

DFB博思电子

—— 品质决定命运

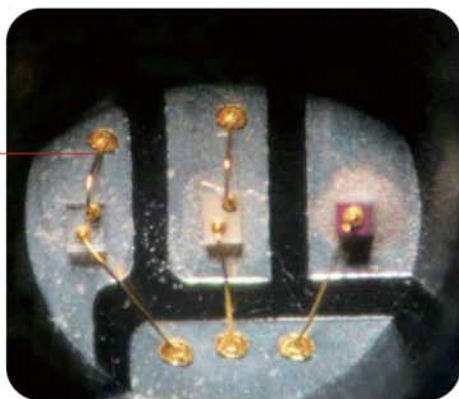
产品优势 ◀ Why Us ▶



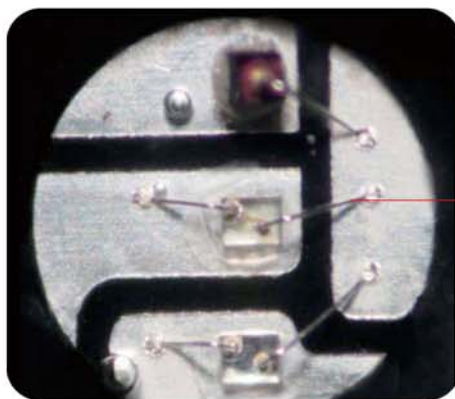
THINKING ABOUT QUALITY AND PERFORMANCE

# DFB<sup>博思电子</sup>ELECTRONIC

## 发光二极管/Diode LED



VS



Useing gold wire which has the best electrical and thermal conductivity.

**导线采用金线，金线具有最佳的导电导热性能**

1.Highly-purified grow environment for chips. Wavelength tolerance:  $\pm 3-5\text{nm}$

晶体生长纯度高，波长误差控制在  $\pm 3-5\text{nm}$

2.LED Junction temperature  $> 120^\circ\text{C}$  灯珠结温  $> 120^\circ\text{C}$

3.Powerful and experienced leading LED packaging manufacturers guarantee

a reliable after-sales service.

封装厂有资金有技术有经验，提供可靠售后服务

Useing silver or iron wire which has slightly poor electrical and thermal conductivity

**导线采用银线或铁线，导电导热性能较低**

1. Less-purified culture environment for chips. Wavelength tolerance :  $8-10\text{nm}$

晶体生长纯度低，波长控制误差  $\pm 8-10\text{nm}$

2.LED Junction Temperature  $< 80^\circ\text{C}$  灯珠结温  $< 80^\circ\text{C}$

3.LED packaging manufacturers which are lack of funds, technologies and experiences can not guarantee good after-sales service.

封装厂资金，实力，经验均不足，售后服务不能得到保障

Price Difference价格差异



30% /pcs

### Our Advantage我们的优势

1. We only choose LED packaging manufacturers with leading technologies and abundant financial strength as our subcontractors to maintain a well-controlled and traceable quality.

我们选用技术领先，资金实力较强的LED封装厂作为供应商，降低质量及售后服务风险，质量可控可回溯

2. We select LED chips manufactured from highly pure environment, which has a brightness ratio of 1:1.2 and a strict wavelength tolerance:  $\pm 3-5\text{nm}$ . Light emitting is pure and uniform.

选用晶体生长纯度高的芯片进行封装，封装亮度比率1: 1.2，波长误差严格控制在  $\pm 3-5\text{nm}$  (纳米)，成品LED lamp发光纯正，颜色均匀

