

承 認 書

SPECIFICATION FOR APPROVAL

客 戶 名 稱 Customer Name	EQ-3
客 戶 品 號 Customer Part No.	
弘 凱 品 號 Brightek Part No.	1SD9219G4020CA02
規 格 Specification	SMD 9219 双晶黄绿光
製 作 Prepared By	蓝英 2008/11/20
審 核 Checke By	潘明英 2008/11/20
核 准 Approve By	高志英 2008/11/20

說 明:

一、 謹致執事者：茲提供敝公司產品之有關詳細規格及圖面資料，敬請給予辦理測試認定手續同時敬請送返一份附有貴公司簽認之測試認定後之樣品認定書。

We are sending you our specification and drawings for your approval. Please return to us one copy "For Approval" with your approved signatures.

二、 符合客戶 HSF 要求 Comply with HSF request of customers

三、 客戶承認欄 Customer Approve

採購部 Pur Dept.	品保部 QA Dept.	研發工程部 R&D Dept.



BRIGHTEK

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**COMMODITY: SURFACE MOUNT LED LAMP SPECIFICATION****Part No: 1SC9219G4020CA02****Characters**

- § 9.2mm×1.6mm SMT LED , 1.9mm THICKNESS.
- § LOW POWER CONSUMPTION.
- § VIEWING ANGLE 120°.
- § VARIOUS COLORS AND LENS TYPES AVAILABLE.
- § PACKAGE: 1000 PCS/REEL.

ITEM	MATERIALS
Resin(Mold)	Epoxy
Lens Color	Water transparent
Dice	GaP/GaP
Emitted color	Green

Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Value	Unit
Power Dissipation	PD	150	mW
DC Forward Current	IF	30	mA
Pulsed Forward Current	IFP	125	mA
Reverse Voltage	VR	5	V
Operating Temperature	Topr	-40 ~ +80	°C
Storage Temperature	Tstg	-40 ~ +85	°C

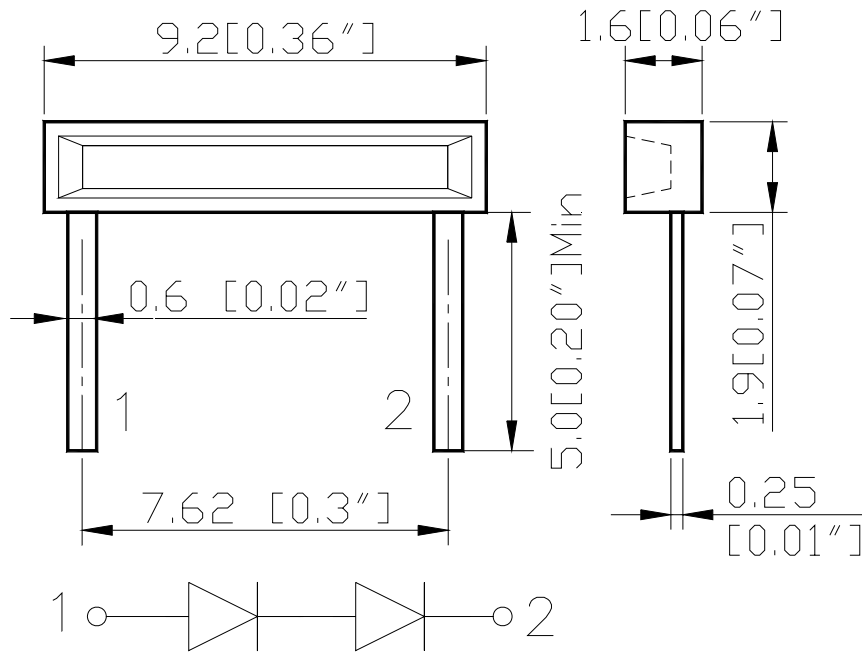
* Duty 1/10 Pulse Width 0.1ms

Electrical-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Value			Unit	Test condition
		Min.	Typ.	Max.		
Forward Voltage	V _f	---	4.5	5.0	V	I _f =20mA
Luminous intensity	I _v	40	55	---	mcd	I _f =20mA
Wavelength	x (λ d)	565	---	575	(nm)	I _f =20mA
	y	----	---	---	---	I _f =20mA
Reverse Current	I _r	---	---	10	μA	V _r =5V
Viewing angle	2 θ _{1/2}	---	120	---	Deg	I _f =20mA



Outline Dimensions



§ All dimensions are in millimeters (inches)

§ Tolerances are $\pm 0.2\text{mm}$ (0.008inch) unless otherwise noted.



