



深圳市芯斯美电子有限公司  
shenzhen xsm electronics co.,ltd

# 规格书

## Specifications

|                      |                                                                                                                    |
|----------------------|--------------------------------------------------------------------------------------------------------------------|
| 品名 Name              | 2 位数码管<br>2 Digit Seven-segment LED Display                                                                        |
| 型号 Model             | XSM-S2821A (共阴 Share Cathode)                                                                                      |
|                      | XSM-S2821B (共阳 Share Anode)                                                                                        |
| 发光颜色 Color           | 红-R 超亮红-SR 黄绿-G 黄-Y 蓝-B 翠绿-PG 白-W<br>Red-R, Super Red-SR, Yellow Green-G, Yellow-Y, Blue-B, Pure Green-PG, White-W |
| 8 字高度<br>"8" Height  | 0.28 英寸 7.00mm<br>0.28inch, 7.00mm                                                                                 |
| 总芯片数 Total LED Chips | 16                                                                                                                 |
| 表面颜色 Cover Color     | 黑色 Black                                                                                                           |
| 胶体颜色 Colloid Color   | 乳白/红 Ivory/Red                                                                                                     |
| 备注 Remark            |                                                                                                                    |

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## 一.特性描述 (Characteristics)

- ★★★ 能在低电压、小电流条件下驱动发光  
Lower working voltage and current
- ★★★ 发光响应时间极短( $<0.1 \mu s$ ),高频特性好,单色性好,亮度高  
Lighting answering Time  $<0.1 \mu s$ , better high frequency, chromaticity uniformity, high brightness.
- ★★★ 体积小,重量轻,抗冲击性能好. 固态封装, 封装方式为灌胶型,稳定性高  
Smaller volume, lighter weight, better impact resistance, solid sealing, good steady.
- ★★★ 寿命长,使用寿命在 5 万小时以上  
Long life for 50,000 hours.
- ★★★ 可连续扫描驱动各字节  
Keep scaning and drivering every segment continuously.
- ★★★ 良好的显示效果、视角宽  
Better showeffect and wider visual angle.
- ★★★ 推荐恒流使用,恒压会出现亮度不均匀现象  
Recommend constant current driver.
- ★★★ 表面有保护膜的产品,可以在使用前撕下来  
Protective coating, and rip off when using.
- ★★★ 焊接温度:  $260^{\circ}\text{C}$  停留时间最长 5 秒  
Solder temperature:  $260^{\circ}\text{C}$ ,and stay time less than 5 seconds.
- ★★★ 当工作温度高于  $25^{\circ}\text{C}$  时,  $I_{fm}$ ,  $I_{fp}$  和  $I_d$  必须降低;电流降低率是  $-0.36\text{mA}/^{\circ}\text{C}$  (直流驱动), 或  $-0.86\text{mA}/^{\circ}\text{C}$  (脉冲驱动) 功耗率是  $-0.75\text{mW}/^{\circ}\text{C}$ 。产品的工作电流不能大于对应工作温度条件  $I_{fm}$  或  $I_{fp}$  的 60%。  
For operation above  $25^{\circ}\text{C}$ , The  $I_{fm}$   $I_{fp}$  &  $P_d$  must be derated, the Current derating is  $-0.36\text{Ma}/^{\circ}\text{C}$  for DC drive and  $-0.86\text{mA}/^{\circ}\text{C}$  for pulse drive, the power dissipation is  $-0.75\text{mW}/^{\circ}\text{C}$ . The product working current must not more than the 60% of the  $I_{fm}$  or  $I_{fp}$  according to the working temperature.
- ★★★ 蓝色,翠绿色,白色请采取防静电措施  
Electrostatic prevention for Blue, Pure Green and White ones.