3. We select gold wire as a default to ensure an excellent heat resistance property and longer service life of LED.

我们 (by default) 要求仅用金线作为导电材质，确保灯珠具有耐热性及较长使用寿命

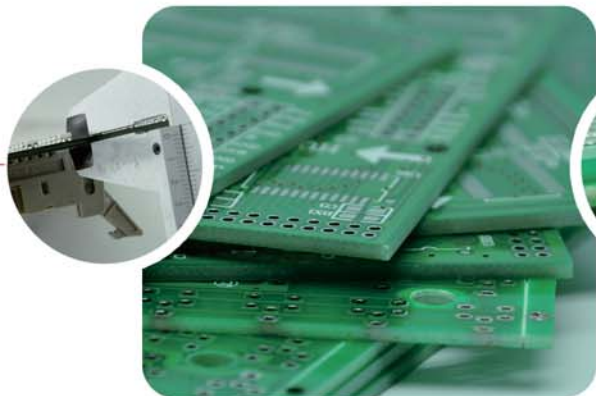
4.Our LED's brightness is higher than others under same driving current. We could not agree to improve LED's brightness in short-term by adding additional driving current while sacrificing LED's life.

同样的驱动电流，我们的灯珠亮度更高，不需要通过增加额外电流，以牺牲灯珠寿命的方式来提高短期内灯珠亮度

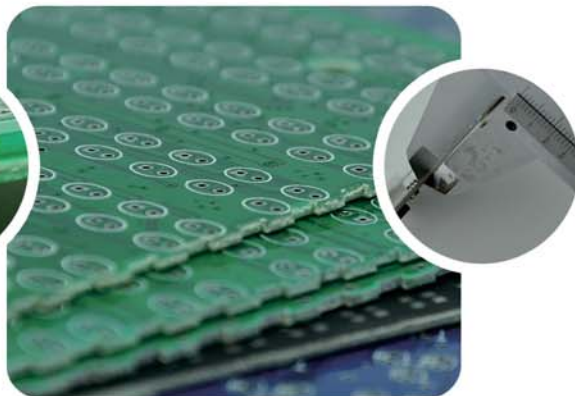


# DFB博思电子

## 电路/PCB



### VS



The 1.6-2.0mm solid circuit board has first-class flatness, hardness and heat resistance properties.  
**电路板材厚度1.6-2.0mm，平整度高，硬度及耐热性能较强，不易变形**

**Clear and solid solder points ; No solder paste residue on PCB.**

**焊点清晰、牢固、板上无焊膏残留**

1. High quality A grade materials in compliance with KB and FR-4 testing standards.

选用优质建涛KB/国际FR-4板材，基料A料

2. Four-layer circuit design. The weight of copper wire on circuit surface is 1.2-1.6oz which means very good stability and current consistency. All these contributes to an outstanding color uniformity of LED display.

四层电路设计，表层电路沉铜1.2-1.6oz，线路质量稳定，电流均匀，从而使显示屏整体色彩一致性高

3. We choose lead-free, bright and earth-friendly solder paste that in compliance with RoHS/UL testing standards.

锡膏选用通过RoHS/UL等认证的无铅产品，色泽较亮，不污染环境

6. OSP surface finish provides excellent antioxidant protection  
 优质三防漆表面处理，提供良好抗氧化保护

The thickness of circuit board is 0.8-1.2mm, which is easily to be deformed and failed due to thermal expansion & contraction.

**电路板材厚度0.8-1.2mm，容易因为热胀冷缩而变形老化**

**Solder points are blurred, dirty and easily fall off. Obvious solder paste residue on PCB**

**焊点模糊、易脱落、板上有焊膏残留**

1. Poor quality PCB made from reclaimed cardboard and plastic materials.

选用纸板或塑料等回收料作为基料

2. Low cost two-layer circuit design. The weight of copper wire on circuit surface is only 0.8-1.0oz which causes inconsistency current and ununiform brightness of LED display.

