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**DATA SHEET**

**PART NO. : PL-IRM0101-3**

**REV : B / 2**

CUSTOMER'S APPROVAL : \_\_\_\_\_

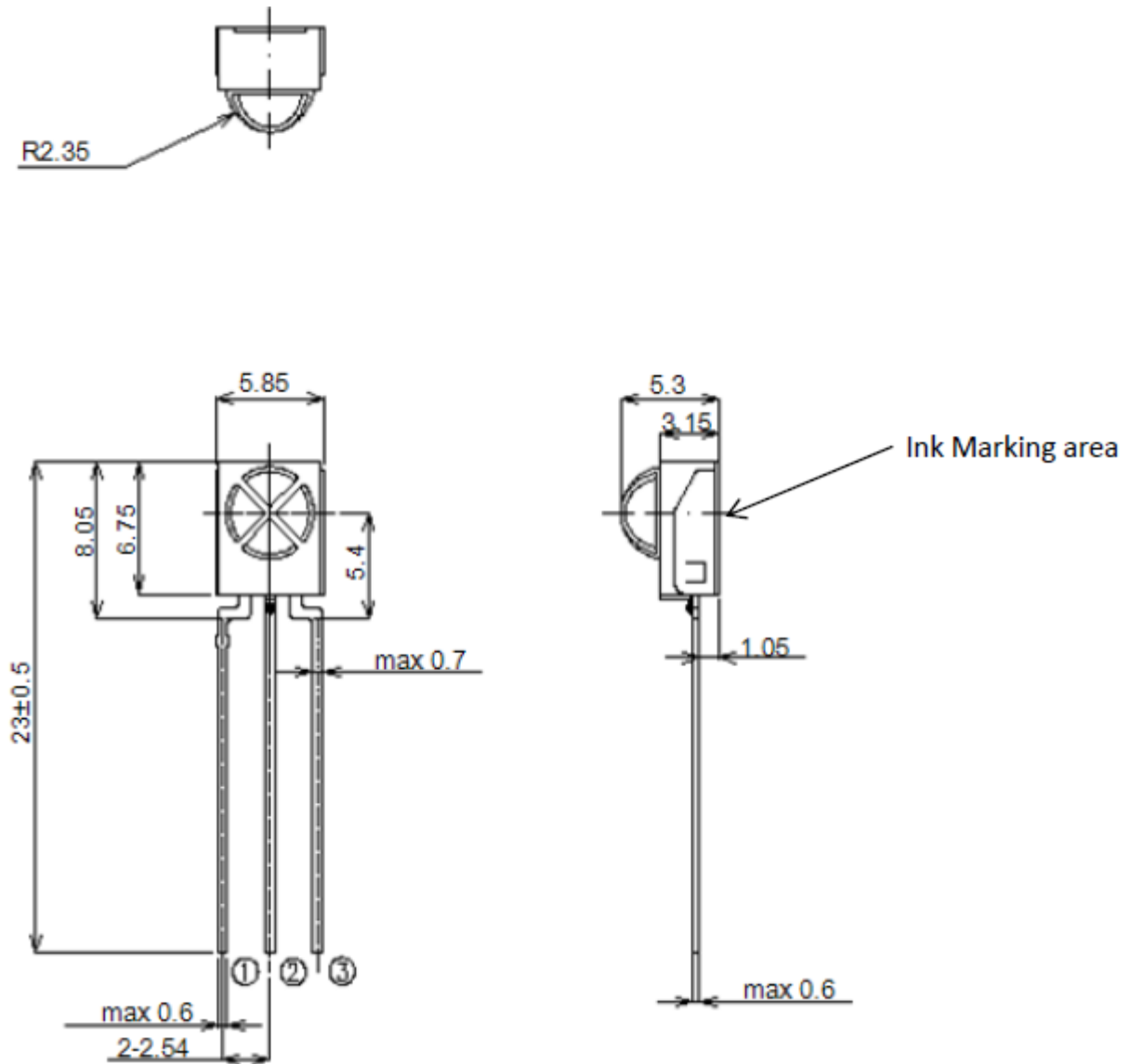
DCC : \_\_\_\_\_

DRAWING NO. : DS-52-18-001

DATE :2018-3-7

Page : 1

## ● PACKAGE DIMENSIONS



## NOTES :

1. All dimensions are in millimeters.
2. Unspecified tolerance :  $\pm 0.3$ mm
3. Pin Config
  - ① Vout
  - ② GND
  - ③ Vcc

