



BRIGHTTEK

BRIGHTTEK (EUROPE) LIMITED

Brighten up The World With LED!



ISO/TS 16949:2009



BS EN ISO 14001:2004



QC 080000 IECQ HSPM

PRODUCT DATASHEET

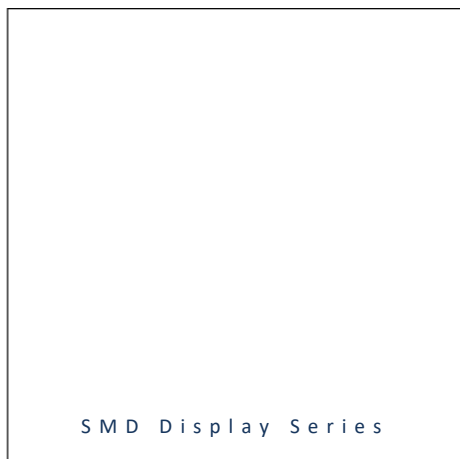


- ▶ SMD Display
- ▶ 0.3" (7.62mm) 8.
- ▶ Green 571nm

N0G49D85GS (CC)
N0G49D86GS (CA)



Release Date: 12 August 2019 Version: A1.0



APPLICATIONS:

- 7-Segment Display
- Signal Display
- Information Board
- Counter

SMD Display Series

RoHS
Compliant



FEATURES:

- **Package:** SMD Numeral Single Digit Display
- **Forward Current:** 10mA per diode
- **Pulse Current:** 40mA per diode
- **Forward Voltage (typ.):** 2.1V per diode
- **Luminous Intensity (typ.):** 5mcd@10mA per diode
- **Colour:** Green
- **Wavelength:** 571nm
- **Materials:**
 - Die: GaP
 - Resin: Epoxy (White Diffused)
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+85°C
- **Grouping parameters:**
 - Forward voltage
 - Luminous intensity
 - Dominant wavelength
- **Soldering methods:** Reflow
- **Preconditioning:** acc. to JEDEC Level 2a
- **Packing:** 32mm tape with Max.1000/reel, ø381mm (15")

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current *	I_F	20	mA
Peak Forward Current Duty 1/10 @1KHz	I_{FP}	40	mA
Reverse Voltage	V_R	5	V
Reverse Current @5V	I_R	10	μA
Power Dissipation	P_D	48	mW
Operating Temperature	T_{OPR}	-40~+85	°C
Storage Temperature	T_{STG}	-40~+85	°C

1. All parameters are per diode.

Electrical & Optical Characteristics (Ta=25°C)