为节约成本采用二层电路设计，表层电路沉铜仅有0.8-1.0oz，电流大小不一致，显示屏整体亮度不统一

4. Uncertified recycled dim solder paste contains lead and harmful elements to environment.

锡膏选用非专业机构认证的含铅回收产品，色泽灰暗，会对环境造成污染。

6. No surface processing. Solder points and circuits are easily to be oxidation and corrosioned

无表面保护处理，焊点及线路易腐蚀氧化

**Price Difference 价格差异**



**40%-50% /sqm**

**Our Advantage 我们的优势**

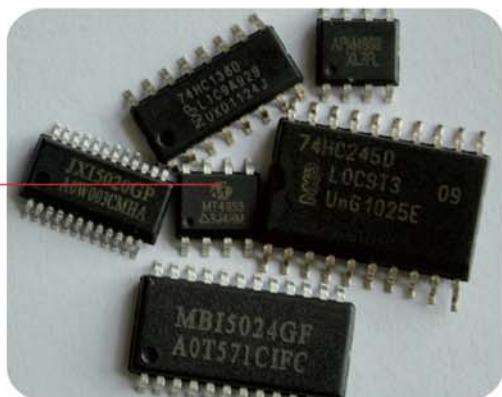
PCB made from high-quality and veritable raw materials plus mature and stable circuit design concepts provides a high-performance and stable circuit platform for LEDs and various onboard components and ensures a full and outstanding product performance.

我们选用优质和足量的原材料制作、加工PCB，PCB电路设计理念成熟稳定，为LED灯珠及各类板载元器件提供高性能和稳定的电路平台支持，使产品拥有充分而优异的表现。



# DFB博思电子

驱动/IC



VS



Selected products from well-known brand manufacturers that have leading technologies and abundant financial strength.

选用资金、技术、经验丰富的知名品牌厂商生产的产品

1. High precision IC output current with a tolerance of  $\pm 2\%$  makes the high gradation design come true.

IC的输出精度高，变化值控制在 $\pm 2\%$ ，保证高灰度等级设计的实现

2. Built-in open circuit; short circuit; ground short circuit and channel leakage detection circuit provides fault alarm and real-time protection subjects to external circuits.

内部设计有开路、短路、对地短路、通道漏电侦测电路，可以针对外部电路故障报警及保护

3. Built-in over-temperature alarm and protection

内建过温警告及过温保护

4. Operating temperature is  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

工作环境温度 $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

5. High refreshing rate; no scanning lines; Continuous layers.

支持高刷新，无扫描线，不断帧

Imitated and immature product from unknown factories which lack of funds, technologies and experiences. Product quality and performance can not be adequately protected.

选用不成熟产品或高仿产品，产品质量和性能无法得到充分保障

1. Low precision IC output current with a tolerance of  $\pm 3-5\%$ , which leads to the reduction of valid output value and limited gradation expression.

IC的恒流输出精度范围为 $\pm 3-5\%$ ，使有效输出值数量少，灰度等级表现不够丰富

2. No built-in open circuit; short circuit; ground short circuit and channel leakage detection circuit. External circuit fault alarm and protection function is incomplete.

内部无完整开路、短路、对地短路、通道漏电侦测电路，外部电路故障报警及保护功能不完善

3. No built-in over-temperature alarm and protection or the sensitivity is low. Having risk of IC burnt out.

缺少内建过温警告及过温保护，或灵敏度不高，可能烧IC

4. Operating temperature is  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$

工作环境温度 $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$

5. Low refreshing rate; apparent scanning lines, uncontinuous layers

不支持高刷新，容易看到扫描线，显示图片会断帧

Price Difference 价格差异

30%-50% / pcs

Our Advantage 我们的优势

We selected proven IC made by well-known international brand manufacturers which are fully compliant with high precision standards and safety protection requirements and ensures the high gradation and refresh rate of LED display.

我们选用国际知名品牌厂商所提供的设计成熟的IC，完全符合优质IC所具备的精度及安全保护要求，也保证了显示屏高灰度，高刷新的显示性能。

**DFB**博思电子

电源/Power Supply



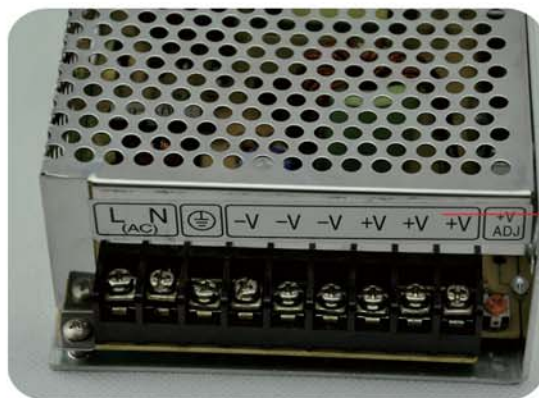
DFB SAYS YES!



