



New Rev

APPROVAL SHEET

CUSTOMER : _____

DEVICE NAME : **Photo Link**

MODEL NO. : **SRX-R179B1**

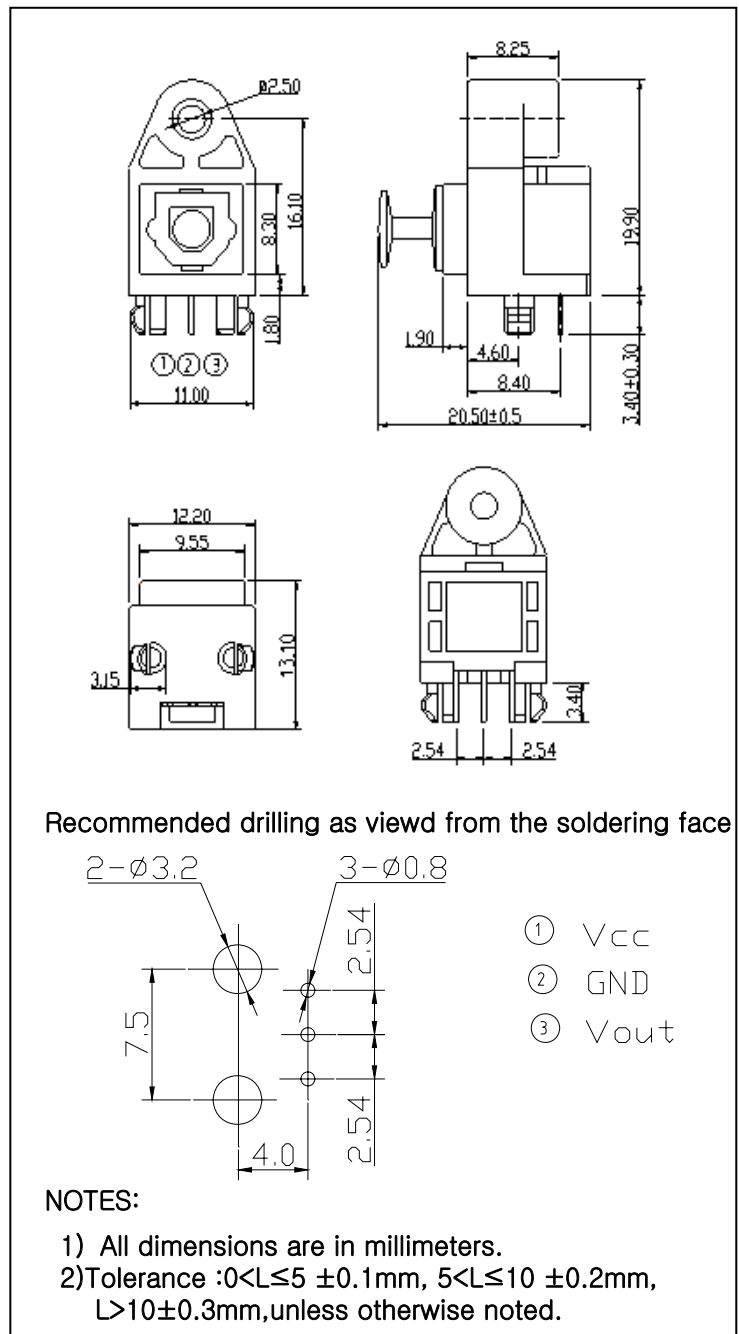
ISSUED DATE : **Nov. 08. 2012**

	ISSUE	REVIEW	REVIEW	APPR'D
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● Features:

- 1.Uni-directional data transmission using plastic fiber
- 2.Signal transmission speed
- 3.Operating voltage:2.4 – 5.5 V
- 4.Low power consumption

● Outline Dimensions:

● Absolute Maximum Ratings(Ta=25°C)

@ TA=25°C

Parameter	Symbol	Rating	Unit
Supply voltage	Vcc	-0.5 to + 5.5	V
Input voltage	V _O	Vcc+0.3V	V
Operating temperature	T _{opr}	-20 to +70	°C
Storage temperature	T _{stg}	-30 to +80	°C
Soldering temperature *1	T _{sol}	260*	°C

