



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



- ▶ PCB / CHIP LED
- ▶ 0202 (0606) 0.50t
- ▶ Red / Green / Blue

NOM68S85-2MA



Release Date: 07 June 2026 Version: A1.0



0 2 0 2 (0 6 0 6) 0 . 5 0 t

0202 (0606) 0.50t

RoHS
Compliant



FEATURES (Red/Green/Blue):

- **Package:** PCB / CHIP Top View Common Anode RGB
- **Forward Current:** 5/2/2mA*
- **Forward Voltage (typ.):** 1.9/2.5/2.5V
- **Luminous Flux (typ.):** 32/46/8mcd@5/2/2mA
- **Colour:** Red/True Green/Blue
- **Dominant Wavelength (typ.):** 621/530/470nm
- **Viewing Angle:** 130°
- **Materials:**
 - Resin: Epoxy (Water Diffused)
- **Operating Temperature:** -30~+80°C
- **Storage Temperature:** -40~+85°C
- **Grouping Parameters:**
 - Forward voltage
 - Luminous intensity
 - Dominant wavelength
- **Soldering Methods:** Reflow soldering
- **Preconditioning:** MSL 2a according to JEDEC
- **Packing:** 8mm tape with max.24000pcs/reel, ø178mm (7")

* in order of Red/Green/Blue

APPLICATIONS:

- Switch Light
- 3C Application
- Decoration Lighting
- Signal Lighting
- Display

CHARACTERISTICS:

Absolute Maximum Characteristics (T_a=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I _F	5/2/2*	mA
Pulse Forward Current (duty cycle 1/10; 1kHz)	I _{PF}	20	mA
Power Dissipation	P _D	24	mW
Reverse Voltage	V _R	5	V
Reverse Current @5V	I _R	10	μA
Operating Temperature	T _{OPR}	-30~+80	°C
Storage Temperature	T _{STG}	-40~+85	°C

1. * In the order of Red/Green/Blue.

Electrical & Optical Characteristics (T_a=25°C)

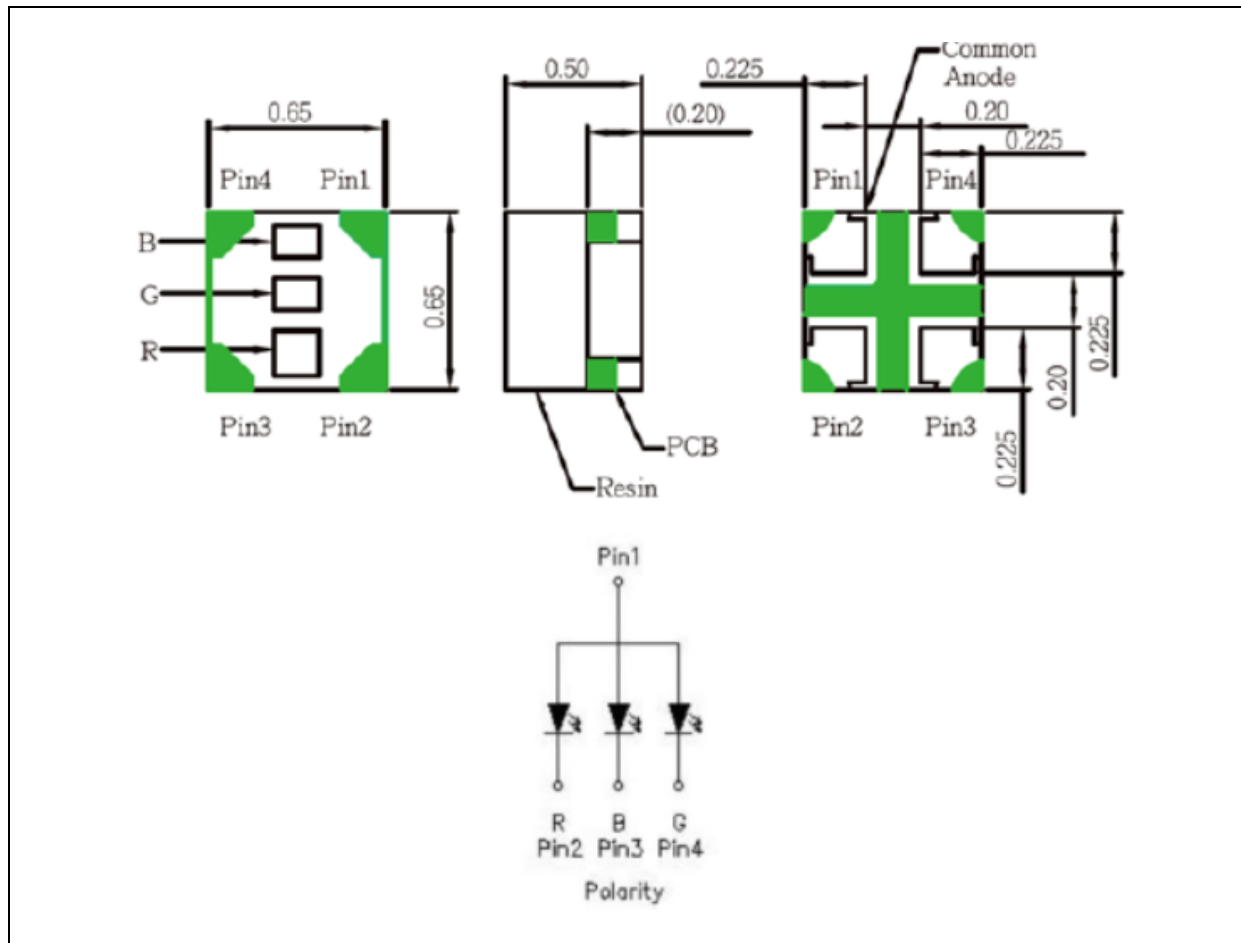
Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Red - Forward Voltage	V _F	1.6	1.9	2.4	V	I _F =5mA
Red - Luminous Intensity	I _V	---	32	---	mcd	I _F =5mA
Red - Wavelength	W _D	---	621	---	nm	I _F =5mA
Green - Forward Voltage	V _F	2.1	2.5	3.1	V	I _F =2mA
Green - Luminous Intensity	I _V	---	46	---	mcd	I _F =2mA
Green - Wavelength	W _D	---	530	---	nm	I _F =2mA
Blue - Forward Voltage	V _F	2.1	2.5	3.1	V	I _F =2mA
Blue - Luminous Intensity	I _V	---	8	---	mcd	I _F =2mA
Blue - Wavelength	W _D	---	469	---	nm	I _F =2mA
Viewing Angle	2θ _{1/2}	---	130	---	deg	I _F =2mA

