

GP2W1002YP0F

IrDA Compliant Transceiver Module
9.6 kb/s to 1.152 Mb/s (MIR)
Low Profile
Low Consumption current



■Description

The **GP2W1002YP0F** is an infrared transceiver module for IrDA ver. 1.4 (MIR).

The transceiver consists of a pin-photo diode, infrared emitter and control IC in a single package.

■Features

■Agency approvals/Compliance

Content status of six substances specified in "Management Methods for Control of Pollution Caused by Electronic Information Products Regulation" (popular name: "China RoHS")

RoHS compliance status: **RoHS Compliant**

■Applications

1. Mobile equipment
(Cellular phone, Pager, Smart phone, PDAs, Portable printer, etc.)
2. Digital imaging equipment
(Digital camera, Photo imaging printer)
3. POS equipment
4. Personal computers
5. Personal information tools

Notice The content of data sheet is subject to change without prior notice.

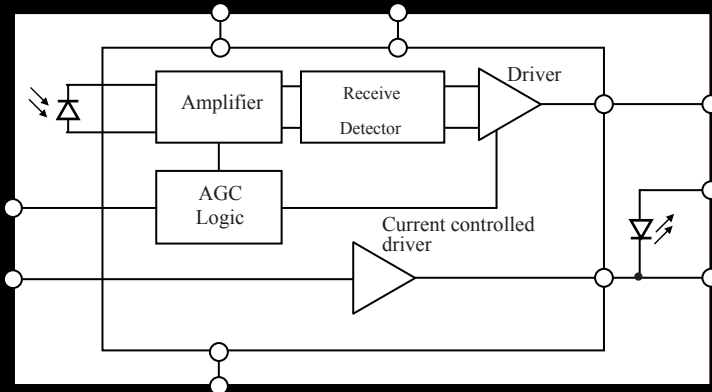
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Date Mar.01.2007

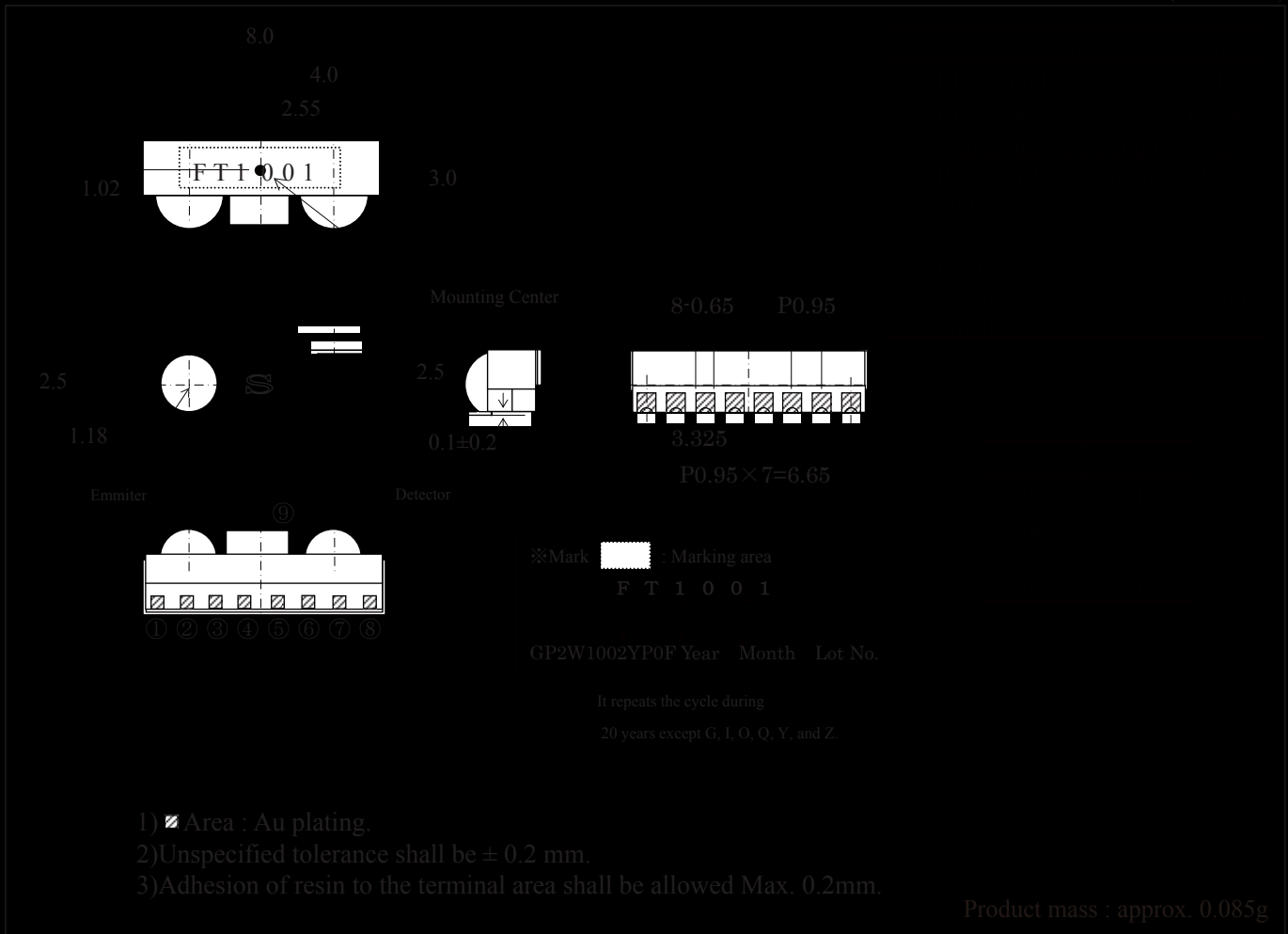
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■ Block diagram



