



New Rev

APPROVAL SHEET

CUSTOMER : _____

DEVICE NAME : **Photo Link**

MODEL NO. : **SRX-R179A3**

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

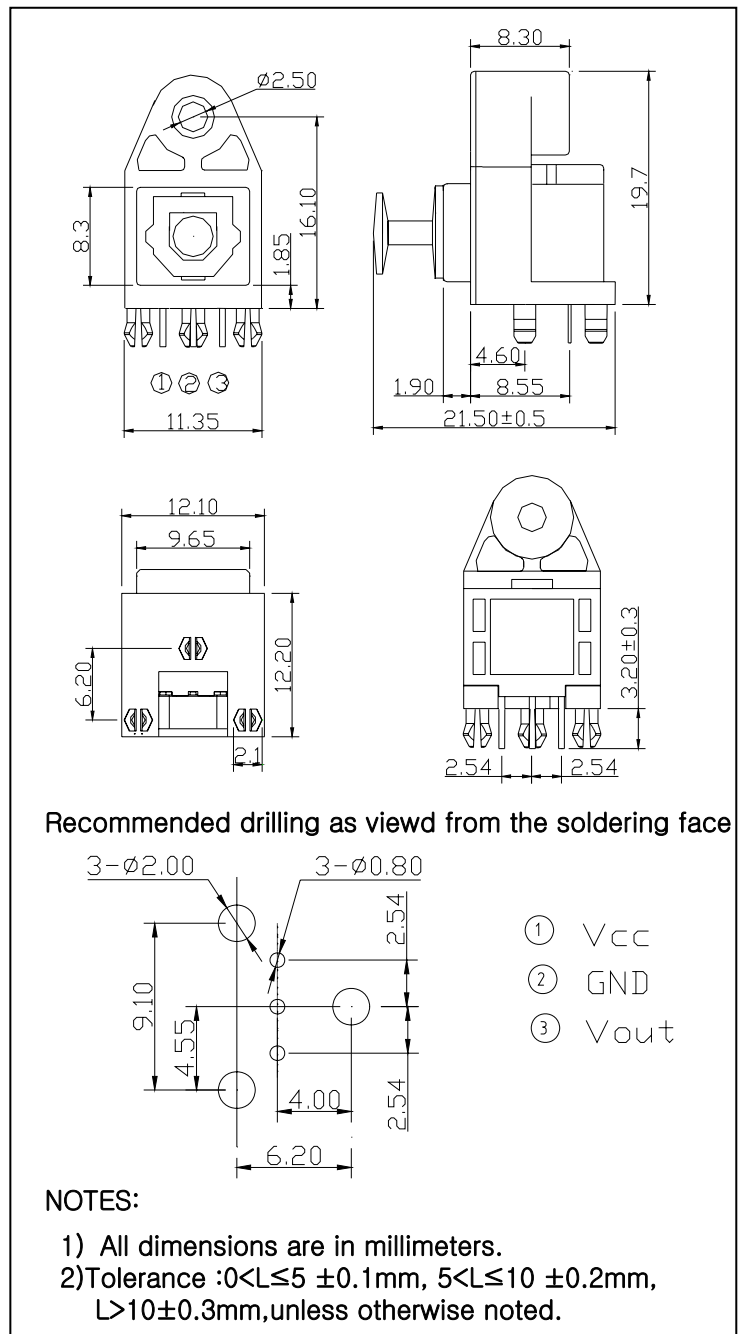
	ISSUE	REVIEW	REVIEW	APPR'D
ISSUED DEPT.		蒋宏华	邱丽红	

	TEL : +86-755-88878308 FAX : +86-755-88828216 Email : sek@seksemi.com http://www.seksemi.com
--	---

● **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°C)

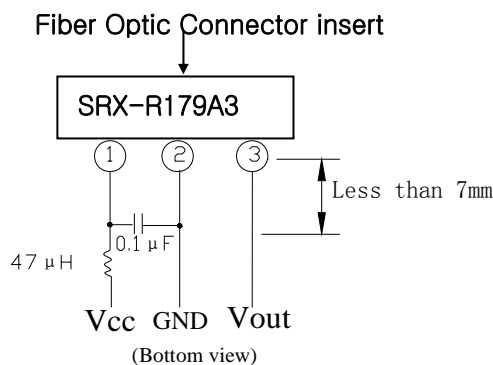
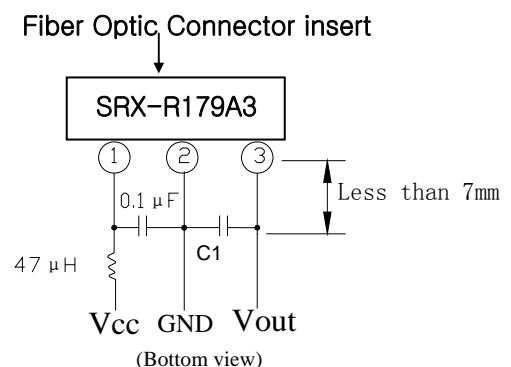
● Recommended Operating Conditions:

