

深圳市瑞广兴电子有限公司
Shenzhen RGX Electronics Co., Ltd.

产 品 规 格 书

Product specification





产品名称：P2 室内全彩 LED 显示屏

规格型号：P2-32S-1515-1920hz

版本编号：RGX20230407-1

拟制：	审核：	批准：（盖章）

三合一技术参数 SMD 3IN1 TECHNICAL PARAMETERS

	项目 Item	参数 Parameter
模组 Unit Module	产品型号 Model Number	GX-P2-32S
	模组尺寸 Module size	320mm*160mm
	物理点间距 Pixel pitch	2mm
	物理密度 Pixels Density	250000 点/m ²
	发光点颜色 Pixel configuration	1R1G1B
	LED 封装 Package mode	SMD 3IN1 -1515
	模组分辨率 Pixel resolution	160dots(W)*80dots(H)
	模组电压 Module voltage	5V
	模组最大功耗 Max Power	25W
	模组厚度 Module thickness	10.75mm
	模组重量 Weight	0.32KG
	驱动方式 Drive type	恒流驱动 Constant drive
	扫描方式 Scan mode	1/32 扫描 1/32scan
	接口方式 Port type	HUB75E
	白平衡亮度 Brightness of white balance	≥1100cd/m ²
产品图片 Product picture	 <p style="text-align: center;">模组正面 positive</p>	 <p style="text-align: center;">模组背面 back</p>

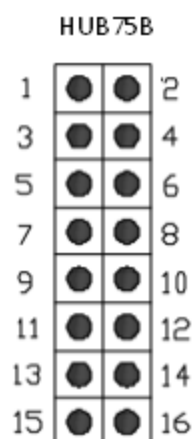
室内 LED 显示屏图片 Picture of indoor waterproof box



LED 屏机箱 Cabinet	LED 显示屏尺寸	Dimension	640mm*480mm
	单体模组数	Monomer Module Number	2×3=6pcs
	供电方式	Power supply	5V/40A*13 pcs
	散热方式	Thermal discharge	fan 0pcs
	屏体分辨率	Pixel per cabinet	320*240
	最佳视距	Best viewing distance	1.2M~50M
	最佳视角	Best viewing angle	140° (W) 140° (H)
	环境温度	Temperature	存储 storage:-35℃~+85℃工作 working:-20℃~+50℃
	相对湿度	Relative humidity	10%-75%
	屏体厚度	Thickness	90mm
供电 Power	工作电压	Working voltage	AC220V ± 10%
	平均功耗	Average Power consumption	<300W/m ²
	最大功耗	Max.Power consumption	<600W/m ²
	电流	Current	<15mA(single LED)
控制系统 Control system	控制主机	CPU	Pentium4 or above P4 或以上
	操作系统	Operation system	WIN98/2000/NT/XP/WIN7
	控制方式	Control method	同步控制 Synchronization
主要技术参数	驱动器件	Driving device	恒流驱动 Constant drive IC

Main technical parameter	刷新频率 Refresh frequency	>1920HZ~3840HZ
	灰度/颜色 Grey scale/colors	65536 级,可显示 16.7M 颜色 65536gray level/16.7M colors
	平均无故障时间 MTBF	>9000hours
	电源开关 Power switch	自动开关 Automatic switch
	显示模式 Display Mode	≥1024*768

信号引脚定义 Signal pin definition



引脚	信号	功能	引脚	信号	功能
1	RD1	红色数据信号 1 Red data signal 1	2	GD1	绿色数据信号 1 Green data signal 1
3	BD1	蓝色数据信号 1 Blue data signal 1	4	GND	电源地 Power ground
5	RD2	红色数据信号 1 Red data signal 1	6	GD2	绿色数据信号 2 Green data signal 2
7	BD2	蓝色数据信号 1 Blue data signal 1	8	GND	电源地 Power ground
9	A	行控制信号 Line control signal	10	B	行控制信号 Line control signal
11	C	行控制信号 Line control signal	12	D	行控制信号 Line control signal
13	CLK	时钟信号 clock signal	14	LAT	锁存信号 Latch signal
15	OE	使能信号 Enable signal	16	GND	电源地 Power ground