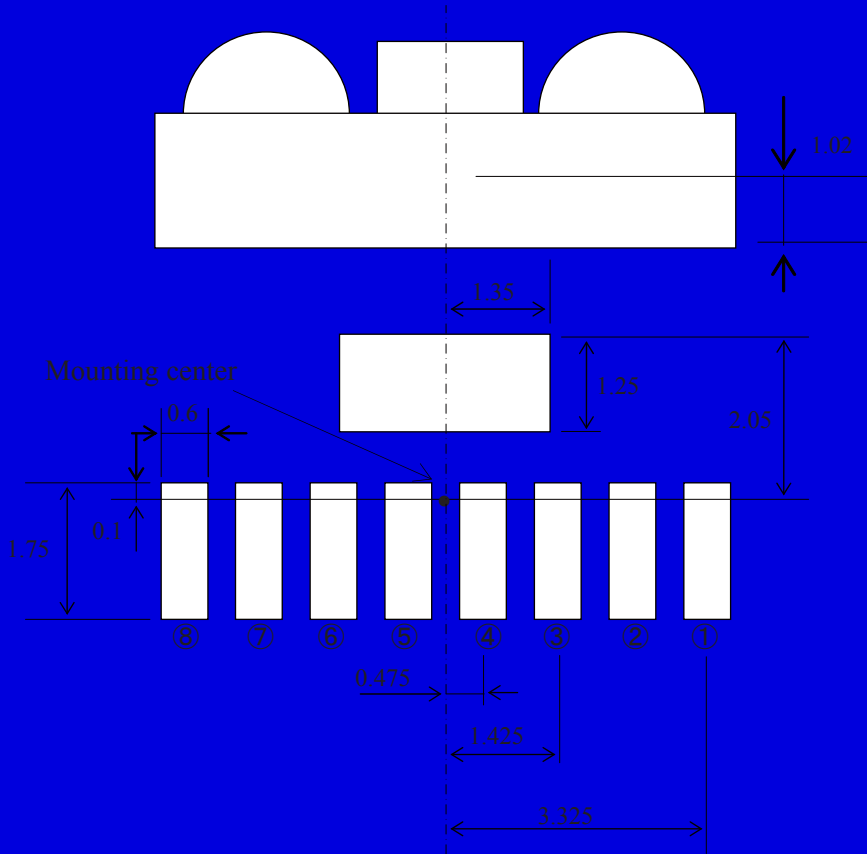
■ Outline Dimensions

(Unit : mm)



