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BRIGHTTEK (EUROPE) LIMITED

Brighten up The World With LED!



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PRODUCT DATASHEET

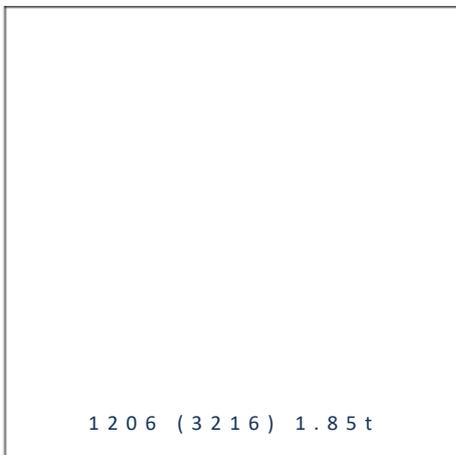


- ▶ PCB / CHIP LED
- ▶ 1206 (3216) 1.85t
- ▶ Red (625nm)

NOR57S84



Release Date: 26 April 2022 Version: A1.1



1206 (3216) 1.85t

RoHS
Compliant



FEATURES:

- **Package:** PCB / CHIP LED Top View with Lens
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 2.0V
- **Luminous Intensity (typ.):** 1440mcd@20mA
- **Colour:** Red
- **Wavelength:** 625nm
- **Viewing angle:** 20°
- **Materials:**
 - Die: AlInGaP
 - Resin: Epoxy (Water Clear)
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
 - Forward voltage
 - Luminous intensity
 - Dominant wavelength
- **Soldering methods:** Reflow
- **Preconditioning:** acc. to JEDEC Level 3
- **Packing:** 8mm tape with max.2000/reel, ø180mm (7")

APPLICATIONS:

- Indication Light
- Switch Light
- 3C Application

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I _F	30	mA
Peak Forward Current Duty 1/10@1KHz	I _{FP}	100	mA
Reverse Voltage	V _R	5	V
Reverse Current @5V	I _R	10	μA
Power Dissipation	P _D	75	mW
Electrostatics Discharge	ESD	2000	V
Operating Temperature	T _{OPR}	-40~+80	°C
Storage Temperature	T _{STG}	-40~+85	°C