LED 灯珠图片 Picture of LED lamp bead



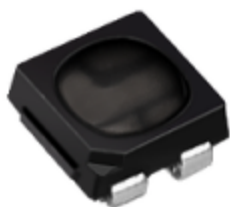
型号 model : 1010



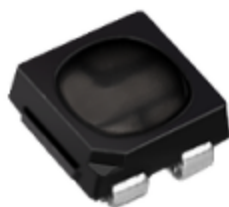
型号 model : 1212



型号 model : 1415



型号 model : 1515



型号 model : 2121

常规灯珠配型 Conventional lamp bead matching

室内灯珠型号 Indoor lamp bead model	1010	P1.25
	1212	P1.56/P1.667/P1.923
	1515	P1.875/P2/P2.604/P2.976/P2.5/P3

	2121	P2.5/P3/P3.91/P4/P4.81/P5
	3528	P5/P6/7.62/P10

灯珠参数：

型号 Model number	室内灯珠参数范围 Parameter of indoor light bead			
	颜色 Color	高度范围 (mcd) Luminance	波长范围 (nm) Wavelength	电压 (V) Voltage
 1010/1212	R (5mA)	11-20	620-625	1.8-2.3
	G (3mA)	45-65	514-535	2.6-3.2
	B (2mA)	5.5-8	460-475	2.6-3.3
 1415/1515/2121	R (5mA)	18-25	620-625	1.8-2.3
	G (3mA)	80-125	514-535	2.6-3.2
	B (2mA)	10-16	460-475	2.6-3.3
 3528	R (10mA)	40-60	620-625	1.8-2.3
	G (5mA)	110-180	514-535	2.6-3.2
	B (5mA)	20-45	460-475	2.6-3.3

IC 驱动芯片 IC driver chip



特性 Characteristic

- 16 路恒流灌电流输出 • 16-channel constant current perfusion current output
- 输出电流范围：
 0.5~45mA@V_{DD}=5V 0.5~45mA@V_{DD}=5V
 [0.5~30mA@V_{DD}=3.3V](#) [0.5~30mA@V_{DD}=3.3V](#)
- 电流精度 • current accuracy
 通道之间：±0.7% (典型值) ±1.5% (最大值) Between channels: ± 0.7% (typical) ± 1.5% (maximum)
 芯片之间：±1.1% (典型值) ±1.5% (最大值) Between chips: ± 1.1% (typical value) ± 1.5% (maximum value)
- 快速输出电流响应 OE (最小值)：40ns@V_{DD}=5V Fast output current response OE (minimum)：40ns@vdd = 5V
- I/O 施密特触发器输入 I/O Schmitt trigger input

- 最大数据传输频率: 30MHz Maximum data transfer frequency: 30 Mhz
- ESD HBM ~ 8KV ESD HBM ~ 8KV
- 芯片工作电压: $V_{op}=3.3\sim 6V$ Chip operating voltage $VDD = 3.3 \sim 6V$
- 工作温度范围: $-40\sim 85^{\circ}C$ Operating temperature range: $-40 \sim 85^{\circ}C$
- 具有改善灯珠损坏功能 The utility model has the function of improving the damage of the lamp beads
- 具有消影功能 It has the function of eliminating shadow
- 具有极佳的抗干扰能力和低灰度效果 With excellent anti-interference ability and low gray effect
- 改善因灯珠损坏产生的毛毛虫现象 To improve the Caterpillar phenomenon caused by lamp bead damage
- 双锁存,刷新率比通用恒流芯片提高 50%以上 Dual latches, refreshrate than the general constant-current chip increased by more than 50%
- 封装: SSOP24/QFN24 PACKAGE: SSOP24QFN24