■Recommended PCB Foot Pattern

(Unit : mm)

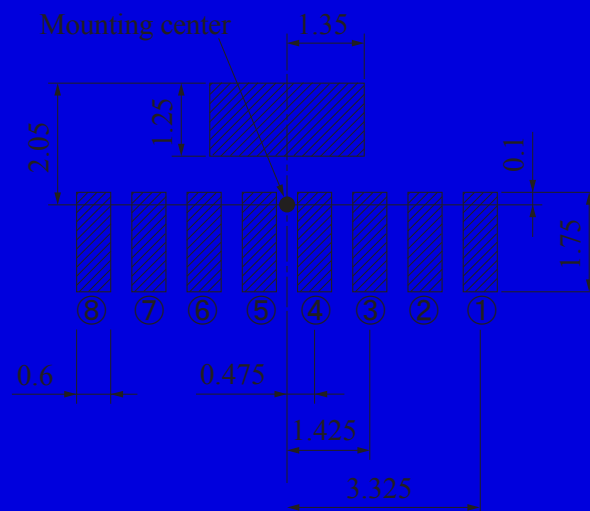


	Terminal	Symbol
①	LED Anode	LEDA
②	LED Cathode	LEDC
③	Transmitter Data Input	TXD
④	Receiver Data Output	RXD
⑤	Shutdown	SD
⑥	V _{CC}	V _{CC}
⑦	Logic I/O levels	V _{IO}
⑧	Ground	GND
⑨	Shield Ground	SGND

■Recommended Size of Solder Creamed Paste (Reference)

(unit : mm)

Dimensions are shown for reference.
Please open the solder mask as below
so that the size of solder creamed paste
for this device before reflow soldering
must be as large as one of the foot
pattern land indicated for reference.



▨ : Solder paste area

■ Electro-optical Characteristics

($T_a=25$ to $+85^{\circ}\text{C}$, $V_{CC}=2.4$ to 3.6V Unless otherwise specified)

*3 Refer to Fig.2,3

*4 Refer to Fig.4,5,6

■ Recommended Operating Conditions ($T_a=25^{\circ}\text{C}$)

■ Truth Table

SD	SW	TXD	LED	Receiver	TR ₁	TR ₂	RXD
H	Off	L	Off	Don't care	Off	Off	Pull-up
L	On	H	On	Don't care	–	–	Not valid
L	On	L	Off	IrDA signal	Off	On	L
L	On	L	Off	No signal	On	Off	H

H:High
L:Low

*RXD equivalent circuit

*TXD equivalent circuit

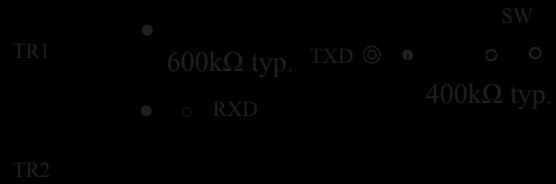
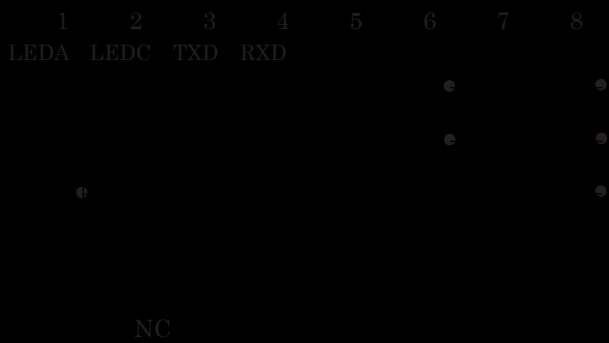


Fig.1 Recommended External Circuit



(Note1) Components choose the most suitable CX1 to 3 according to the noise level and noise frequency of power supply.