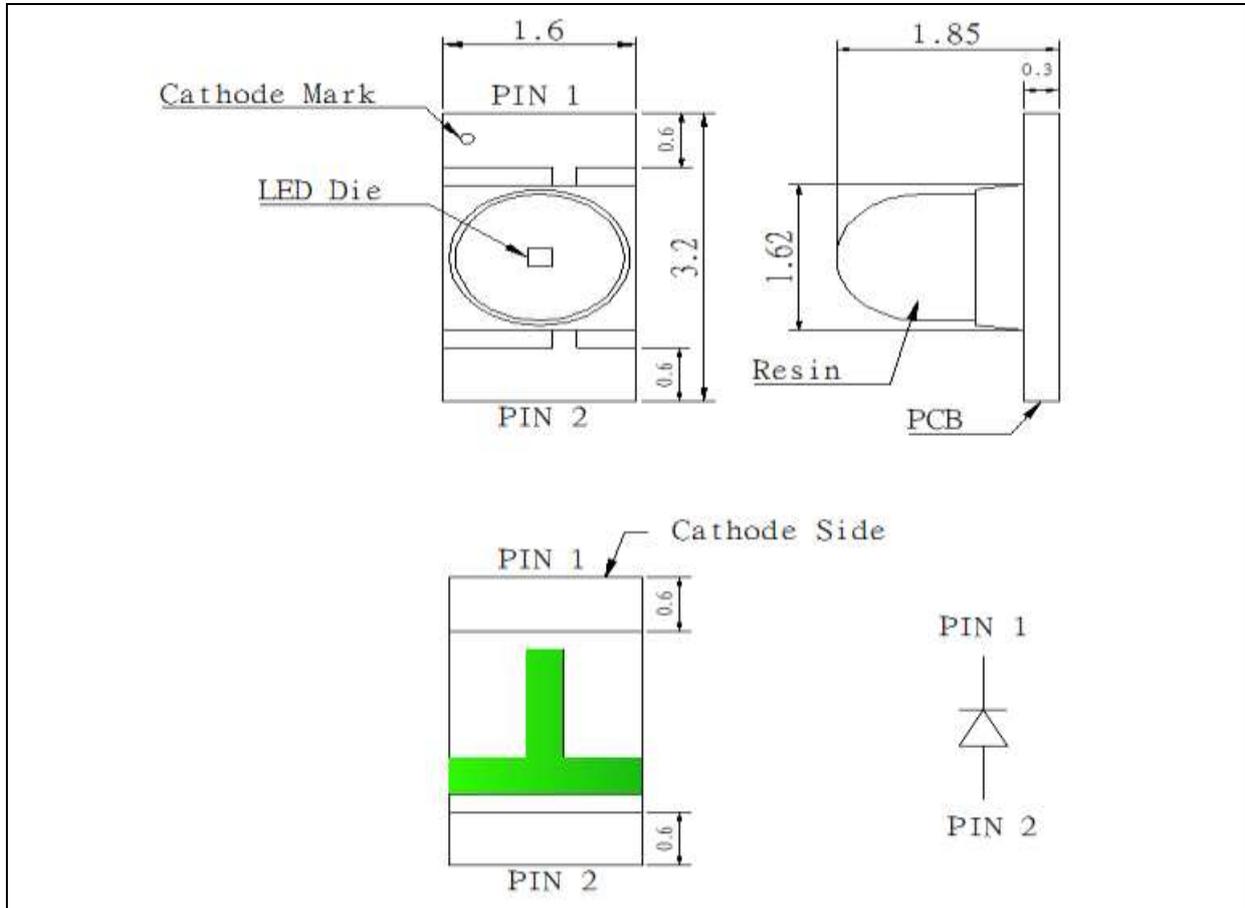
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V _F	1.8	2.0	2.4	V	I _F =20mA
Luminous Intensity	I _v	900	1440	2850	mcd	I _F =20mA
Dominant Wavelength	λ _D	615	625	630	nm	I _F =20mA
Peak Wavelength	λ _P	---	635	---	nm	I _F =20mA
Spectral Line Half Bandwidth	Δλ	---	40	---	nm	I _F =20mA
Viewing Angle	2θ _{1/2}	---	20	---	deg	I _F =20mA

1. Luminous intensity (I_v) ±15%, Forward Voltage (V_F) ±0.1V, Viewing angle(2θ_{1/2}) ±5%

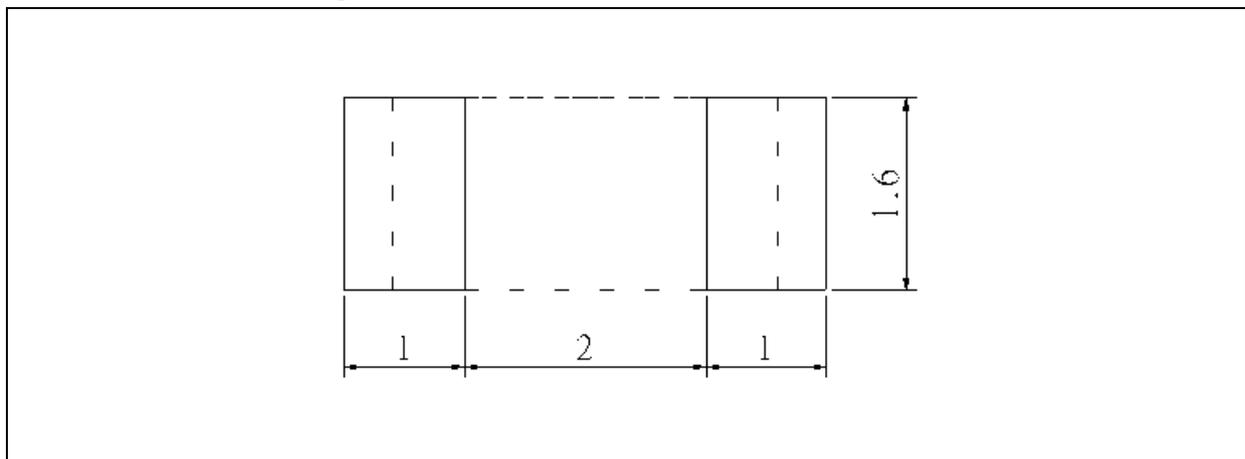
OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).
2. Tolerance ± 0.2 mm, unless otherwise noted.

