

# Product Specification

**Customer :**

---

**Part NO. :** MM10501GRE

---

**Description :** digital led display

---

**Date :** 2017-8-20

---

## Micro Modern Electronic

### Specification

1. 型号 (TYPE NO.): MM10501GRE

2. 说明 (Description):

发光颜色 (Emitted Color): 红色, 共阳 red, commom anode

外观颜色 (Lens Color): 白、黑两色, black surface

外形尺寸 (Max Size): 12.6\*19.0\*8.0mm

3. 绝对最大额定(Ta=25°C)Absolute Maximum Ratings:

功耗 Power Dissipation..... 70mW

脉冲正向电流 Peak Forward Current..... 100mA

反向电压 Reverse Voltage..... 7V

工作温度 Operating Temperature..... -40°C~+85°C

储存温度 Storage Temperature..... -40°C~+85°C

储存湿度 Storage Humidity..... 45~85%

4. 光电特性(Ta=25°C)Electrical-Optical Characteristics:

参数 (Parameter)	测试条件 (Test CONDITING)	单位 (Symbol)	Min	Type	Max	单位 (Unit)
发光强度 Luminous Intensity	$I_F=20\text{mA}$	IV	-	20	-	mcd
直流正向电压 DC Forward Voltage	$I_F=20\text{mA}$	$V_F$	1.7	2.0	2.4	V
直流反向电流 DC Reverse Current	$V_R = 5\text{V}$	$I_R$	-	-	20	$\mu\text{A}$
波长 Wavelength Characteristic	$I_F=20\text{mA}$	$\lambda_p$	-	635	-	nm
建议使用顺向电流 Suggestion Forward Current	-	IF (Sug)	5	10	20	mA

**Note: Soldering Bath: not more than 5 seconds at 260°C. The bottom ends of plastic Reflector should be at least 2mm above the solder surface.**

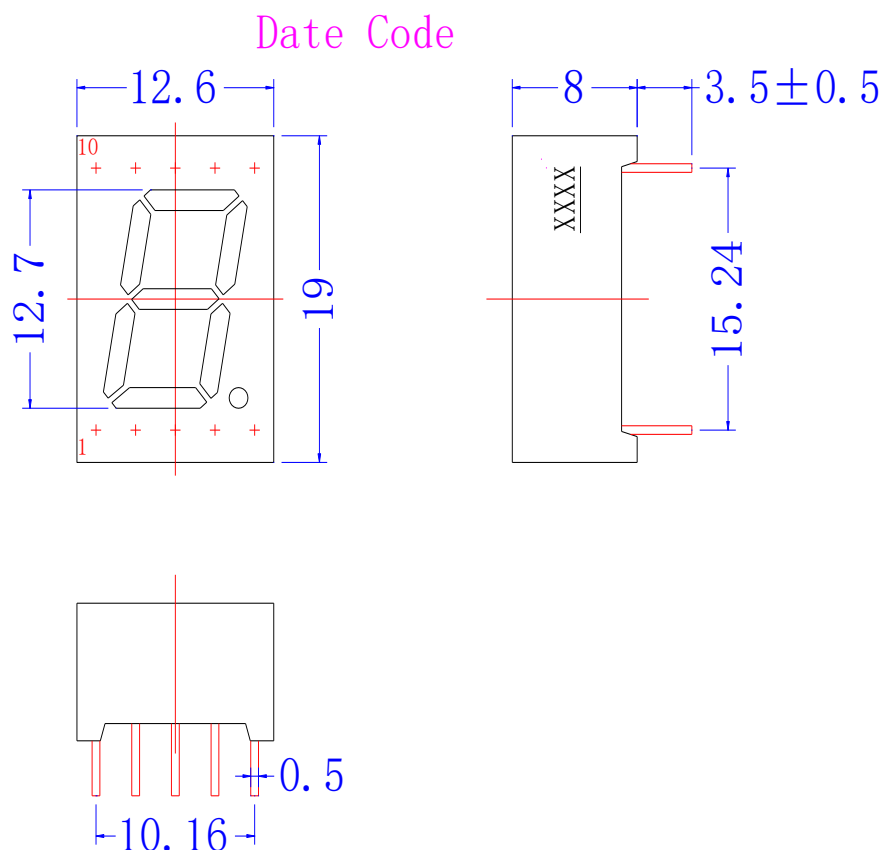
**Soldering Iron: not more than 3 seconds at 300°C under 30W.**