VS



DFB SAYS NO!



Select power supply made by global operation manufacturers with sufficient finance, technology and experience supports, in compliance with CE, UL testing standards. Local services are available.

**选用资金、技术、经验丰富的全球化运作厂商生产的电源，产品带CE/UL认证，电源品牌可提供本地服务**

1. Constant output current and voltage ensures stable power supply for LED screen.

电流，电压输出稳定，屏体供电稳定

2. Built-in high security over-load and over-temperature protection. 带过载过温保护，安全性高

Select imitate power supply, made by unknown manufacturers lack of finance, technology and experience, certified by non-formal institutions.

**选用资金、技术、经验匮乏的不知名厂商生产的电源，非正规认证渠道**

1. Poor stability on output current and voltage accompanied with high failure rate.

电源稳定性较差，电源输出电流、电压不稳定，故障率较高

3. No overload and over-temperature protection. Poor security. 无过载过温保护，安全性较差

Price Difference 价格差异



30%-300% /pcs

Our Advantage 我们的优势

We insist on using power supply made by global operation manufacturers to reach a secure and stable output. In this way, We can maximally reduce screen power failure, trouble-shooting time and unnecessary maintenance costs.

我们坚持选用全球化运作厂商生产的电源，以保证电源自身的安全性能，及输出稳定性，以最大程度的降低屏体的供电故障，缩短故障排除时间，减少不必要的维护成本



# DFB博思电子

## 箱体/cabinet



Humanized design that fully considered the rationality and firmness of wiring and physical support positions. Simple and durable.

人性化设计，充分考虑布线和物理支撑部位合理性、牢固性。不仅操作简单，且坚固耐用。

1. Use anti-corrosive electrolytic 1.2~1.5mm thickness steel plate. Coating is not easy to fall off and has excellent anti-corrosion ability that provides effective protection for cabinet. 钢材采用厚度为1.2~1.5mm防腐电解板，镀层不易脱落，防腐能力强，能有效保护箱体表面。



Humanized design that fully considered the rationality and firmness of wiring and physical support positions. Simple and durable.

人性化设计，充分考虑布线和物理支撑部位合理性、牢固性。不仅操作简单，且坚固耐用。

2. Use anti-corrosive electrolytic 1.2~1.5mm thickness steel plate. Coating is not easy to fall off and has excellent anti-corrosion ability that provides effective protection for cabinet. 钢材采用厚度为1.2~1.5mm防腐电解板，镀层不易脱落，防腐能力强，能有效保护箱体表面。

Price Difference 价格差异



10% - 40% /sqm

## Our Advantage 我们的优势

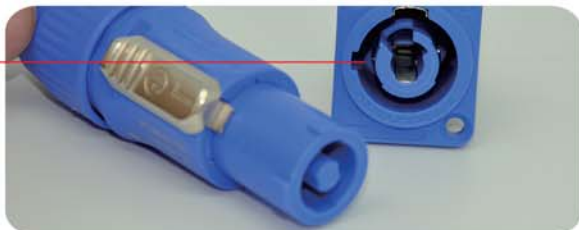
We insist on using 1.2 ~ 1.5mm anti-corrosion electrolytic plate to ensure no cabinet deformation in long-term use. Custom cabinet is acceptable. We take full consideration of the using environment and make installation more humanized.

我们坚持采用1.2~1.5mm防腐电解板，箱体长期使用不易变形；可针对项目定制箱体，充分考虑使用环境，使安装更人性化。

# DFB博思电子

# DFB<sup>博思电子</sup>ELECTRONIC

## 航空头/power and signal connector



### VS



#### Plug&Play design. Quick installation. 拔插设计，快速安装

1. Stable quality and long life products from well-known international brand manufacturers.  
国际知名品牌，质量稳定，寿命长
2. RoHS/UL/CE certified rubber outer casing with excellent dustproof, waterproof and anti-corrosive properties. Hard to failed.  
采用通过RoHS/UL/CE等认证的橡胶作为外壳，防尘防潮防腐蚀，不易老化
3. Good quality metal parts. Less metal fatigue generated.  
金属部分采用优质材料，不易产生金属疲劳

