SPECIFICATIONS

Dot matrix Display 点阵产品规格书

TOPLITE

MODEL：TOP-CA-1088BYG-B3H5.6

客 户 承 认 **APPROVED**		
承 认 日 期 **APPROVED DATE**		

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www.ledtoplight.com.cn
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APPROVED 批准：_____ CHECKED 审核：Liuqiang PREPARED 制作：Liucuiping

TECHNICAL DATA SHEET

1. PRODUCT INTRODUCTION

※ Low power requirement,

※ Solid state reliability.

※ Wide viewing angle.

※ Easy mounting on P.C. boards.

※ RoHS compliant.

2. FEATURES

※ The TOP-CA-1088BYG-B3H5.6 is a is a 1.1 inch (28mm) matrix height 8×8 dot matrix display..

※ This device is made with white dots and black surface.

3. APPLICATION

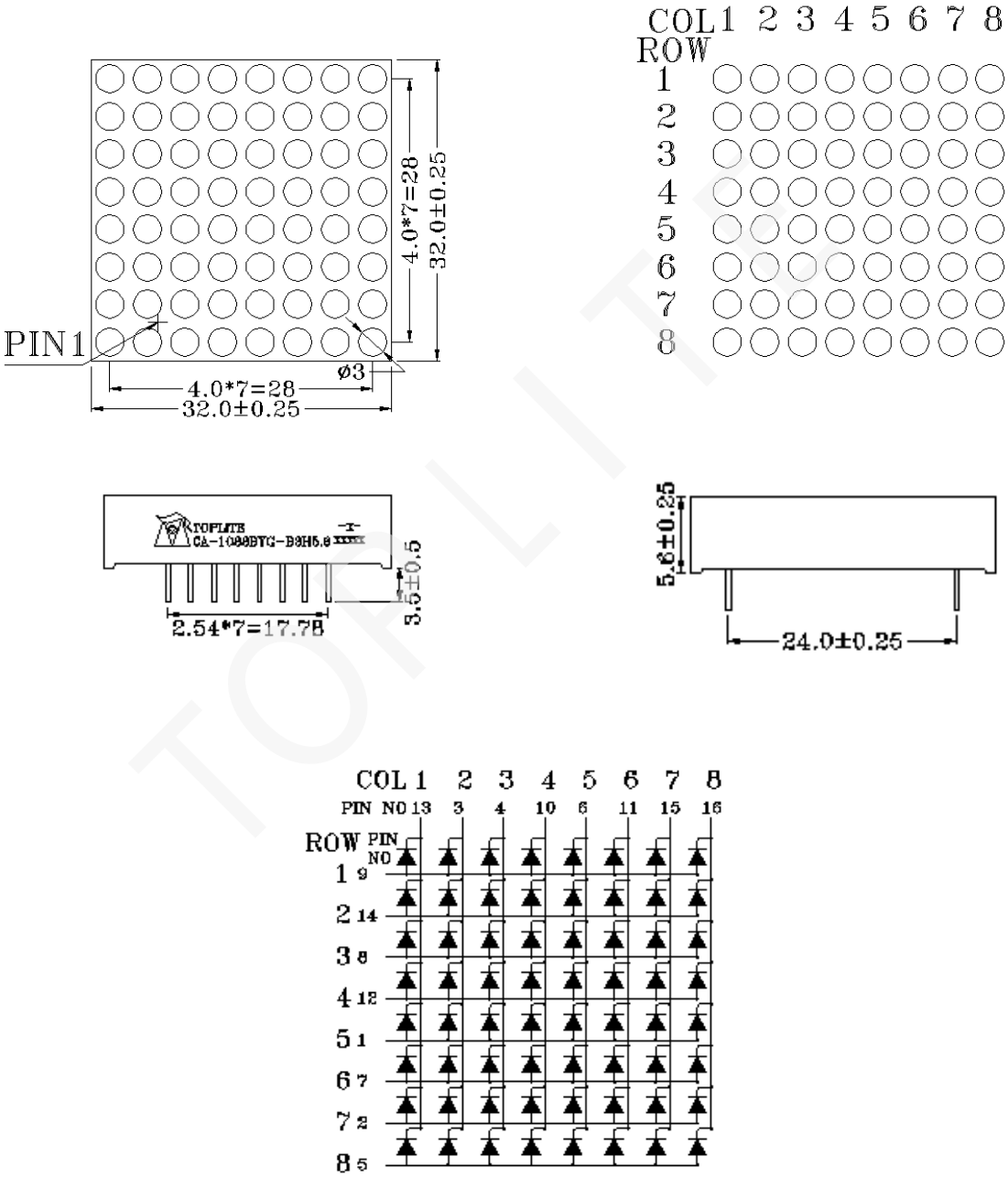
※ Digital readout display.