 *1 1 time For 5s (≤ 2 times) (The temperature of the PCB surface is $< 90^\circ\text{C}$)

● Recommended Operating Conditions:

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Operating supply voltage	V _{cc}	2.4	----	5.5	V
Operating transfer rate (NRZ signal)	T	0.1	----	13.2	Mbps

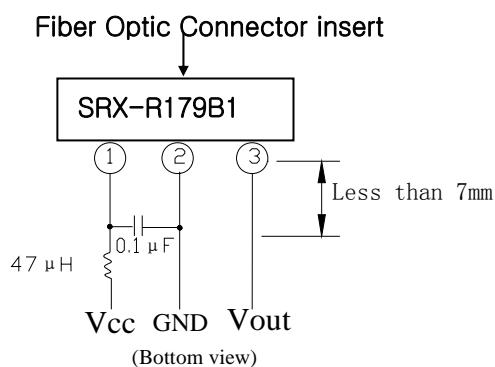
● Electro-Optical Characteristics:

 (Ta=25°C, V_{cc}=3V, CL=5pf, Ip=660nm)

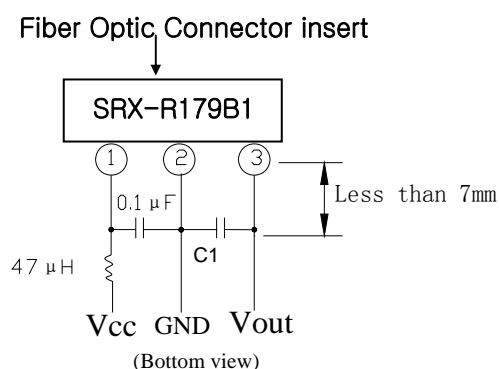
NO.	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
1	Peak sensitiving wavelength	λ_p		---	660	---	nm
2	Receiver input optical power level	P _c	Refer to Fig. 3	-24	---	-13.5	dBm
3	Dissipation current	I _{cc}	Refer to Fig. 2	3	---	7	mA
4	High level output voltage	V _{oH}	Refer to Fig. 1	2.1	---	---	V
5	Low level output voltage	V _{oL}	Refer to Fig. 1	---	0.2	0.4	V
6	Rise time	t _r	Refer to Fig. 1	---	8	20	ns
7	Fall time	t _f	Refer to Fig. 1	---	8	20	ns
8	Low → High delay time	t _{pLH}	Refer to Fig. 1	---	---	100	ns
9	High → Low delay time	t _{pHL}	Refer to Fig. 1	---	---	100	ns
10	Pulse width distortion	Δ_{tw}	Refer to Fig. 1	-15	---	+15	ns
11	Jitter	Δ_{ij}	Refer to Fig. 1	---	---	15	ns

