SID1050CM

- Extenal Shape Type: ϕ5 round type infrared LED for direct mount type
- Lens color : Clear
- Material of a chip : GaAs
- Application : Home Appliance, Office Appliance (Factory Automation)
- Feature : RoHS compliant, Compatible with heat-resistance of lead-free solder.

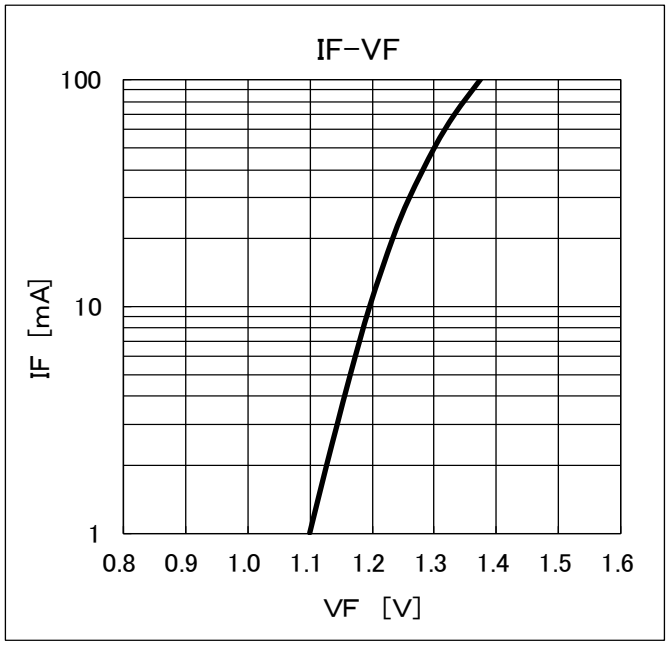
- Absolute Maximum Ratings (Ta=25℃)

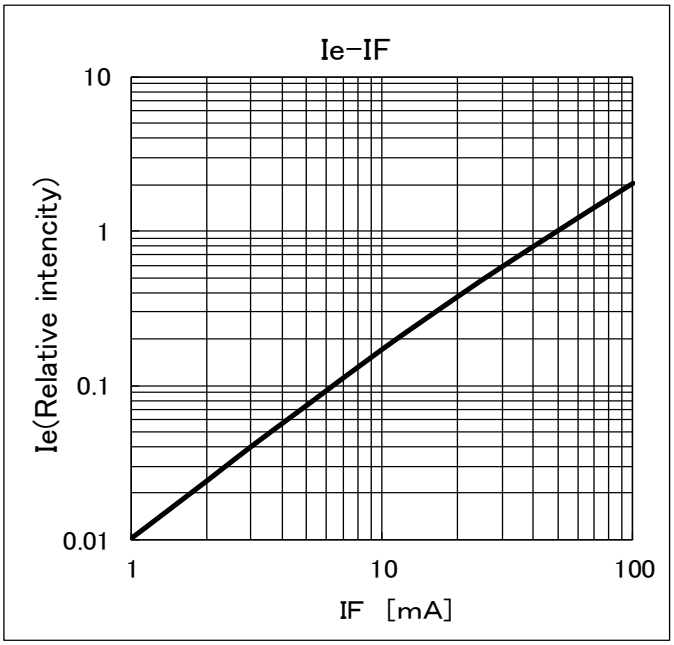
Parameter	Symbol	Ratings	Unit	Remarks
Forward current	IF	100	mA	
Foward current derating	⊿IF	-1.33	mA/℃	25℃ or more
Pulse forward current	IFP	1000	mA	f=1kHz , tw≦100 μ s
Reverse voltage	VR	3	V	
Operating temperature	Topr	−30～ 85	℃	
Storage temperature	Tstg	−30～100	℃	

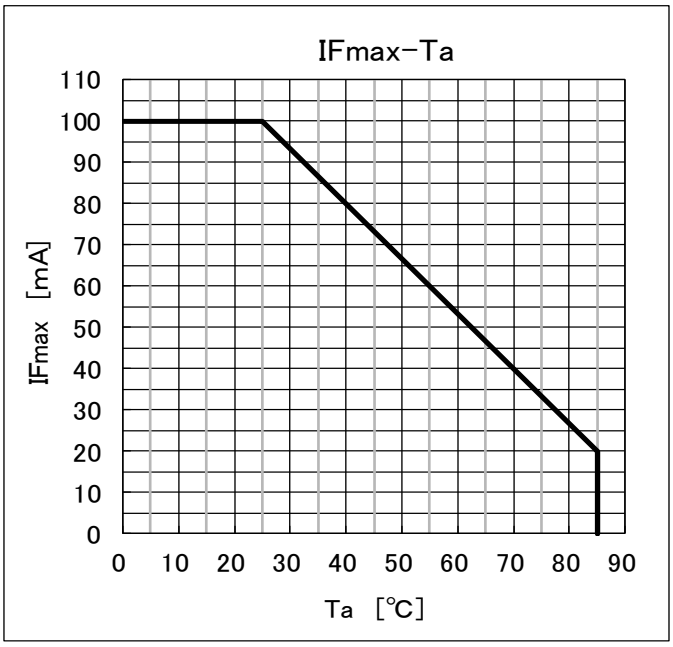
- Electro – optical characteristics (Ta=25℃)

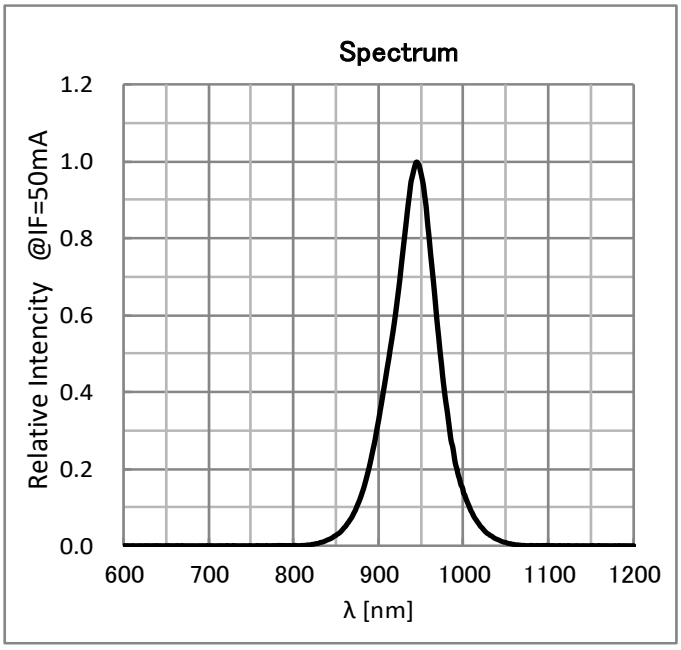
Parameter	Symbol	Condition	MIN	TYP	MAX	Unit
Forward voltage	VF	IF = 50mA		1.3	1.5	V
Reverse current	IR	VR=3V			10	μ A
Radiant intensity	Ie	Vcc=3V,R=2.2Ω	185	250		mW/Sr
Peak wavelength	λ p	IF = 50mA		940		nm
Spectral bandwidth	⊿λ	IF = 50mA		50		nm
Directional angle	2$\theta_{1/2}$	IF = 50mA		20		deg.

