BRIGHTEK
BRIGHTEK (EUROPE) LIMITED
Brighten Up The World With LED!

PRODUCT DATASHEET

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

► Subminiature SMD (Reverse Mount)
► 2520RV Series
► Blue (470nm)

N0B23S27

2520RV Series

RoHS Compliant
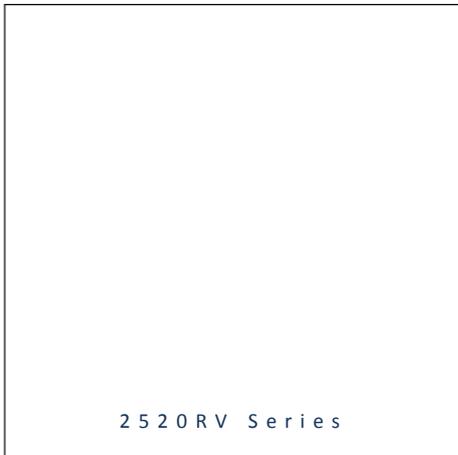
FEATURES:

- **Package:** Reverse Mount Subminiature SMD
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 3.5V
- **Luminous Intensity (typ.):** 800mcd @20mA
- **Colour:** Blue
- **Wavelength:** 470nm
- **Viewing angle:** 20°
- **Materials:**
  - Die: InGaN
  - Resin: Epoxy (Water Clear)
- **Operating Temperature:** -20~+80°C
- **Storage Temperature:** -30~+100°C
- **ESD:** 500V
- **Grouping parameters:**
  - Forward voltage
  - Luminous intensity
  - Dominant Wavelength
- **Soldering methods:** Reflow
- **Preconditioning:** acc. to JEDEC Level 3
- **Packing:** 12mm tape with 1500/reel, ø178mm (7'')

2520RV Series

APPLICATIONS:

- Indication Light
- Switch light
- Dashboard
- Signal Light

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	30	mA
Peak Forward Current Duty 1/10@10KHz	I_{FP}	100	mA
Reverse Current @5V	I_R	50	μA
Power Dissipation	P_D	120	mW
Electrostatic Discharge	ESD	500	V
Operating Temperature	T_{OPR}	-20~+80	°C
Storage Temperature	T_{STG}	-30~+100	°C

Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	---	3.5	4.0	V	I_F=20mA
Luminous Intensity	I_V	300	800	---	mcd	I_F=20mA
Dominant Wavelength	λ_D	---	470	---	nm	I_F=20mA
Spectral Line Half Bandwidth	$\Delta \lambda$	---	30	---	nm	I_F=20mA
Viewing Angle	$2\theta_{1/2}$	---	20	---	deg	I_F=20mA

1. Luminous intensity (I_V) ±15%, Forward Voltage (V_F) ±0.1V

OUTLINE DIMENSION:

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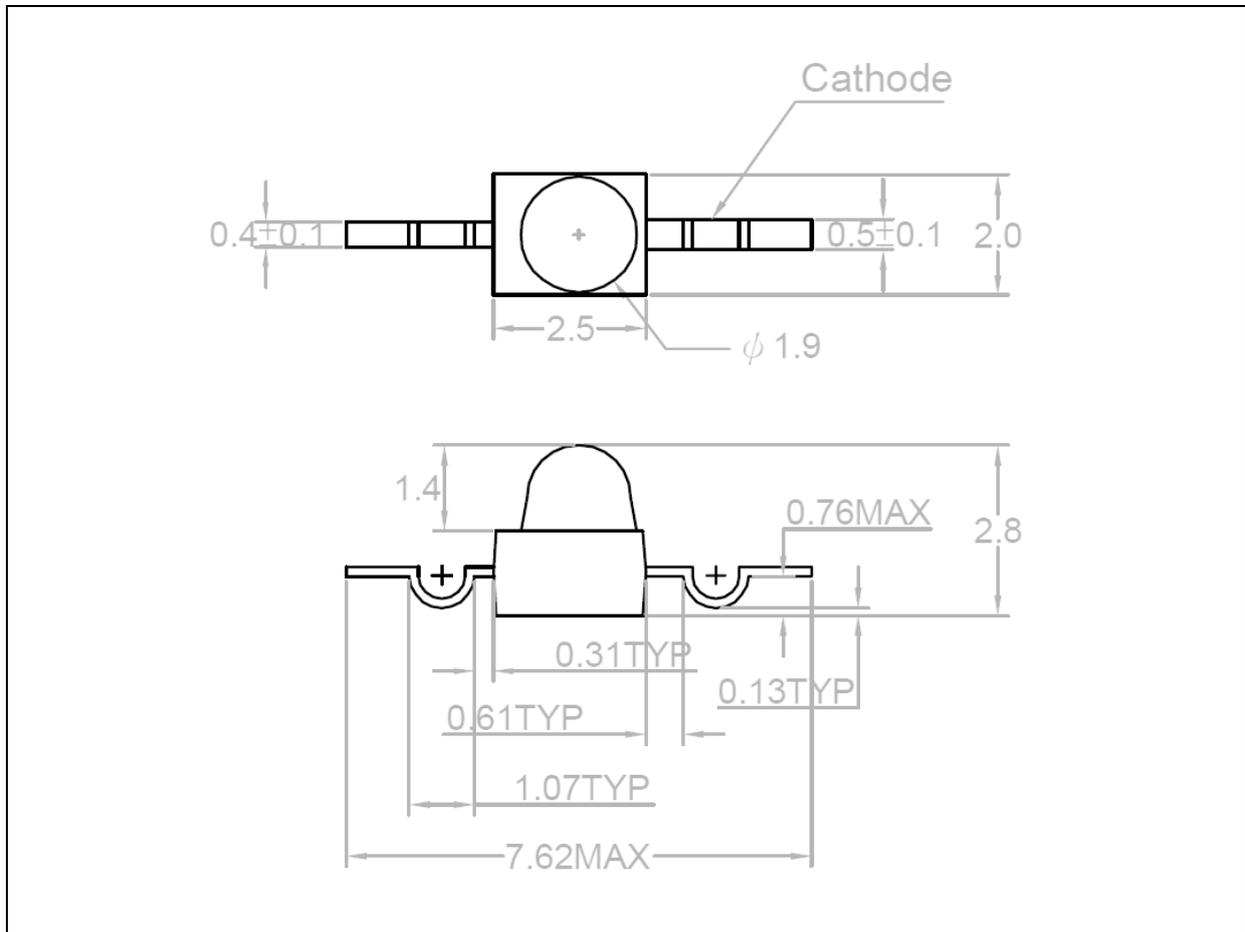
1. All dimensions are in millimetre (mm).
2. Tolerance ±0.2mm, unless otherwise noted.

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BINNING GROUPS:

Forward Voltage Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
V1	3.0	4.0	V

Luminous Intensity Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
B1	300	1300	mcd

Dominant Wavelength Classifications (I_F = 20mA):

Code	Min.	Max.	Unit
W1	460	480	nm

ELECTRO-OPTICAL CHARACTERISTICS:

Relative Intensity v.s. Forward Current
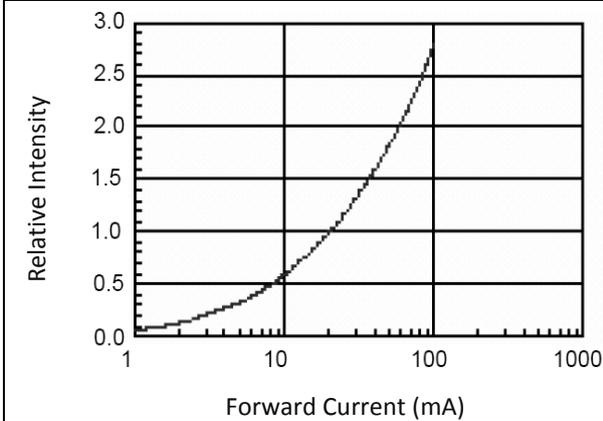
Forward Current v.s. Forward Voltage
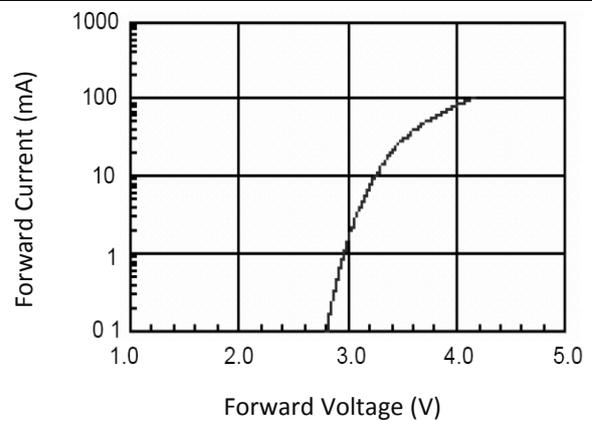
Relative Intensity v.s. Temperature
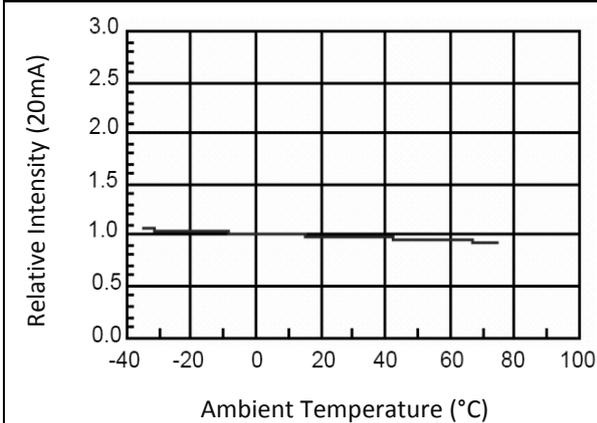
Relative Forward Voltage v.s. Temperature
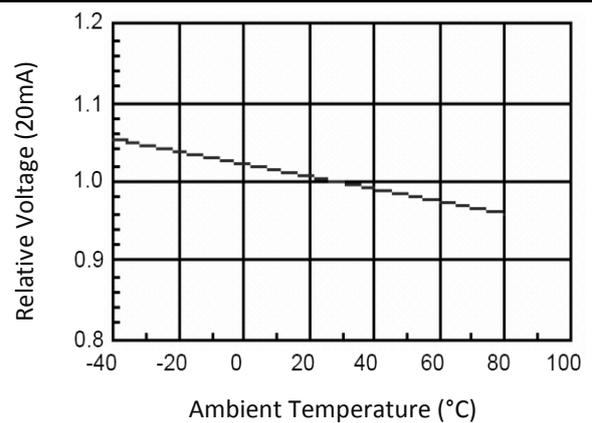

Relative Intensity v.s. Wavelength
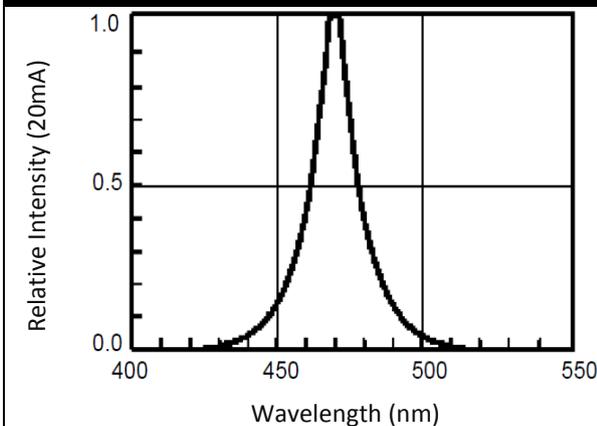
Directive Radiation
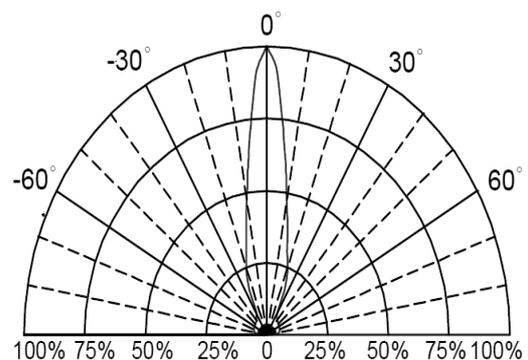
RECOMMENDED SOLDERING PROFILE:

Hand Solder:

Basic spec is below 280°C for 3 seconds. One time only.