第 2 页 共 5 页

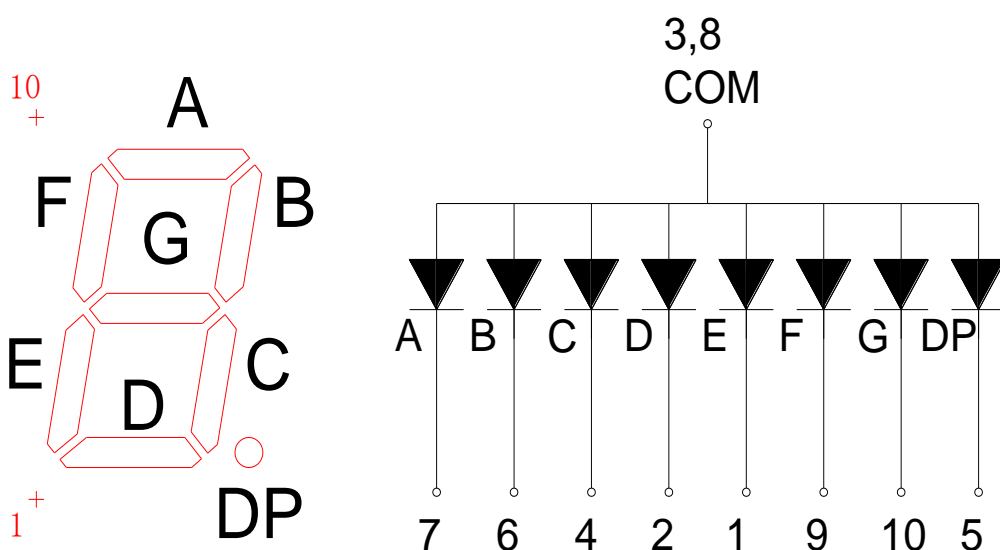
# Micro Modern Electronic

## 5.结构尺寸 (Mechanical Outline) :

(未注尺寸公差 Unspecified Tolerances is:  $X \pm 0.3\text{mm}$ )



6. 电路图 (Circuit Diagram) :



第 3 页 共 5 页

# Micro Modern Electronic

8. 保存和焊接条件 (Storage & Soldering condition) :

- Store with care. Storing the units in bad condition will cause the reflector sheet and decrease its adhesive power. Storage the products under the condition :temperature ( 25°C ± 10°C ) and humidity 65°CCRH±20°CCRH (65°C CRH±20°C CRH) our recommendation.
  - 注意保存，保存条件不好时，会降低膜片与反射壳（导光板）的粘附力。推荐保存条件为：温度 25°C±10°C 湿度 65°CCRH±20°CCRH
- The Soldering Temperature is 260±5°C and Soldering Time should be less than 3 sec, and soldering iron power should be less than 30W.
  - 焊接温度 260°C±5°C，焊接时间小于 3 秒，烙铁功率小于 30W。
- The soldering point should be farther than 1.6mm from body.
  - 焊接点应离产品实体大于 1.6mm。

外观判定条件(Surface check condition)

1. 外观目测条件：40W 日光灯作光源与产品相距约 1 米（环境亮度）200 Lux）检测者与产品视距为 25-30cm。

Visual check condition: Use a 40W lamp as light (Ambient luminance about 200Lux), the distance between lamp and product about one meter, between checker and product about 25-30cm for check.