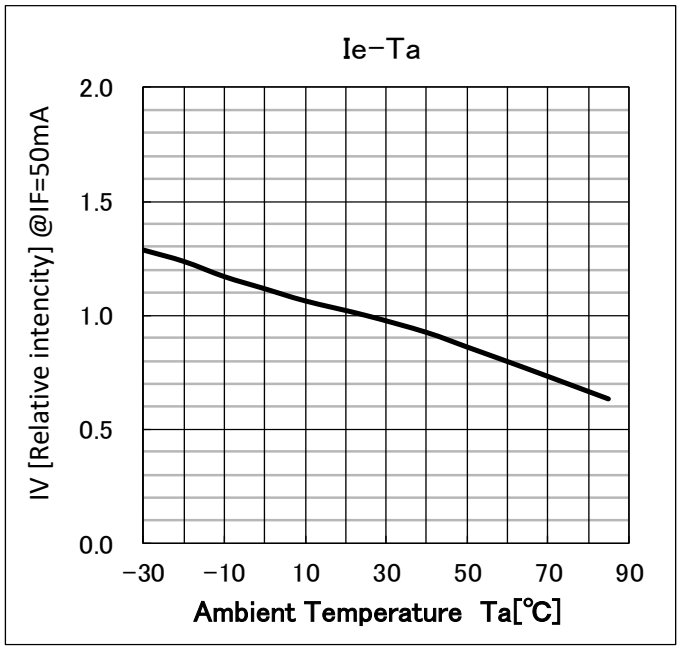
● Characteristic data

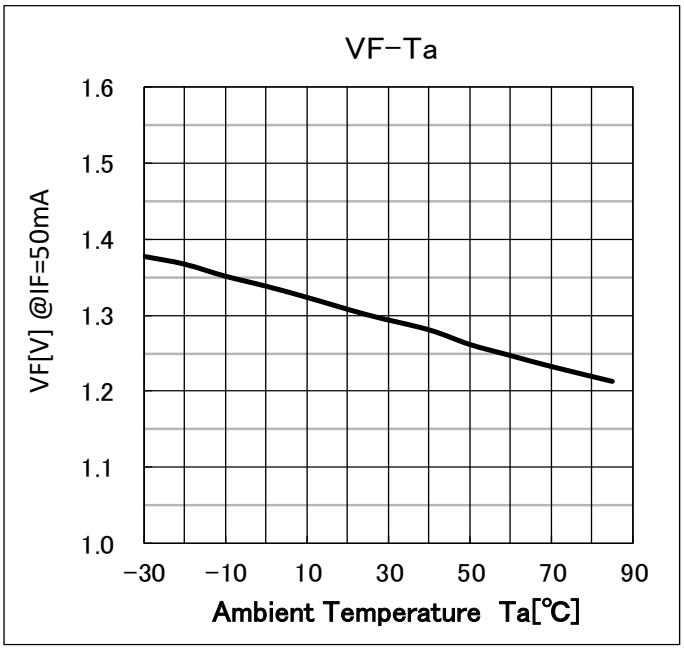




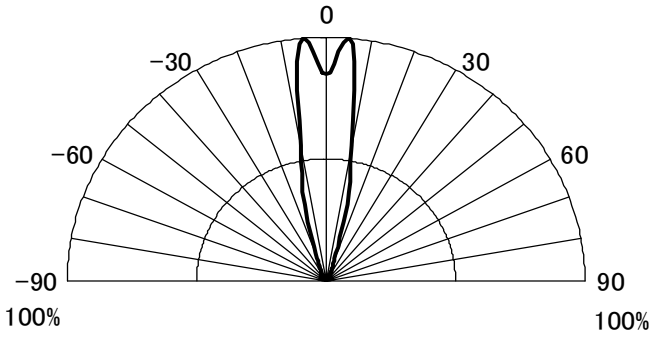






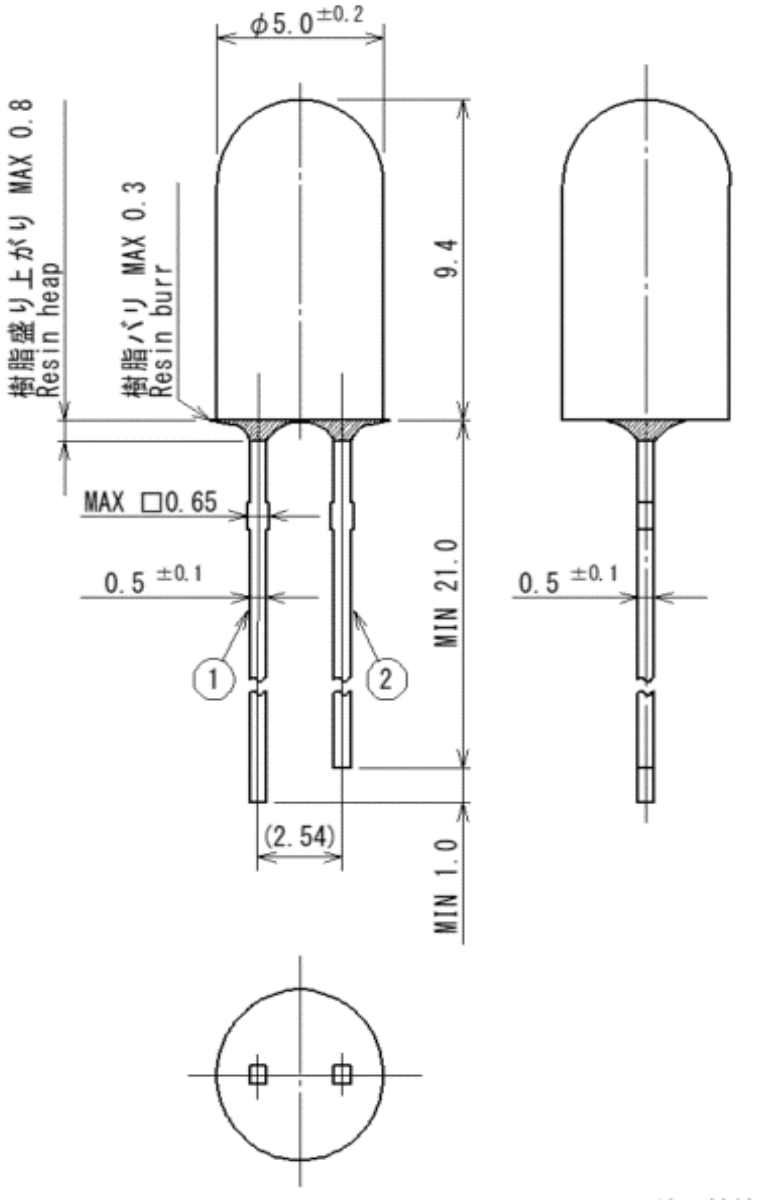


Directional angle



● SID1050M Series

Outline dimensions



(Unit:mm)

Material & Finish of leads

Material	Fe + Under Plating
Finish	Solder(Sn-3.0Ag-0.5Cu)

Terminal: ①Anode
②Cathode

Tolerance: ±0.3

● Note

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature.
The glass transition temperature of epoxy resin used for the LED is approximately 120 ~ 130℃.
At a temperature exceeding this limit, the coefficient of linear expansion of the resin doubles or more comparedto that at normal temperature and the resin is softened.
If external force or stress is applied at that time, the terminal will move and it may cause a wire rupture.