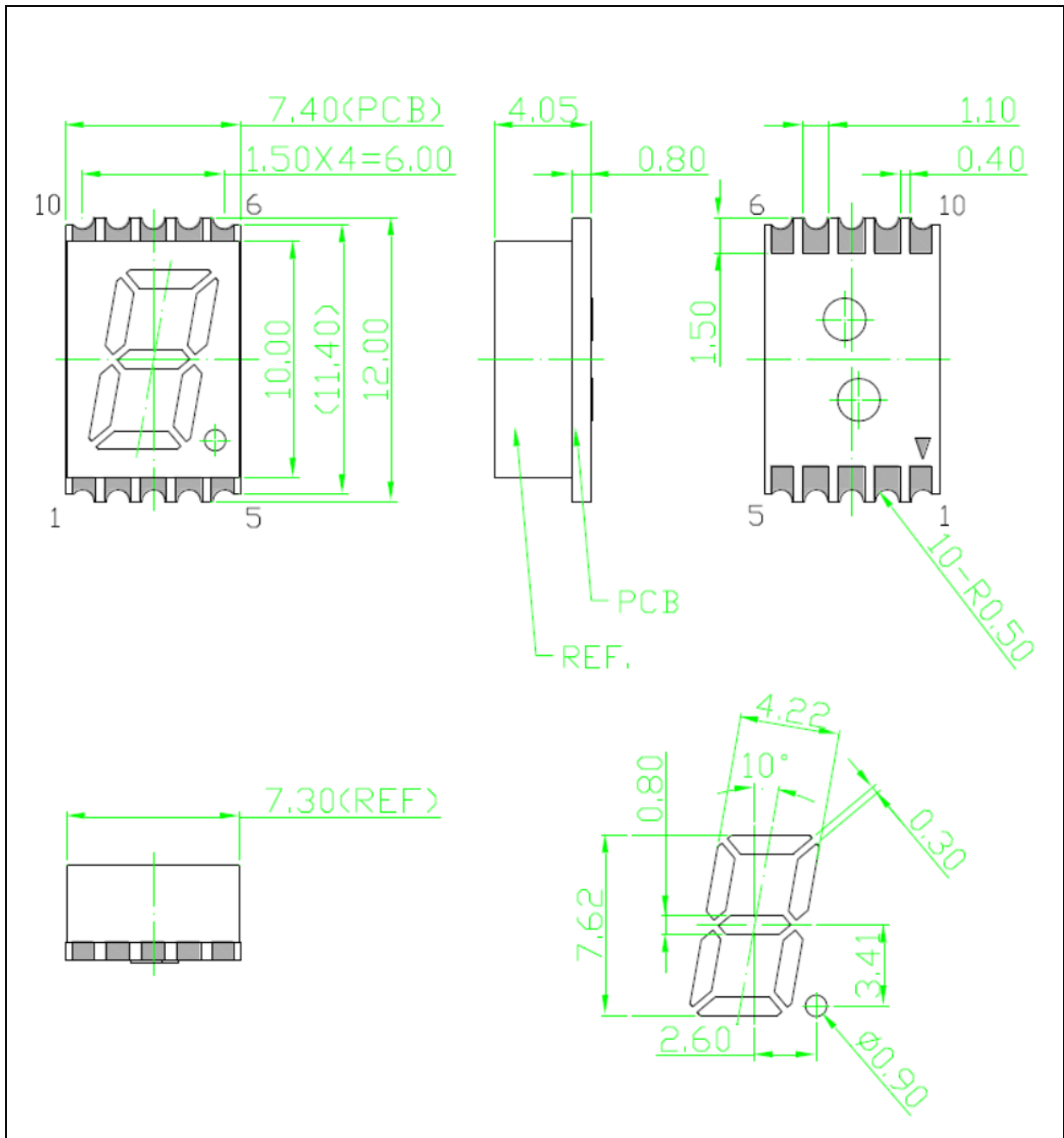
Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	---	2.1	2.4	V	$I_F=10mA$
Luminous Intensity	I_v	2	---	8	mcd	$I_F=10mA$
Dominant Wavelength	λ_D	567	---	576	nm	$I_F=10mA$
Spectral Line Half Bandwidth	$\Delta \lambda$	---	20	---	nm	$I_F=10mA$

1. Luminous intensity (I_v) $\pm 15\%$, Forward Voltage (V_F) $\pm 0.1V$



OUTLINE DIMENSION:

Package Dimension:

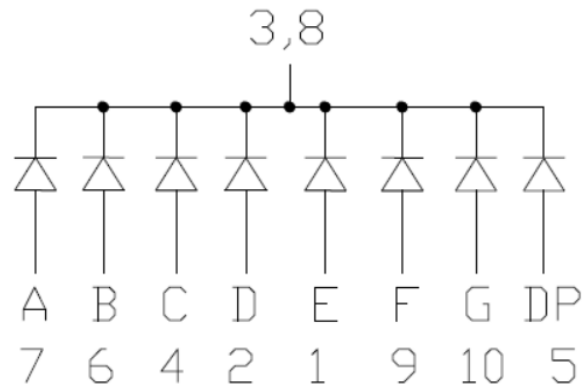
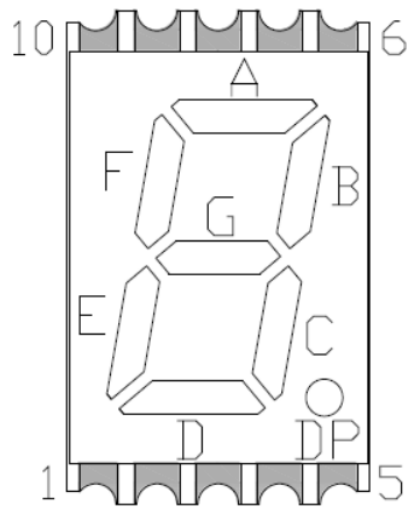


