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NATIONSTAR
— SINCE 1969 —

LEDs FOR DISPLAY

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2018

World-Class Advanced LED Encapsulation Manufacturer

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NATIONSTAR Headquarters

Land Area: 60,600m²

Building Area: 139,000 m²

FOSHAN NATIONSTAR OPTOELECTRONICS CO., LTD is a high-tech enterprise with integrated supply-chain capability in developing and manufacturing LED components and LED application products. It is one of the largest LED manufacturers in China and the first IPO in LED industry. It ranks TOP 10 of Packaged LEDs 2017 Revenue in the world (IHS Markit) .

NATIONSTAR has leading LED packaging technology and devices, including high-speed die bonding, wire bonding, phosphor coating, precise color testing and bin-sorting machines, and etc. Its RGB LED leads the global industry.

NATIONSTAR will adhere to the spirit of innovation and technology, enhance its competitive ability through senior human resource, advanced management and excellent corporate culture to become a globally leading enterprise in LED industry.

Distribution Network

NATIONSTAR's main customers are located in many countries and areas. With sincere communication and cooperation, win-win partnership between NationStar and customers will push forward LED industry and technology.



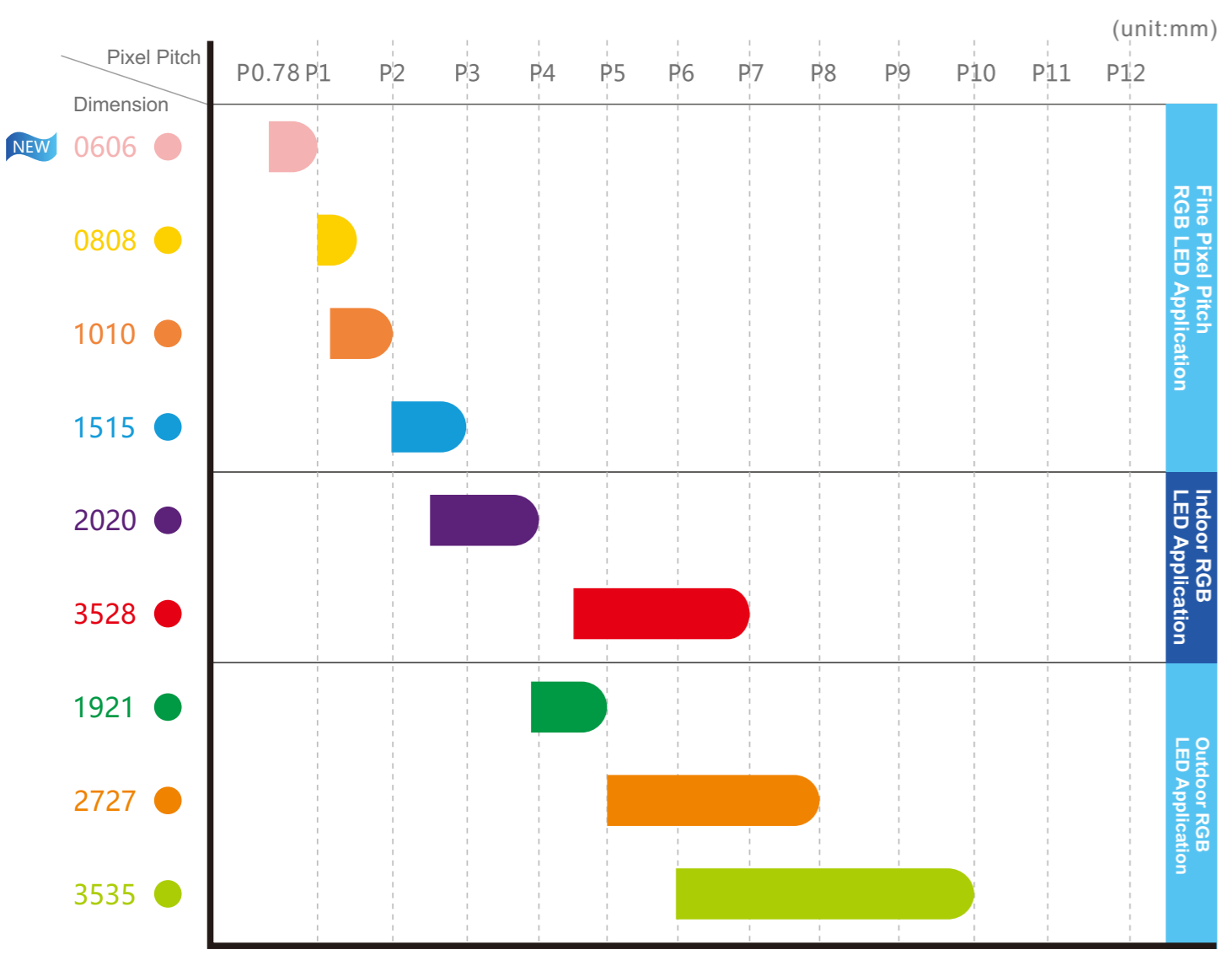
Sales Volume