Please be careful about the following when soldering.
After soldering, avoid applying external force, stress, and excessive vibration during cooling process until the LEDs cool down to normal temperature.(Same for products with terminal leads)

①Soldering measurements:
Distance between melted solder side to bottom of resin shall be 1.6 mm or longer .

②Solder dip: Preheat: 90℃ max. (Backside of PCB), Within 120 seconds
Solder bath: 250℃ max. (Solder temperature), Within 3 seconds

③Soldering iron: 350℃ max. (Temperature of soldering iron tip), Within 3 seconds

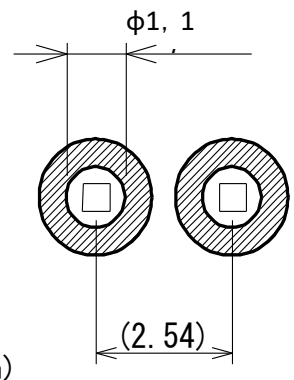
When SMD components are used on the same PCB, mount the LED after adhesive baking process since theresin used for the LED has a low heat resistance.
In case the adhesive baking is operated after the LED is mounted for a manufacturing process reason, make surenot to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120℃ max. Baking time: Within 60 seconds

When operating sequential soldering after the adhesive baking, perform the soldering after the LED cools down to normal temperature.

Pitch of the LED leads and pitch of mounting holes need to be the same.
Recommend following PCB for contact mount LEDs.
Recommended PCB : Single-faced PCBs with thickness 1.6mm & holes diameter φ1.0 to 1.1mm

Do not use through holes type when using double-faced PCBs.
When doing the automatic insertion,maximize the clinch angle on the anode side of the LED so excessive remain force won'thappen.



(Unit:mm)

● Reliability test

	Test Items	EIAJ ED-4701	Test Conditions
Life Tests	Steady state operating life	-	Ta=RT , Ifmax t=1000h
Environ -mental Tests	Hight temperature storage	201	Ta=Tstgmax t=1000h
	Low temperature storage	202	Ta=Tstgmin t=1000h
	Moisture Resistance	103	Ta=60±5℃ , RH=90±5% t=1000h
	Temperature cycle	105	Tstgmin(30min)～Tstgmax(30min) 100cycles
	Soldering heat	301/302	T=260±5℃ , t=10s , 1time
	Solderraibirity	303	T=245±5℃ , t=5±1s,1time Using flux for Pb free solder
	Terminal strength(pull)	401	Loading weight 10N t=10s
	Terminal strength(bend)	401	Loading weight 5N 0 → 90° → 0
	Drop	-	H=1m ,Drop on maple board .

● Mesurement Item and Criterion Judge Failure

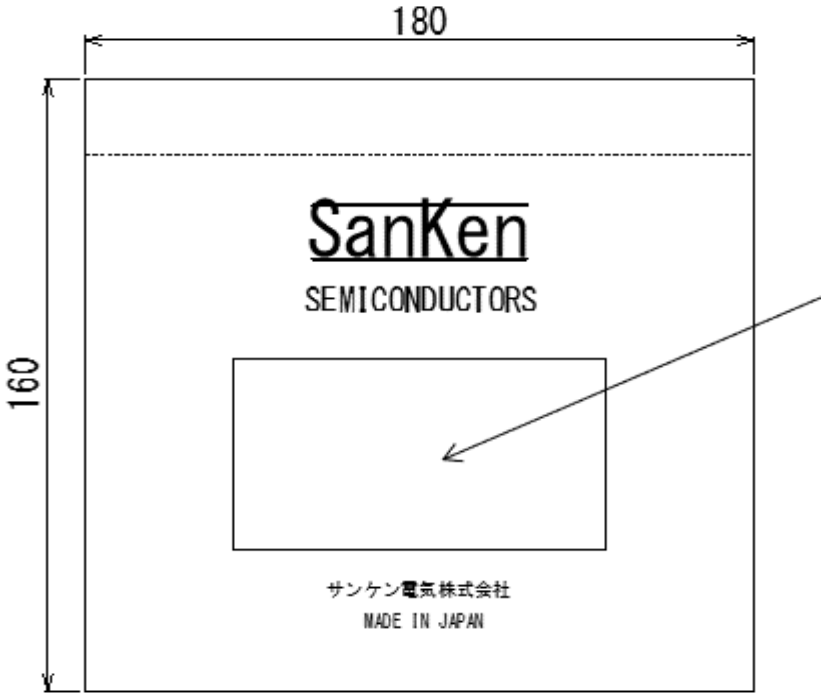
No	Measurement Item	Mark	Criterion Judge Failure
1	Forward Voltage	VF	OK≦V.F.S.×±20%
2	Reverse Current	IR	OK≦U.S.L.×2.0
3	Radiant Intensity	Ie	OK≧I.V.S.×0.5

*Solderability … The Lead shall be covered by solder at least 95%.

Mesurement cnditions is based on specifications.
Tstgmax and Tstgmin is abosolute maximum ratings.
IFmax and IFPmax is absolute maximum ratings,
U.S.L. is upper limit of standard.
V.F.S. is Initial data of VF.
I.V.S. is Initial data of Luminous Intensity.

● Packing specificatins

Smallest packing



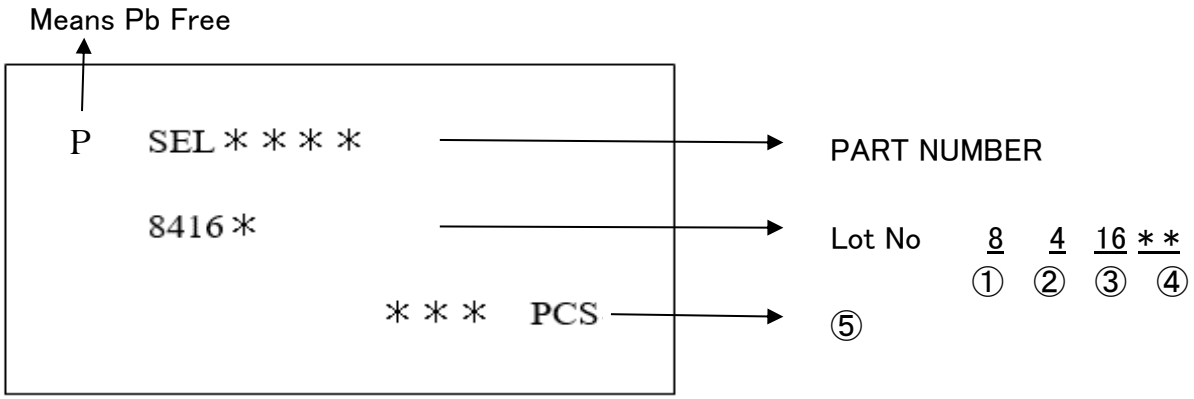
Packing material : Individual vinyl bag

Quantity(Minimum Order Quantity)