标准:

1. 黑/白点大小为  $0 \leq \phi \leq 0.20\text{mm}$ ，允许有 3 个，且不在同一字划。黑/白点大小  $\phi > 0.15\text{mm}$ ，不

可接受。

**Standard:**

the size of black dot and white dot is  $0 \leq \phi \leq 0.20\text{mm}$ , and the quantity of the dot for three are accepted, and those distance must be not in same segment. the size of black dot and white dot is  $\phi > 0.20\text{mm}$ , that is not accepted.

2. 划伤  $\phi \leq 0.1\text{mm}$ , 长度  $< 1\text{mm}$ , 最多允许 1 条; 机壳表面刮花, 膜纸花, 当产品不反光, 且发光效果不见该缺陷时, 则可接受。

**Below the condition are accepted:**

The scar is  $\phi \leq 0.1\text{mm}$  and the length less than  $1\text{mm}$ , the quantity of this scar for one is accepted.

Surface scar, if that cannot found when the product was luminous so that is accepted.

# Micro Modern Electronic

2. 尺寸检测条件: 依据图纸, 使用计量卡尺, 注意检测人为误差。

**Size check condition: Use the measure ruler based on the product drawing for check, and need note that the tolerance make by operator.**

3. 电性能检测条件: 依据图纸, 工艺, 在额定工作电压或恒定的电流下, 执行《FQC 成品检验标准》功能的相关内容。

**Electrical check condition: use the rated voltage or constant current for the product based on the product drawing and IE document and performance the 《FQC 成品检验标准》 for check.**

判定类别 Standard	判定范围 ITEM	MAJOR	MINOR
成	外观 检验 Surface check condition	1. 膜纸: 不齐、贴歪 $\geq 0.50\text{mm}$ 。 Membrane: not uniform or deflective that must be less than $0.50\text{mm}$ . 2. 引脚氧化或掉铜皮、或不按要求上锡披峰。 The pins are oxygenation or lose copper or cannot meet the SPEC of soldering reliability. 3. 条形歪斜、松脱、脚短/长、膜纸变形、翘起。 Bar deflective, loss, pins short or longer, membrane distortion, tilt. 4. 产品弯曲、变形、划伤、毛刺。 Product inflect, scar, burr.	1. 膜纸不齐导致露出或超宽 $0.50\text{mm}$ 内进 $0.50\text{mm}$ 以下, $0.50\text{mm}$ 以上; 脏、皱等。 Make for bare or exceed width between $0.50\text{mm}$ and $0.50\text{mm}$ caused by membrane were not uniform; dirty, ruck etc. 2. 产品反面非有效发光区域有手印、水渍印。 Has the fingerprint or watermark on the background of the product there are not the area of luminous.

品 检 验 判 定 标 准	尺 寸 检 验  Size check condition	<p>1.长、宽、厚等重要尺寸超差<math>\geq 0.25\text{mm}</math>,其它尺寸超差在<math>0.25\text{mm}</math>以上。 The tolerance of Length, width and thick must <math>\geq 0.25\text{mm}</math> and other tolerance more than <math>0.25\text{mm}</math>.</p> <p>2.膜纸过大在<math>0.5\text{mm}</math>以上。 Membrane over than <math>0.50\text{mm}</math></p>	<p>1.虚边、毛刺等引起的尺寸超差在<math>0.25\text{mm}</math>以下,<math>0.1\text{mm}</math>以上。 The size tolerance of product that caused by burr edge shall between <math>0.1-0.25\text{mm}</math>.</p> <p>2.小于严重缺陷的尺寸超差。 Less than the important tolerance .</p>
	功 能 发 光 效 果 检 查  Functional check condition	<p>1.发光颜色不符合图纸要求。 The color of luminous is differenced for the SPEC.</p> <p>2.闪亮、颜色/色差、暗光、暗带与样板相差较大。 Flash, color, dark light that more difference than the golden sample.</p> <p>3.膜纸漏光直径<math>\geq 0.25</math>。 For the membrane the diameter of light Leakage<math>\geq 0.25</math>.</p>	<p>1.轻微色差、暗光、暗带、暗斑。 Minor of the chromatism, dark light, dark spot.</p> <p>2.两端部发光不均匀。. The luminescence is asymmetry at the two ends.</p>