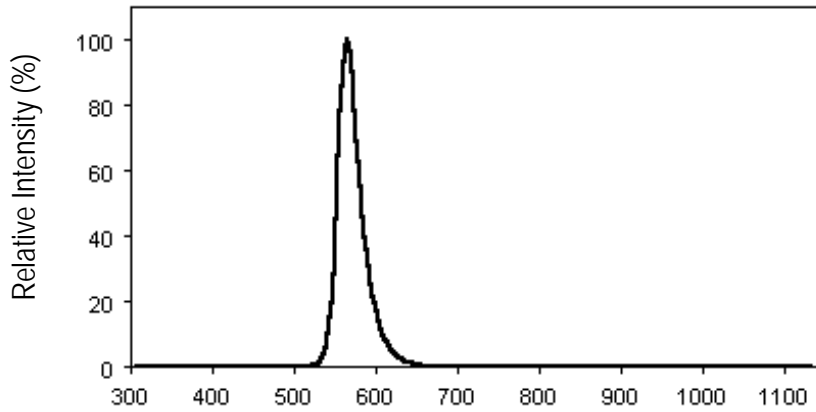
COMMODITY: SURFACE MOUNT LED LAMP SPECIFICATION

Part No: 1SD9219G4020CA02

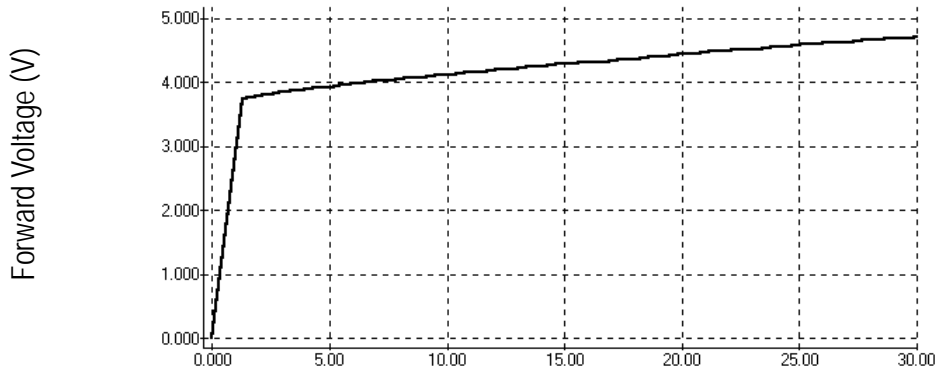
Typical Characteristic

The data typical , and the value is not guaranteed.

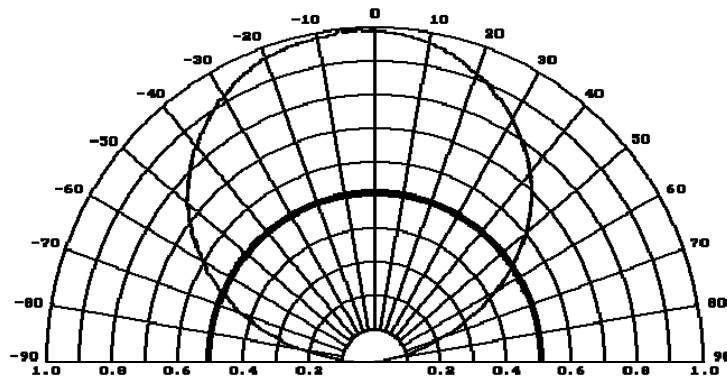
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