1. All dimensions are in millimetre (mm).
2. Tolerance $\pm 0.25\text{mm}$, unless otherwise noted.

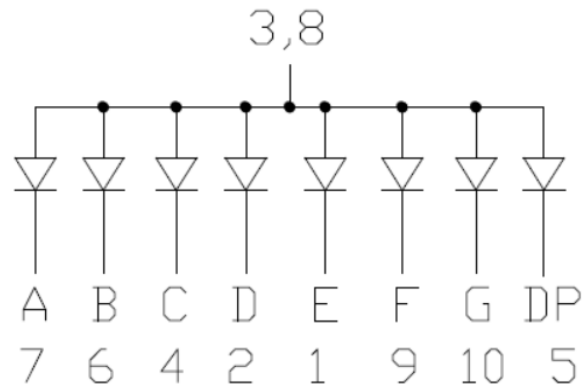


Circuit Diagram:

Internal Circuit:



NOG49D85GS



NOG49D86GS

Electrical Connection:

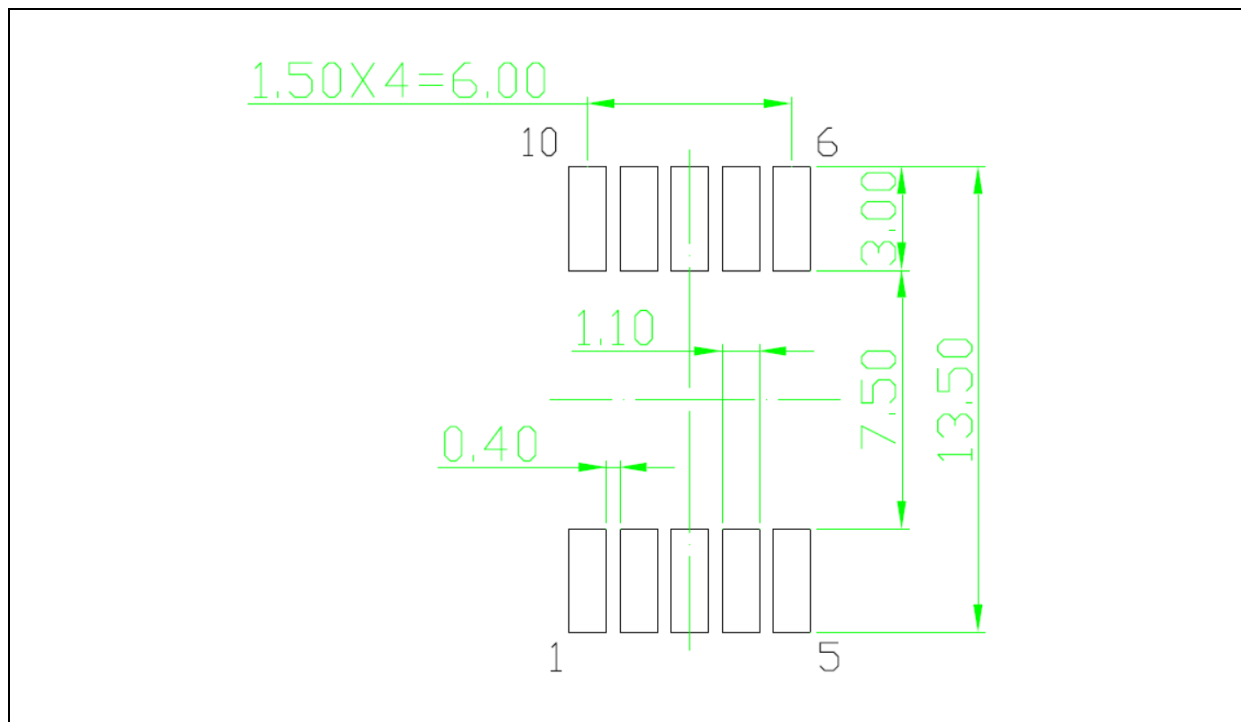
N0G49D85GS:

Pin no.	Function	Pin no.	Function
1	Anode E	6	Anode B
2	Anode D	7	Anode A
3	Common Cathode	8	Common Cathode
4	Anode C	9	Anode F
5	Anode DP	10	Anode G

N0G49D86GS:

Pin no.	Function	Pin no.	Function
1	Cathode E	6	Cathode B
2	Cathode D	7	Cathode A
3	Common Anode	8	Common Anode
4	Cathode C	9	Cathode F
5	Cathode DP	10	Cathode G

Recommended Soldering Pad:



BINNING GROUPS:

Forward Voltage Classifications ($I_F = 10\text{mA}$):

Code	Min.	Max.	Unit
V	1.7	2.4	V

Luminous Intensity Classifications ($I_F = 10\text{mA}$):

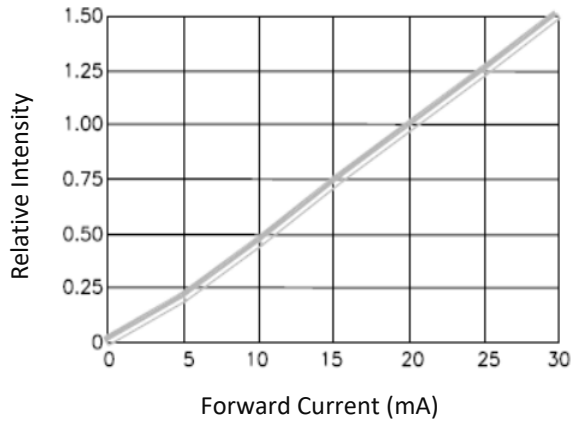
Code	Min.	Max.	Unit
F	2	4	mcd
G	4	6	
H	6	8	

Dominant Wavelength Classifications ($I_F = 10\text{mA}$):

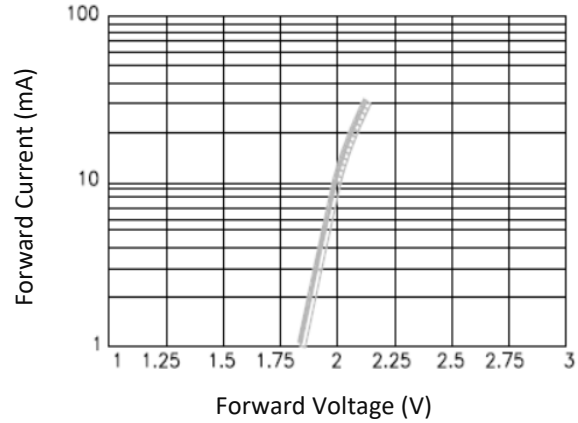
Code	Min.	Max.	Unit
1	567	570	nm
2	570	573	
3	573	576	

ELECTRO-OPTICAL CHARACTERISTICS:

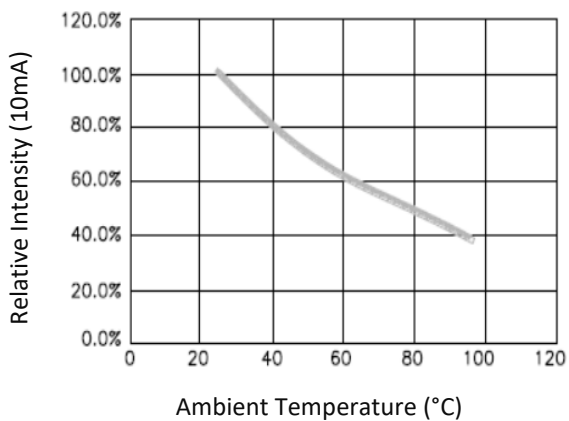
Relative Intensity v.s. Forward Current



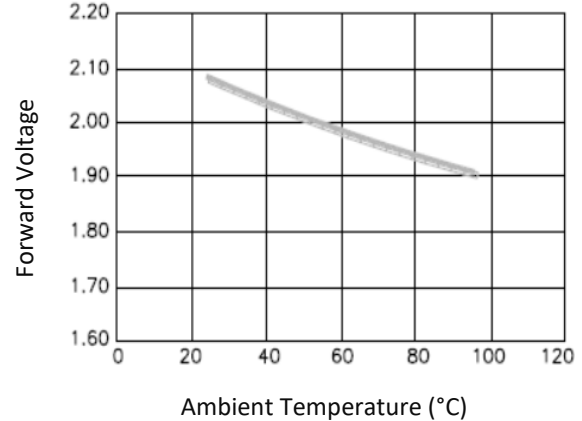
Forward Current v.s. Forward Voltage



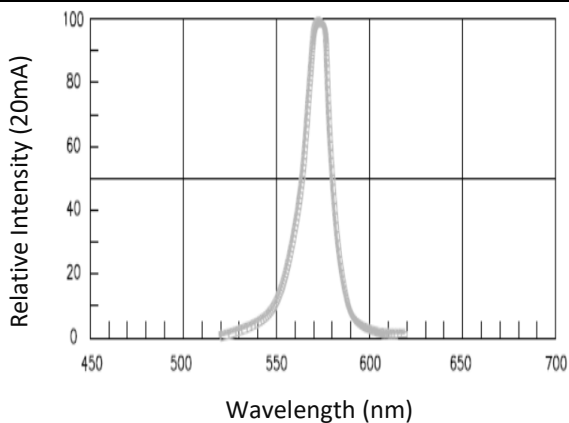
Relative Intensity v.s. Temperature