:500pcs

Label : Label of below in the bag

Label



① Last digit of year

② Month

January～September→Arabic Numeral

October →X、November→Y、December→Z

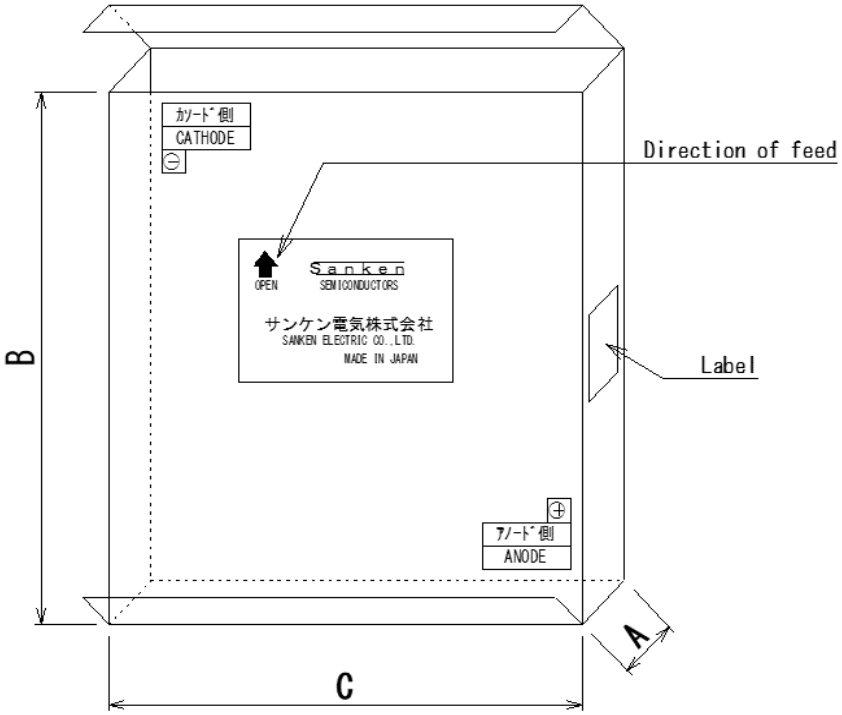
③ Day

④ Radiant intensity rank

⑤ Quantity(Minimum Order Quantity) :500pcs

● Taping specification for taped parts

Perforation and part number identification shall be placed as shown in the below.
As to the direction of feed, cathode shall come first.



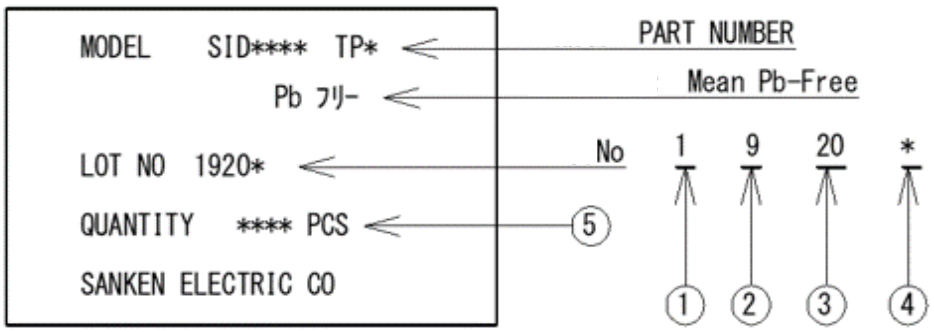
Dimensions

A	54.5
B	365
C	335
Thickness	3.0

(Unit:mm)

Quantity(Minimum Order Quantity)
: 2500pcs

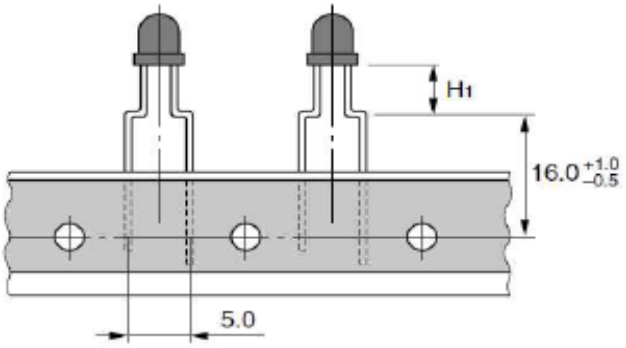
Label : Label of below in the bag



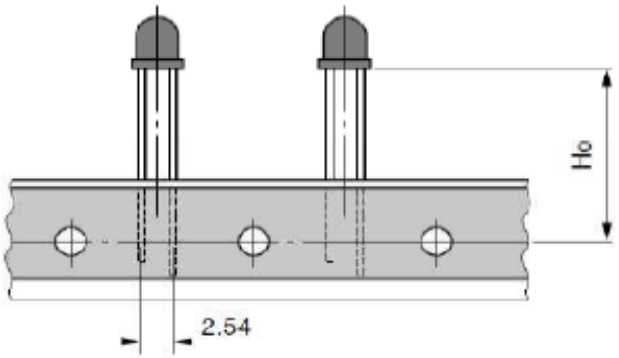
① Last digit of year
② Month
January～September→Arabic Numeral
October →X、November→Y、December→Z
③ Day
④ Radiant intensity rank
⑤ Quantity(Minimum Order Quantity) :2500pcs