(Note2) In order to guarantee 100mW/sr, V_{LED} is required 5 to 5.5V.

Fig.2 Output Waveform Specification (Detector side)

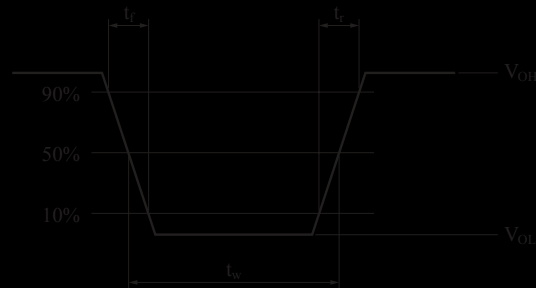
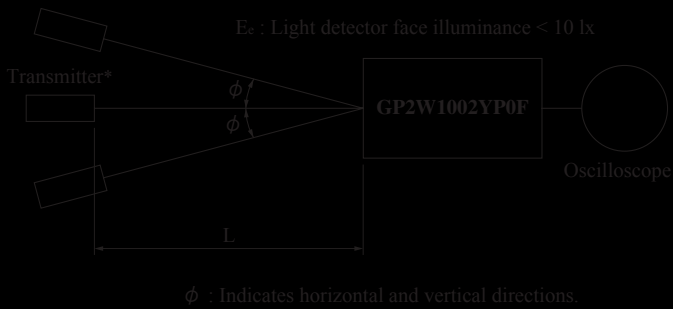
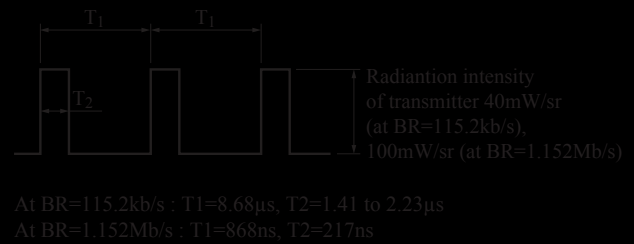


Fig.3 Standard Optical System (Detector side)



Input signal waveform (Detector side)



* Transmitter shall use GP2W1002YP0F ($\lambda_p=870 \text{ nm}$ TYP.) which is adjusted the radiation intensity at 40 mW/sr (at 115.2 kb/s), 100 mW/sr (at 1.152 Mb/s)

Fig.4 Output Waveform Specification (Transmitter side)

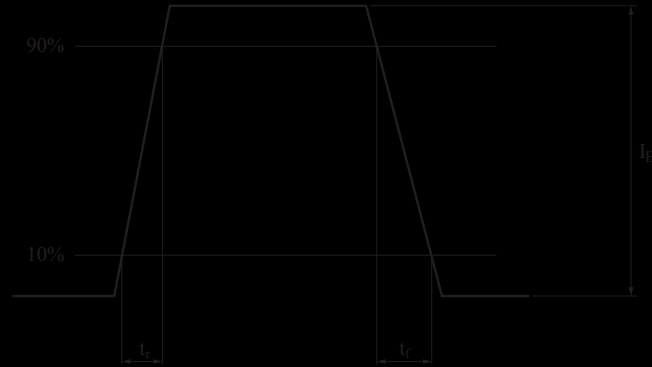


Fig.5 Standard Optical System (Transmitter side)