Recommended Soldering Pad Dimension:



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

BINNING GROUPS:

 Forward Voltage Classifications ($I_F = 20\text{mA}$):

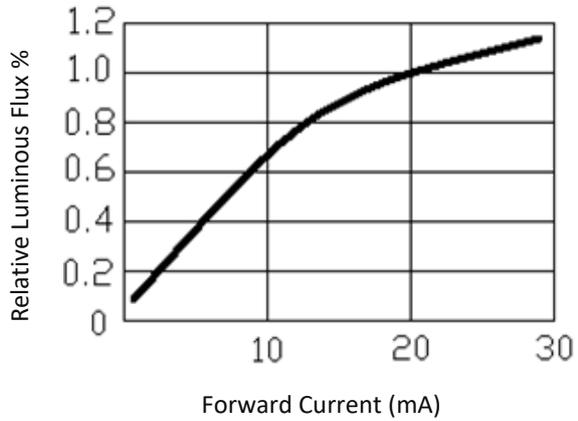
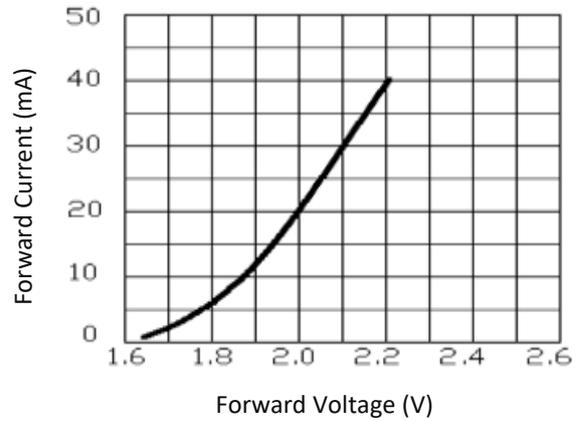
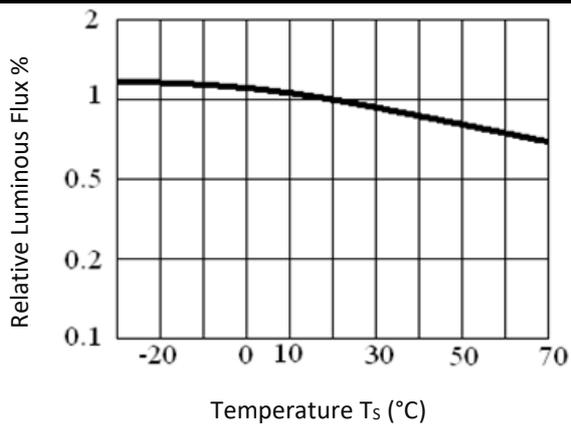
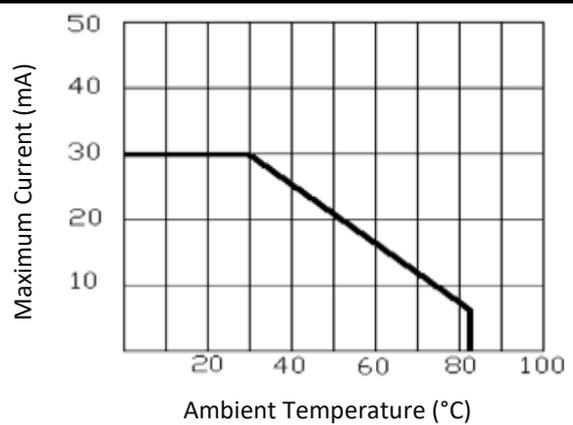
Code	Min.	Max.	Unit
E18	1.6	2.4	V