## 二. 极限参数 (Limited Parameters)

| 参数 Parameters                    | 符号 Symbol | 极限参数 Limited parameter |
|----------------------------------|-----------|------------------------|
| 脉冲电流 Peak Forward Current        | Ifp       | 100mA                  |
| 直流电流 Continuous Forward Current  | If        | 20 mA                  |
| 反向电压 Reverse Voltage             | Vr        | 5V                     |
| 工作温度 Operating temperature Range | Topr      | -30 to +70℃            |
| 储存温度 Storage temperature Range   | Tstg      | -40 to +85℃            |

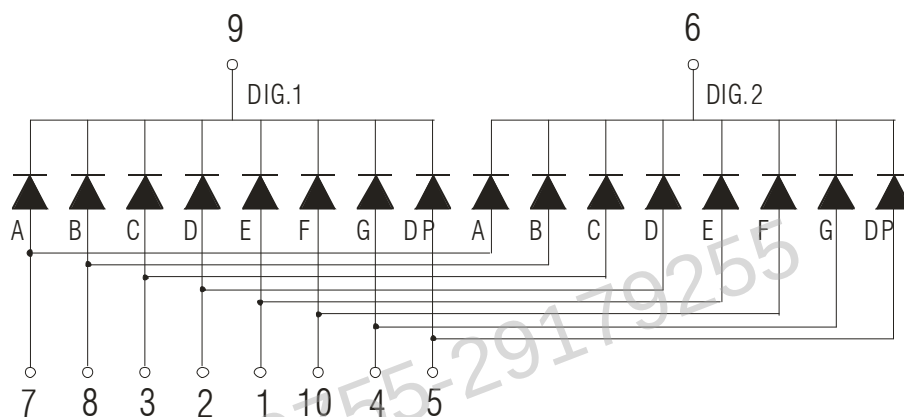
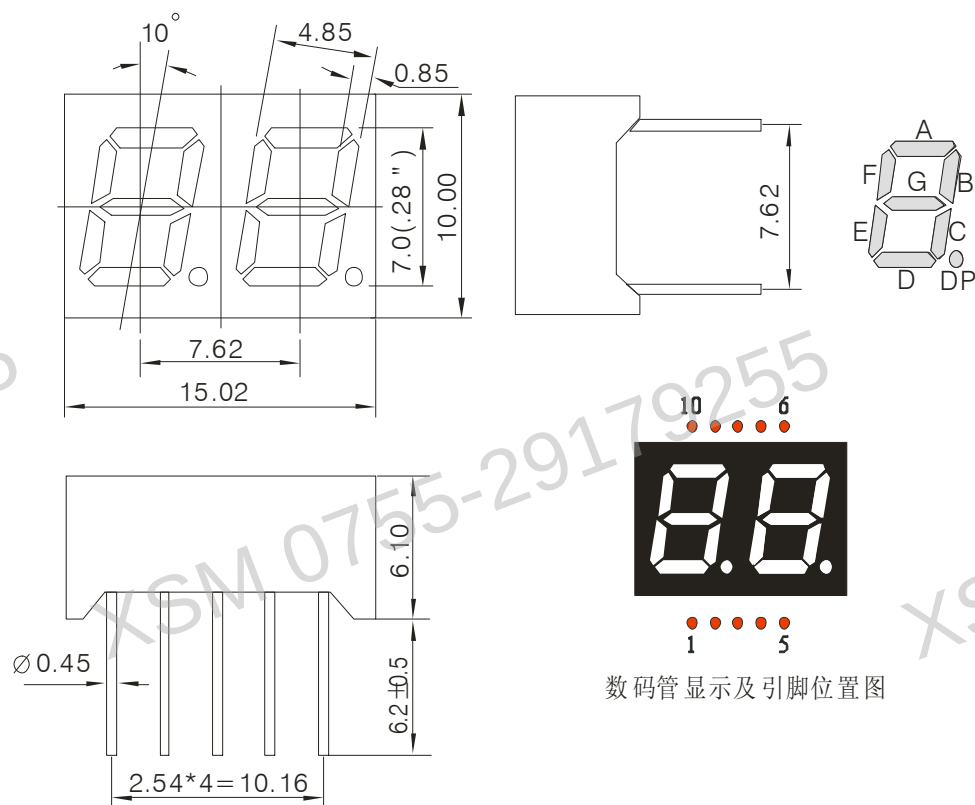
## 三. 光电参数 (Photoelectric Parameters)