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)

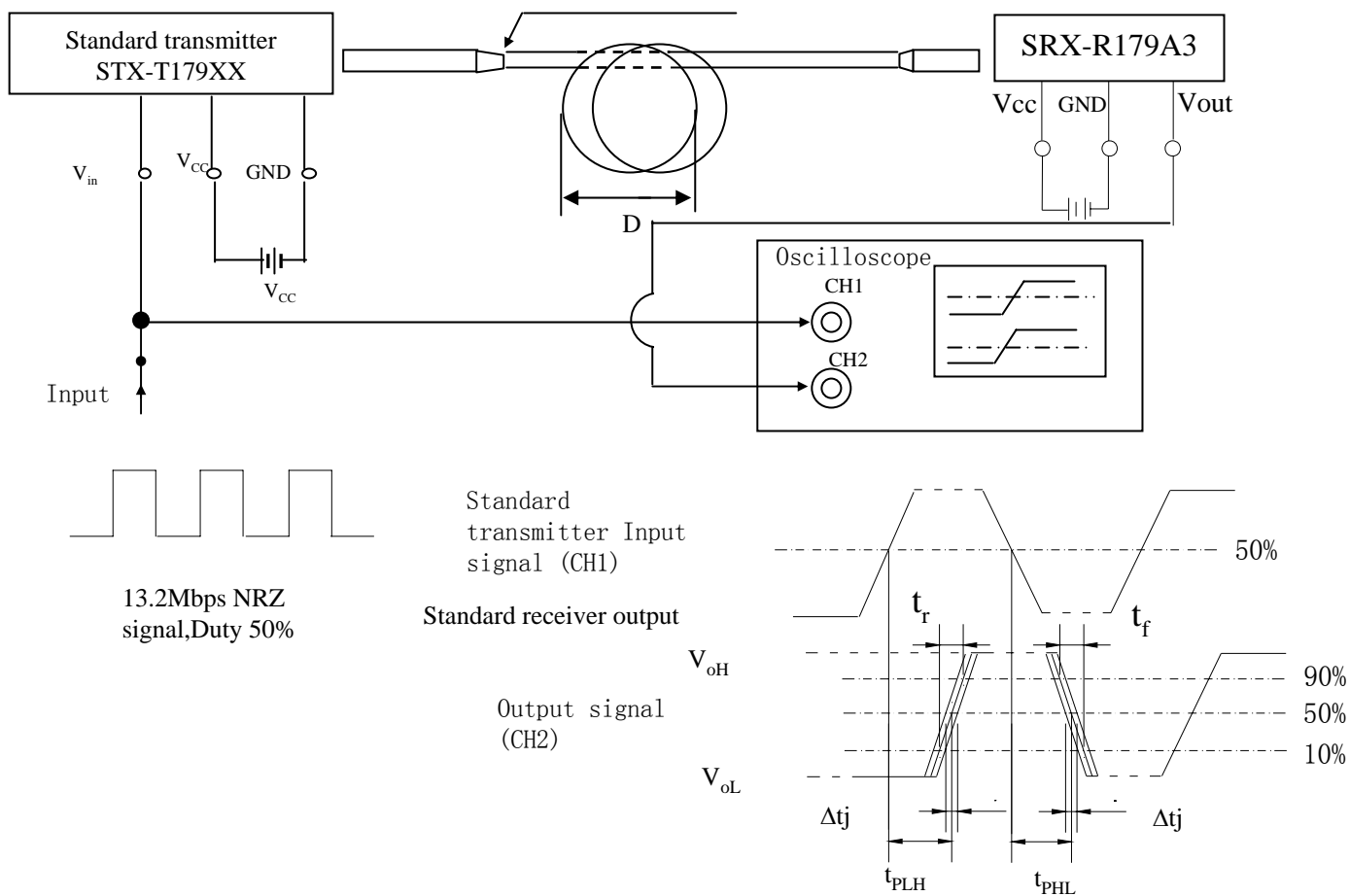
NO.	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
1	Peak sensitiving wavelength	λ_p		---	660	---	nm
2	Receiver input optical power level	P _c	Refer to Fig. 3	-24	---	-13.5	dBm
3	Dissipation current	I _{cc}	Refer to Fig. 2	3	---	7	mA
4	High level output voltage	V _{oH}	Refer to Fig. 1	2.1	---	---	V
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)