型号定制 Model customization



低刷新 Low refresh 960hz



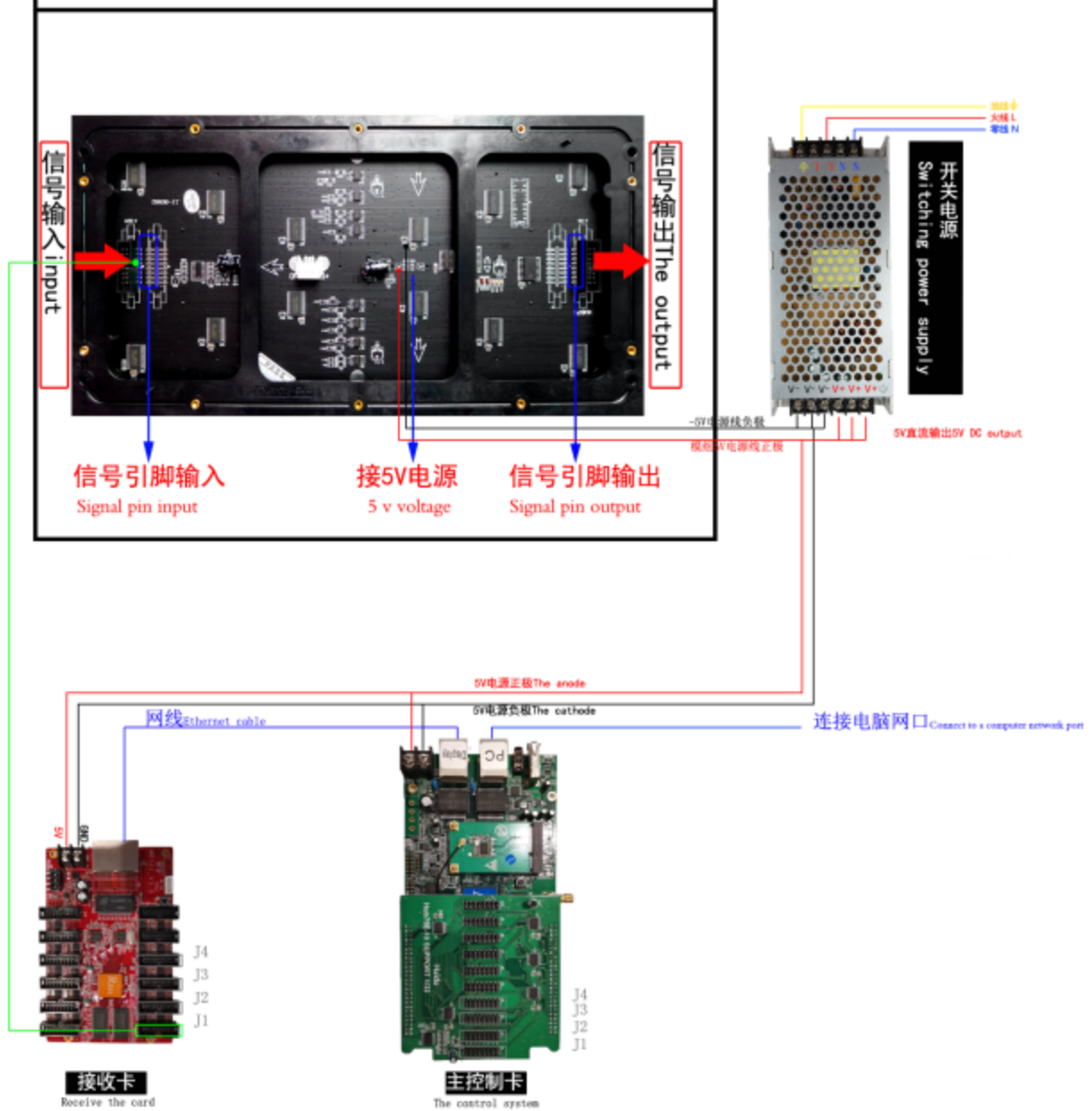
普刷新 Normal refresh 1920hz



高刷新 High Refresh 3840hz

开关电源控制系统连接模組示意图 Schematic diagram of connection module of power control system

模组接线简介 Module wiring brief



GXP2-32S-1515 模组电源开关配置表

开关电源 Switching power supply	模组电流 Module current	电源重量 The power weight	带载数量 Loading quantity
5V40A200W	5.0A	1.05kg/PCS	6PCS
示意图 Schematic diagram	相应说明 Corresponding instructions		
	P2-32S-1515 全彩模组，一个 200W 电源带载 6 个模组， P2-32s -1515 full-color module, one 200W power supply with 4 modules,		