Luminous intensity (I_V) ±10%, Forward Voltage (V_F) ±0.1V, Viewing angle(2θ_{1/2}) ±5%, Wavelength (λ) ±1nm



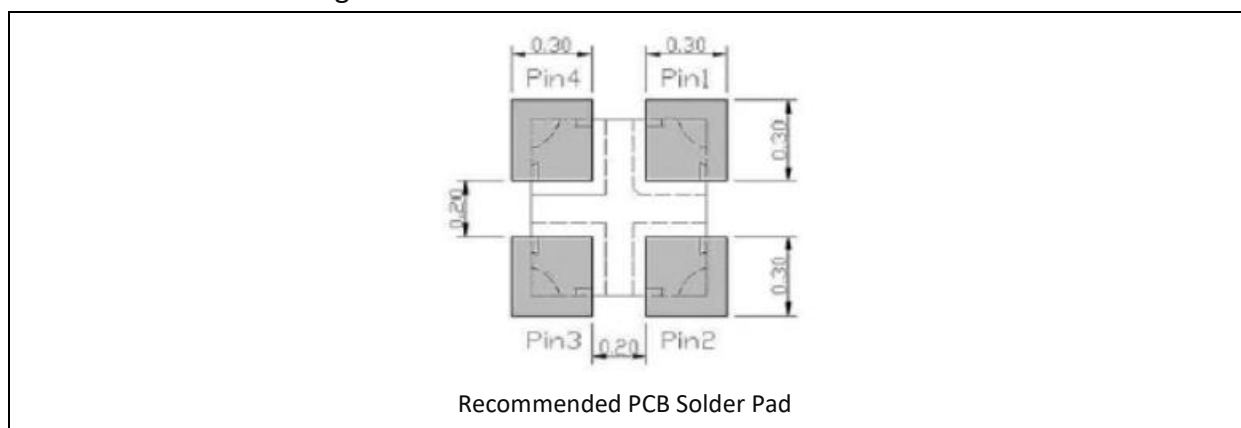
OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).
2. Tolerance $\pm 0.1\text{mm}$, unless otherwise noted.