NATIONSTAR achieved averagely 23% annual revenue growth in the last ten years. In 2016, its sales revenue is 356 million US dollars, increased by 31%. The first 3 quarters of 2017, its sales revenue reached 390 million US dollars, increased by 54.10%.



NATIONSTAR Recommended Application

NATIONSTAR has various RGB LEDs by 9 dimensions, from 0606 to 3535, with different brightness and pixel pitch levels.



About FM Series

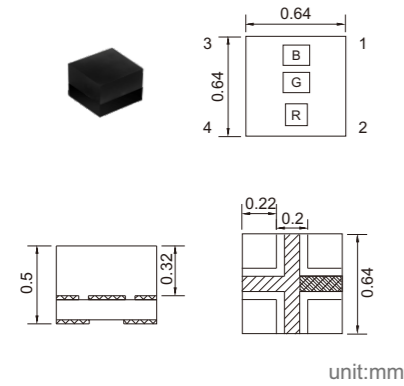
FM series has launched out more than 10 years for mid-to-high market. It is consisted of 4 parts, Fine pixel pitch, indoor, outdoor and side view products. With more than 2 years' guaranty, FM series is mainly applied for fixed and rental yield, which can meet the demand of indoor and outdoor solution by various dimensions. Utilized by qualified material and unique encapsulation, FM series has advantages of good reliability, high contrast, low luminous decay and good consistency, can fulfill requirement of high refresh rate, high grey scale and nature color.



Fine Pixel Pitch Products of FM Series

NEW FC-C0606RGBT-HF (common cathode design)

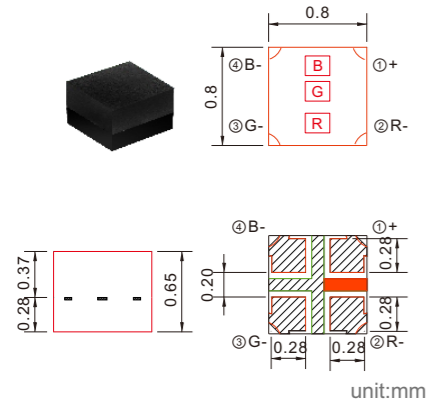
0.64×0.64×0.5mm



Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
●	5	620	15	2.0	120
●	2	530	20	2.6	120
●	2	470	4	2.7	120

FC-B0808RGBT-HF

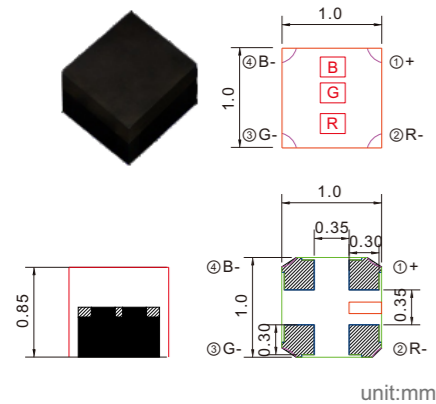
0.8×0.8×0.65mm



Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
●	5	622	15	1.9	120
●	2	530	20	2.5	120
●	2	472	4	2.6	120

