

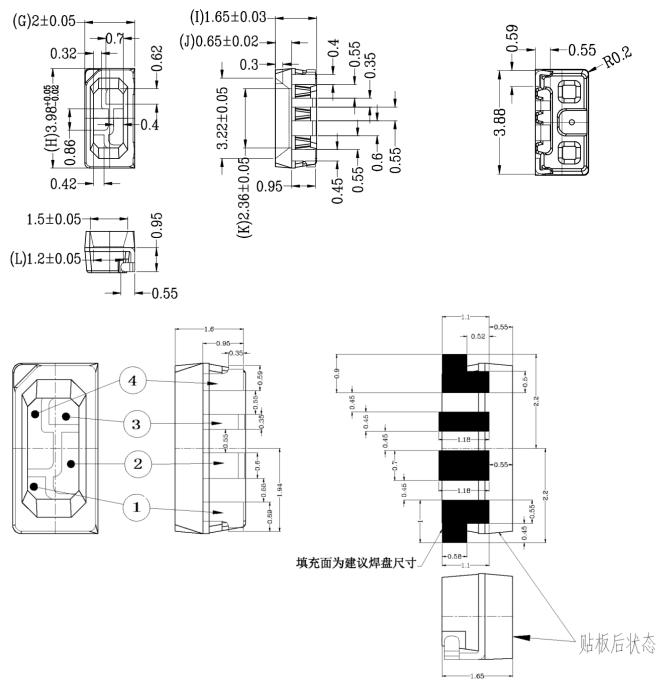


<ul> <li>客 戶</li> <li>Customer</li> <li>客 戶 品 號</li> <li>Custome PartNo.</li> <li>戸 品 號 HC-4020TR3C-BL-1</li> <li>Propared By</li> <li>要 錶 人</li> <li>王清</li> <li>Prepared By</li> <li>審 核 <u><b>本</b>东平</u></li> <li>Checkedx</li> <li>客 戶 回 簽</li> <li>Customer Comfirmation</li> <li>送样日期: 2021. 6. 7</li> <li>Deliver date:</li> <li>Dollar (and a constraints)</li> <li>We are sending you our specification and drawings for your approval Please return to us one copy "For Approt hyour approved signatures.</li> <li>¬、客戶意見欄 Customer's Proposal</li> <li>Approve 承認 (請於認可欄中簽名)</li> <li>Disagree 不同意</li> <li>Reason 應四</li> <li>「东光音柴根】</li> <li>「东光音柴根」</li> <li>「东光音柴根」</li> <li>「东光音柴根」</li> <li>「东光音柴根」</li> <li>「东光音柴根」</li> <li>「东光音柴地有限公司</li> <li>TJ 地址: 示荒市勢步損於湖智谷 A2 栋 3 棱</li> <li>弘史市电 (香 港) 有限公司</li> <li>Hong Cheng Photoeketric (HK) Limited</li> <li>太亮市安山里代公司</li> <li>Dong(Luan Hong cheng Optoelectronics Co.Ltd)</li> <li>TJ 地址: 「赤省奇影市橋本头損策增路標本头損 15 号万解花園 1 号二楼</li> <li>ADD: ADD 10 building Wanhui Garden, East Guanzhang Road Zhangmutou, Dongguan, Guangdong, China</li> <li>TEL: 0769-87797016 87182291 Fax: 0769-82337396 wwwhe-kall68.com</li> <li><u>地本/孫於 後故日期</u></li> <li><u>極水療政</u></li> <li><u>極水療政</u></li> <li><u>極水療政</u></li> <li><u>個本/極次時</u></li> <li><u>401 2021. 06. 11</u> 極次增盘脚燈/顺常</li> </ul>		S	SPECIFICATION FOR APPROVAL	
客戶品號         Customer Part No.         戸日品別號       HC-4020TR3C-BL-1         Brightek Part No.         現格       4020 例发光超高亮红光         Specification         製 錶人       王清         審核       今东平         Checkedv       客戶回簽         Customer Comfirmation       2021. 6. 7         Deliver date:       2021. 6. 7         認明:一、講致執事者: 茲提供敵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納         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 approvalPease return to us one copy "For Approt hyour approved signatures.         二、客戶意見欄       Customer'S Proposal         △ Approve 承認 (請於認可欄中簽名)         □ Disagree 不同意         Reason 原型         广东光宇葉虹相保公司         工厂地址:东莞市貴定績松湖智谷 A2 栋 3 楼         夏星光电(香港)         型DongGuan Hong cheng Optocectronics Co.Ltd         工厂地址: 示常布案完市棒本头镜完棒幣棒本头鏡 15 号万幣花園 1 号二楼         ADD:Room 2108,No.1 builting Wanhui Carden, East Guanzhang Road Zhangmutou, Dongguan, GuangGobng China         TEL: 0769-827970616       87182291         下台、李娜田 13925714318 (徽信同号) 銷售息监	客戶			
Customer PartNo.       HC-4020TR3C-BL-1         Bightek PartNo.       HC-4020TR3C-BL-1         Bightek PartNo.       4020 例发光超高亮红光         Specification       要 錶 人         要 錶 人       王清         Prepared By       Tag         審 核 <b>李东平</b> Chorcleertv. <b>客</b> 戶回 簽         Customer Comfirmation <b>送样日期</b> :         2021. 6. 7       Deliver date:         2037. 一、諾致執事者: 茲提供敵公司産品之有關詳細規格及圖面資料, 敬請給予辦理測試認定手納         同時敬請送返一份附有貴公司簽認之測試認定後之棟品認定者。         We are sending you our specification and drawings for your approval Pease return to us one copy "For Approt th your approved signatures.         