

DATA SHEET

DATA LINK

DLT1200



Device No. : 3-RD-01-A0294

Date : 2003/12/02

Version : 1.0



EDISON OPTO CORPORATION

Office:4F, No. 800, Chung-Cheng Rd,
Chung-Ho, Taipei 235, Taiwan

Tel: 886-2-8227-6996

Fax: 886-2-8227-6997

<http://www.edison-opto.com.tw>



EDISON OPTO CORPORATION

Technical Data Sheet- Light Transmitting Unit DATA LINK : DLT1200

Features

- High speed signal transmission
(16 Mbps, NRZ signal)
- +3~+5V power source

Descriptions

The light transmitting unit is a standard-package product with connector and opto-electric component packaged with LED and driver. The function of unit changes the electric signal into light signal and be transmitted by plastic fiber.

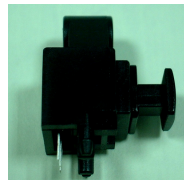
The unit is operated at single +3~+5V and has a maximum operating speed of 16 Mbps. The light signal is coupled into plastic fiber by connector. The unit has high performance at low dissipation current, steady light output and efficient light coupling.

Applications

- DVD player



Component
DLT1200



Housing



Audio equipment

Device Selection Guide

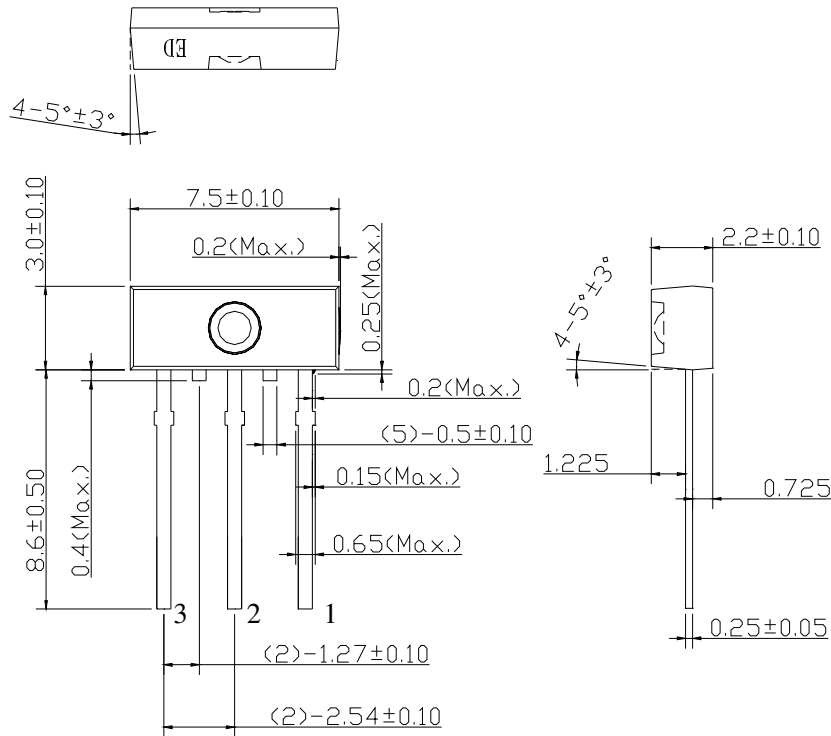
Chip		Operating Voltage (Vcc)	Dissipation Current(mA)	Fiber Coupling Light Output (dBm)		
IC Material	LED λ p(nm)			Typ.	Min.	Typ.
Si	650	2.7~5.5	5	-21	-	-15



EDISON OPTO CORPORATION

Technical Data Sheet- Light Transmitting Unit DATA LINK : DLT1200

Package Dimensions



- Notes:** 1.All dimensions are in millimeters.
2.General Tolerance: ± 0.1 mm

Pin Function

1. GND
2. Vcc
3. Vin

Absolute Maximum Ratings(Ta = 25°C)

Parameter	Symbol	Rating	Unit
Supply Voltage	Vcc	-0.5 to 7	V
DC Input Voltage	Vin	Vcc+0.5	V
Power Dissipation	P	120	mW
Storage Temperature	Tstg	-30 to 80	°C
Operating Temperature	Topr	-20 to 70	°C
Soldering Temperature	Tsol	260*	°C

* Soldering time ≤ 5 s / 2 times.