产品使用注意事项

1.由于 LED 和 CMOS 集成电路是静电敏感器件，在使用 LED 单元板时需要注意严防静电。采取以下措施可以有效防止静电：

- 接触产品的人员必须佩戴有接地的静电手环或静电手套；
- 开关电源外壳、箱体、屏体等严格接地；
- 装配过程中的各种工具必须严格接地；

2.清洗 LED 单元板表面时，不可使用不明化学液体，以免损坏或腐蚀 LED。可使用干净的软碎布沾取清水轻力擦拭，擦拭后不可残留水痕，待干燥后再进行使用；

3.维修 LED 单元板时，单元板必须先断电，不可带电焊接。建议最好使用恒温电烙铁，电烙铁温度根据锡丝的成分调节：

- 补焊点阵模块时，电烙铁温度必须保持在 260℃左右，焊接时间不能超过 5S，焊接次数不超过三次；
- 补焊 CMOS 器件时，电烙铁温度必须保持在 315℃以下，焊接时间不能超过 3s，焊接次数不超过三次；

4.为保证 LED 的稳定性与使用寿命，单元板工作时的表面温度不能超过 60℃，存储温度不能超过 40℃，否则必须采取必要的冷却措施；

5.为防止因电源使用不当，而降低单元板的使用寿命或烧毁单元板，LED 单元板电源的接入应严格遵循以下注意事项：

- 使用 LED 显示屏专用开关电源，单元板采用直流 5.0V 输入，不得直接接入 220V，否则会造成整体单元板被烧毁；
- 安装 LED 单元板时请注意电源端口的正确接线，必须正负极相对应；如果正负极接反了须及时断电，以免损坏元器件；
- 单元板的工作电压请勿超过其最大允许工作电压 5.5V；

6.安装单元板时，扭矩应小于 1.0Nm；

7.在使用与运输过程中，不得摔、推、挤、压单元板，以免发生损坏单元板。

Notes for product use

1. As LED and CMOS integrated circuit are electrostatic sensitive devices, attention should be paid to prevent static electricity when using LED unit board. The following measures can be taken to effectively prevent static:

- contact the personnel must wear products are grounded electrostatic bracelet or static gloves;
- switching power supply casing, casing, screen and so on strictly grounding;
- assembly process in various tools must be strictly grounding;

2. When cleaning the surface of LED unit plate, do not use unknown chemical liquid to avoid damage or corrosion of LED. You can use a clean soft cloth dipped in water to wipe gently, do not leave any water marks after wiping, wait for dry before use;

3. When repairing LED unit plate, power must be cut off first and no live welding is allowed. It is recommended to use thermostatic electric soldering irons. The temperature of soldering irons is adjusted according to the composition of tin wire:

- repair welding dot matrix module, solder iron temperature must be kept at about 260 °C, welding time can't more than 5 s, welding number not more than three times;

- repair welding of CMOS devices, solder iron temperature must be kept below 315 °C, welding time can't more than 3 s, welding number not more than three times;

4. In order to ensure the stability and service life of THE LED, the surface temperature of the unit plate shall not exceed 60 ° C and the storage temperature shall not exceed 40 ° C, otherwise necessary cooling measures must be taken;
5. In order to avoid reducing the service life of the unit board or burning the unit board due to improper use of the power supply, the power access of LED unit board shall strictly follow the following precautions:
 - use LED display special switching power supply, the cell plate adopts dc 5.0 V input, may not be directly connected to 220 V, otherwise it will cause the overall unit board was burned down;
 - when installing the LED unit board, please pay attention to the correct connection power port, must correspond is negative; If the anode and cathode are connected backwards, power must be cut off in time to avoid damaging components;
 - the working voltage of unit board do not exceed the maximum permissible working voltage of 5.5 V.
6. When installing the unit plate, the torque shall be less than 1.0nm;
7. In the process of use and transportation, do not fall, push, squeeze or press the unit plate to avoid damage to the unit plate.