| 参数 Parameter              | 正向电压<br>Forward voltage |            | 反向电流<br>Reverse current |            | 发光强度<br>Luminous Intensity | 波长<br>Wavelength | 功耗<br>Power consumption |
|---------------------------|-------------------------|------------|-------------------------|------------|----------------------------|------------------|-------------------------|
| 符号 Name                   | VF                      |            | IR                      |            | IV                         | λ p              | Pt                      |
| 单位 Unit                   | V                       |            | uA                      |            | mcd                        | nm               | mW                      |
| 条件 Condition              | IF=20 mA                |            | VR=5V                   |            | IF=20mA                    | IF=20mA          | IF=20mA                 |
|                           | 平均<br>Arrange           | 最大<br>Max. | 平均<br>Arrange           | 最大<br>Max. | 平均<br>Arrange              | 平均<br>Arrange    | 平均<br>Arrange           |
| 高亮红 High red <b>R</b>     | 2                       | 2.4        | --                      | 20         | 11                         | 635              | 36                      |
| 超高亮红 super red <b>SR</b>  | 2.2                     | 2.6        | --                      | 20         | 80                         | 620              | 40                      |
| 黄绿色 Yellow green <b>G</b> | 2.2                     | 2.6        | --                      | 20         | 11                         | 571              | 44                      |
| 黄色 Yellow <b>Y</b>        | 2.1                     | 2.5        | --                      | 20         | 85                         | 590              | 42                      |
| 蓝色 Blue <b>B</b>          | 3.3                     | 4          | --                      | 20         | 12                         | 465              | 66                      |
| 翠绿色 Pure green <b>PG</b>  | 3.3                     | 4          | --                      | 20         | 220                        | 515              | 66                      |
| 白色 White <b>W</b>         | 3.3                     | 4          | --                      | 20         | --                         | --               | 66                      |