● Taping specification

1.Forming type



2. Straight type

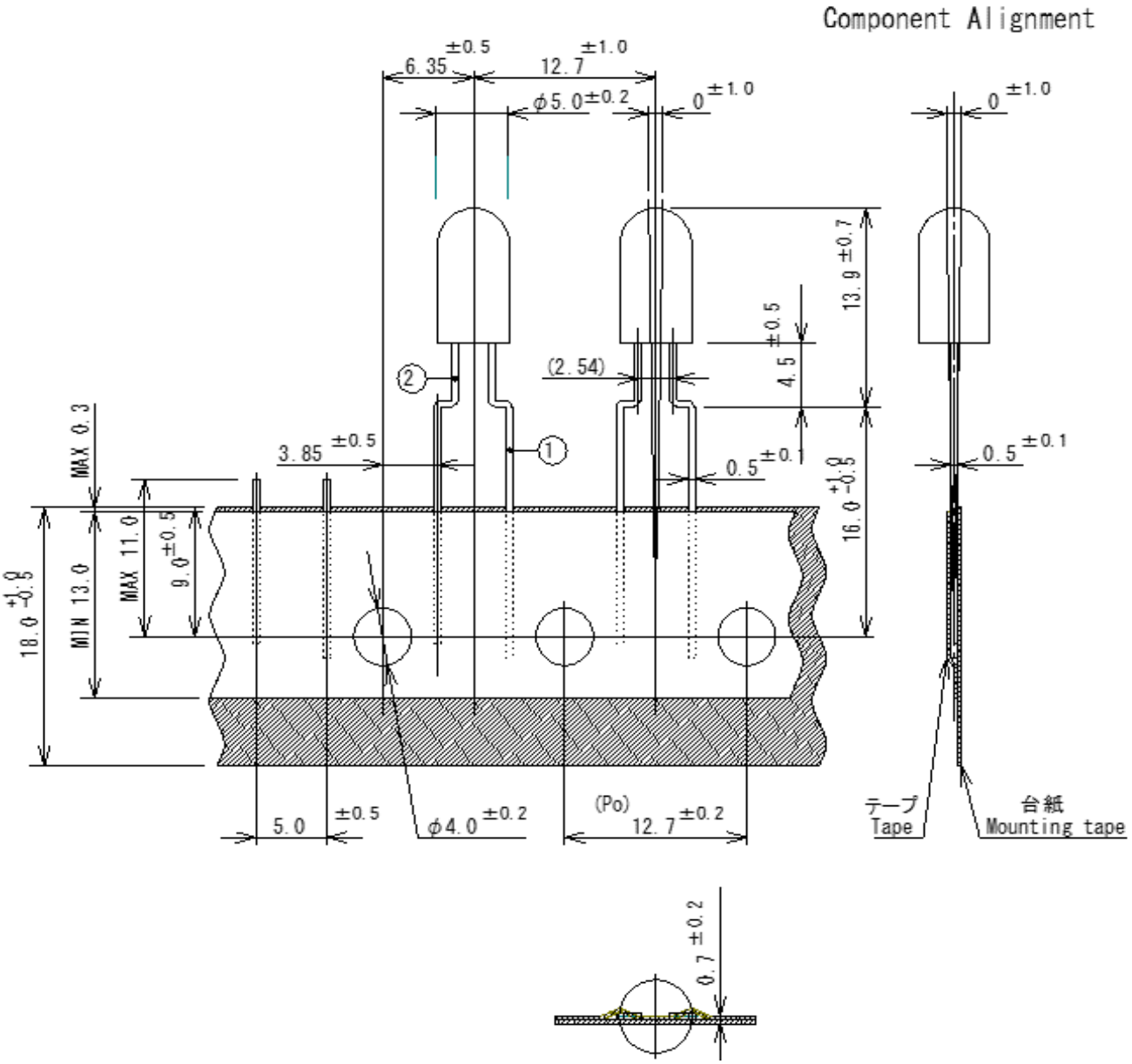


(Unit:mm)

Series	Forming type					
Taping name	TP1	TP2	TP3	TP6	TP7	TP8
Size H1	4.5	7.5	6.0	3.5	5.0	9.0
SID1050CM	○	○	○	○	○	○

Series	Straight type					
Taping name	TP4	TP5	TP15	TP16	TP17	TP18
Size H0	17.0	20.5	20.0	19.0	23.5	25.0
SID1050M	×	○	×	×	×	×

● TP1 Outline dimensions



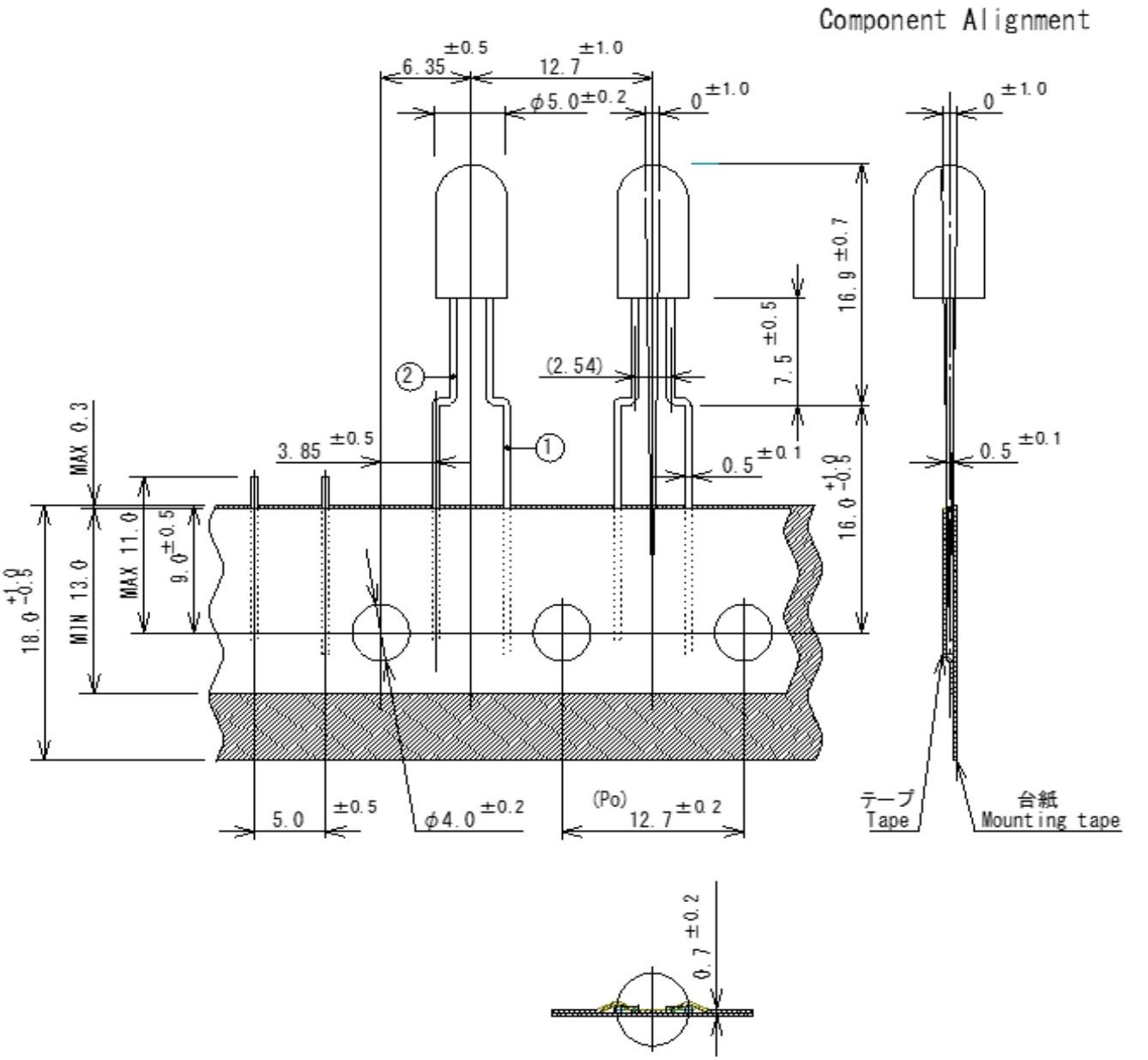
(Unit:mm)

(Po):Accumulation pitch tolerance shall not exceed ±1.0mm over 20 consecutive pitches.