#### Not designed for quick and convenient installation. 设计无法实现快速便捷安装

1. Immature or imitated products with unstable quality and bad durability and made in unknown manufacturers.  
选用不成熟或高仿产品，质量稳定性较差，寿命短
2. Unformal insitution certified rubber outer casing provides poor dustproof, waterproof and anti-corrosive properties. Easy to failed.  
采用通过非正规渠道认证的橡胶作为外壳，防尘防潮防腐蚀性能较差，易老化
3. Low purity and toughness metal parts that has much more metal fatigue generated and lower the installation efficiency in long-term use.  
金属部分纯度低韧性较差，易产生金属疲劳，长时间使用后影响安装效率

Price Difference 价格差异



50%-100% / pcs

#### Our Advantage 我们的优势

Mature design and outstanding quality products from well-known brands such as Neutrik, ODU, Lemo maintain the excellent contacts and durability even under frequent plugging, loading and unloading actions. Simultaneously, reducing trouble-shooting time and unnecessary maintenance costs.

我们选用纽曲克，欧度，雷莫等全球化知名厂商所提供的产品，其成熟的设计及优质的用料在高强度的插拔及快速装卸应用中仍能保持优良的接触性和耐用性。同时缩短故障排除时间，减少不必要的维护成本



# DFB<sup>博思电子</sup>ELECTRONIC

快锁/fast lock



VS



Clear and durable screw thread makes installation firm and tight.

螺纹清晰不易滑丝，耐用度高，安装紧密

Rational design allows a quick installation. Single-hand operation is feasible.

内六角设计，安装快速，可以单手操作

1. Made of high hardness and durability aluminum or stainless steel which provides effective and firm supports for cabinet.  
选用高强度铝料或者不锈钢料，硬度及耐用性高，可有效支撑箱体

Low durability and easily-corroded screw thread makes installation weak and loose.

螺纹易滑丝，耐用度低，安装不紧密，易腐蚀

Unreasonable design and slow installation.

设计合理性较差，纹路不清晰，安装较慢

1. Made of low hardness iron or mixed materials which can not provide effective supports for cabinet.

选用铁质材质或混合料，硬度低，不能有效支撑箱体

Price Difference 价格差异



30-50% /pcs

## Our Advantage 我们的优势

High-strength aluminum or stainless steel plus unique design and excellent processing technology allow us to produce high precision and high strength connection fast-lock which helps our customers to achieve fast and accurate installations with much lower labor costs.