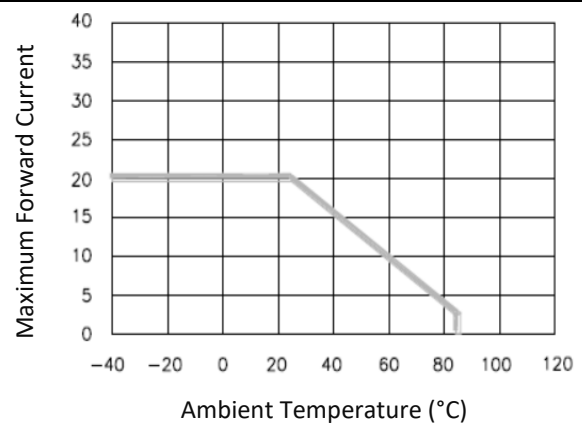
Forward Voltage v.s. Temperature



Relative Spectral Distribution



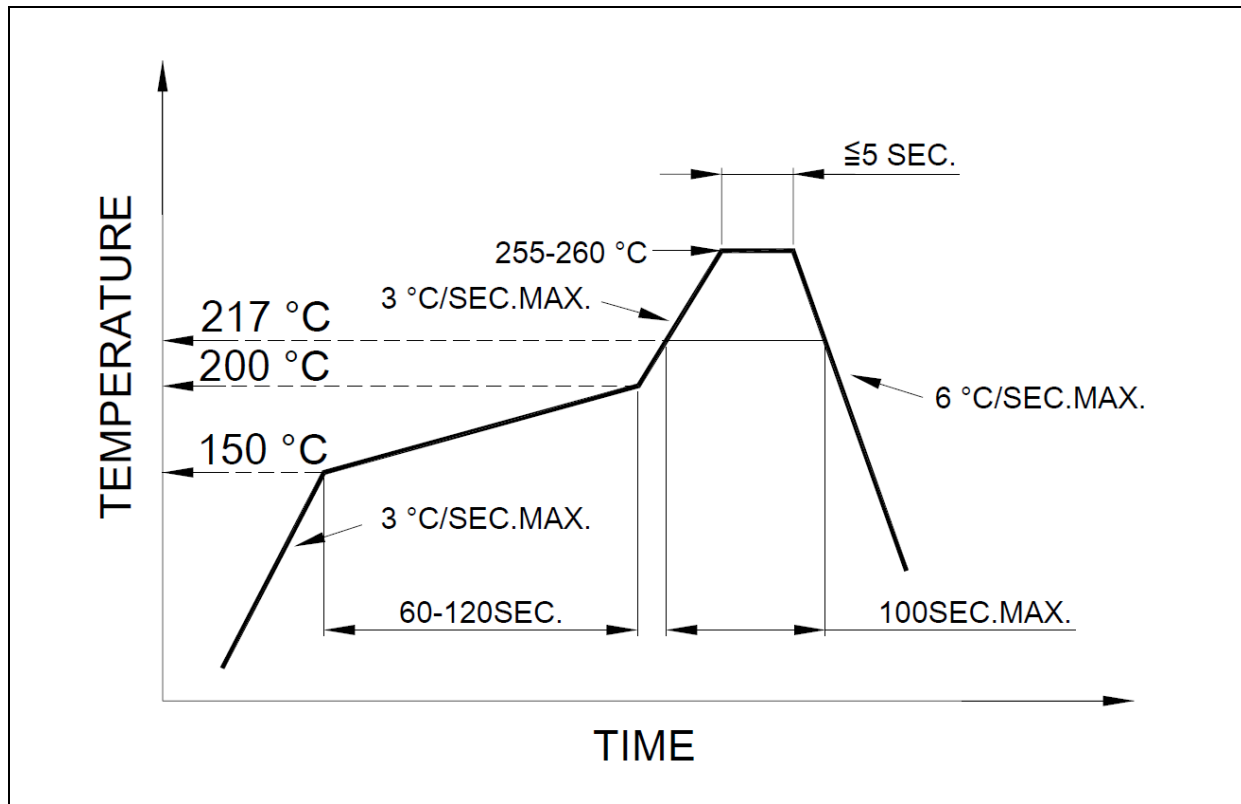
Max. Forward Current v.s. Temperature





RECOMMENDED SOLDERING PROFILE:

Reflow Solder:

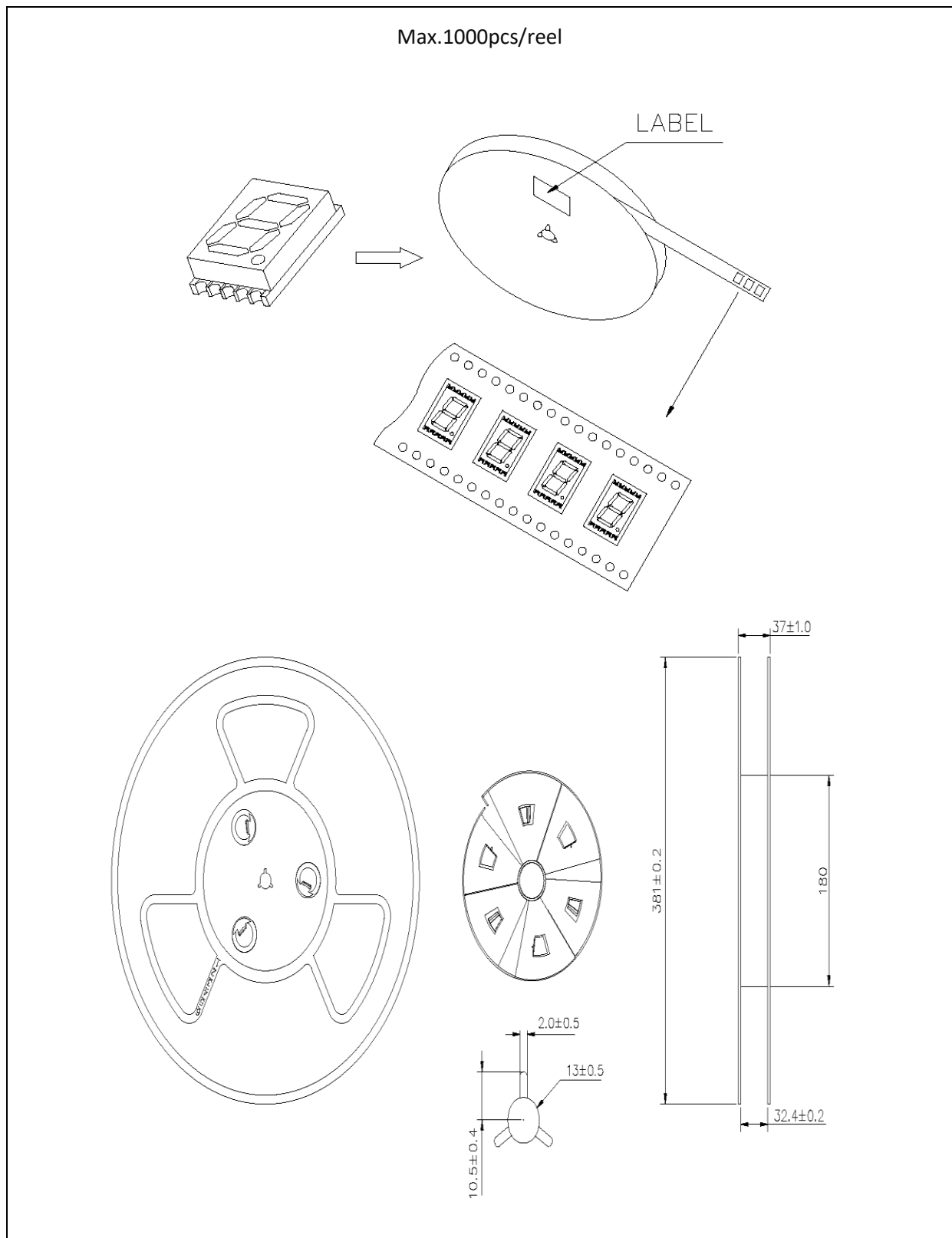


Note:

1. Recommend reflow temperature 245°C. The maximum soldering temperature should be limited to 260°C.
2. Maximum reflow soldering: 2 times.
3. Before, during, and after soldering, should not apply stress on the components and PCB board.



PACKING SPECIFICATION:



PRECAUTIONS OF USE:

Storage:

It is recommended to store the products in the following conditions:

- Humidity: 60% R.H. Max.
- Temperature: 5°C~30°C (41°F ~86°F).

Shelf life in sealed bag: 12 months at 5°C~30°C and <60% R.H.

Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp-proof box with desiccating agent and apply baking.

Baking:

It is recommended to bake the LED before soldering if the pack has been unsealed for longer than 24hrs. The suggested baking conditions are as followings:

- 60±3°C x 24hrs and <5%RH, taped / reel package.

It's normal to see slight color fading of carrier (light yellow) after baking in process.

Testing Circuit:



Must apply resistor(s) for protection (over current proof).

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED carrier / package. Avoid putting any stress force directly on to the LED lens.

ESD (Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling the LED all time. All devices, equipment, machinery, work tables, and storage racks must be properly grounded.

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	12/08/2019	Datasheet set-up.