● Recommended Connection Method

1. General application circuit for 3V

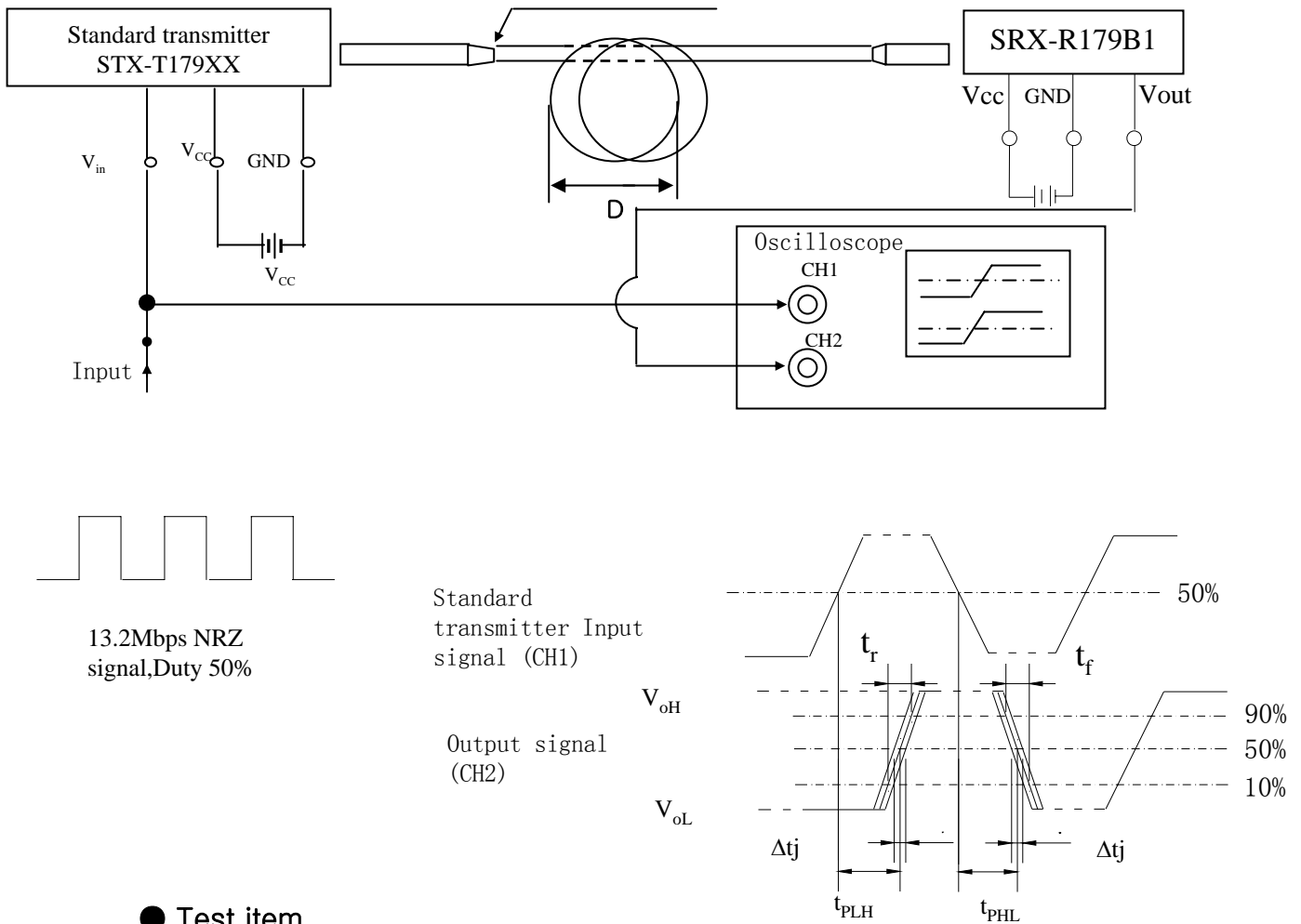


2. General application circuit for 5V


NOTES:

- For 5V application a minimum of C1=30PF capacitive loading at the Output pin is recommended. If the motherboard PCB board trace loading and the input loading of the next device exceeds 30PF, then extra capacitive loading is not needed. (Example: PCB trace loading +input device loading=10PF, then add 20PF(C1) between the Output to GND)