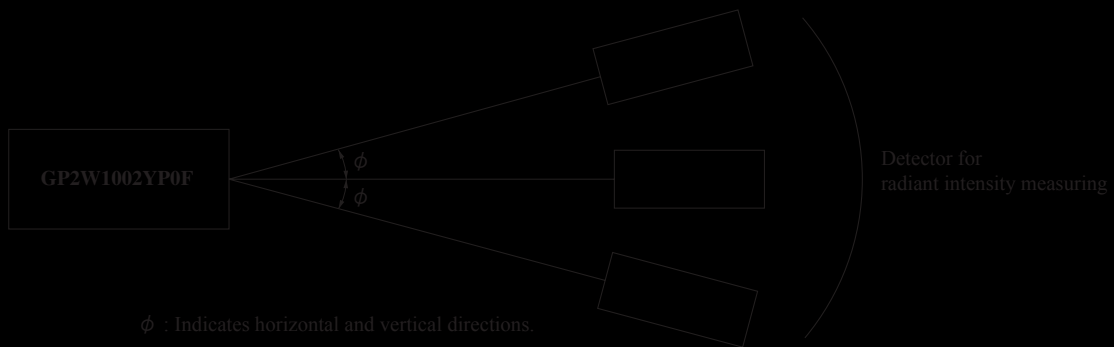
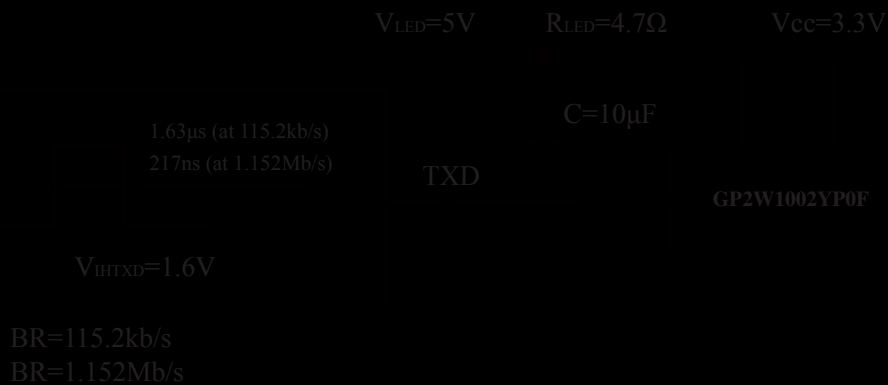
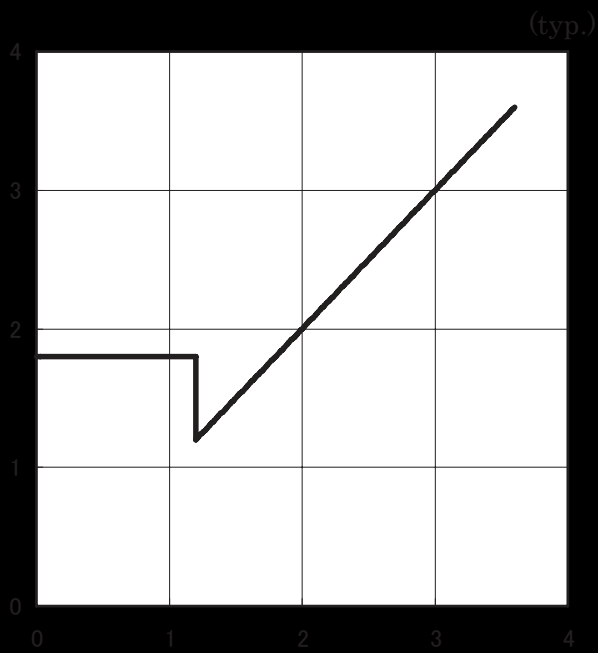


