

东莞市品明光电有限公司

DONGGUAN PINMING PHOTOELECTRONIC CO.,LTD.

产品规格 Production Specification

承 认 书

Samples approval sheet

(Customer name): _____

(Production name) : 5mm Round transparent yellow and blue two-tone

(Model): PM _____

(Single sample No): PM _____

(Date): _____

Dongguan Pinming Photoelectric Co., Ltd.

DONGGUAN PINMING PHOTOELECTRONIC CO.,LTD.

Prepared by	Checked by	Approved by	Market Dept.
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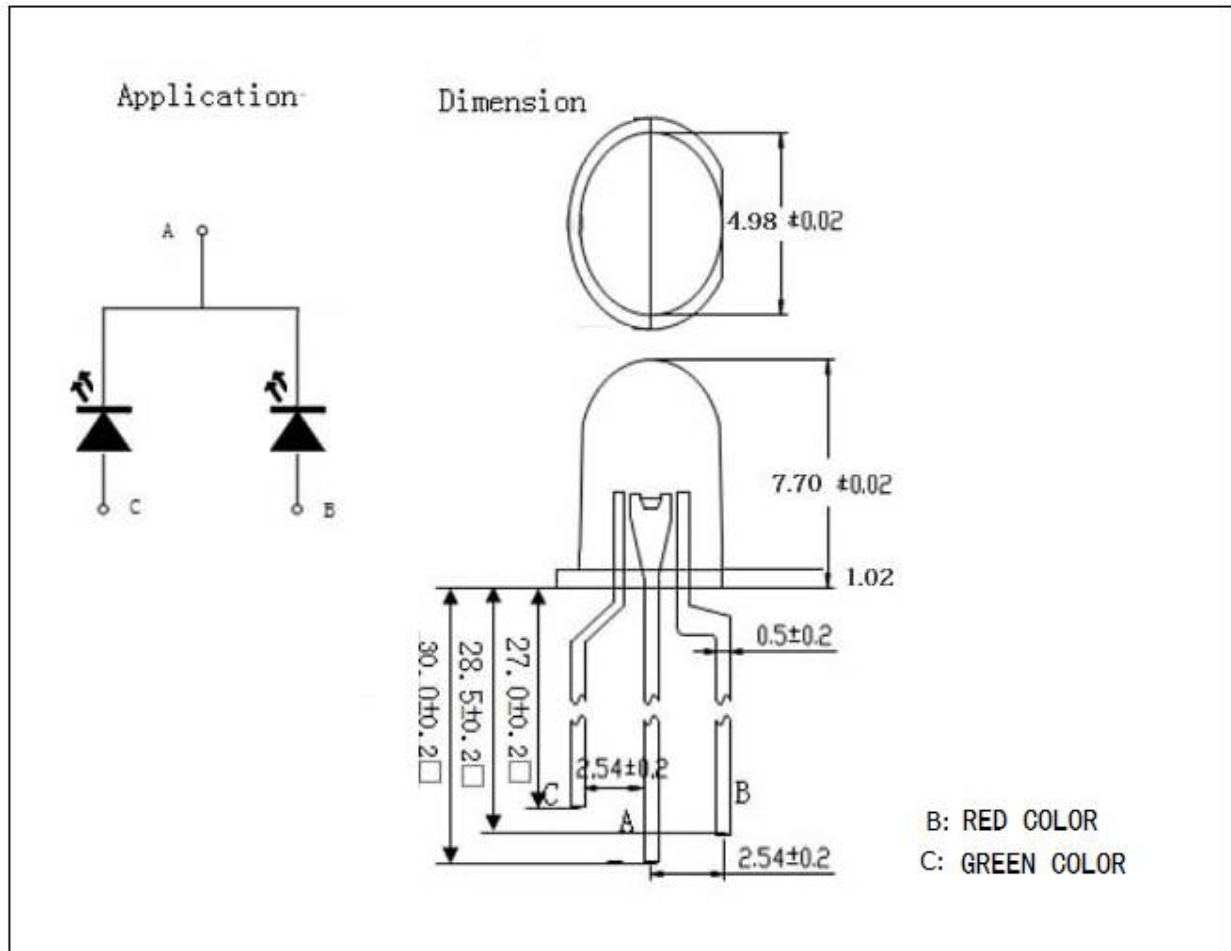
Model :	PM50RG00W-A	Page: 1/7
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Outline dimensions:



**REMARK: B revised to blue color
C revised to yellow color**

Unit	Tolerance	Die material	Lens color	Emission color
mm	$\pm 0.2\text{mm}$	InGaN	CLEAR	YELLOW/BLUE

Remark: P/N & Model in samples approval sheet can be used to inquire, please provide corresponding P/N& model if customer need.