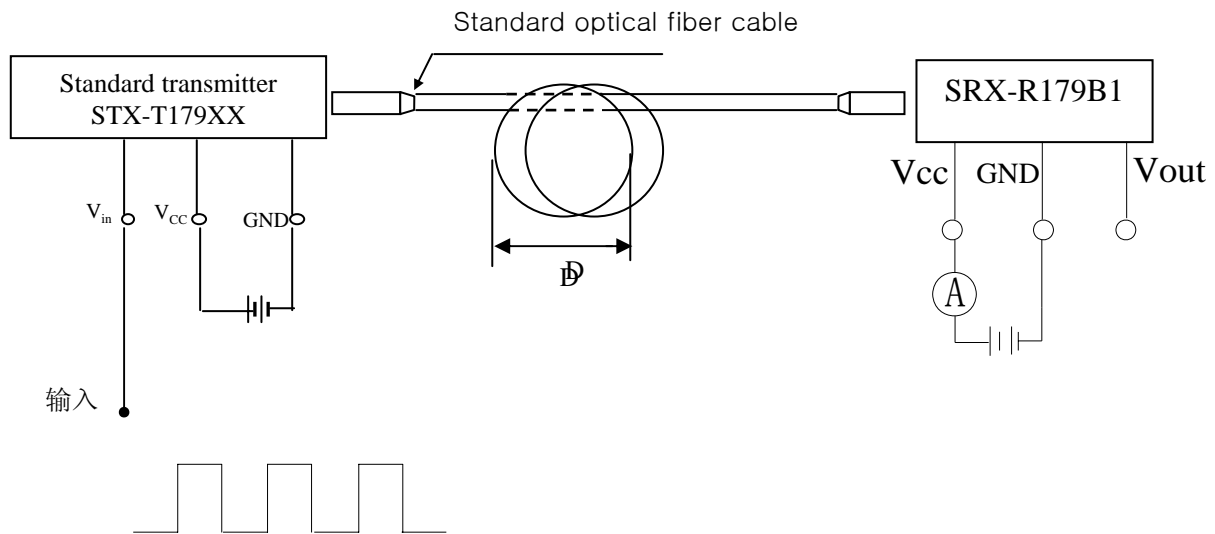
● Fig.1 Measuring Method of Pulse Response
Standard optical fiber cable



● Test item

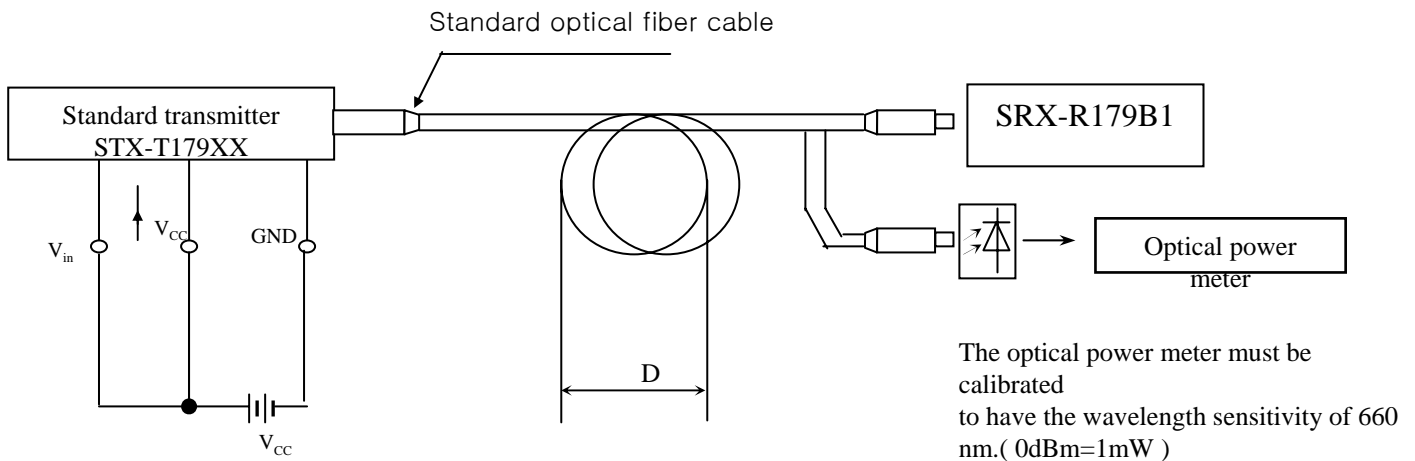
Test item	Symbol
Low →High pulse delay time	t_{PLH}
High →Low pulse delay time	t_{PHL}
Rise time	t_r
Fall time	t_f
High level output voltage	V_{oH}
Low level output voltage	V_{oL}
Jitter	$\Delta\tau_j$
Pulse width distortion($\Delta\tau\omega=t_{PHL}-t_{PLH}$)	$\Delta\tau\omega$