**● FEATURES:**

- 1)High ripple rejection
- 2)Wide operating supply voltage 2.7V ~ 6.0V
- 3)Supply current : 3.3V(0.9mA), 5.0V(1.0mA)
- 4)Band pass filter center frequency : 37.9kHz
- 5)Epoxy IR filter characteristic : 940nm
- 6)Maximum interference safety against optical and electrical disturbance
- 7)Internal filter for a high frequency lighting fluorescent lamp
- 8)Internal pull-up : 42k $\Omega$

**● ABSOLUTE MAXIMUM RATING : ( Ta = 25°C )**

Parameter	Symbol	Rating	Unit
Supply Voltage	Vcc	0 ~ 6.0	V
Output Current	Iout	0 ~ 2.5	mA
Operating Temperature	Topr	-20 ~ +80	°C
Storage Temperature	Tstg	-30 ~ +85	°C
Soldering Temperature(*1)	Tsol	260, t<5sec	°C

(\*1)Pb Free Solder

**● ELECTRO-OPTICAL CHARACTERISTICS : ( Ta = 25°C )**

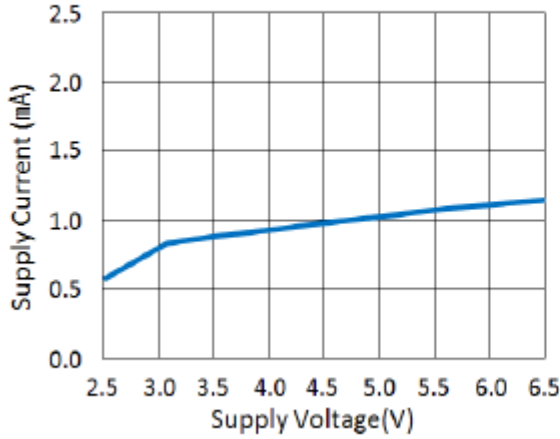
Parameter	Symbol	Condition	Min	Typ	Max	Unit	
Supply Voltage	Vcc		2.7	-	6.0	V	
Supply Current	Icc	No Input Signal	0.5	Vcc=5V	1.2	1.5	mA
				Vcc=3V	1.0		
Peak Wavelength (※1)	$\lambda_p$		-	940	-	nm	
B.P.F Center Frequency (※2)	f <sub>o</sub>		-	37.9	-	kHz	
High Level Output Voltage (※1)	V <sub>OH</sub>	30cm over the ray axis	Vcc-0.2	Vcc	-	V	
Low Level Output Voltage (※1)	V <sub>OL</sub>		-	0.2	0.4	V	
High Level Output Pulse Width (※1)	t <sub>WH</sub>	Burst Wave = 600 $\mu$ s	400	-	800	$\mu$ s	
Low Level Output Pulse Width (※1)	t <sub>WL</sub>	Period = 1.2ms	400	-	800	$\mu$ s	
Arrival Distance (※1)	D	$\pm 0^\circ$	12	-	-	m	
		$\pm 30^\circ$	8	-	-	m	
Output Form	Active Low Output						

 ※ 1. 600/600 $\mu$ s burst wave is transmitted by standard(Fig.2, Fig.3) transmitter. However, it measured after the initial transmission pulse is 10(60ms) pulse.