#### 四.外形尺寸及电路原理图: 15.02mm×10.00mm×6.10mm

#### Figure Size & Circuit Principle Diagram: 15.02mm×10.00mm×6.10mm

2821A



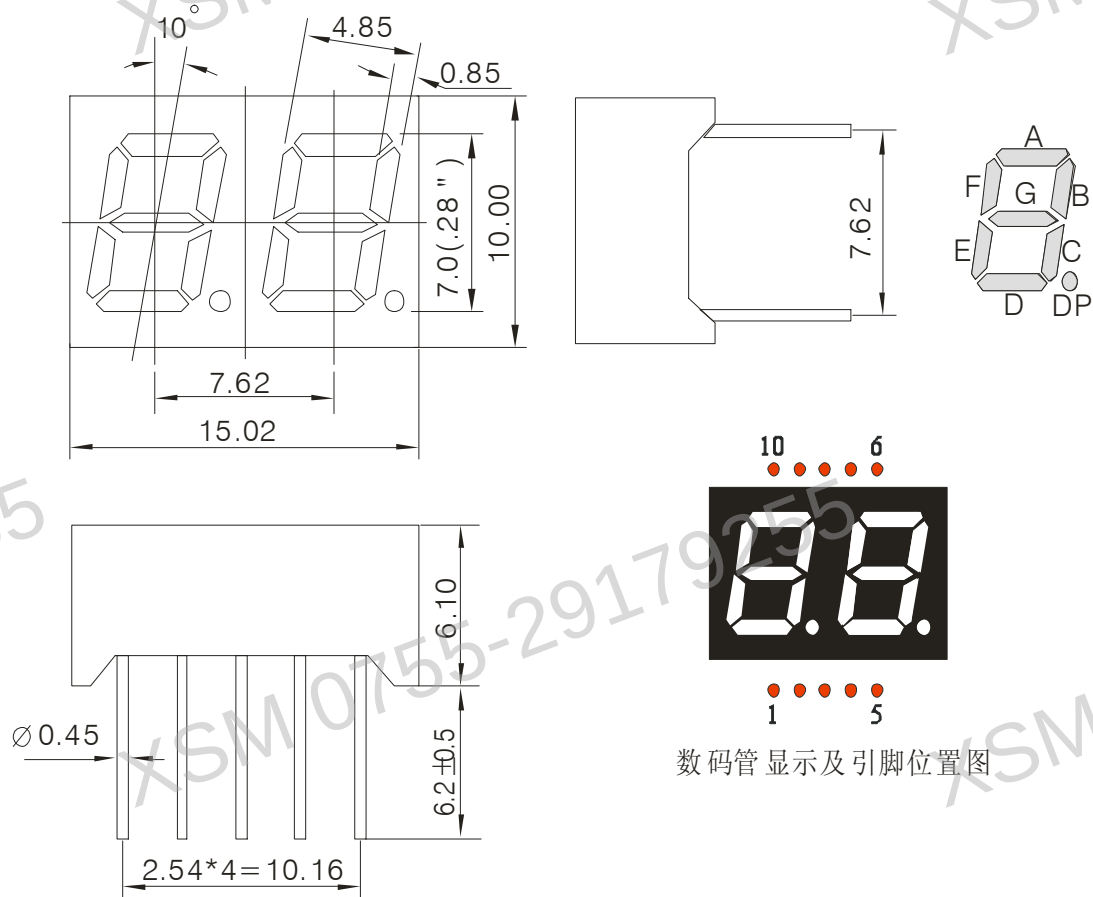
段驱动电压为: 正向电压×1

Segment driver voltage: VF value x 1

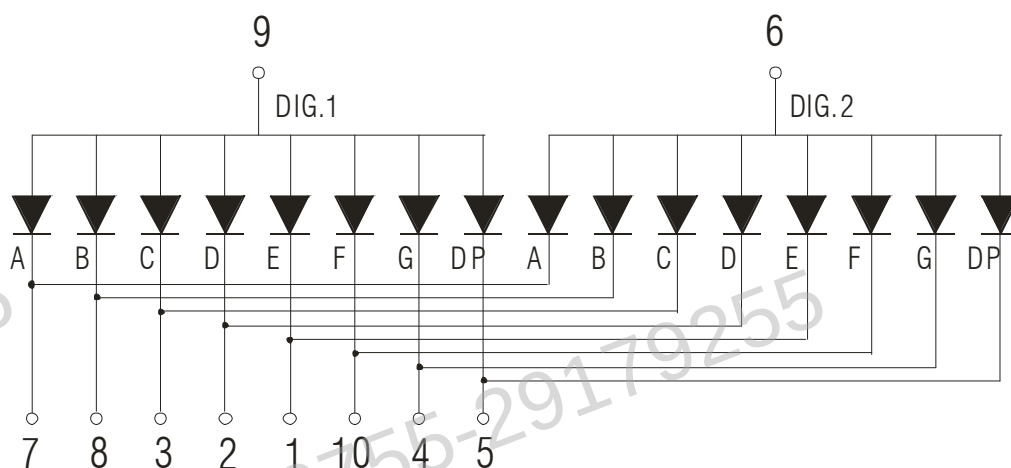
小数点驱动电压为: 正向电压×1 不同颜色的正向电压值不同,详见第二页光电参数表.

Decimal driver voltage: VF value x 1, different colors with different forward voltage, please refer to Photoelectric Parameters.

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数码管显示及引脚位置图



段驱动电压为：正向电压×1

Segment driver voltage: VF value x 1

小数点驱动电压为：正向电压×1 不同颜色的正向电压值不同,详见第二页光电参数表.

Decimal driver voltage: VF value x 1, different colors with different forward voltage, please refer to Photoelectric Parameters.