FC-B1010RGBT-HG

1.0×1.0×0.9mm

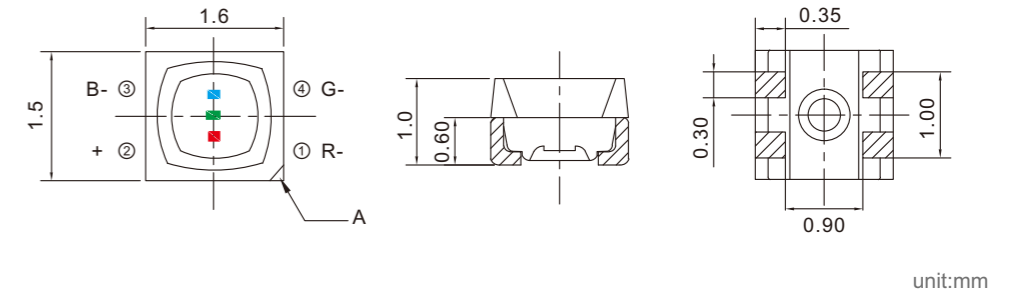
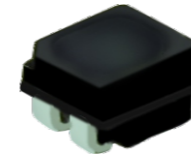


Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
●	5	622	20	2.0	120
●	2	535	30	2.6	120
●	2	470	5	2.7	120

Indoor Products of FM Series

NEW FM-B1515RGBA-HF

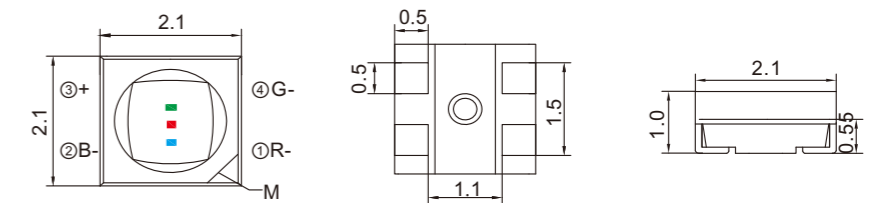
1.6×1.5×1.0mm



Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
●	8	622	45	2.0	110
●	5	528	145	3.0	110
●	3	470	18	3.0	110

FM-B2020RGBA-HG

2.1×2.1×1.0mm

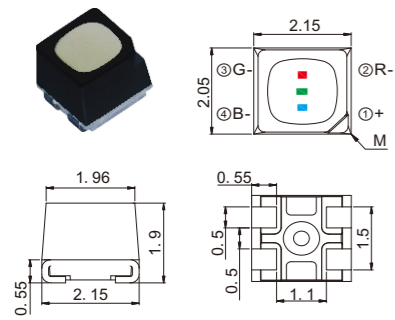


Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
●	8	622	55	2.0	110
●	5	525	150	3.0	110
●	3	470	22	3.0	110

Outdoor Products of FM Series

FM-Z1921RGBA-SH

2.15×2.05×1.9mm

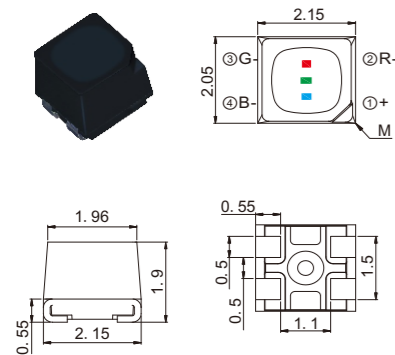


unit:mm

Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
●	15	622	450	2.0	110
●	8	522	730	3.0	110
●	5	472	105	3.0	110

