

# PRODUCT DATASHEET

## DESCRIPTION

品 名: 信号灯 (indicator light)

## SPECIFICATION

规 格: RED, GREEN, BLUE, YELLOW, WHITE

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## DATE

送样日期: 2019-11-28

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## PART NO.

本厂型号: KZ1M-8FW

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## REFERENCE No.

档案号:

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## 1. Description :

-LED (A grade quality)

-Resistor

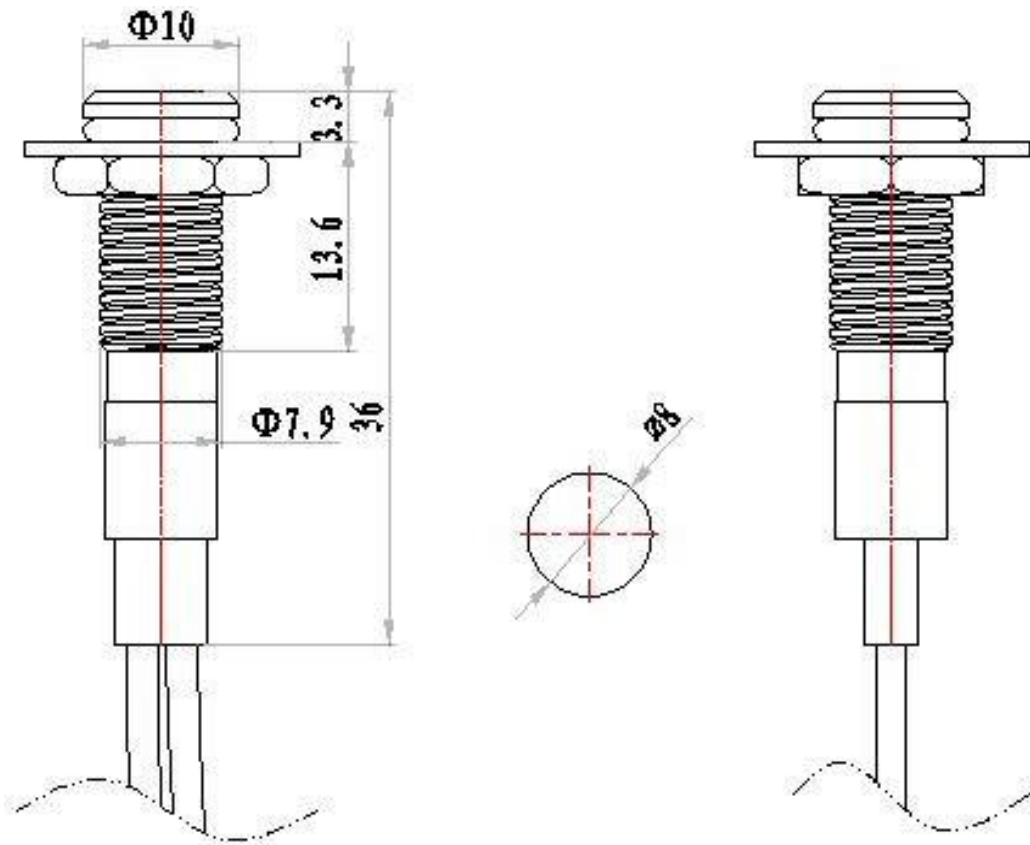
-AWG 22# WIRE

## 2. Picture:



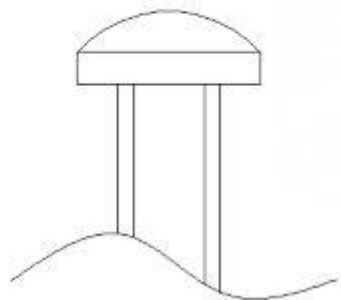
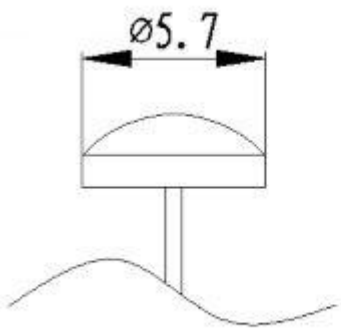
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3.Drawing:

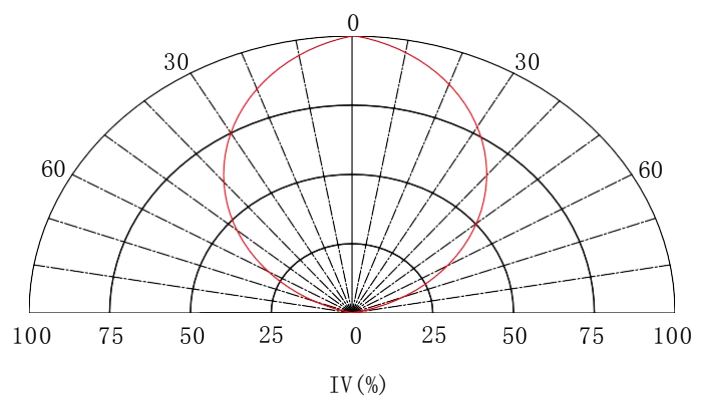


## 5.LED Specification:

### ■ Emitter 外型图



Spotial Distrbtion



## ■ Absolute Maximum Rating 极限工作参数

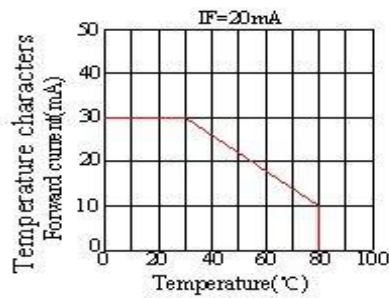
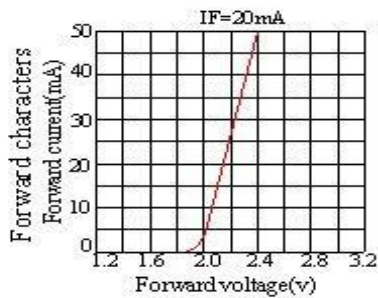
| 参数<br>Parameter                       | 符号<br>Symbol    | 单位<br>Unit | 极限参数<br>Maximum Rating |
|---------------------------------------|-----------------|------------|------------------------|
| 耗散功率<br>Power Dissipation             | P               | MW         | 60                     |
| 连续正向电流<br>Continuous Forward Current  | I <sub>F</sub>  | MA         | 25                     |
| 反向电压<br>Reverse Voltage               | V <sub>R</sub>  | V          | 5                      |
| 工作温度范围<br>Operating Temperature Range | T <sub>op</sub> | °C         | -25 to +80             |
| 存放温度范围<br>Storage Temperature Range   | T <sub>st</sub> | °C         | -25 to +90             |
| 最高焊接温度<br>Soldering Temperature       | T <sub>so</sub> | °C         | 260 (for 5 second)     |