Directive Characteristics

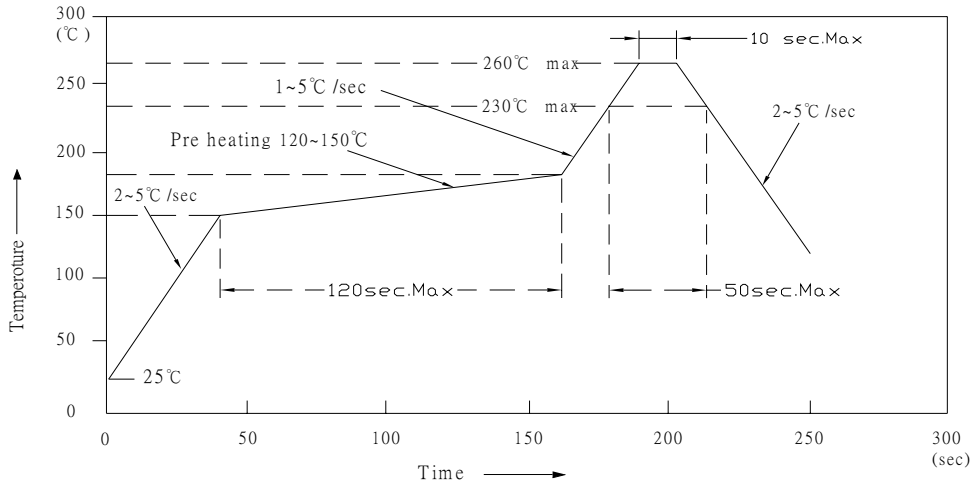




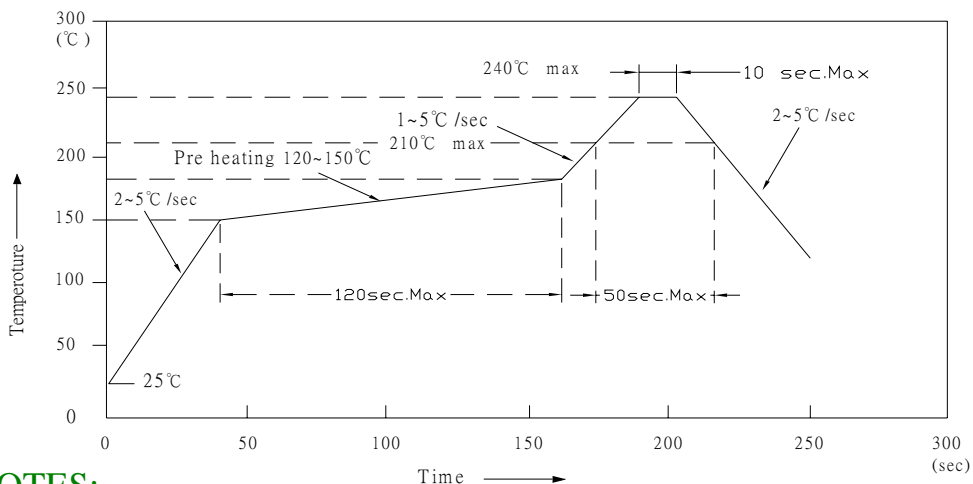
Reflow Profile

■ Reflow Temp/Time

IR Reflow Soldering Profile
Lead Free Solder



IR Reflow Soldering Profile
Lead Solder



NOTES:

1. We recommend the reflow temperature 245°C (±5°C). the maximum soldering temperature should be limited to 260°C.
2. dont cause stress to the epoxy/silicone resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

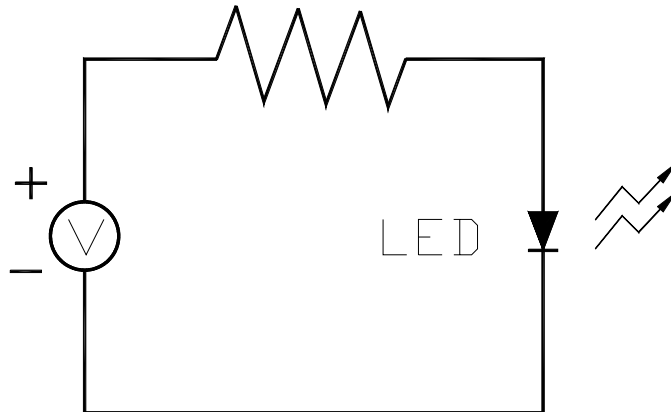
■Soldering iron

Basic spec is $\leq 5\text{sec}$ when 260°C. If temperature is higher, time should be shorter (+10°C → -1sec). Power dissipation of iron should be smaller than 15W, and temperatures should be controllable. Surface temperature of the device should be under 230°C.