※ Instrument panels.

※ Elevator.

PART NO.	SIZE	CHIP EMITTED COLOR	FACE COLOR
TOP-CA-1088BYG-B3H5.6	Φ3MM /8*8 DOT MATRIX DIGITI	Yellow Green	Black

4. PACKAGE DIMENSIONS & CIRCUIT DIAGRAM



Note：

All dimension tolerance is ±0.25mm unless otherwise noted.

5. ELECTRICAL/OPTICAL CHARACTERISTIC

5-1. ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

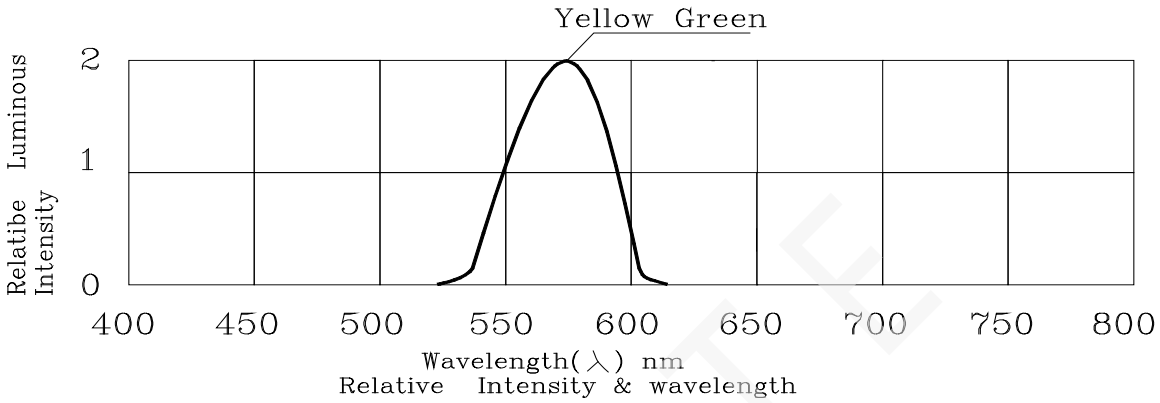
PARAMETER	SYMBOL	VALUE	UNIT
Reverse Voltage	V_R	5	V/dot*
Forward Current	I_F	20	mA/dot*
Peak Forward Current (1/10 Duty Cycle)	I_{PEAK}	120	mA/dot*
Power Dissipation	P_D	80	mW/dot*
Operating Temperature Range	T_A	- 25 ~ + 85	℃
Storage Temperature Range	T_{STG}	- 30 ~ + 85	℃
Solder Temperature	Tsol	260/3	℃/s

5-2. ELECTRICAL-OPTICAL CHARACTERISTICS (Ta=25℃)