\*I<sub>fp</sub> Conditions: Pulse Wide ≤ 10msec ≤ 1/10

瞬间脉冲电流

\*T<sub>sol</sub> Conditions: 3mm from the base of epoxy bulb 最高焊接温度 距胶体 3mm

## Typical electrical-optical Characteristics curves

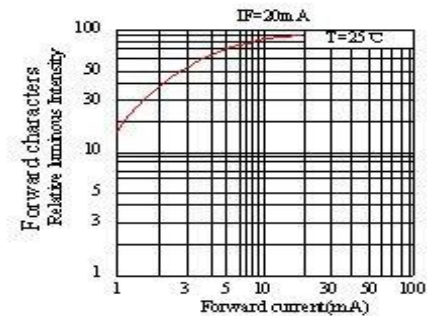
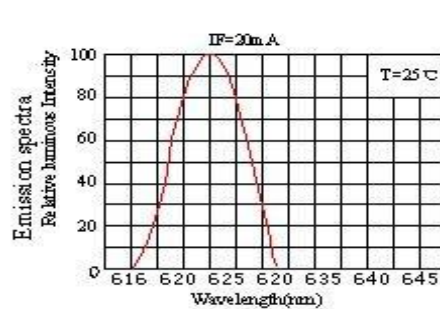
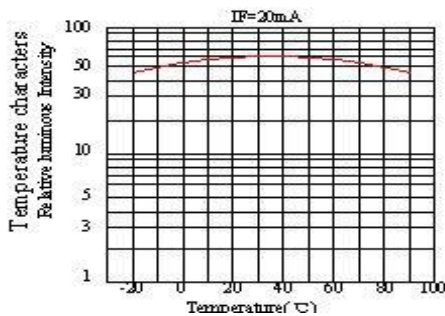


### Notes:

The data are a typical presentation of the product, Contact customer service for details of technical information and warranty.

The product is sensitive to static antistatic operation environment is recommended.

Products are shipped in either bulk bag package or taping.



## ■ Typical Optical/Electrical Characteristics 光电特性参数

|                                     |              |                             |                        |
|-------------------------------------|--------------|-----------------------------|------------------------|
| Color parameters<br>色参数             |              | Optical Brightness<br>光亮度   | 0.00 cd/m <sup>2</sup> |
| Main Wavelength<br>主波长              | 520.7.0 nm   | light intensity<br>光强度      | 1000 mcd               |
| Peak Wavelength<br>峰值波长             | 632.2 nm     | luminous flux<br>光通量        | 4.8 lm                 |
| Peak width<br>峰值带宽                  | 21.3 nm      | luminous power<br>光功率       | 0.32 mW                |
| colour coordinates xy<br>色坐标 xy     | (.1404.7126) | luminous efficacy<br>发光效率   | 56.81 lm/W             |
| colour coordinates u'v'<br>色坐标 u'v' | (.0498.5690) | forward current<br>正向电流     | 20.00 mA               |
| colour purity<br>色纯度                | 0.758        | alternating voltage<br>交流电压 | 4.22 V                 |
| Color temperature<br>色温             | 8400k        | AC power<br>交流电功率           | 0.084 W                |

### Notes:

1. Work absolute ratings Ta=25°C humidity=60% 工作常规值 温度=25°C 湿度=60%
2. Tolerance of measurement of forward voltage±0.1V 正向电压误差范围±0.1V
3. Test Machine: SSP6612 series LED test system

## LED LAMP RELIABILITY

| Type                   | Test Item                    | REF. Standard          | Test Condition   | Note                 | Number of Damaged |
|------------------------|------------------------------|------------------------|--|----------------------|-------------------|
| Environmental Sequence | Temperature Cycle            | JIS C 7021 (1997) A-4  | -20°C→25°C→80°C→25°C<br>30mins,5mins,30mins,5mins              | 100 cycles           | 0/100             |
|                        | High Humidity Heat Cycle     | JIS C 7021 (1997) A-5  | 30°C→65°C<br>90%RH 24hrs/1cycle                                | 10 cycles            | 0/100             |
|                        | High Temperature Storage     | JIS C 7021 (1997) B-10 | Ta=80°C  | 1000hrs              | 0/100             |
|                        | Humidity Heat Storage        | JIS C 7021 (1997) B-11 | Ta=60°C<br>RH=90%  | 1000hrs              | 0/100             |
|                        | Low Temperature Storage      | JIS C 7021 (1997) B-12 | Ta= -30°C  | 1000hrs              | 0/100             |
| Operation Sequence     | Life Test                    | JIS C 7035 (1985)      | Ta=25°C<br>If=20mA   | 1000hrs              | 0/100             |
|                        | High Humidity Heat Life Test | *                      | 60°C RH=90%<br>If=20mA   | 500hrs               | 0/100             |
|                        | Low Temperature Life test    | *                      | Ta= -20°C<br>If=20mA   | 1000hrs              | 0/100             |
| Destructive Sequence   | Resistance to Soldering Heat | JIS C 7021 (1997) A-11 | Tsol=260 ± 5°C, 10sec<br>(3mm from the base of the epoxy bulb) | 1 time               | 0/20              |
|                        | Solder ability               | JIS C 7021 (1997) A-2  | Tsol=235 ± 5°C, 5sec<br>(Using flux)                           | 1 time<br>(over 95%) | 0/20              |
|                        | Lead Pull/Bend Test          | JIS C 7021 (1997)A-11  | Load 2.5N (0.25kgf)<br>0°→90°→0° Bending 3 times               | No noticeable damage | 0/20              |