Test circuit and handling precautions

■ Test circuit



■ Handling precautions

1. Over-current-proof

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 It is recommended to store the products in the following conditions:

Humidity: 60% R.H. Max.

Temperature : 5°C~30°C(41°F~86°F)

2.2 Shelf life in sealed bag: 12 month at <5°C~30°C and <30% R.H. after the package is

Opened, the products should be used within a week or they should be keeping to stored at

≅20 R.H. with zip-lock sealed.

3. Baking

It is recommended to baking before soldering when the pack is unsealed after 72hrs. The Conditions are as followings:

3.1 60±3°C x(12~24hrs) and <5%RH, taped reel type

3.2 100±3°C x(45min~1hr), bulk type

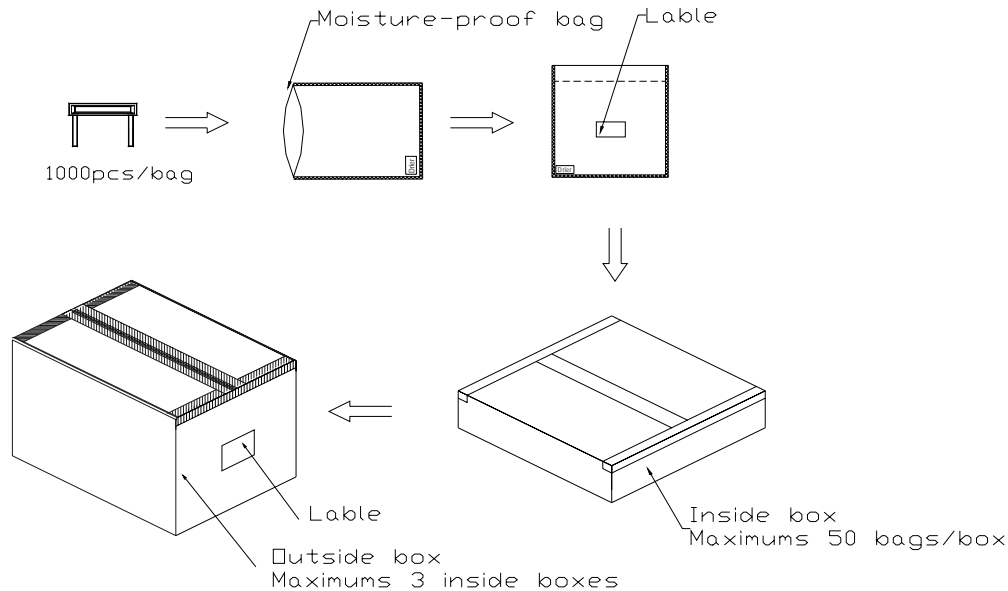
3.3 130±3°C x(15~30min), bulk type

**Test items and results of reliability**

Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-20°C 30min ↑ ↓ 80°C 30min	100 cycle	0/22
	Thermal Shock	-20°C 15min ↑ ↓ 80°C 15min	100 cycle	0/22
	High Humidity Heat Cycle	30°C ↔ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	Ta=80°C	1000 hrs	0/22
	Humidity Heat Storage	Ta=60°C RH=90%	1000 hrs	0/22
	Low Temperature Storage	Ta=-30°C	1000 hrs	0/22
Operation Sequence	Life Test	Ta=25°C IF=20mA	1000 hrs	0/22
	High Humidity Heat Life Test	60°C RH=90% IF=10mA	500 hrs	0/22
	Low Temperature Life Test	Ta=-20°C IF=20mA	1000 hrs	0/22



9219 Series SMD Chip LED Lamps Packaging Specifications



NOTES:

Products (numbers of products are 1,000pcs) packed in a seal off moisture-proof bag along with a desiccant one by one, 50 moisture-proof bag of maximums (total maximum number of products are 50,000pcs) packed in an inside box (size: about 350mm x about 300mm x about 105mm) and three inside boxes of maximums are put in the outside box (size: about 360mm x about 320mm x about 330mm) Together with buffer material, and it is packed. (Part No., Lot No., quantity should appear on the label on the moisture-proof bag, part No. And quantity should appear on the label on the cardboard box.) The number of the loading steps of outside box (cardboard box) has it to three steps.