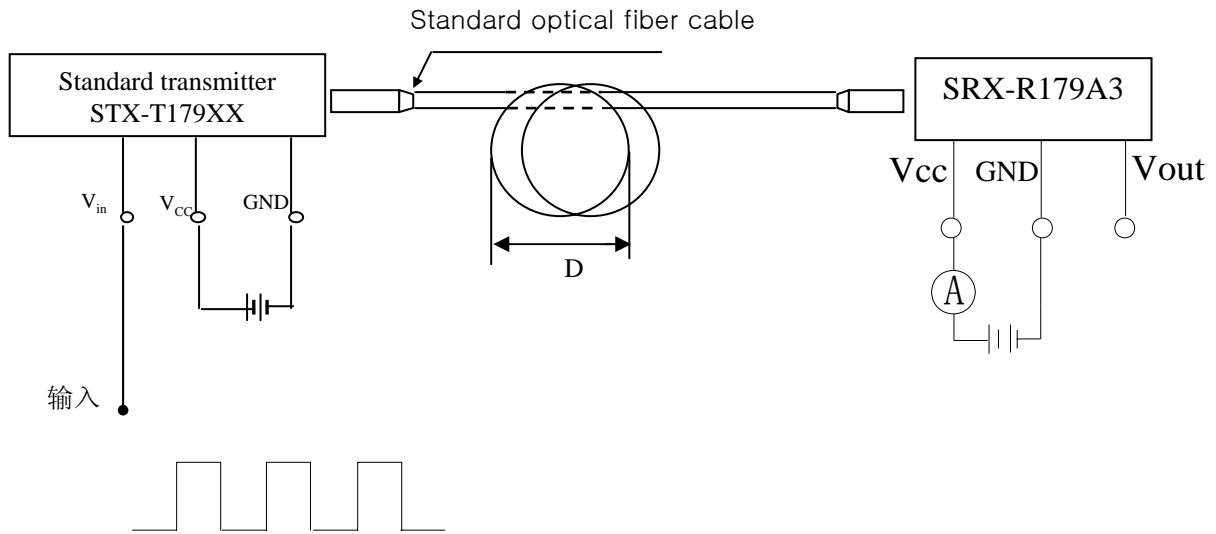
● Fig.1 Measuring Method of Pulse Response

Standard optical fiber cable


● Test item

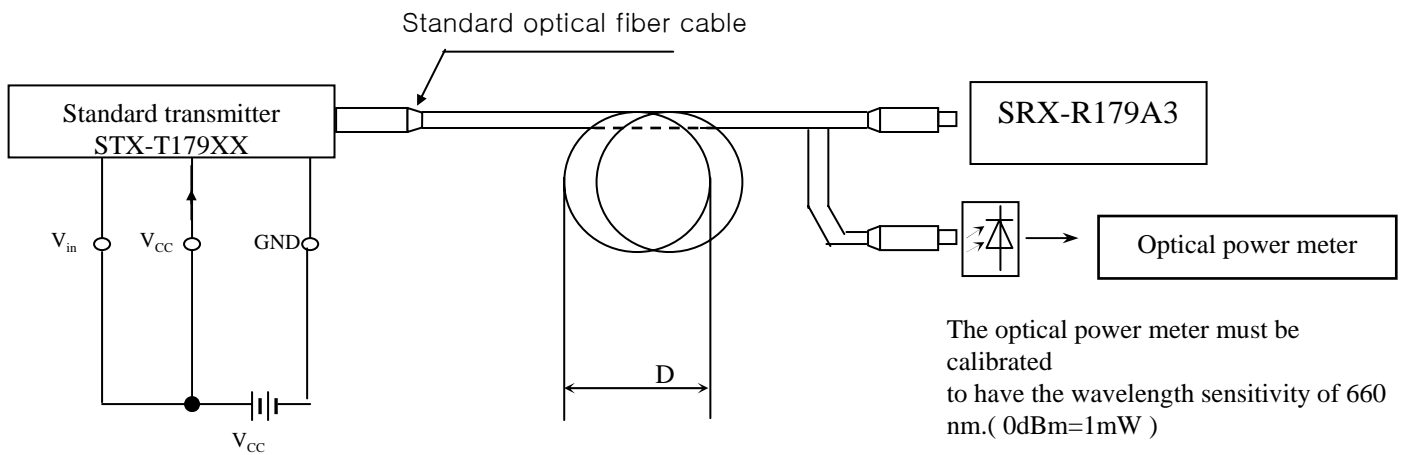
Test item	Symbol
Low → High pulse delay time	t_{PLH}
High → Low pulse delay time	t_{PHL}
Rise time	t_r
Fall time	t_f
High level output voltage	V_{oH}
Low level output voltage	V_{oL}
Jitter	$\Delta\tau_j$
Pulse width distortion($\Delta\tau\omega = t_{PHL} - t_{PLH}$)	$\Delta\tau\omega$