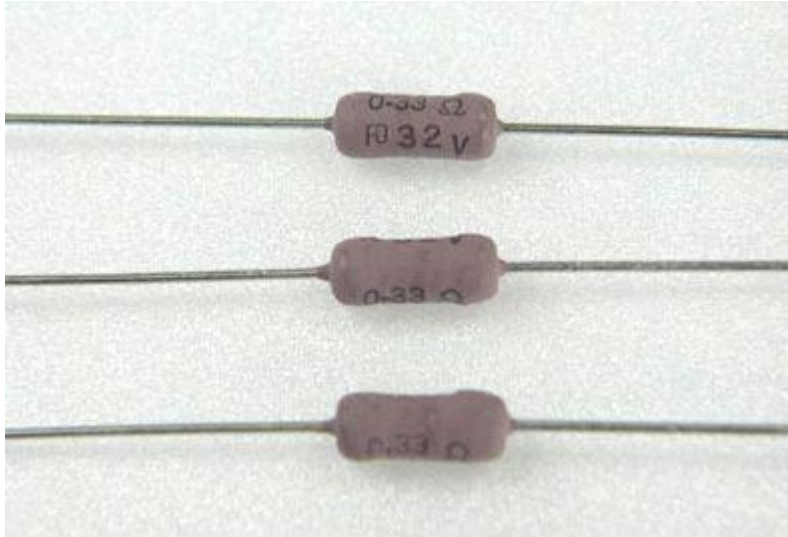
### ● Test Items And Results

\* Refer to reliability test standard specification for in this line.

| Item               | Symbol         | Test Condition       | Criteria for Judgment |                    |
|--------------------|----------------|----------------------|-----------------------|--------------------|
|                    |                |                      | Min.                  | Max.               |
| Forward Voltage    | V <sub>F</sub> | I <sub>F</sub> =20mA | ---                   | Initial data x 1.1 |
| Reverse Current    | I <sub>R</sub> | V <sub>R</sub> = 5V  | ---                   | Initial data x 2.0 |
| Luminous Intensity | I <sub>v</sub> | I <sub>F</sub> =20mA | Initial data x 0.7    | ---                |

### ● Criteria for Judging The Damage

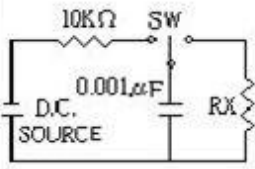
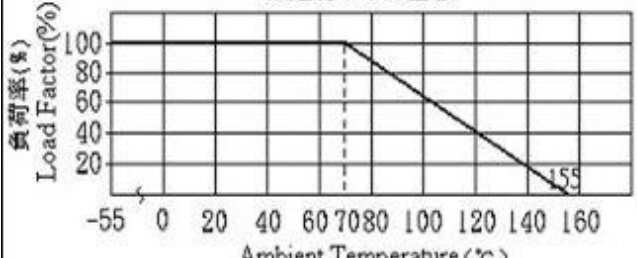
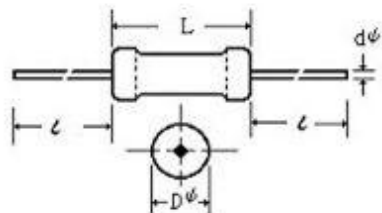
## 6. Resistor Specification ( RMS 1/4W 200kΩ):



