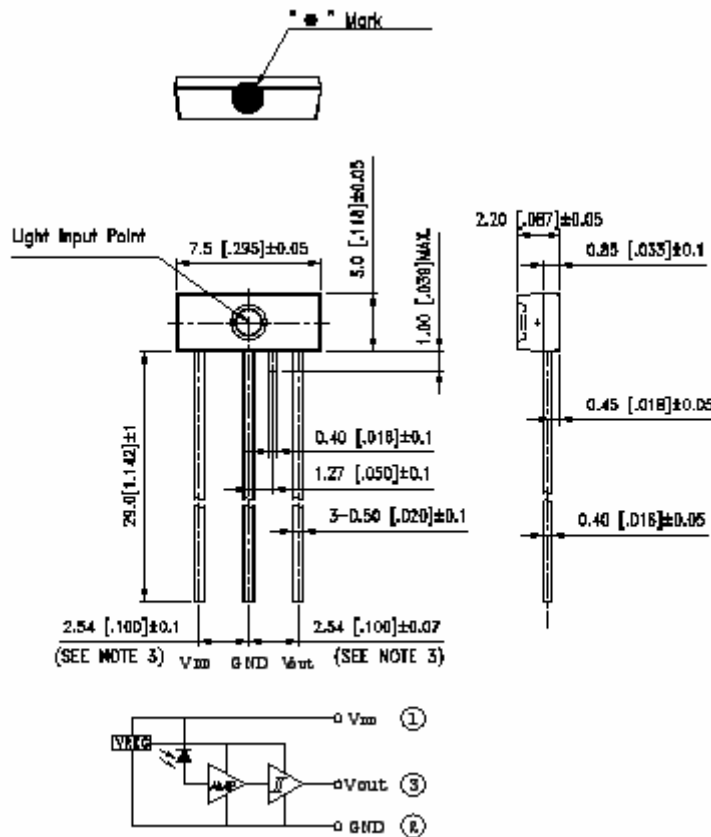
## FEATURES

- \* High PD sensitivity optimized for red light ( $\lambda=650\text{nm}$ )
- \* Data Rates between 100Kbps and 16 Mbps
- \* Low power consumption for extended battery life.
- \* Built-in threshold control for improved noise margin

## APPLICATIONS

- \* Digital Optical Data-Link
- \* Dolby AC-3 Digital Audio Interface

## PACKAGE DIMENSIONS



### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.15\text{mm}$  (.006") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Mark color: Orange



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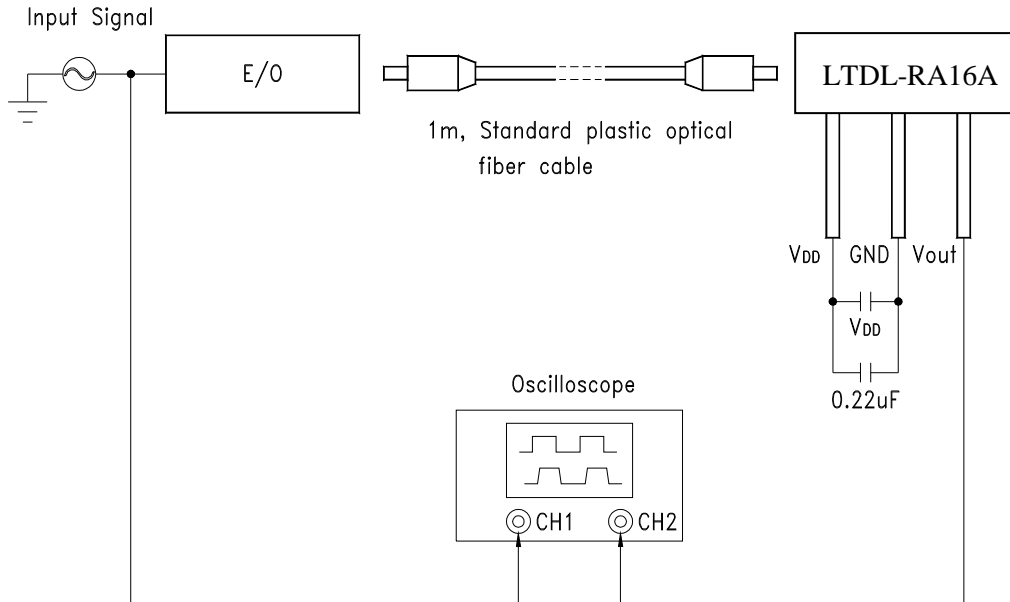
## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

PARAMETER	MAXIMUM RATING	UNIT
Supply Voltage (V <sub>DD</sub> )	5.25	V
Output Voltage (V <sub>O</sub> )	V <sub>DD</sub> +0.3	V
Operating Temperature Range	-20°C to + 70°C	
Storage Temperature Range	-30°C to + 70°C	
Lead Soldering Temperature [1.6mm(.063") From Body]	260°C ≤ 5 Seconds	

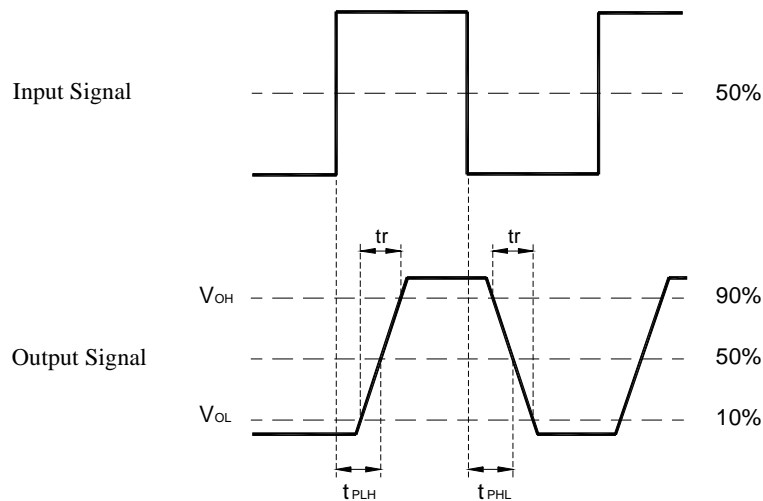
## ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Data Rate	T <sub>s</sub>	100 K	-	16	Mbps	NRZ signal
Operating Voltage	V <sub>DD</sub>	2.75	-	5.25	V	
Peak Emission Wavelength	λ <sub>Peak</sub>	630	650	670	nm	
Input Sensitivity	P <sub>i</sub>	-27	-	-14	dBm	
Dissipation current	I <sub>DD</sub>	-	-	10	mA	
High level output voltage	V <sub>OH</sub>	2.1	2.5	-	V	Dc Light , I <sub>OH</sub> = -20 μA
Low level output voltage	V <sub>OL</sub>	-	0.2	0.4	V	Dark , V <sub>OL</sub> = 0.6mA
“Low→High”propagation delay time	t <sub>PLH</sub>	-	-	120	ns	*1
“High→Low”propagation delay time	t <sub>PHL</sub>	-	-	120	ns	
Pulse width distortion	Δt <sub>w</sub>	-25		+25	ns	
Jitter	Δt <sub>j</sub>	-	-	10	ns	*2
Rise Time	t <sub>r</sub>	-	10	20	ns	*1
Fall Time	t <sub>f</sub>	-	10	20	ns	*1

**Setup of Measuring System**



**\*1 Rise and Fall Time and Propagation Delays**



$$\text{Pulse width Distortion} = \Delta tw = \frac{t_{PHL} - t_{PLH}}{2}$$

**\*2 Jitter**