EDISON OPTO CORPORATION

Technical Data Sheet- Light Transmitting Unit DATA LINK : DLT1200

Electro-Optical Characteristics

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Operating Voltage	V _{cc}	-	2.7	-	5.5	V
Peak Emission Wavelength	λ_p	-	640	-	670	nm
Transmission Speed		NRZ signal	-	-	16	Mbps
Transmission Distance		Using APF*	0.2	-	20	m
Pulse Width Distortion	Δtw	16Mbps NRZ Signal	-25	-	25	ns
Fiber Coupling Light Output	Pf	*1	-21	-17	-15	dBm
Dissipation Current	I _{cc}	*2	-	5	10	mA
High Level Input Voltage	V _{IH}		2	-	-	v
Low Level Input Voltage	V _{IL}		-	-	0.8	v
Rise Time	t _r	*3	-	30	40	ns
Fall Time	t _f	*3	-	20	30	ns
Low → High propagation delay time	t _{PLH}	*3	-	-	100	ns
High → Low propagation delay time	t _{PHL}	*3	-	-	100	ns
Jitter time	Δt_j	*3	-	1.5	15	ns

*Light output after APF should satisfy Pf range.

The DLT1200 light transmitting unit satisfies EIAJ CP-1201 digital audio interface standard.



EDISON OPTO CORPORATION

Technical Data Sheet- Light Transmitting Unit DATA LINK : DLT1200

Reliability Test Items

No.	Item	Test Condition	Test Hour/Cycle	Samples	Number (n) Failure (c)
1	Soldering Heat	260°C ±5°C	5 sec./2times	22	n=22, c=0
2	High temp. & Hum. storage	Ta=40°C, 90%RH	500	22	n=22, c=0
3	High temp. storage	Ta=80°C	500	22	n=22, c=0
4	Low Temp. storage	Ta=-30°C	500	22	n=22, c=0
5	Temp. cycling	-30°C ~ 80°C (30min) (30min)	20	22	n=22, c=0
6	High Temp. Operation life	Ta=60°C, Vcc=5V ON	500	22	n=22, c=0
7	Terminal Strength(tension)	Weight: 500 g 30 sec./each terminal		22	n=22, c=0
8	Terminal Strength(bending)	Weight: 500 g 2 times/each terminal		22	n=22, c=0
9	Mechanical Shock	Acceleration: 1000m/s ² Pulse width: 6 ms 3 times/ X,Y,Z direction		22	n=22, c=0
10	Vibration	Frequency range: 10~55 Hz /sweep 1 min Overall amplitude: 1.5 mm 2H./X,Y,Z direction		22	n=22, c=0