### CHARACTERISTICS 性能

| ITEM 项目                                    | SPEC 规格   | REMARKS 备注  |
|--|---|---|
| Load life under high temperature<br>高温负荷寿命 | ±1.5%   | JIS C 5201-1 (4.25.1) Rated voltage at 70°C for 1,000 hours<br>额定电压70°C 1,000小时                               |
| Load life under high humidity<br>耐湿负荷寿命    | ±5%   | JIS C 5201-1 (4.24) Rated voltage at 40°C, 95% RH for 1,000 hours<br>额定电压40°C, 95% RH 1,000小时                 |
| Temp. coeff of resistance<br>温度系数          | < 1K= ±500 PPM/°C<br>≅ 100KΩ= ±300 ppm/°C<br>> 100KΩ= ±200 ppm/°C | JIS C 5201-1 Room temp. + 100°C, 30min<br>室温 + 100°C, 30分钟  |
| Short time overload<br>短时间过负荷              | ±1%   | JIS C 5201-1 (4.13) 6.25 times the rated power for 5 seconds<br>6.25倍额定功率 5秒                                  |
| Temperature cycling<br>温度循环                | ±1%   | JIS C 5201-1 (4.19) 5 cycles for -25°C±3°C(30min); room temp.(30min)<br>~ +85°C±3°C(30min) room temp. (30min) |
| Resistance to soldering heat<br>焊锡耐热       | ±1%   | JIS C 5201-1 (4.18) 260°C±5°C for 10 seconds(焊锡槽)<br>350°C±10°C for 3.5 seconds(手焊锡)                          |
| Insulation resistance<br>绝缘电阻              | >1,000MΩ  | JIS C 5201-1 (4.6.1.1) 500 volt Insulation test 1min<br>500 V绝缘测试电压1分钟  |



|  |            |   |
|--|------------|---|
| Pulse withstanding voltage<br>脉冲   | $\pm 20\%$ | <p>           ■The following discharge cycle is repeated in the circuit of the left fig.<br/>           2.5 sec. ON 2.5 sec. OFF 50 cycles.<br/>           With following DC pulse test voltage<br/>           ■ Pulse voltage:1/6W,S1/4W: 3KV.<br/> <math>\cong 1/4W</math>: 100K<math>\Omega</math>: (3KV);<br/>           100K<math>\Omega</math>-620K<math>\Omega</math>: (5KV); &gt; 620K<math>\Omega</math>: (10KV)         </p>  |
| <p style="text-align: center;">DERATING CURVE<br/>额定功率下降曲线</p>  |            |   |
|  |            | <p>           Various type of forming &amp; taping are available<br/>           提供插装的造型与带装<br/>           Coating color: RMU1/4W,RMU1/6W、dark blue, other、pink。         </p>  |

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 提供插装的造型与带装  
 Coating color: RMU1/4W,RMU1/6W、dark blue, other、pink。  
 涂装颜色: RMU1/4W,RMU1/6W蓝色,其他粉红色。

### ■ CHARACTERISTICS 性能

| Model<br>型名             | Power<br>Rating<br>额定功率<br>(W) | Resistance<br>Range E-24<br>阻值范围<br>$\Omega$ | Maximum<br>Working<br>Voltage<br>最高使用<br>电压 | Dielectric<br>Withstandi<br>ng<br>Voltage<br>耐电压 | Dimension 尺寸 (mm) |               |            |                |
|-------------------------|--------------------------------|--|---|--|-------------------|---------------|------------|----------------|
|                         |                                |  |   |  | L                 | D $\phi$      | t          | d $\phi$       |
| RMU1/4W<br>、<br>RMS1/2W | 1/4,1/2                        | 10 $\Omega$ ~ <100M                          | 1600V                                       | 700V   | 6 $\pm$ 0.3       | 2.4 $\pm$ 0.1 | 28 $\pm$ 2 | 0.6 $\pm$ 0.05 |