Terminal: ①Anode
②Cathode

Tolerance: ±0.3

● TP2 Outline dimensions



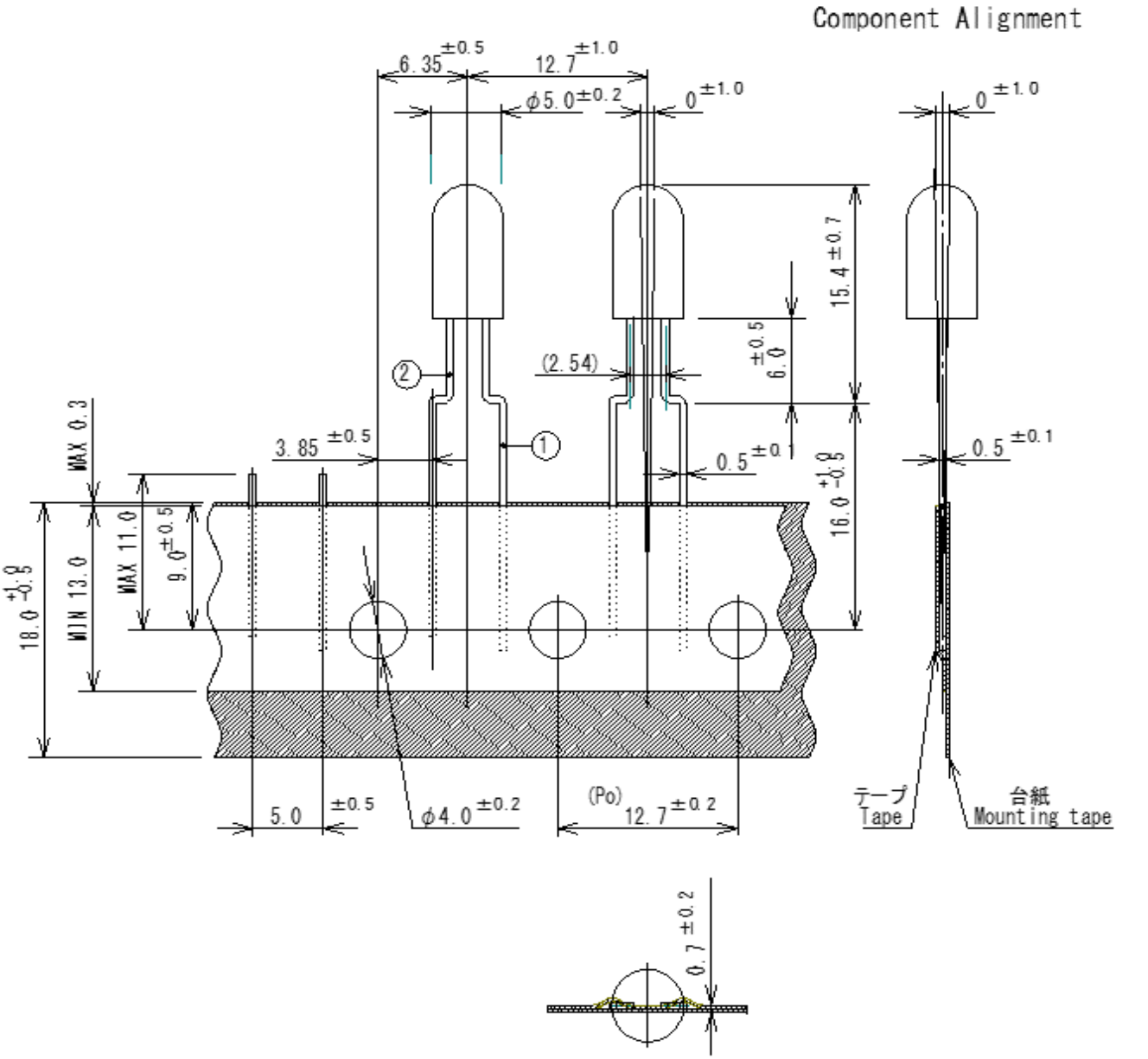
(Unit:mm)

(Po):Accumulation pitch tolerance shall not exceed ±1.0mm over 20 consecutive pitches.

Terminal: ①Anode
②Cathode

Tolerance: ±0.3

● TP3 Outline dimensions



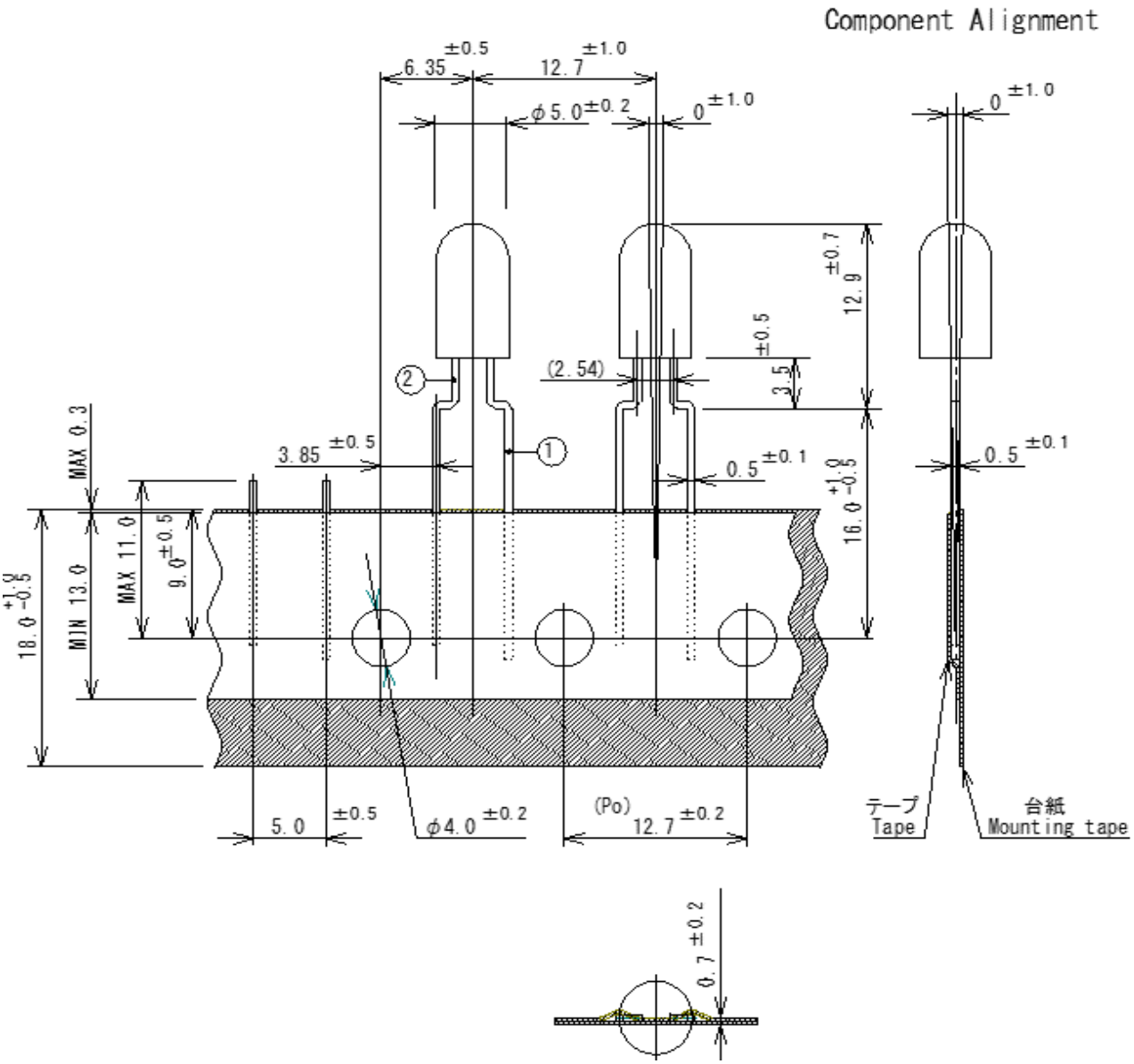
(Unit:mm)