二、客戶意見欄 Customer'S Proposal         □ Approve 承認 (請於認可欄中簽名)         □ Disagree 不同意         Reason 原母:         广东光字集团         广东光字集团         广东光字集团         广东光字集团         广东光字集团         广东光宇教 of 開公司         出版公司         Hong Cheng Photoeketric (HK) Limited         东莞市韓上党年報公司         DoingGuan Hong cheng Optoeketronics Co,Ltd         工「卸地社: 「茶名有意志市樟木头镇崇辉超音/新兴县、长台和3 Read, Zhang Road Zhangmutou, Dongguan, Guangdong, China         TEL. 0769-87797616       87182291 Fax: 0769-82337396         取出版       monglea.	Customer			
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製 錶 人       王清         Prepared By       審 核         審 核       李东平         Checkedv.       客 戶 回 簽         Customer Comfirmation       送样日期:         Deliver date:       2021. 6. 7         Semon @state:       -          广东光宇集团       -          广东光宇集团       -          广东光宇集团       -          广东光宇集团       -          广东光宇集団       -          Dong Cheng Photoelectric (HK) Limited       -          东莞市或呈光电有限公司       -          Dong Cheng Photoelectric (HK) Limited       -          东莞市或呈光电有限公司       -          Dong Chong 2000, 000       -			4020 <b>侧发光超高亮红光</b>	
Prepared By       上洞         審核       李东平         Checkedv       客戶回簽         Customer Comfirmation          送样日期:       2021. 6. 7         Deliver date :       2021. 6. 7         Bityn: 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約         海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。         Ve are sending you our specification and drawings for your approval Pease return to us one copy "For Approhyour approved signatures.         二、客戶意見欄 Customer'S Proposal         日 Approve 承認 (請於認可欄中簽名)         □ Disagree 不同意         Reeson 原因:         广东光宇集团         广东光宇集团         广东光宇集团         广东光宇集团         广东光宇集团         广东光宇集团         广东光宇集团         广东光市寮步镇松湖智谷 A2 栋 3 楼         弘星光电(香港)有限公司         Dong Cheng Photoecktric (HK) Limited         东莞市或星光电有限公司         DongGuan Hong cheng Optoelectronics Co,Ltd         工」地址: 广常省东莞市樟木头镇莞樟路樟木头與 15 号万辉花园 1 号二楼         ADD:Room 2108,No.1 builting. Wanhui Carcen, East Guanzhang Road Zhangmutou, Donguan, Guangdong, China         TEL: 0769-87797616       87182291         下級大人: 李顺阳 13925714318       (微信同号)销售总监         版本版次 修改日期       修改内容				
審核       李东平         Checkedu       客戶回簽         Customer Comfirmation       送样日期:         2021.6.7         Deliver date :       2021.6.7         Deliver date :       2021.6.7         ibit i agg spart :       这提供做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約         ibit i agg spart :       2021.6.7         Deliver date :       2021.6.7         ibit i agg spart :       22提供做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約         ibit i agg spart :       22注意         We are sending you our specification and drawings for your approval Please return to us one copy "For Appronyour approved signatures.         二、客戶意見欄       Customer'S Proposal         □ Approve 承認 (請於認可欄中簽名)         □ Disagree 不同意         Reason 原型         广东光宇集团         广东光宇家业有限公司         工厂地址: 东莞市發步镇於湖智谷 A2 栋 3 楼         Q呈光电 (香港) 有限公司         Hong Cheng Photoelectronics Co.Ltd         工厂地址: 广东省东莞市樟木头镇莞樟路樟木头镇 5 号万辉花园 1 号二楼         ADD:Room 2108,No.1 buiking Wanhui Carden, East Guanzhang Road Zhangmutou,         DongGuan Hong Cheng Optoelectronics Co.Ltd         工厂地址:       丁东省东莞市樟木头镇莞樟路樟木头镇 2059月78237396         Wexher-led168.com       业务联系人: 李顺阳 13925714318 (微信同号) 销售总监         版本/版次 修改日期       修改内容			王清	