 Luminous Intensity Classifications ($I_F = 20\text{mA}$):

Code	Min.	Max.	Unit
Y	900	1125	mcd
Z	1125	1440	
AA	1440	1800	
AB	1800	2250	
AC	2250	2850	

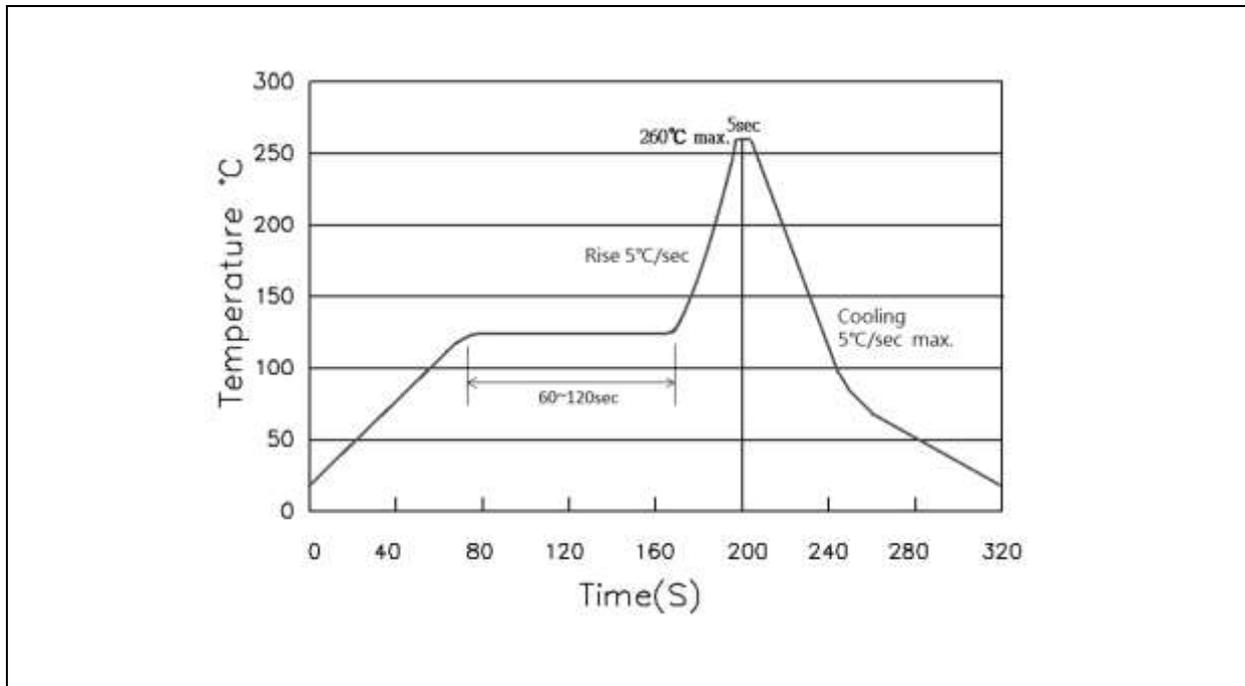
 Dominant Wavelength Classifications ($I_F = 20\text{mA}$):

Code	Min.	Max.	Unit
AC	615	630	nm

ELECTRO-OPTICAL CHARACTERISTICS:
Relative Luminous Flux v.s. Forward Current

Forward Current v.s. Forward Voltage

Relative Luminous Flux v.s. Ambient Temp.

Max. Forward Current v.s. Ambient Temp.