FM-B1921RGBA-SH

2.15×2.05×1.9mm

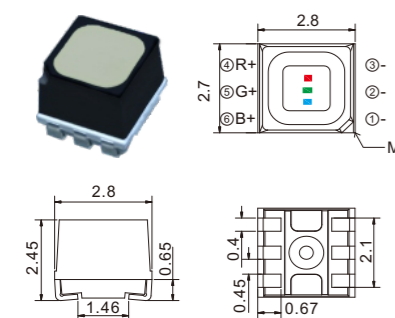


unit:mm

Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
●	15	622	250	2.0	110
●	8	525	400	3.0	110
●	5	475	60	3.0	110

FM-Z2727RGBA-SH

2.8×2.7×2.45mm



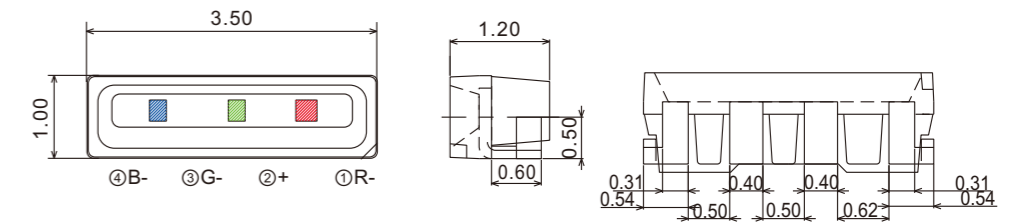
unit:mm

Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
●	15	622	470	2.0	110
●	8	525	750	3.0	110
●	5	470	120	3.0	110

Side View Products of FM Series

NEW FM-3510RGBA-SH

3.5×1.0×1.2mm



unit:mm

Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
●	15	622	500	2.0	110
●	8	527	850	3.0	110
●	5	470	125	3.0	110

3510 is the new item that will be launched out in 2018 and applied for transparent displays.



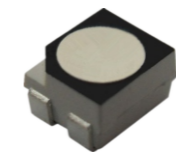





About NH Series

NH series was launched out in 2015 and mainly applied for retail market. NATIONSTAR redefined retail yield though over 10 years' technology deposition on NH series. NH series has features of high reliability, high contrast, dust resistance, water resistance and UV resistance by good matching material and optimal design, which is aimed to become the high-end series in retail market.



Products of NH Series

Application	Part No.	Color	IF(mA) TEST	λD(nm) Typ.	IV(mcd) Typ.	VF(V) Typ.	View angle de
Indoor	NH-B1010RGBT-HF 1.0×1.0×0.85mm 	Red	5	620	20	2.0	120
		Green	2	530	30	2.6	120
		Blue	2	470	5	2.7	120
	NH-B2020RGBA-HF 2.1×2.1×1.0mm 	Red	8	622	45	2.0	110
		Green	5	525	160	2.8	110
		Blue	3	470	25	2.8	110
	NH-3528RGBA-HF 3.5×2.8×1.9mm 	Red	20	622	245	2.0	110
		Green	12	522	650	3.0	110
		Blue	12	468	150	3.0	110
Outdoor	NH-Z1921RGBA-SG 2.15×2.05×1.9mm 	Red	15	622	350	2.0	110
		Green	8	530	620	3.0	110
		Blue	5	472	95	3.0	110
	NH-Z2727RGBA-SG 2.8×2.7×2.45mm 	Red	15	622	450	2.2	110
		Green	8	530	680	3.0	110
		Blue	5	472	100	3.0	110
	NH-Z3535RGBW-SG 3.7×3.5×2.8mm 	Red	20	622	600	2.0	110
		Green	20	520	1350	3.2	110
		Blue	20	470	280	3.3	110

Application Cases



Guangzhou Auto Exhibition – Lamborghini stage (1010)



First Flight of Domestic Made Airplane C919 Live Broadcast (1921)



BOAO Forum (1515)



Samsung New Arrival Press Conference (2020)