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Photoelectricity Parameter

Ambient temperature: 25°C humidity: RH60%)

BLUE COLOR:

Parameter	Symbol	Min	Typ.	Max	Unit	Test Condition
Forward voltage	VF	1.8		2.2	V	IF=20 mA
Luminous intensity	IV	200		400	mcd	IF=20 mA
Peak emission wavelength	λ_p	590		595	nm	❖
Half intensity angle	$\Delta\theta$	❖	45	❖	deg	❖

YELLOW COLOR:

Parameter	Symbol	Min	Typ.	Max	Unit	Test Condition
Forward voltage	VF	3.0		3.4	V	IF=20 mA
Luminous intensity	IV	1000		1000	mcd	IF=20 mA
Peak emission wavelength	λ_p	460		470	nm	❖
Half intensity angle	$\Delta\theta$	❖	45	❖	deg	❖

Remark: The tolerance of intensity:±15%, The tolerance of wave length:±1nm,The tolerance of forwards voltage: ±0.05V.
Only reference for above data when testing.

Absolute Maximum Rating

(Ambient temperature: 25°C humidity: RH60%)

Item	Symbol	Value	Unit	Remark
Positive limit current	IFM	75	mA	F=1KHZ,占 (duty cycle)1/10
Reverse Voltage	VRP	15	V	---
Reverse current	IR	10	μ A	VR=5V
Power Dissipation	Pm	85	mw	---
Operation temperature	Tamb	-25 至+80	°C	---
Storage temperature	Tstg	-35 至+85	°C	---
Soldering temperature	Tsol	320	°C	Wave soldering, ≤5S

Model :

PM50RG00W-A

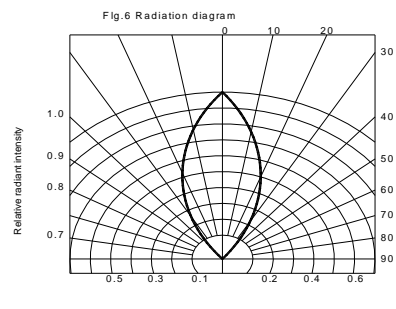
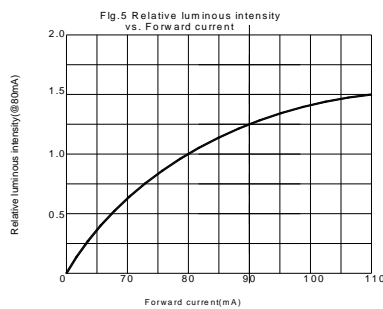
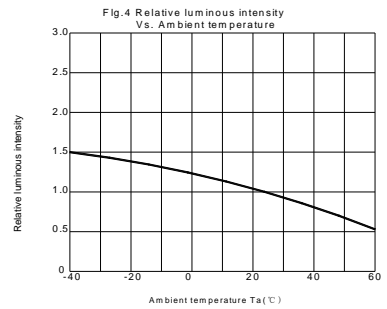
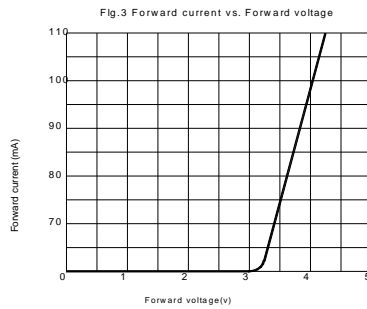
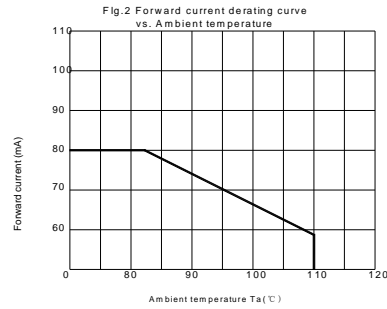
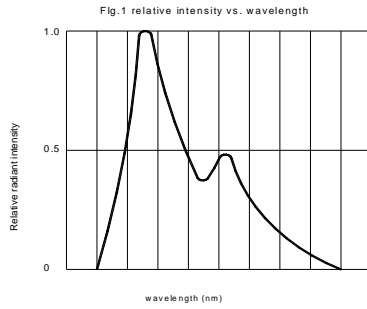
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Typical photo electricity characteristic curve chart



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Reliability Test Project

Description	Item	Test criterion	Test condition	Test time	Qty	Fail qty
Life test	Life test(room temperature)	JIS7021:B4	Ta=25°C±5°C, IF=30mA	1000Hrs	22	0
Ambience test	High temperature store	JIS7021:B10 MIL-STD-202:210A MIL-STD-750:2031	Ta=85°C±5°C	1000Hrs	22	0
	Low temperature store	JIS7021:B12	Ta=-35°C±5°C	1000Hrs	22	0
	High temperature/ humidity test	JIS7021:B11 MIL-STD-202:103D	Ta=85°C±5°C RH=85%	1000Hrs	22	0
	Cold / Heat strike test	JIS7021::B4 MIL-STD-202:107D MIL-STD-750:1026	30min -10°C±5°C↔100°C±5°C 5min 5min	50Cycles	22	0
	Cold and heat cycle test	JIS7021:A3 MIL-STD-202:107D MIL-STD-705:105E	5min 5min 5min -35°C~25°C~85°C~-35°C 30min 5min 30min 5min	50Cycles	22	0