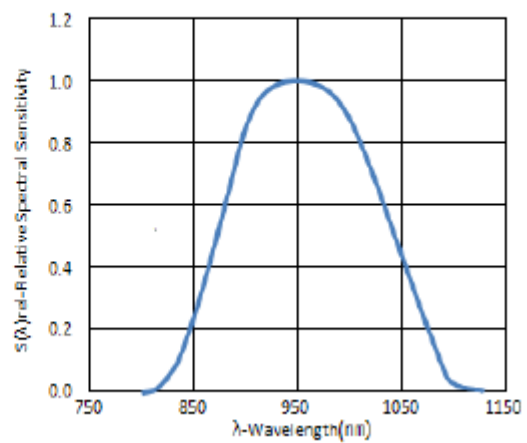
 ※ 2. The following band pass frequencies are available.(32.7kHz/36.7kHz/37.9kHz/40.0kHz)  
 Carrier frequencies adjusted by zener-diode fusing method.

Graph of Electrical/Optical Characteristics

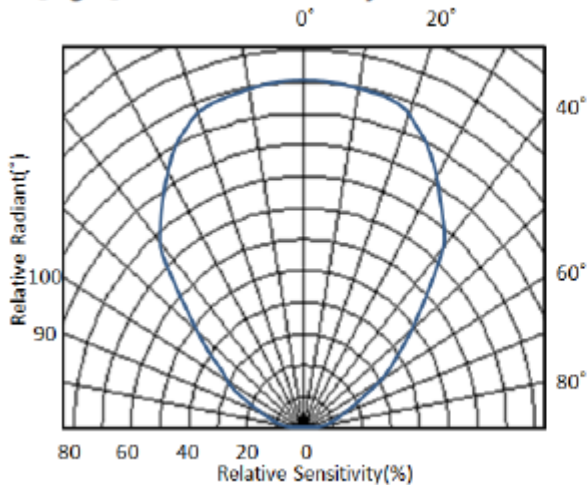
[Fig.1] Supply Current vs. Voltage



[Fig.2] Relative Spectral Sensitivity vs. Wavelength



[Fig.3] Relative Sensitivity vs. Direction



Standard Inspection

All output products shall be inspected based on following items.

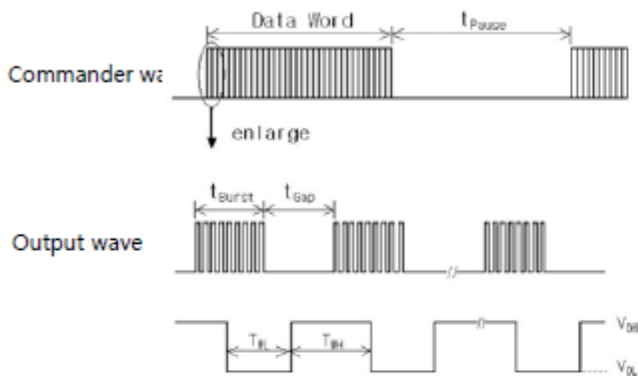
- ① Detecting distance.
- ② Current consumption.
- ③ High level output voltage.
- ④ Low level output voltage.
- ⑤ Output Pulse Width

Others

In case any trouble or question arise, both parties agree to make full discussion covering the said problem.

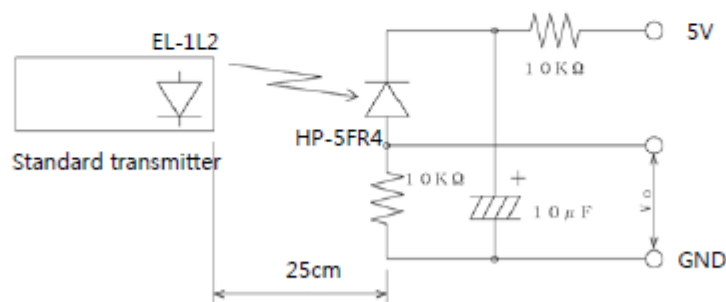
### Measurement Conditions

① Fig.1 Burst wave, Output wave



- \* Data word length = Max. 100msec
- \* tBurst = Min. 300usec, tGap = Min. 300usec
- \* tpause = Min. 25msec