I_{cc} (dissipation current): CURRENT ATTENUATE DIFFERENCE < 20%

P_f (fiber coupling light output): BRIGHTNESS ATTENUATE DIFFERENCE < 20%

T_{PLH} (propagation L → H delay time): DELAY TIME DIFFERENCE < 20%

T_{PHL} (propagation H → L delay time): DELAY TIME DIFFERENCE < 20%

T_r (rise time): TIME DIFFERENCE < 20%

T_f (fall time): TIME DIFFERENCE < 20%

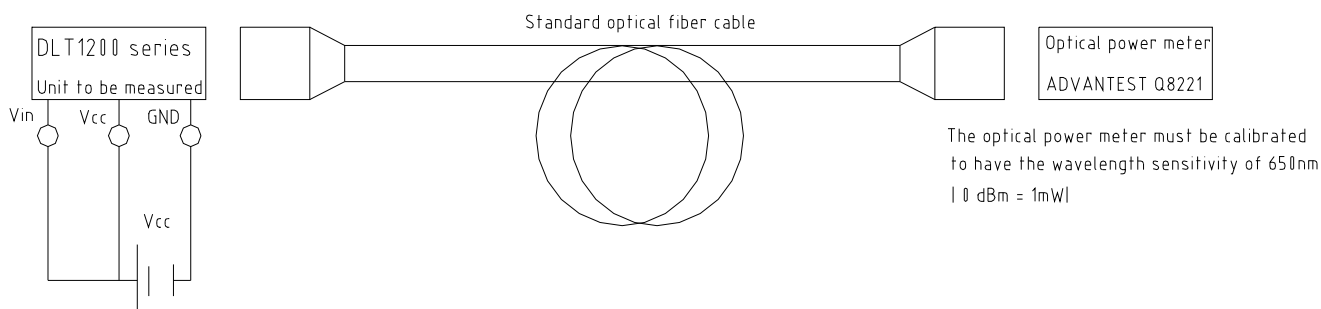


EDISON OPTO CORPORATION

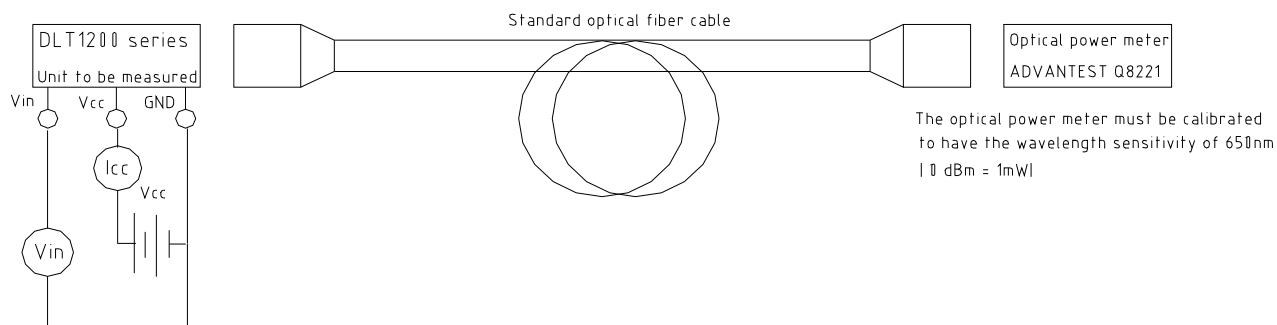
Technical Data Sheet- Light Transmitting Unit DATA LINK : DLT1200

Measuring Method

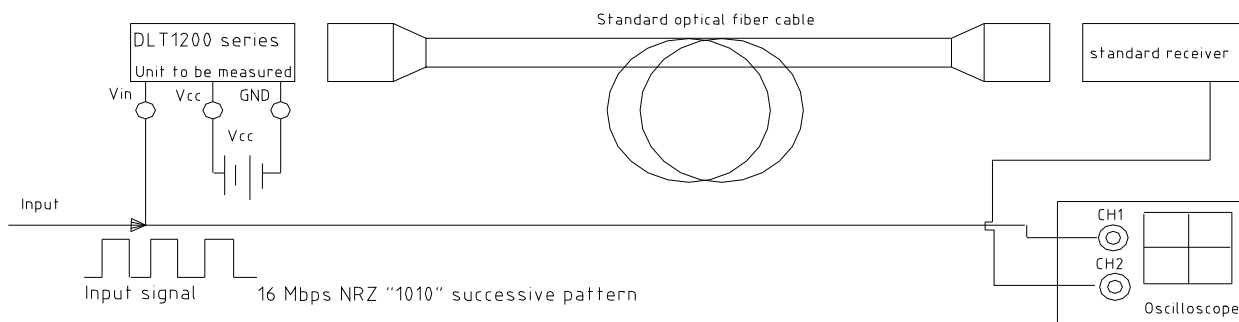
*1 Measuring method of optical output coupling fiber



*2 Input voltage/power dissipation measuring method



*3 Pulse response and jitter measuring method



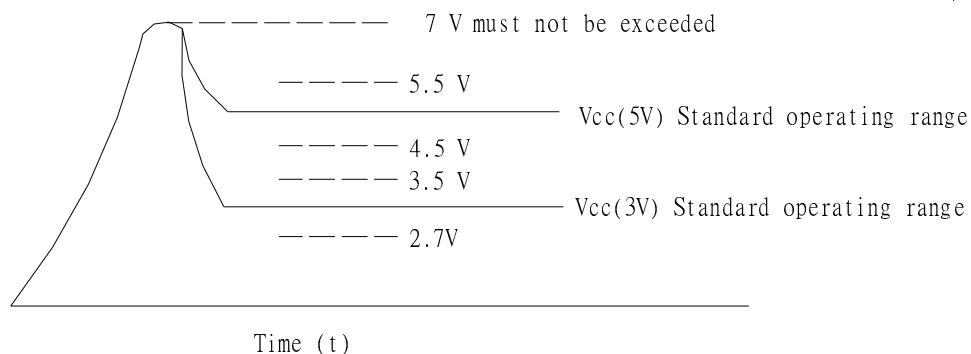
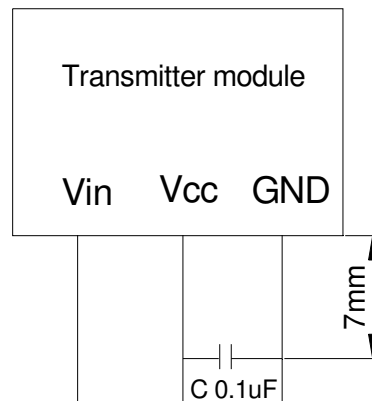