RECOMMENDED SOLDERING PROFILE:

Reflow Solder:

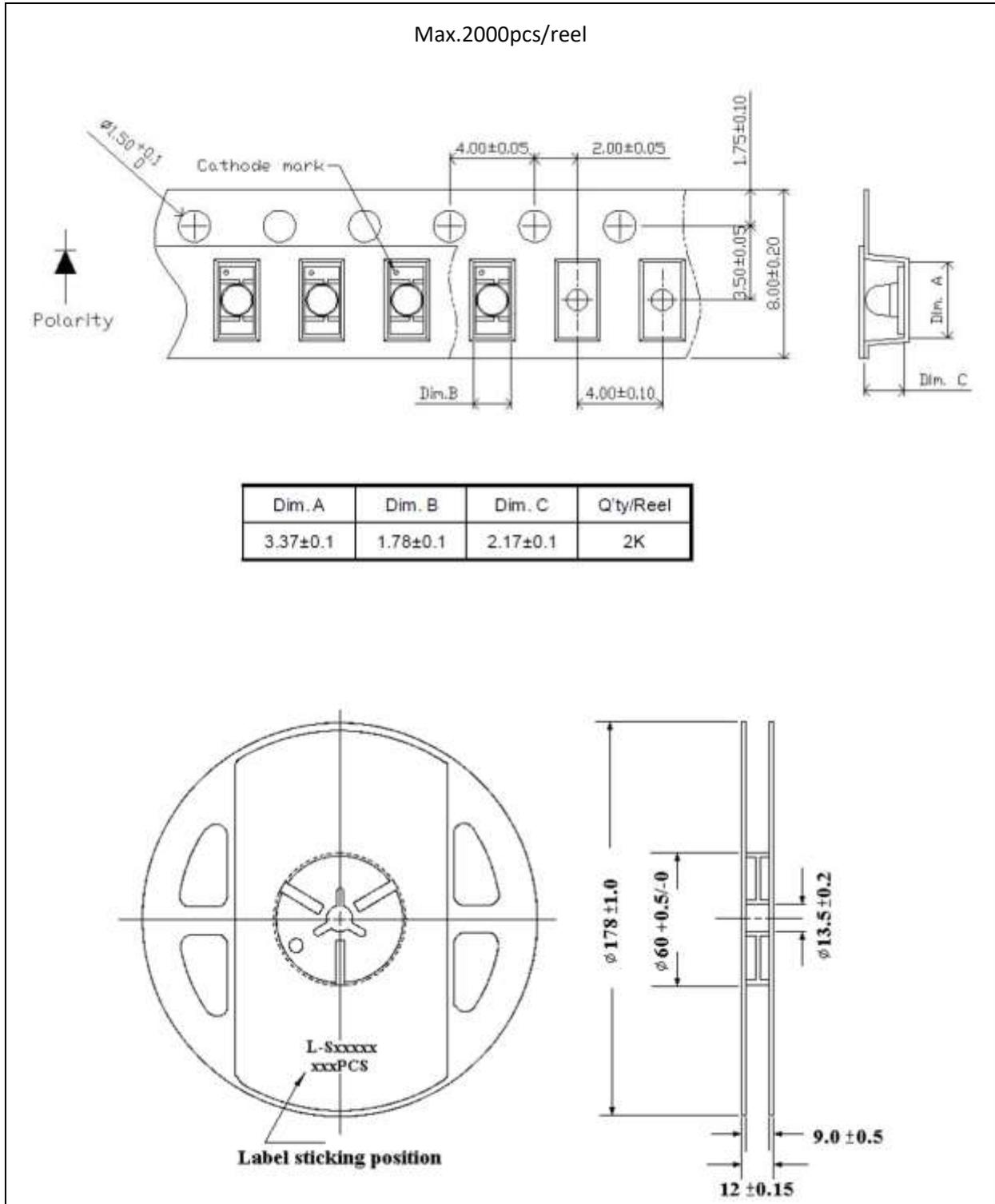


Note:

1. Recommend reflow temperature 245°C. The maximum soldering temperature should be limited to 260°C.
2. Maxima reflow soldering: 1 time.
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 a week. 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 followings:

- 60±5°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	21/12/2020	Datasheet set-up.
A1.1	26/04/2022	Revise Spectral Line Half Bandwidth value.