(Po):Accumulation pitch tolerance shall not exceed ±1.0mm over 20 consecutive pitches.

Terminal: ①Anode
②Cathode

Tolerance: ±0.3

● TP6 Outline dimensions



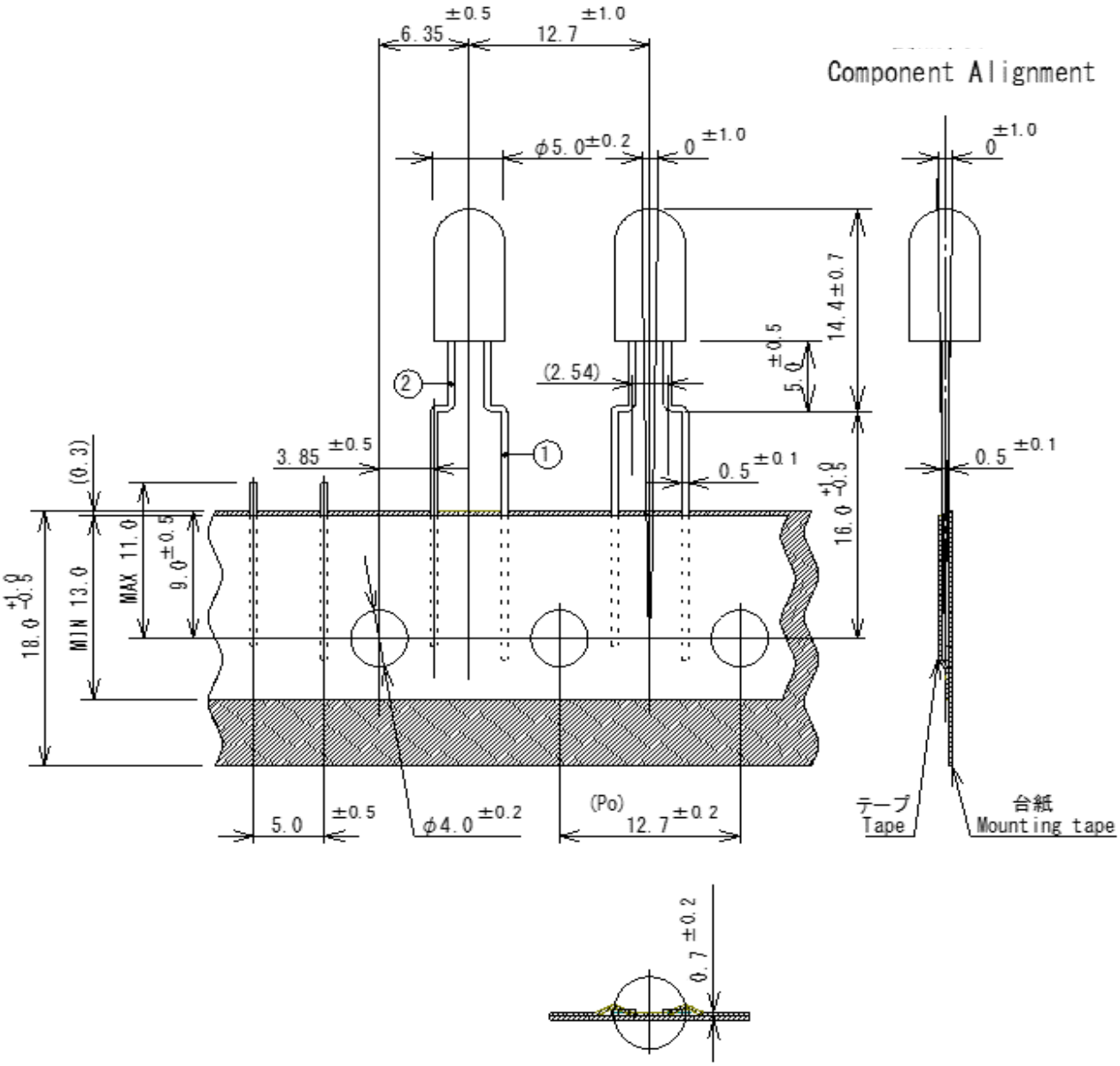
(Unit:mm)

(Po):Accumulation pitch tolerance shall not exceed ±1.0mm over 20 consecutive pitches.