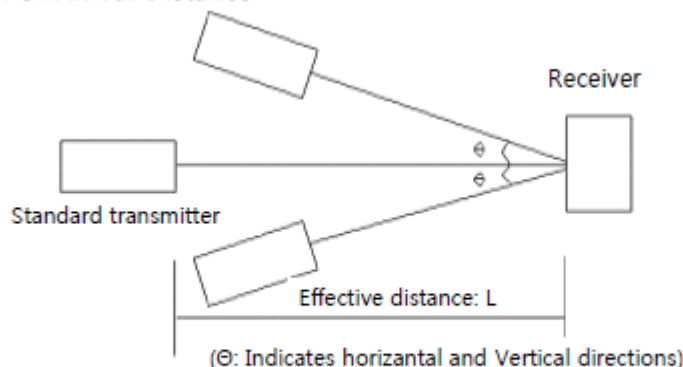
② Fig.2 Application Circuit



When standard transmitter output the signal at Fig.1 standard photodiode output become 50mV<sub>p,p</sub> under the measurement condition Fig.2.

HP-5FR4 : standard photodiode has short current I<sub>sc</sub>=32uA at E=1000(lx)

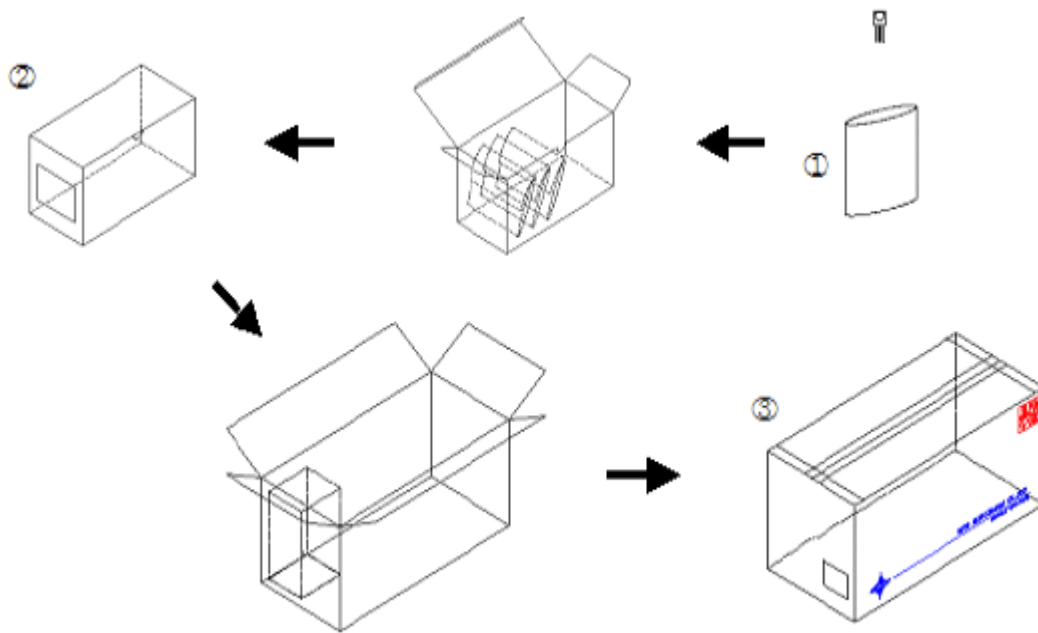
③ Fig.3 Test Condition of Arrival Distance



⚠ Ambient light source : Detecting surface's illumination shall be 200±50Lux under ordinary white fluorescence lamp without high frequency lighting.

Packing

No	Part Name	Dimension(mm)	Quantity(pcs)
①	Anti-electrostatic Poly-bag	-	100
②	Inner box	235×130×110t	1,000
③	Out box	575×285×265t	10,000



Function Block Diagram