我们坚持选择高强度铝或不锈钢材质，通过独特的设计及优良的加工工艺，

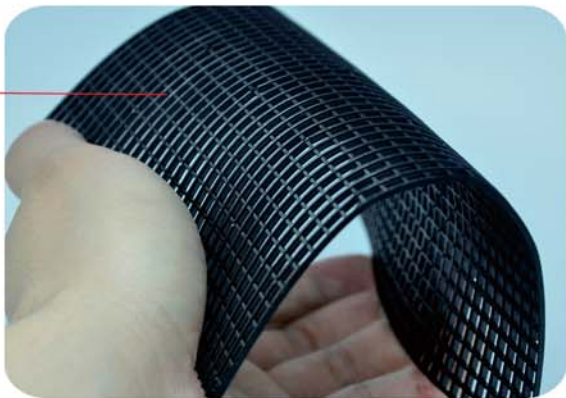
生产出高精度及高强度的连接快锁，

帮助客户用更低的人工成本实现快速精确的屏体安装。

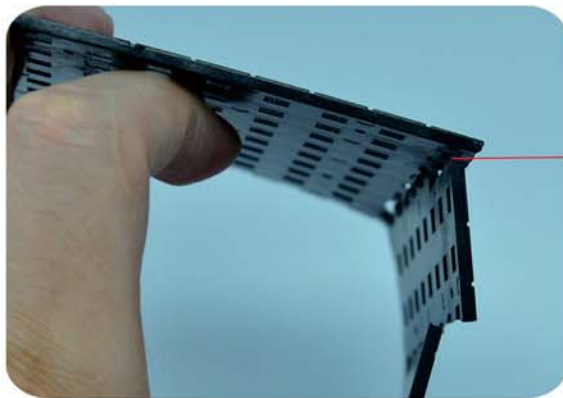


# DFB<sup>博思电子</sup>ELECTRONIC

塑料套件/plastic cover and base



VS



High quality engineering plastic which has first-class flexibility

**选高质量工程塑料，材质柔韧性较强**

1. The plastic cover and base has outstanding durability .Less deformation and hardening generated.No color change after long-time work.  
耐用性高，不易变形，不易硬化，长时间使用后颜色不变
- 2.Low reflection rate design to ensure display quality.  
低反光率设计，保证画面显示质量
- 3.Excellent dustproof,waterproof and anti-corrosive properties.  
防潮防尘防腐蚀

Poor flexibility bad quality or recycled plastic  
**选用劣质塑料或者回收塑料，柔韧性较差**

1. Bad durability; Poor hardness properties; Easy to be deformed; Whitening after long-time use.  
耐用度低，易老化变形，易硬化，长时间使用后泛白
- 2.High reflection rate design effects the display apparence.  
反光率高，会对画面显示效果造成影响
- 3.Poor dustproof, waterproof and anti-corrosive properties  
不能有效三防

Price Difference价格差异



100-200% /pcs

Our Advantage我们的优势

We select protogenetic plastic and take optimal designs based on specific applications.

Not only to protect LEDs but also make the display surface more closer to mirror effect.

我司采用原生塑料，基于应用环境优化设计，既达到保护led的目的，

也使显示屏表面平整度更接近于镜面效果，视觉更佳

DFB<sup>博思电子</sup>ELECTRONIC

# DFB博思电子

## 线材/ Wires



### VS



Pure copper cores with uniform diameter guarantees good electrical conductivity.

**线芯采用纯铜材料，线径均匀，导电性好**

1. Sleeve made from high-class flame retardant materials in compliance with RoHS/UL/CE testing standards .  
选用通过RoHS/UL/CE认证的高等级阻燃材质做套管
2. Wires in compliance with IEC60227/IEC64225/UL/VDE testing standards or other regional&professional standards.  
整体满足IEC60227/IEC64225/UL/VDE等国际或不同地区专业标准
3. Optional anti-cold sleeve guarantees good cold-proof and flexibility performance.  
保护套管可采用加防寒料的材质，耐寒抗寒，柔韧性能好

Made from low cost and poor electrical conductivity aluminium or copper-clad aluminium. Core diameter is unequal or inadequate which causes security risks.

**线芯为节约成本采用铝线或者铜包铝线，且线芯粗细不均匀或不足，导电性差，易造成安全隐患**

1. Unformal insitition certified or recycled rubber made outer casing. 选用非正规认证渠道认证的劣质橡胶，回收料做套管
2. Wires with high security risk can not fully in compliance with IEC60227/IEC64225/UL/VDE testing standards or other regional & professional standards.  
不能真正满足IEC60227/IEC64225/UL/VDE等国际或不同地区专业标准，有较高的安全隐患
3. No anti-cold material added; can not be used in alpine region  
无防寒料成分，无法应用到高寒地区

Price Difference 价格差异



40%-80% /m

Our Advantage 我们的优势

The wires we are choosing is 100% compliant with international and security performance standards of different countries and regions.