Terminal: ①Anode
②Cathode

Tolerance: ±0.3

● TP7 Outline dimensions



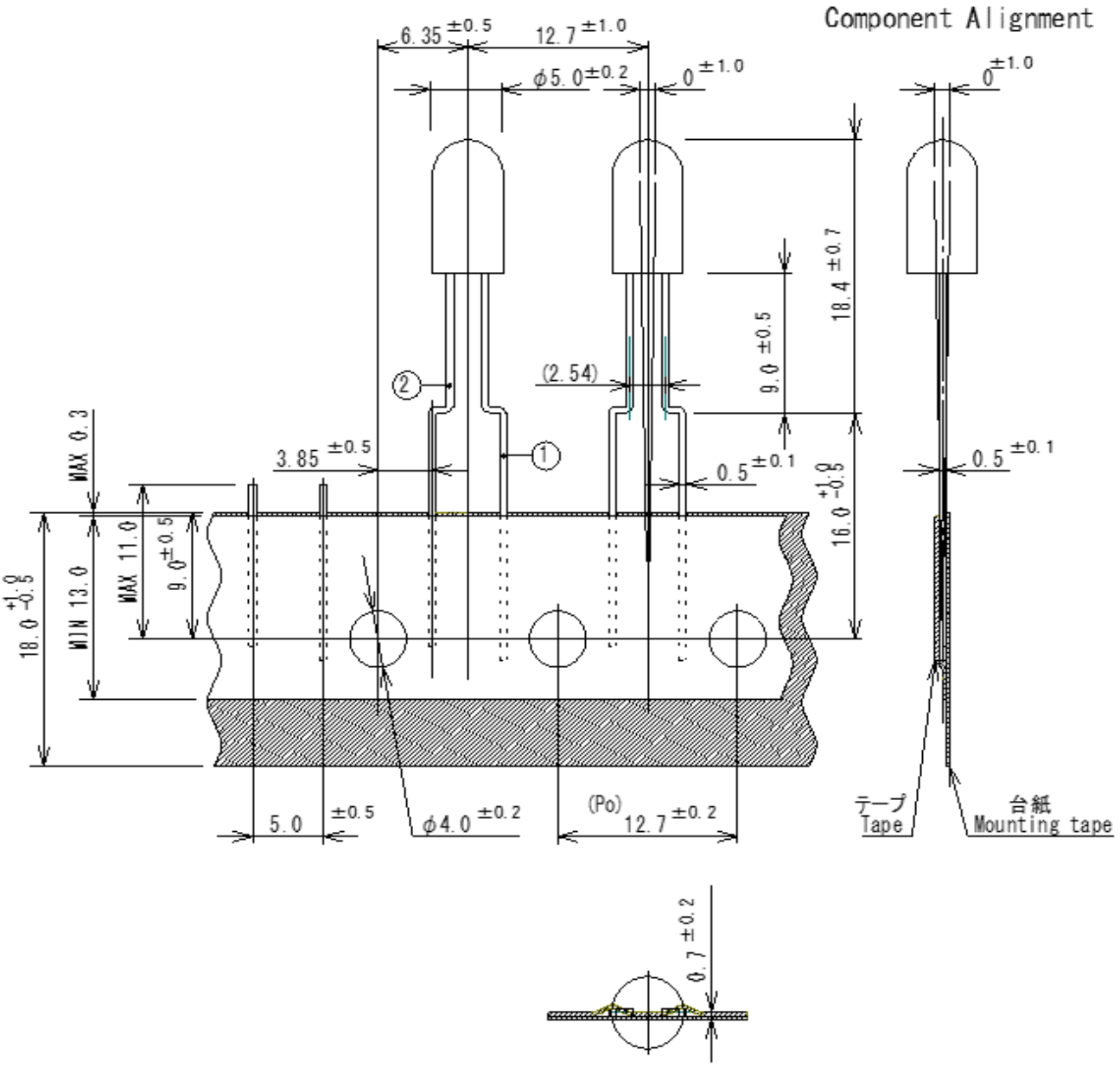
(Unit:mm)

(Po):Accumulation pitch tolerance shall not exceed ±1.0mm over 20 consecutive pitches.

Terminal: ①Anode
②Cathode

Tolerance: ±0.3

● TP8 Outline dimensions



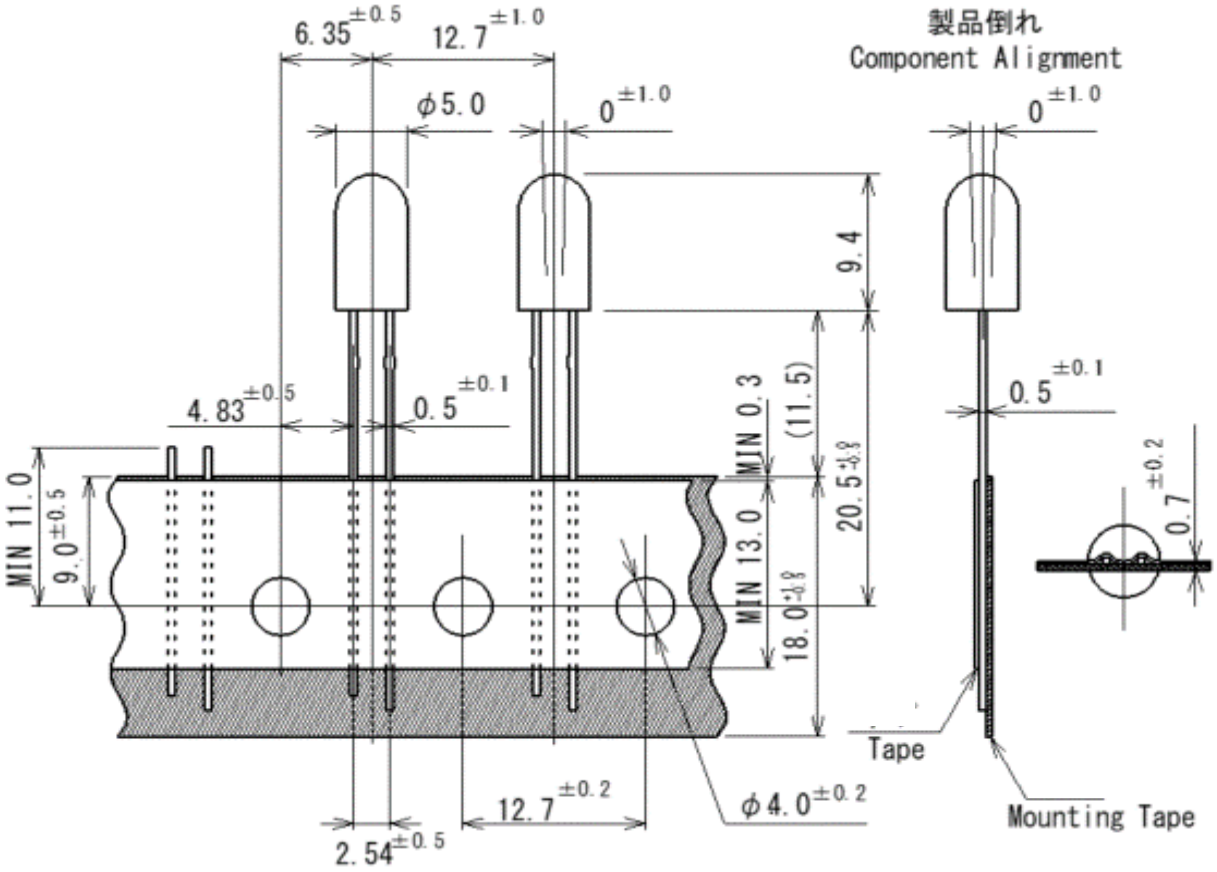
(Unit:mm)

(Po):Accumulation pitch tolerance shall not exceed ±1.0mm over 20 consecutive pitches.

Terminal: ①Anode
②Cathode

Tolerance: ±0.3

● TP5 Outline dimensions



(Unit:mm)

(Po):Accumulation pitch tolerance shall not exceed ±1.0mm over 20 consecutive pitches.

Terminal: ①Anode
②Cathode

Tolerance: ±0.3

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