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<ul> <li>□ Approve 承認 (請於認可欄中簽名)</li> <li>□ Disagree 不同意</li> <li>Reason 原因:              「东光宇集团             「东光宇集团             「东光宇楽业有限公司             工厂地址: 东莞市寮步镇松湖智谷 A2 栋 3 楼             弘呈光电(香港)有限公司      </li> <li>Hong Cheng Photoekctric (HK) Limited         </li> <li>东莞市弘呈光电有限公司              DongGuan Hong cheng Optoekctronics Co.,Ltd             工厂地址: 广东省东莞市樟木头镇莞樟路樟木头段 15 号万辉花园 1 号二楼      </li> <li>ADD:Room 2108,No.1 buikling, Wanhui Garden, East Guanzhang Road Zhangmutou,             Dongguan, Guangdong, China              TEL: 0769-87797616 87182291 Fax: 0769-82337396 www.hc-led168.com             业务联系人: 李顺阳 13925714318 (微信同号)销售总监      </li> </ul>	h your approved si	ignatures.		ripprov
□ Disagree 不同意 <b>Reason</b> 原因: 广东光宇集团 广东光宇实业有限公司 工厂地址:东莞市寮步镇松湖智谷 A2 栋 3 楼 弘呈光电(香 港)有限公司 Hong Cheng Photoekctric (HK) Limited 东莞市弘呈光电有限公司 DongGuan Hong cheng Optoekctronics Co,Ltd 工厂地址:广东省东莞市樟木头镇莞樟路樟木头段 15 号万辉花园 1 号二楼 ADD:Room 2108,No.1 buikling, Wanhui Garden, East Guanzhang Road, Zhangmutou, Dongguan, Guangdong, China TEL: 0769-87797616 87182291 Fax: 0769-82337396 www.hc-led168.com 业务联系人:李顺阳 13925714318 (微信同号)销售总监 版本/版次 修改日期 修改内容				
Reason 原因:       广东光宇集团         广东光宇实业有限公司       工厂地址:东莞市寮步镇松湖智谷 A2 栋 3 楼         弘呈光电(香港)有限公司       Hong Cheng Photoekctric (HK) Limited         林奈売市弘呈光电有限公司       DongGuan Hong cheng Optoekctronics Co,Ltd         工厂地址:广东省东莞市樟木头镇莞樟路樟木头段 15 号万辉花园 1 号二楼         ADD:Room 2108,No.1 building, Wanhui Garden, East Guanzhang Road, Zhangmutou,         Dongguan, Guangdong, China         TEL: 0769-87797616         87182291       Fax: 0769-82337396         www.hc-led168.com         业务联系人:李顺阳 13925714318 (微信同号)销售总监         版本/版次       修改日期	••			
<ul> <li>广东光宇集团</li> <li>广东光宇实业有限公司</li> <li>工厂地址:东莞市寮步镇松湖智谷 A2 栋 3 楼</li> <li>弘呈光电(香港)有限公司</li> <li>Hong Cheng Photoelectric (HK) Limited</li> <li>东莞市弘呈光电有限公司</li> <li>DongGuan Hong cheng Optoelectronics Co,Ltd</li> <li>工厂地址:广东省东莞市樟木头镇莞樟路樟木头段 15 号万辉花园 1 号二楼</li> <li>ADD:Room 2108,No.1 buikling, Wanhui Garden, East Guanzhang Road, Zhangmutou,</li> <li>Dongguan, Guangdong, China</li> <li>TEL: 0769-87797616 87182291 Fax: 0769-82337396 www.hc-led168.com</li> <li>业务联系人:李顺阳 13925714318 (微信同号)销售总监</li> <li>版本/版次 修改日期</li> </ul>	_	1.1-1722		
版本/版次 修改日期 修改内容	广东光宇集 广东光宇实 工厂地址: 弘呈光电( Hong Cheng 东莞市弘呈 DongGuan H 工厂地址: ADD:Room 2 Dongguan, G TEL: 0769-	业有限公司 东莞市寮步镇松 香港)有限公司 Photoelectric (F 光电有限公司 long cheng Opto 广东省东莞市稽 2108,No.1 buikli Guangdong, Chin 87797616 8	司 HK) Limited Delectronics Co.,Ltd 章木头镇莞樟路樟木头段 15 号万辉花园 1 号二楼 ing, Wanhui Garden, East Guanzhang Road, Zhangmutou, na 187182291 Fax: 0769-82337396 www.hc-led168.com	