Fig.6 Recommended Circuit of Transmitter side





■ Notes

■Soldering Method

1. In case of solder reflow

1 to 5°C/s

1 to 5°C/s

MAX10s

MAX70s

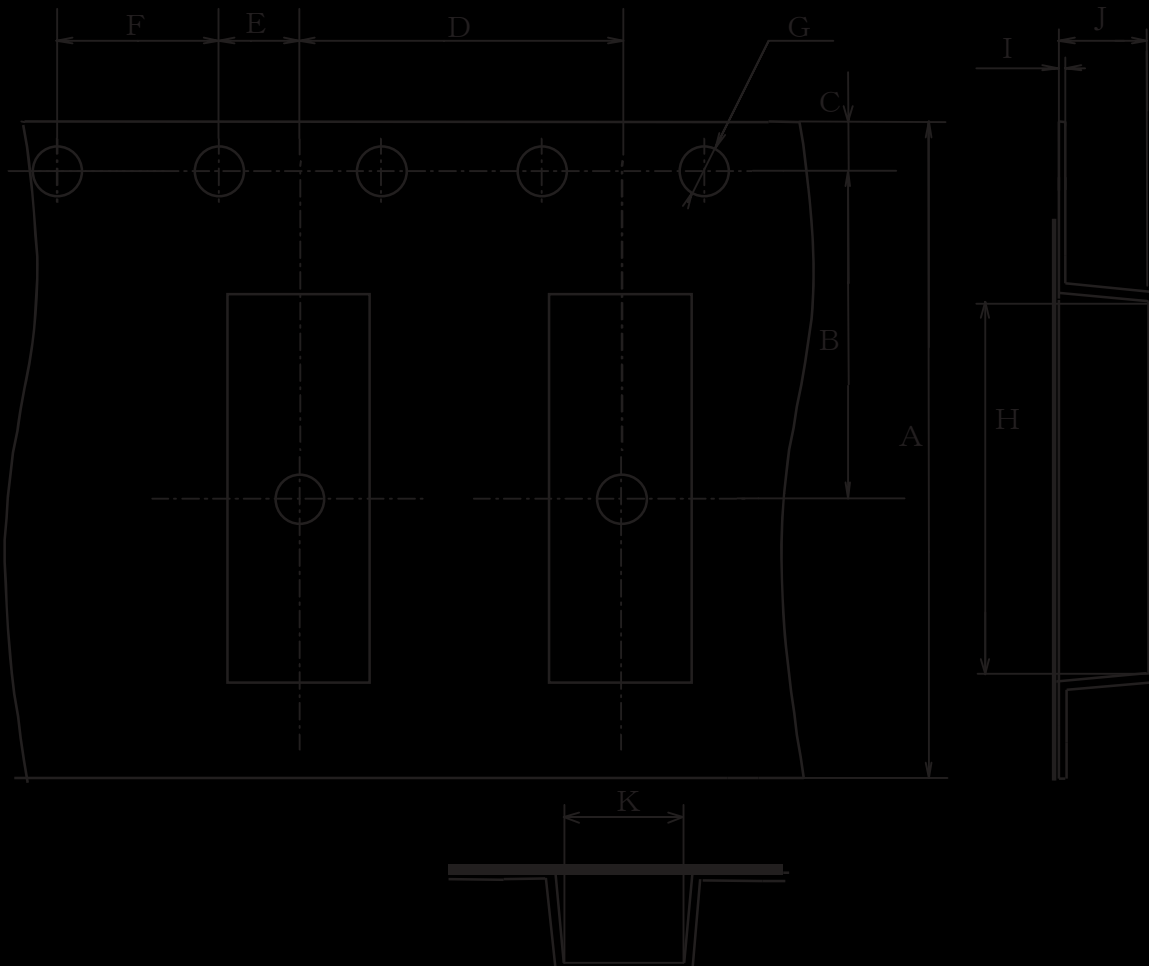
MAX120s

2. Other precautions

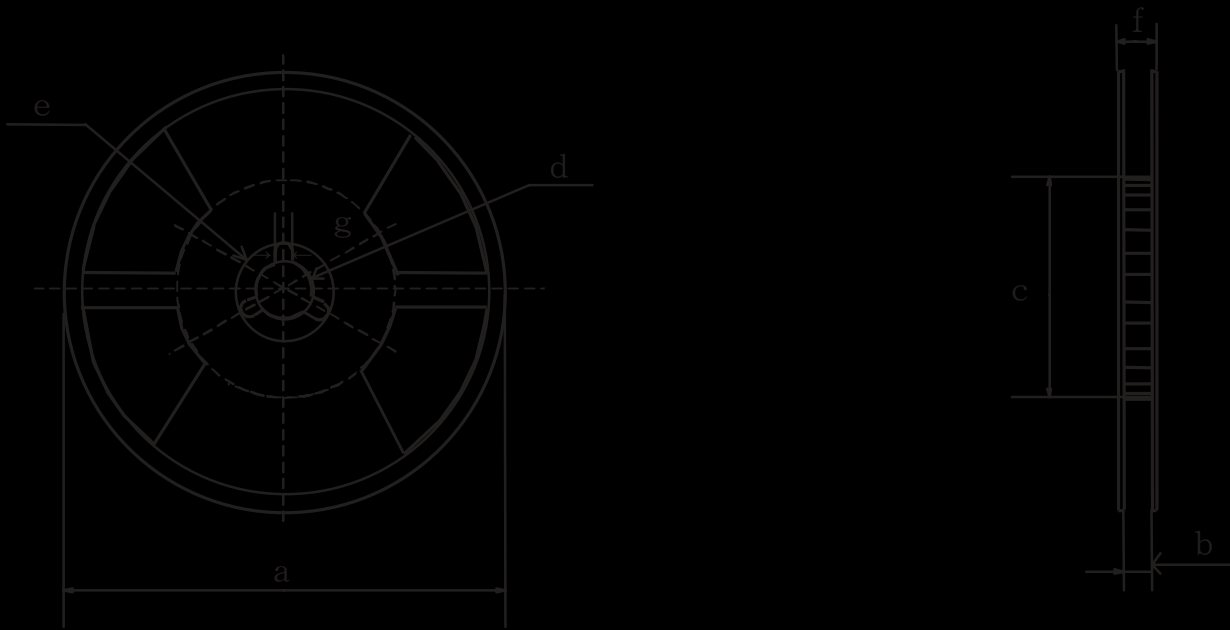
3. Hand soldering

■ Package specification

- Tape and Reel package
2000pcs/reel



(unit : mm)



(unit : mm)



●Cleaning Instructions**●Preparation**

Use a soft cloth to clean the front panel. Do not use benzene, acetone, alcohol, or other organic solvents. Do not use cleaning agents containing chlorine or fluorine. Do not use abrasive cleaners or scouring pads. Do not use high-pressure water spray.

Do not use water or other liquids to clean the front panel. Do not use a steam cleaner. Do not use a high-pressure water spray. Do not use a high-pressure air blower. Do not use a high-pressure steam cleaner. Do not use a high-pressure water spray.

Do not use a high-pressure water spray. Do not use a high-pressure air blower. Do not use a high-pressure steam cleaner. Do not use a high-pressure water spray. Do not use a high-pressure air blower. Do not use a high-pressure steam cleaner. Do not use a high-pressure water spray.

●Presence of ODC etc.

This product shall not contain the following materials.
And they are not used in the production process for this product.
Regulation substances: CFC, Halon, Carbon tetrachloride, 1,1,1-Trichloroethane (Methylchloroform)

Specific brominated flame retardants such as the PBB and PBDE are not used in this product at all.

*** The RoHS directive (2002/95/EC)**

This product complies with the RoHS directive (2002/95/EC).
Other substances: lead, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE)

* Content of six substances specified in "Management Methods for Control of Pollution Caused by Electronic Information Products Regulation" (China)

indicates that the content of the toxic and hazardous substance in all the homogeneous materials of the part is below the concentration limit requirement as described in SJ/T 11363-2006 standard.

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- Telecommunication equipment [terminal]
- Test and measurement equipment
- Industrial control
- Audio visual equipment
- Consumer electronics

(ii) Measures such as fail-safe function and redundant design should be taken to ensure reliability and safety when SHARP devices are used for or in connection

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- Transportation control and safety equipment (i.e., aircraft, trains, automobiles, etc.)
- Traffic signals
- Gas leakage sensor breakers
- Alarm equipment
- Various safety devices, etc.

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- Space applications
- Telecommunication equipment [trunk lines]
- Nuclear power control equipment
- Medical and other life support equipment (e.g., scuba).

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