● Fig. 2 Measuring Method of Current Consumption



13.2Mbps NRZ signal ,Duty 50% or 6.6Mbps biphase mark PRBS signal

● Fig. 3 Measuring Method of Optical Output Coupling with Fiber



- Notes
- (1)Vcc=3.0V
 - (2)To bundle up the standard fiber optic cable, make it into a loop with the diameter $D \geq 10\text{cm}$.
 - (3)Measured on an ammeter.
 - (4)The probe for the oscilloscope must be more than 1M and less than 10pF.

● RELIABILITY

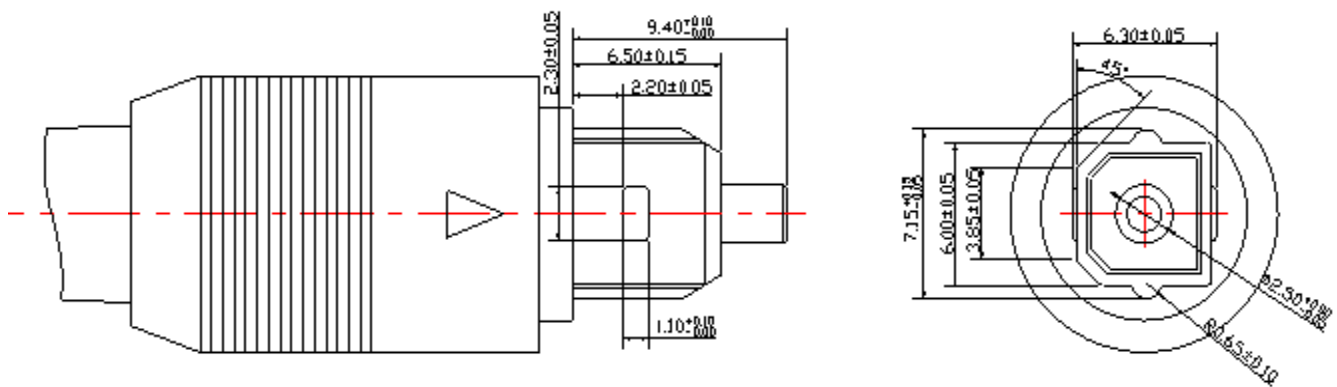
NO.	TEST ITEMS	TEST CONDITIONS	JUDGEMENT CRITERIA	SAMPLE NUMBER(n)
				SAMPLE FAILURE(c)
1	Life Test	Vcc=5V , 500H	Electro-Optical Characteristics NO.2~9 Shall be satisfied	N=10,c=0
2	High Temperature Storage	Ta=80℃±5℃, RH=85% Time=48Hrs		N=10,c=0
3	Low Temperature Storage	Ta=-30℃±5℃, Time=48Hrs		N=10,c=0
4	Temperature Cycling	Ta=-35℃~+85℃(85%RH) (30min) (30min) 20Cycles		N=10,c=0
5	Falling off Test	Take the PCB with optical fiber jack to fall-self from 1 meter high ,3cycles		N=10,c=0
6	Soldering Strength Test	Soldering the optic fiber chip in the PCB, Then converse swing from a object by 1 kg weight , 1minute		N=10,c=0
7	Low High Temperature Impact Test	Ta=-35℃~+85℃ (30min) (30min) 8Cycles		N=10,c=0
8	Soldering Ability Test	Ta=260℃±5℃,5seconds	95% or more of the solder area is covered with solder, and Electro-Optical Characteristics NO.2~9 shall be satisfied	N=10,c=0
9	Soldering Heat	Ta=260℃±5℃,10seconds		N=10,c=0

● MATERIAL DESCRIPTION

No.	Name	Material
1	HOUSING	PA66
2	SHUTTER	PA66
3	COVER	PA66
4	SHELL SPLINTER	STAINLESS STEEL

● RECOMMENDED

- BE SUIT WITH THIS OPTICAL DIGITAL CABLE



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