Judging criterion:

Item	Symbol	Experiment condition	Criteria	
			Min.	Max.
Forward Voltage	V _F	I _F =20mA	----	Initial Datex1.1
Reverse Current	I _R	V _R =5V	----	30 μ A
Luminous Intensity	I _V	I _F =20mA	Initial Datex0.7	----

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Note

(Led bracket forming method

(1) The pin of led can be bent where is at least 2mm out of led colloid.

(2) Must use fixture to deform the led bracket.

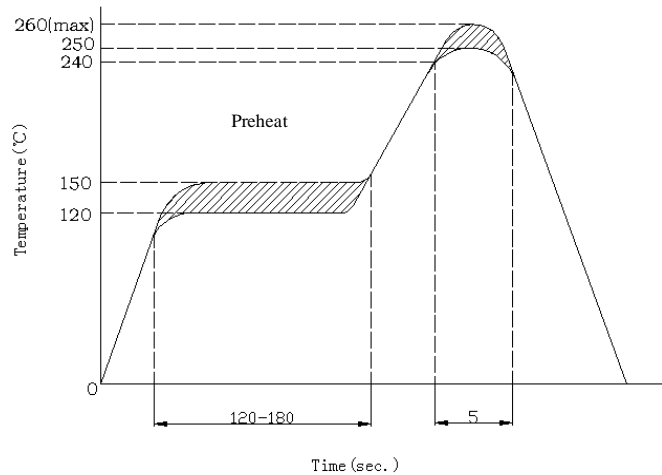
(3) Finishing the forming of led bracket must be before soldering.

(4) Guarantee the gap between two pin of led tallys with LED pads in PCB when forming.

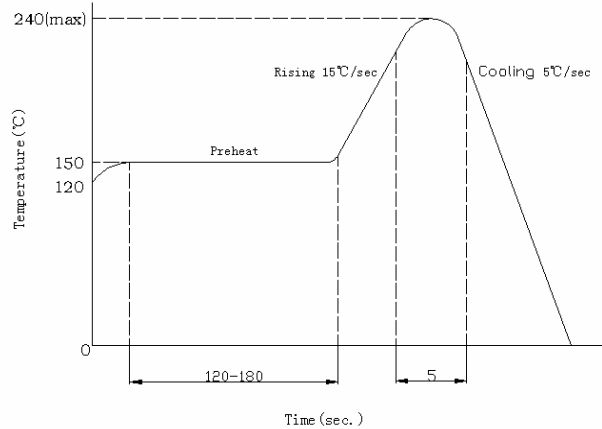
(Manual soldering

The tip temperature of soldering iron don't exceed 330°C; soldering time don't exceed 3s and soldering position must be 3mm out of led colloid.

Soldering temperature curve chart (figure A、figure B)



A
Wave soldering



B
Reflow soldering

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ESD countermeasure

Static electricity and high volt can damage led, The production whose Die material is InGaN must strictly required to prevent ESD, Must put on static glove and static fillet, Soldering tool and the cover of device must connect the ground, soldering condition follows the related stating of production specification manual.

Need add the protecting resistor in circuit in order to avoid damaging led due to big current and voltage fluctuation.

(LED installation method

- 1) Pay attention to the led polarity and avoid installation wrong. Led can't be close to euthermic component, work condition should tally with it's specification.
- 2) Don't install the LED under the condition of the led pin deformation.
- 3) The led bracket don't load any pressure when installing the led into PCB or fitting hole.
- 4) Must avoid any strike and force on led before the soldering temperature return to room temperature.

Storage time

- 1) Led can be stored for a year under the condition: the temperature of 5°C ~ 35°C and humidity of RH60%, These production must be re-inspected and tested before use if their storage time exceed a year.
- 2) If led is exposed in air for a week under the condition: the temperature of 5°C ~ 35°C, humidity of RH60%, must place the led in the ambience of 65°C±5°C for 24 hours and use it in 15 days for best.

Cleaning

Be careful of some chemical results in the led colloid fades and damage when using chemical clean the led, such as chloroethylene, acetone etc. can use ethanol to wash or soak led but the time don't exceed 3 minutes.

(Kinked)

The kinked tooling scrape easily the pin of led, where the led bracket is rusting easily, especial expose it in moist air. To decrease the led bracket rust, advise using plated tin led bracket.