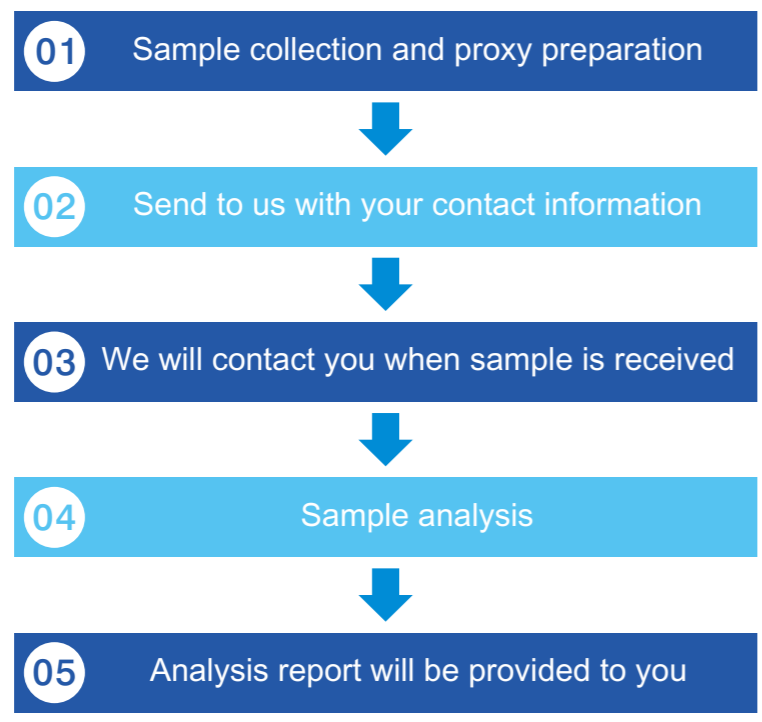


Largest Mercedes-Benz Store, South Sanlitun, Beijing (3528)

Product Identification

We adhere to fight against counterfeit NATIONSTAR products in the market and ensure our customers have a pleasure experience by using our products.

NATIONSTAR RGB R&D center guarantees that sample verification is free of charge and the analysis report will be sent to you within 7 working days after receiving your sample.



Sample testing proxy

样品检测委托书	
委托单位	委托日期
联系人	联系方式
联系地址	
样品型号	样品数量
样品供应商	
检测内容	
检测目的	
检测报告	报告形式: <input type="checkbox"/> 数据报告 <input type="checkbox"/> 文字报告
	交付方式: <input type="checkbox"/> 自取 <input type="checkbox"/> 邮寄 <input type="checkbox"/> E-mail
委托单位 签章	
年 月 日	

Testing report

LED 器件检测报告			
样品名称	委托人	委托日期	2017-12-04
委托要求 鉴定送样样品(一快)是否属于假冒正品灯珠。			
型号	2020	鉴定人员	肖光琦
检测项目	■外观	鉴定日期	2017-12-11
		温度(°C)	湿度(%)
		22°C	55%RH
检测内容	外观		
检测结果	经鉴定, 送样样品不为假冒LED产品。		
	■送样样品不为假冒LED产品		
制定	肖光琦	审核	刘日清

Tel : 0086-757-82100238-8188 E-mail : RGByanfa@nationstar.com

R&D Institutions



NATIONSTAR laboratory has gained approval by CNAS

R&D Team

- Doctor (Post-doctorate) 15P
- Master 150P
- Senior engineer 13P
- R&D technician >700P

Patents Achievements

By December 2017, NATIONSTAR had applied for 422 patents, including 86 patents for inventions, 31 overseas patents. There are 357 patents issued patents, including 49 patents for inventions.



Company Honors



- Global TOP 10 LED Encapsulation Manufacture in Q2 2017(HIS Markit)
- National Science and Technology Progress Award
- National high-tech enterprise
- Key high-tech enterprise of National Torch Plan
- LED famous brand in China
- TOP 10 international competitiveness of Chinese LED enterprises
- One of 500 manufacture enterprises in Guangdong province
- International standard certification utilization