Note: this specification does not recommend using ac, such as improper operation, cause accidental death lamp or other adverse phenomenon, this company is not responsible for ! Advising clients to set the current to use this product, please let us know if they set the voltage to use the product. 1



- 1. overview
- \* Low power consumption
- \* Low power
- \* General equipment on the PCB board or panel
- $\ast$  with ICS upporting the use/Low current requirement
- 2. Product appearance size figure ( unit : mm )



- 1: 脚位说明: 1 空置 2 负极 3 空置 4 正极
- 2: All dimensions are in millimeters (inches).
- 3: Tolerance is  $\pm 0.25 \text{mm}$  (.010") unless otherwise noted.
- 4: Specifications are subject to change without notices.
- $\boldsymbol{5}: This specification is for reference only for one year$

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# 3. parameter

# 3.1 The limit parameter ( room temperature $25\,^\circ\!\mathrm{C}$ )

parameter	The numerical	Unit		
Dissipation power	50	mW		
Pulse current (1/10 work loops 0.1 millisecond pulse width)	100	mA		
Working current ( IF )	20	mA		
Reverse voltage (VR	5	V		
Working temperature range	-40°C ~ +80°C			
Storage temperature range	40°C ~ +80°C			
Soldering temperature	245°C for 5 Seconds			

Photoelectric parameters At room temperature  $25\,^\circ C$ 

Parameter	minimu m value	median	maximum	Unit	Test Condition
Luminous intensity	400		600	Mcd	If=20mA
Luminous intensity	100		200	Mcd	If=5mA
Light Angle(2 $\theta$ 1/2)		120		deg	If=20mA
The wavelength( $\lambda$ )	620		630	nm	If=20mA
The wavelength( $\lambda$ )	620		630	nm	If=5mA
electric voltage	1.8		2.4	V	If=20mA
electric voltage	1.8		2.0	V	If=5mA
Reverse current			5	μΑ	Vr=5V

# Selection Guide:

Colloid color	Chip			
Water clear	Material	Emitting light colors	λp(nm)	
	GaASP/GaP	Red	620	

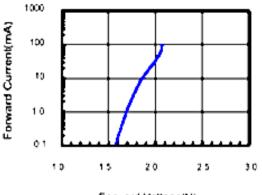
Note: this specification does not recommend using ac, such as improper operation, cause accidental death lamp or other adverse phenomenon<sub>3</sub> this company is not responsible for ! Advising clients to set the current to use this product, please let us know if they set the voltage to use the product.