我们所选用的线材100%满足国际、不同国家及地区安全性能标准。



# DFB博思电子

## 线材/ Wires



### VS



Adequate sealing contact area; Three layers water-blocking design

**密封接触面积充足，三级阻水设计**

1. High quality virgin engineering plastics with high silicone content. 选用原生优质工程橡胶，硅胶量高
2. Excellent flexibility and compression rate. 柔韧性好，压缩率高
3. Good temperature resistance performance. Hard to deform. 耐温性好，不变形

Narrow seal contact area, Single or two layers water-blocking design

**密封接触面积狭窄，单级或双级防水设计**

1. Poor quality reclaimed materials with low silicone content. 选用劣质回收料，硅胶率低
2. Poor flexibility and compression rate. 柔韧性差，压缩率低
3. Poor temperature resistance; serious aging problem causes flexibility losing after long-time use. 耐温性差，老化严重，使用一段时间后无法恢复原形

Price Difference 价格差异



100%-200%

Our Advantage 我们的优势

We use virgin materials and reinforced three-layer waterproof design to achieve superior and long-lasting waterproof performance

我们采用原生料及加强型三层防水设计，使用防水性能更加优越和持久

DFB博思电子

# DFB博思电子

螺丝 / Screws



• 不锈钢

VS



• 铁料 易生铁

**Stainless steel or stainless steel + iron mixture.**

**选用不锈钢材料或者不锈钢+铁材料**

1. High hardness metal. Hard to failed

金属强度高，不易出现滑丝情况

**Use iron screws**

**选用铁材料**

1. Low hardness and easily-corroded screw thread makes installation insecure and loose.

金属强度低，容易出现滑丝，无法咬合情况

Price Difference 价格差异



100%

Our Advantage 我们的优势

We only use stainless steel or stainless steel & iron mixture screws

我们仅选用不锈钢或不锈钢+铁材料

DFB博思电子

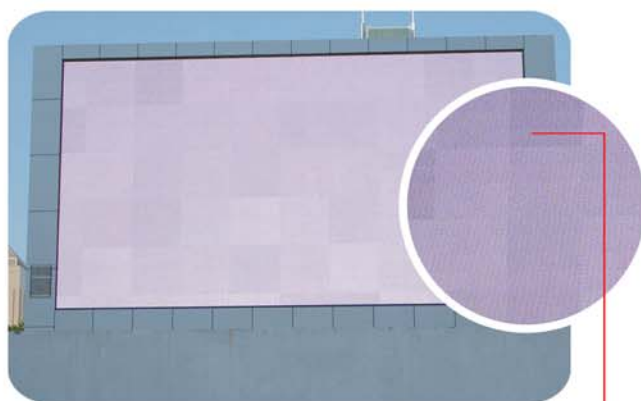
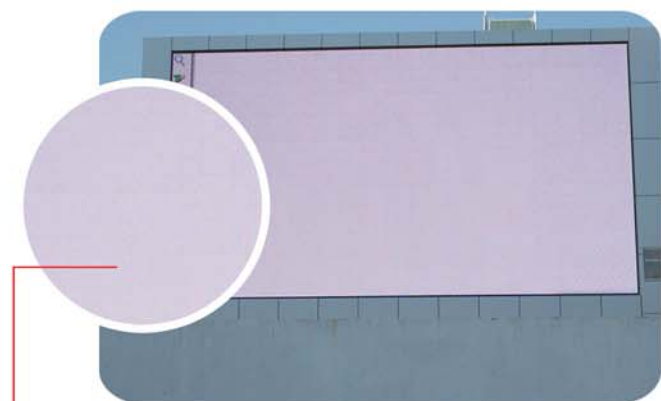


# DFB博思电子

效果对比/ Performances



VS



Highly uniformity of the displaying surface

整屏显示面平整度较好

Wide viewing angle up to 120 degree

1. 宽视角

Accurate color RED, GREEN, Blue encapsulation control based on 3:6:1, pure white balance.

2. R:G:B比例3:6:1误差小, 白平衡颜色纯正

Bad surface uniformity, it causes serious "Mosaic" patch problem

整屏显示面平整度较差, 马赛克现象严重

Small viewing angle caused by bad quality LEDs and surface designing

1. 因设计缺陷导致视角降低

Big margin error in Color RED, GREEN, Blue encapsulation ratio, white balance is not pure.

2. R:G:B比例3:6:1误差较大, 白平衡颜色不纯正

Price Difference 价格差异



100%

Our Advantage 我们的优势



005

我们坚持选用以上较高性价比的原材料, 严格执行ISO9001质量管理体系规范, 保证生产出的每一块显示屏都具有出色的表面平整度及白平衡效果。