Recommended Soldering Pad Dimension:



1. Dimensions are in millimetre (mm).
2. Tolerance $\pm 0.1\text{mm}$ with angle tolerance $\pm 0.5^\circ$.

BINNING GROUPS:

Forward Voltage Classifications ($I_F = 5/2/2\text{mA}$):

Code		Min.	Max.	Unit
Red	E18	1.6	2.4	V
Green	F2A	2.1	3.1	
Blue	F2A	2.1	3.1	

Luminous Intensity Classifications ($I_F = 5/2/2\text{mA}$):

Code		Min.	Max.	Unit
Red	HF3	21.3	26.7	mcd
	HG1	24.0	30.0	
	HG2	26.7	33.5	
	HG3	30.0	37.5	
	HH1	33.5	42.0	
	HH2	37.5	47.0	
	HH3	42.0	52.5	
Green	HG3	30.0	37.5	mcd
	HH1	33.5	42.0	
	HH2	37.5	47.0	
	HH3	42.0	52.5	
	HJ1	47.0	60.0	
	HJ2	52.5	65.7	
	HJ3	60.0	75.0	
Blue	HB3	5.4	6.8	mcd
	HC1	6.0	7.5	
	HC2	6.8	8.5	
	HC3	7.5	9.4	
	HD1	8.5	10.7	
	HD2	9.4	12.0	
	HD3	10.7	13.4	

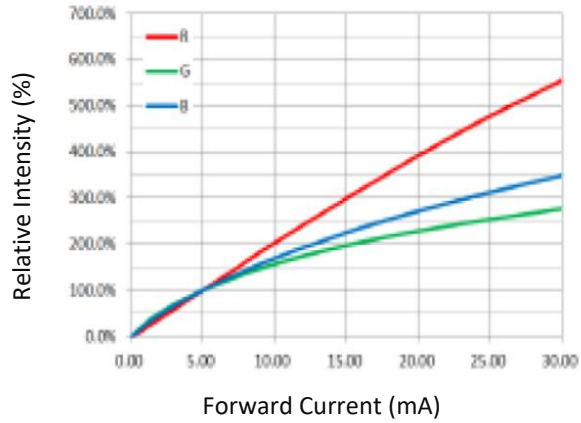
BINNING GROUPS:

Wavelength Classifications ($I_F = 5/2/2\text{mA}$):

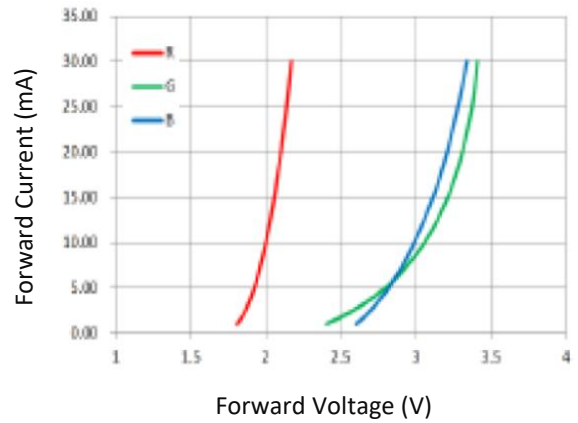
Code		Min.	Max.	Unit
Red	RH2	618	623	nm
	RH3	623	628	
	RH4	628	633	
Green	GH1	526	530	nm
	GH2	528	532	
	GH3	530	534	
	GH4	532	536	
	GH5	534	538	
Blue	BH1	464	468	nm
	BH2	466	470	
	BH3	468	472	
	BH4	470	474	

ELECTRO-OPTICAL CHARACTERISTICS:

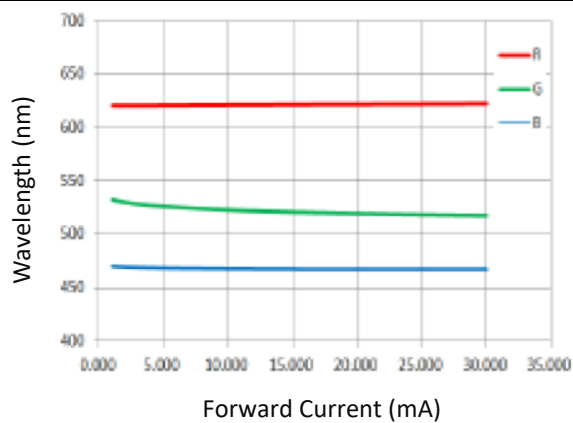
Relative Intensity vs. Forward Current



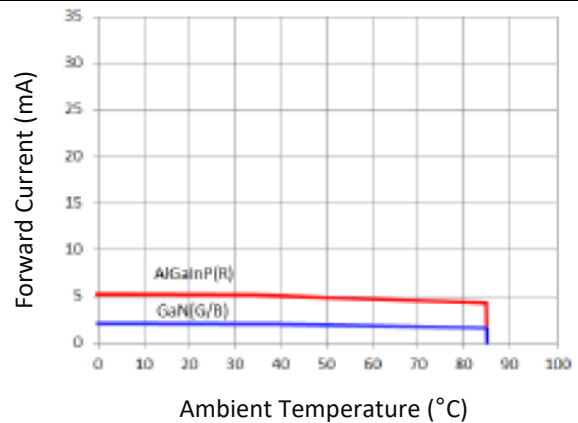
Forward Current vs. Forward Voltage



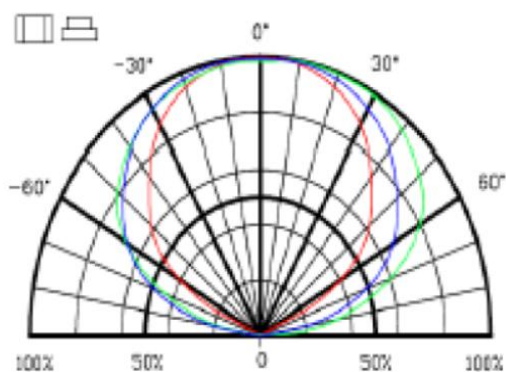
Wavelength vs. Forward Current



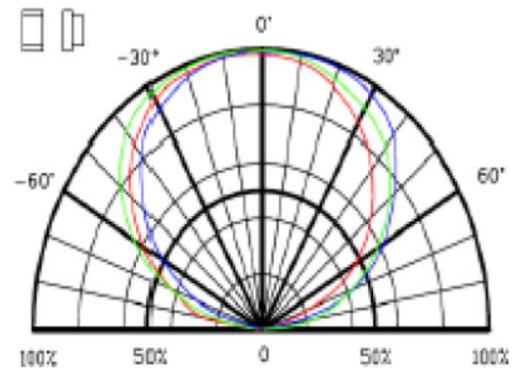
Forward Current vs. Ambient Temperature



Directive Radiation



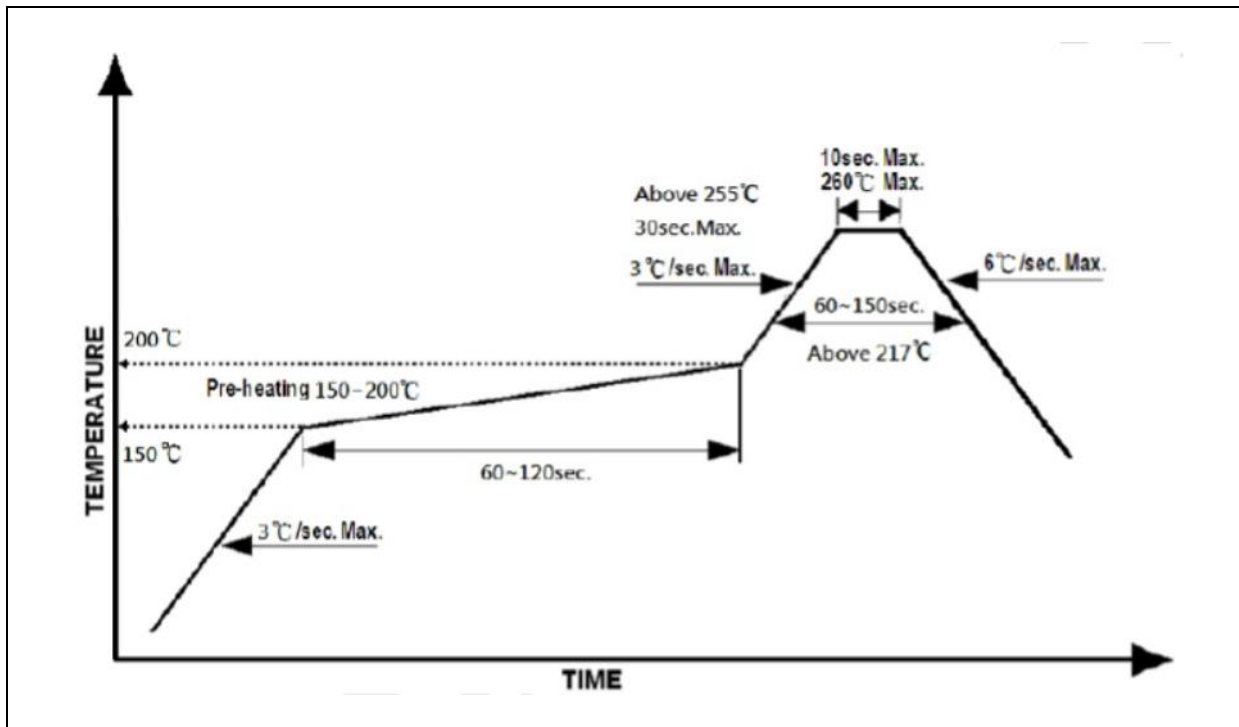
Directive Radiation





RECOMMENDED SOLDERING PROFILE:

Lead-free Solder:

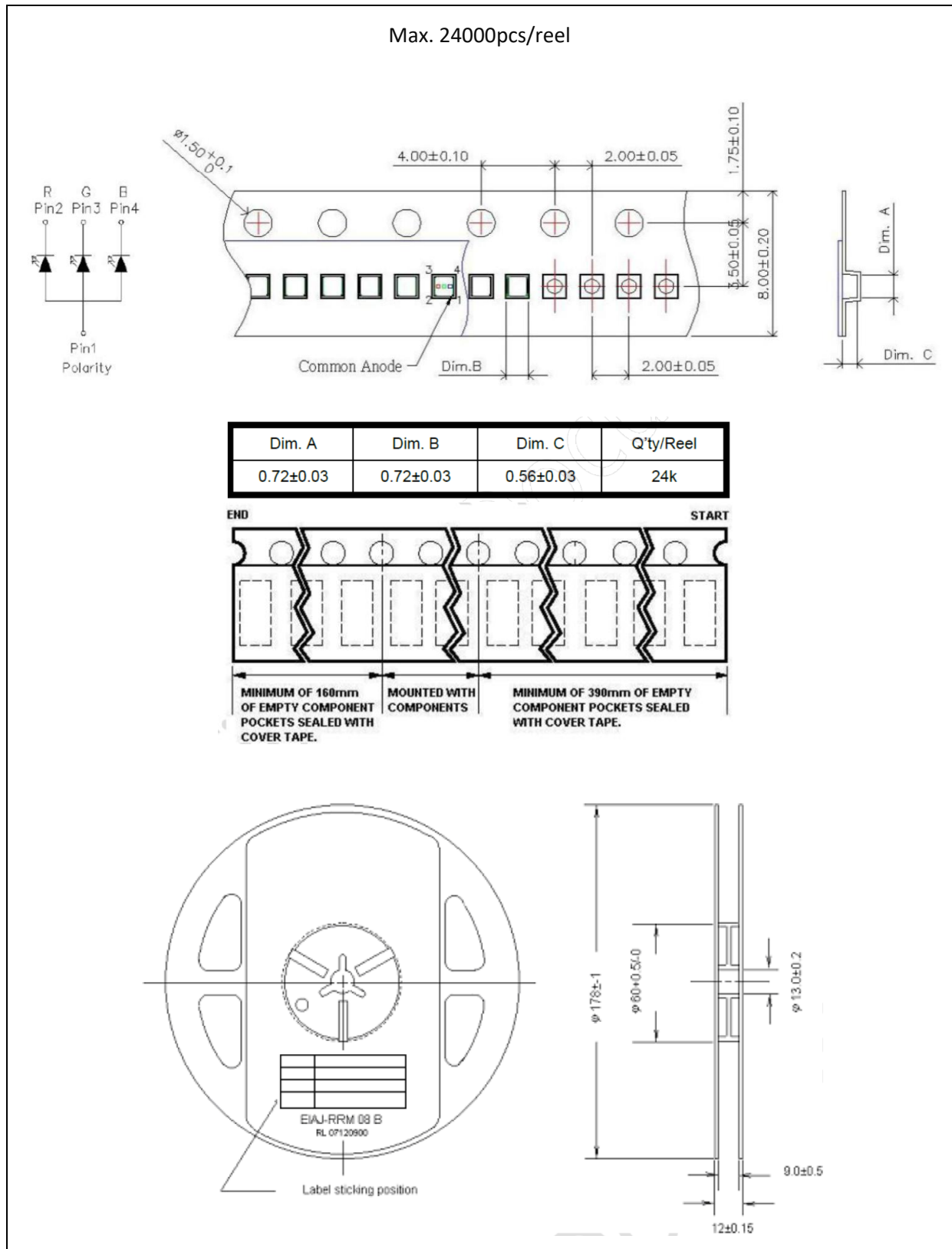


Note:

1. Recommended reflow temperature is 240°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:

Reel Dimension:



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 4 weeks. Otherwise, they should be kept in a damp-proof box with desiccating agent <10% R.H. and apply baking before use.

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 follows:

- 60±3°C x 12~24hrs 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	07/06/2026	Datasheet set-up.