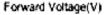


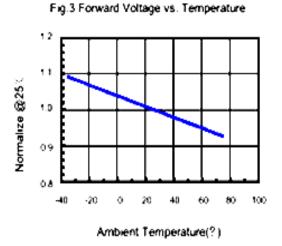
Fig.2 Relative Intensity vs. Forward Current

4. Under the condition of 25 °C electrical diagram:

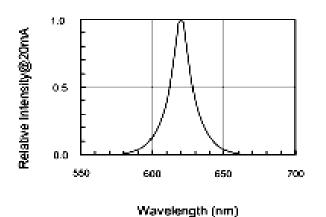
Fig.1 Forward current vs. Forward Voltage

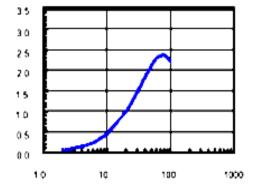






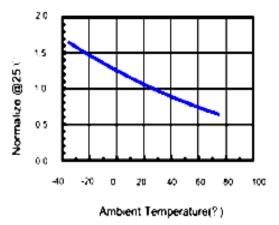




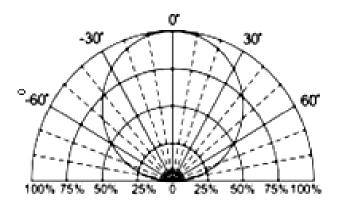


Forward Current(mA)

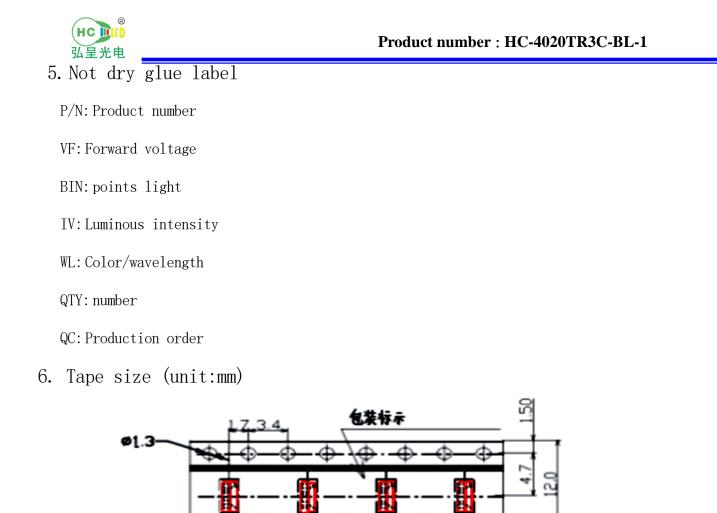






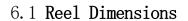


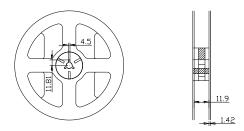
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<u>4.0</u> 菜带进料方向

쏯뽂





## 6.2 Moisture Resistant Packaging



Note: unless mentioned, tolerance of + / - 0.1  $\text{mm}_{\text{o}}$ 

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7. SMD products take precautions

7.1 Graph one : Hands material taking

a. Hand have sweat, Sweat exist on the surface of a silicon rubber optical pollution, Affect luminescence.

b. Fill the glue for silicon rubber, Silica gel is relatively soft, Hand yank may lead to break, Crushed wafer

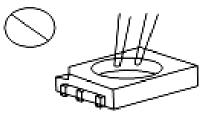
caused death lamp.



7.2 Graph second : tweezers Surface take material

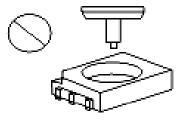
a. Product packaging glue for silicon rubber, Silica gel is relatively soft, Squash with the tweezers will lead to disconnection, crushed chip causing death lamp products.

b. Tweezers will scratch the product surface, Affect the light Angle.



7.3 Figure 3:SMD material taking

When the suction nozzle diameter is less than the product will lead to press the silicon rubber suction nozzle to cause gold thread breakage and chip extrusion, caused death light  $etc_0$ 



## 7.4 Figure 4: blanking

Products fall to the ground, can lead to foot deformation, cause the weld position is different.