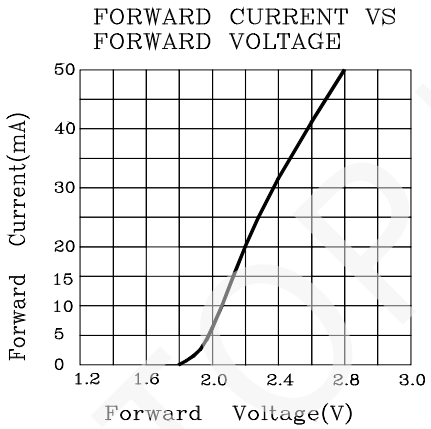
PARAMETER	SYMBOL		MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Luminous Intensity	I_V	T	26325	32907	39489	ucd	I_F=10mA
		U	39490	49362	59235		
		V	59236	74045	88854		
Forward Voltage	V_F		1.90	2.10	2.50	v/dot*	I_F=20mA
Dominant Wavelength	λ_d		568	-	575	nm	I_F=20mA
Spectral Line Half-Width	$\Delta\lambda$		-	20	-	nm	I_F=20mA
Reverse Current	I_R		-	-	20	uA	V_R=5v

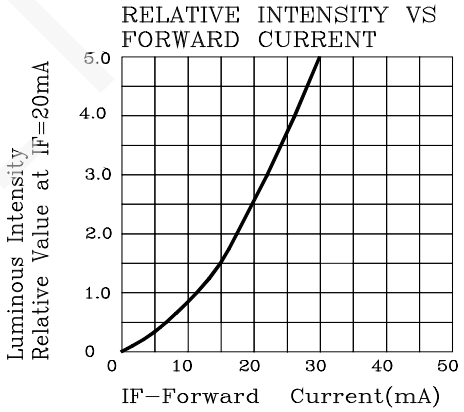
*The dot represents a chip.Each segment according to the principle diagram calculation of voltage and current.