● 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



The optical power meter must be calibrated to have the wavelength sensitivity of 660 nm. (0dBm=1mW)

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

● RELIABILITY

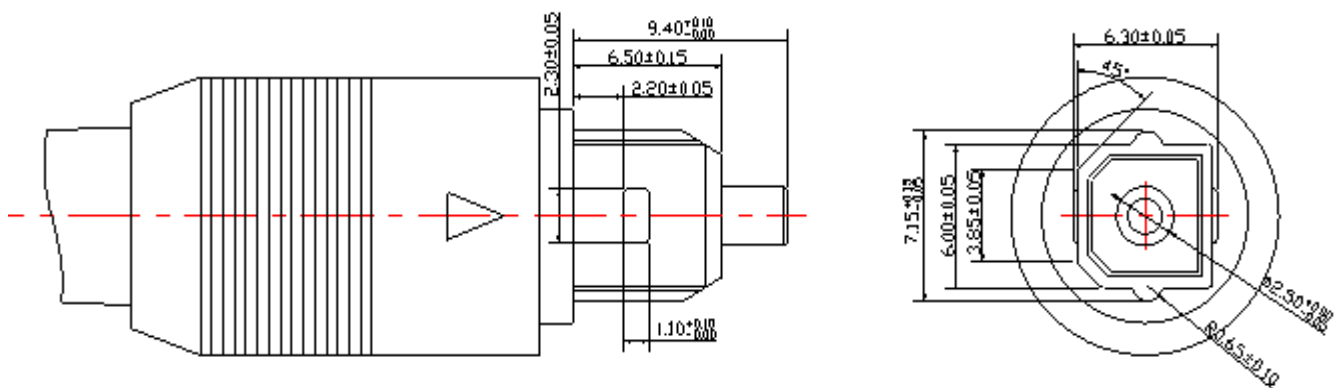
NO.	TEST ITEMS	TEST CONDITIONS	JUDGEMENT CRITERIA	SAMPLE NUMBER(n)
				SAMPLE FAILURE(c)
1	Life Test	Vcc=5V , 500H	Electro-Optical Characteristics NO.2~9 Shall be satisfied	N=10,c=0
2	High Temperature Storage	Ta=80℃±5℃, RH=85% Time=48Hrs		N=10,c=0
3	Low Temperature Storage	Ta=-30℃±5℃, Time=48Hrs		N=10,c=0
4	Temperature Cycling	Ta=-35℃~+85℃(85%RH) (30min) (30min) 20Cycles		N=10,c=0
5	Falling off Tset	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	ABS
2	PLUG	ABS
3	COVER	ABS

● RECOMMENDED

- BE SUIT WITH THIS OPTICAL DIGITAL CABLE



Disclaimer

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.

SEKwang Semiconductor Co.,Ltd., its affiliates, agents, and employees, and all persons acting on its or their behalf(collectively, SEKwang), Disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any products.

SEKwang makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any products. To the maximum extent permitted by applicable law, SEKwang disclaims

(1) any and all liability arising out of the application or use of any products, (ii)any and all liability, including without limitation special, consequential or incidental damages, and any and all implied warranties, (iii)including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on SEKwang's knowledge of typical requirements that are often placed on SEKwang products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customers' responsibility to validate that a particular products with the properties described in the products specification is suitable for use in a particular application. Parameters provided in datasheets and /or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customers's technical experts. Products specifications do not expand or otherwise modify SEKwang's terms and conditions of purchase, including but not limited to the warranty expressed therein

Except as expressly indicated in writing, Sekwang products are not designed for use in medical, life-saving,or life-sustaining applications or for any other application in which the failure of the SEKwang products could result in personal injury or death. Customers using or selling SEKwang products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold SEKwang and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that SEKwang or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized SEKwang personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this documents or by any conduct of SEKwang. Products names and markings noted herein maybe trademarks of their respective owners.