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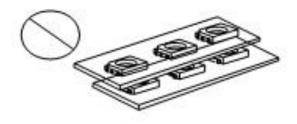




7.5 Figure 5: welding plate after placement

a. After welding plate, the welded directly to the board after the overlap, will damage the surface of product, can affect the light Angle scratch the surface  $\circ$ 

b. After welding plate, welding plate and overlapping products have extrusion, extrusion will cause the chip and the damage and fracture of gold wire<sub>o</sub>



8. SMD Dehumidification and baking products

8.1 The experiment shows that

After test, found SMD series conforms to the IPC/JEDECJ - STD - 020 - c plastic integrated circuits (IC) SMD damp reflux sensitivity classification standards. 8.2 Reflow soldering SMD before use

If after open the sealed container bags, but before soldering SMD exposed to damp environment, is in high temperature during the welding process of SMD damage may occur, such as death lamp<sub>o</sub>

8.3 Storage instructions

Stored in a temperature below 30 °C, relative humidity is less than 30% in the environment of SMD don't need to bake desiccant before reflow soldering.

8.4 Baking needed to meet the conditions

There is no need to bake all SMD dehumidification, only not listed in the following store good SMD baking desiccant must be conducted  $_{\circ}$ 

a. Already from the original vacuum packaging of SMD.

b. Has not been reflow soldering SMD (after reflow soldering is no need to bake

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dehumidification).

8.5 Baking method are as follows

- a. From open vacuum packaging or SMD SMD reel.
- b. SMD can be baked on the original reel.
- c. Will the reel or SMD SMD under 60 -70°C baking 12 hours.
- d. Please note that don't above 60  $^\circ\!\!\mathrm{C}$  temperature baking SMD reel.



正確/ correct



錯誤/ error

9. Storage and cleaning products

1 ) Without open the original package, it is recommended that the environment for the storage, temperature: 5  $^{\circ}$ C to 30  $^{\circ}$ C, humidity: less than 85%.

2 )After open the original packing, recommended storage condition is: temperature: 5  $^\circ C$  to 30  $^\circ C$ , humidity: less than 60%.

3) SMD is moisture sensitive device, to avoid the original moisture absorption, suggested after open the packing, store it in a dry agent an airtight container, or stored in nitrogen moistureproof enclosure.

4) After open the packing, the original should be used up within 12  $\rm hours_{o}$ 

5 ) If the dry agent failure or components exposed in the air more than 12 hours, dehumidifying treatment should be done. Condition: 60-70  $^{\circ}$ C, 12 hours.

6) Please note that :

a. In order to prevent damage to the SMD, please do not use chemical liquid cleaning SMD without detailed description<sub>o</sub>

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b. Do not use organic solvents such as acetone, water, etc.) that day clean or brush try SMD colloid, because it may damage the SMD<sub>o</sub>

c. Don't rinse the SMD, water less volatile and easily make the bracket pin to oxidize. If water cleaning SMD, must be baked desiccant before reflow soldering.

### 10.ESD protective

SMD is a semiconductor device, the static sensitive, especially for white, green, blue, purple, SMD to make efforts to prevent electrostatic generation and eliminate static electricity.

## 10.1 The generation of static electricity

a. Friction: in daily life, any two objects of different material contact after the separation, can produce static, and the one of the most common method of generation of static electricity, is the electrification. The insulation material, the better, the easier the electrification. In addition, any two objects of different material contact again after separation, also can produce static electricity.

b. Induction: in view of the conductive material, because electrons can flow freely in its surface, such as to be put in the electric field, due to the same, opposites attract, the positive and negative ions will move, can produce electric charge on the surface.c. Conduction: in view of the conductive material, because electrons can flow freely in surface, such as contact with a charged object, the charge transfer will occur.

10.2 The harm of SMD:

a. For the moment's electric field or electric current produced by the heat, make the SMD local injury<sub>o</sub>

b Because of destruction of the electric field or current SMD insulation layer, the device will not work (destroyed) characterized by death  $lamp_{\circ}$ 

10.3 Electrostatic protection and measures to eliminate

For the entire process (production, testing, packaging, etc.) all the employees to direct contact with SMD measures to prevent and eliminate static electricity, mainly include: a. Laying anti-static workshop floor and well grounded<sub>o</sub>

- b. Workbench for esd workstation, production machines grounding is  $\text{good}_{\circ}$
- c. Operators wear anti-static clothing, anti-static hand ring ring, gloves, or foot.
- d. Application of ion fan, the welding electric grounding measures  ${\scriptstyle \circ}$
- e. Packing with antistatic materials.

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