EDISON OPTO CORPORATION

Technical Data Sheet- Light Transmitting Unit DATA LINK : DLT1200

Precautions for Using Method

1. Connect a by-pass capacitor (0.1 μ F) close to the DLT1200 within 7 mm of the unit lead frame.
2. Take proper electrostatic-discharge (ESD) precautions while handling these devices. These devices are sensitive to ESD.
3. Please follow the conditions described in the diagram below.



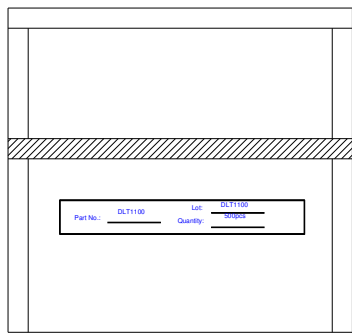


EDISON OPTO CORPORATION

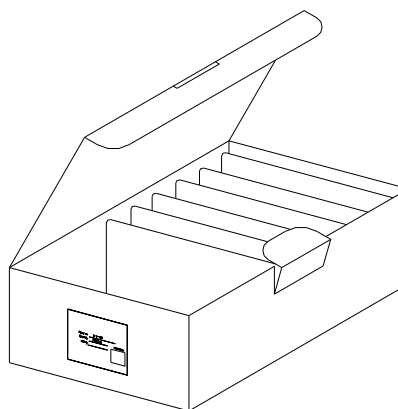
Technical Data Sheet- Light Transmitting Unit DATA LINK : DLT1200

Package

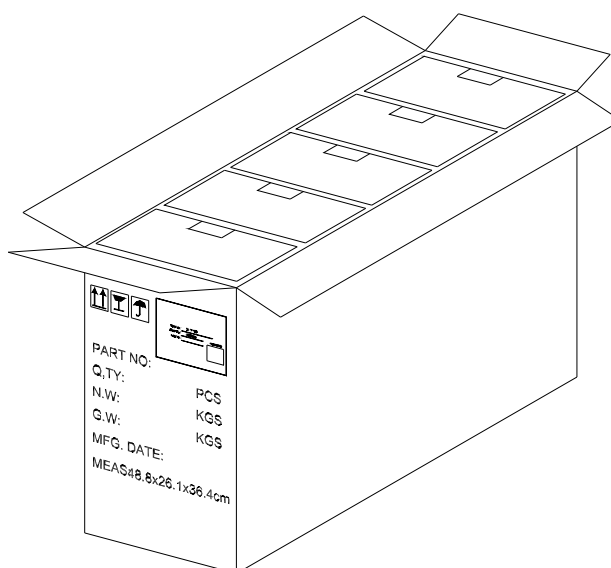
Item	Quantity	Total	Size (long * width * high)
Anti-ESD bag	500 pcs/bag	500 pcs	15 * 15 mm
Inner box	10 bag/inner box	5000 pcs	240 * 170 * 90 mm
Outer box	10 inner box/outer box	50000 pcs	488 * 261 * 364 mm



500 pcs/bag



10 bag/inner box



10 inner box/outer box



EDISON OPTO CORPORATION

Technical Data Sheet- Light Transmitting Unit DATA LINK : DLT1200

REV	DESCRIPTION	RELEASE DATE

- 1.This document and attached devices , which will be used for production acceptance standard , are prepared by Edison Opto Corporation . If there is any production issue or question , please feel free to contact with Edison Opto Corporation.
- 2.This product is designed for ordinary electronic applications, such as electrical appliances, audio-visual equipment, communications devices and so on. Hence, it is advisable that the devices should not be used in medical instruments, surgical implants, aerospace machinery, nuclear power control system and the like.
- 3.Edison reserves the right to improve the device performances without prior notice .
- 4.Unauthorized duplication , reproduction , use or disclosure of this document will be deemed as infringement .