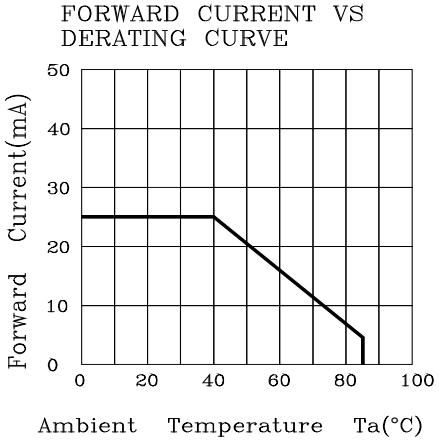
5-3. OPTICAL CHARACTERISTIC CURVES

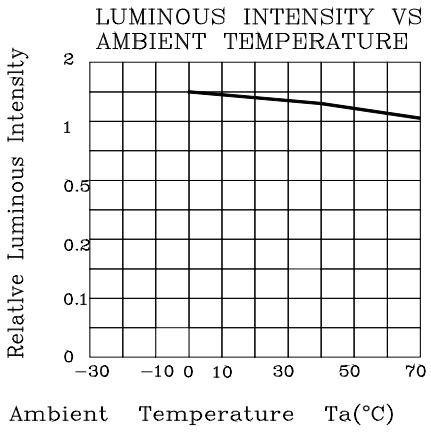


Relative Intensity & wavelength









6. QUALITY CONTROL AND ASSURANCE

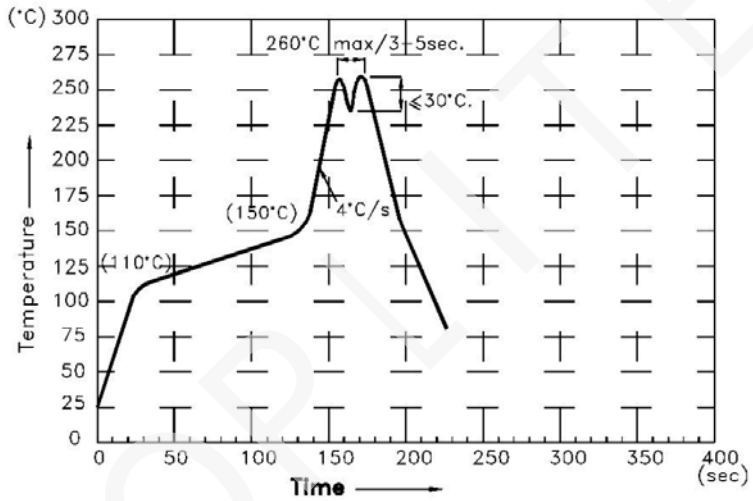
CLASSIFICATION	TEST ITEM	TEST CONDITION
ENDUTRANCE TEST	OPERATION LIFE	Ta= Natural temperature If=12mA-25mA per dot or Ip=80mA/duty=1/8,Pw=1.25mS Ip=160mA/duty=1/16,Pw=1.mS(DOT) Test time=1000HRS(-24HRS+72HRS)
	HIGH TEMPERATURE HIGH HUMIDITY STORAGE	Evaluate storage time of the device under high temperature and high humidity Ta=65℃±5℃ RH=90-95% Test time=240HRS±2HRS
	HIGH TEMPERATURE HIGH HUMIDITY REVERSE BIAS	Evaluate leakage current of the device under high temperature and high humidity Ta=65℃±5℃ RH=90-95% VR=5V Test time=500hrs(-24HRS+48HRS)
	HIGH TEMPERATURE STORAGE	Evaluate reliability test of the device under high temperature Ta=85℃±5℃ Test time=1000HRS(-24HRS+72HRS)
	LOW TEMPERATURE STORAGE	Evaluate reliability test of the device under low temperature Ta=-35℃±5℃ Test time=1000HRS(-24HRS+72HRS)
ENVIRONMENTAL TEST	TEMPERATURE CYCLING	Evaluate thermal expansion and cold contraction of the device under harsh temperature Ta=85℃～25℃～-35℃~25℃ time=30min 5min 30min 5min Cycle test:10cycles
	THERMAL SHOCK	Evaluate structual and mechanical of the device under sudden thermal shock Ta=85℃±5℃～-35℃±5℃ time=10min 10min Cycle test:10cycles
	SOLOER RESISTANCE	Evaluate performance of the device withstand thermal shock during soldering T.sol=260℃±5℃ time=10±1sec
	SOLOER ABILITY	Evaluate solderability of the device T.sol=230℃±5℃ time=5±1sec

7. SOLDERING CONDITIONS

The recommended conditions for soldering are as follows.
Because the component is made with epoxy resin, the units are susceptible to heat. Therefore, the preheating and soldering temperatures should be kept as low as possible to avoid damage.

7-1. Manual Soldering Conditions(with 1.5mm Iron tip).
Iron Tip Temperature: 350°C Max, Time: 3s Max.
Position: The iron should be situated at least 2mm away from the root of the leads.

7-2. Through the Wave Soldering Conditions Wave Soldering Profile For Lead-free Through-hole LED.



7-3. Soldering General Notes:

a. Recommend manual soldering to be used only for repair and rework purposes. The soldering iron should not exceed 30W in power. The tip of the soldering iron should not touch the reflector case to avoid heat-damage.
b. Maintain the pre-heat and peak temperatures with dip units as low as possible and the times as short as is feasible, since the products are susceptible to heat during flow soldering.
c. After soldering, least three minutes for the component to cool to room temperature before further operations.
d. If components will undergo multiple soldering processes, or other processes where the components may be subjected to intense heat, please check with toplight for compatibility.

8. Customer optional

※This is a TOPLITE standard specifications(no protective film, TOPLITE printing code).If you have special request, please make the following choices.

8-1. **protetive film** ☐ add protetive film ☐ do not add protetive film

☐ protetive film left side ____mm ☐ other

※protective film thickness standard is 0.1 mm.

8-2. **printing code** ☐ TOPLITE standard printing code

☐ Special printing code_____

☐ Other_____

8-3. **Whether need products with group**

☐ YES _____ ☐ NO_____ ☐ Other_____

8-4. **Other requirements**

a._____

b._____

c._____