Wave Solder:
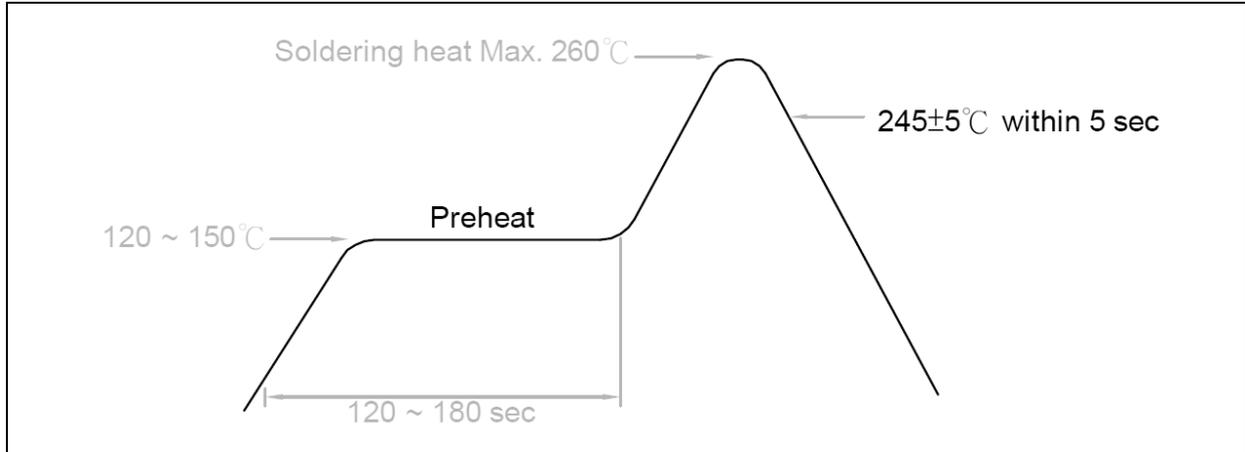
Lead-free Solder:
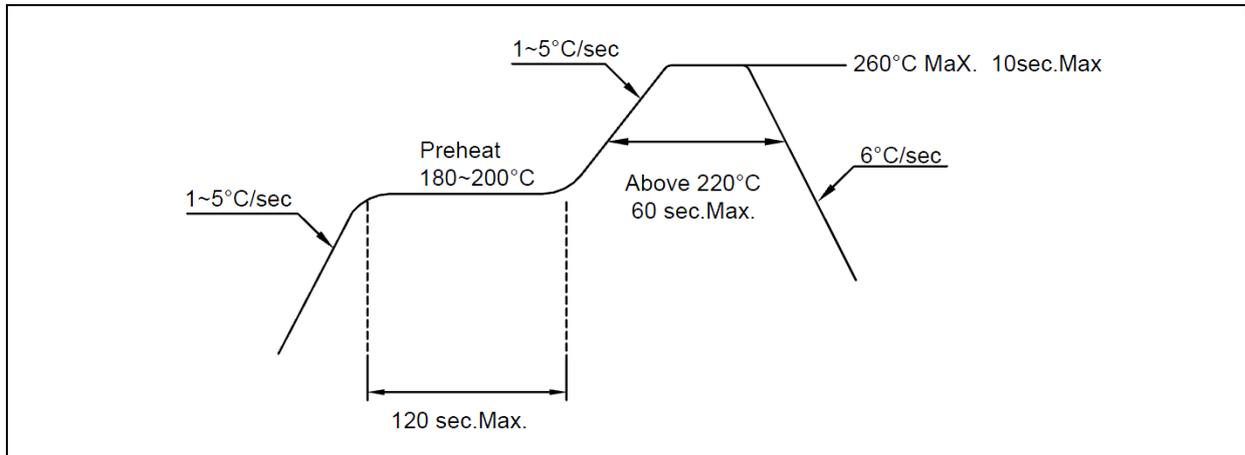

Note:
1. Maximum reflow soldering: 2 times.
2. Before, during, and after soldering, should not apply stress on the components and PCB board.

PACKING SPECIFICATION:

Reel Dimension:

1500pcs/reel

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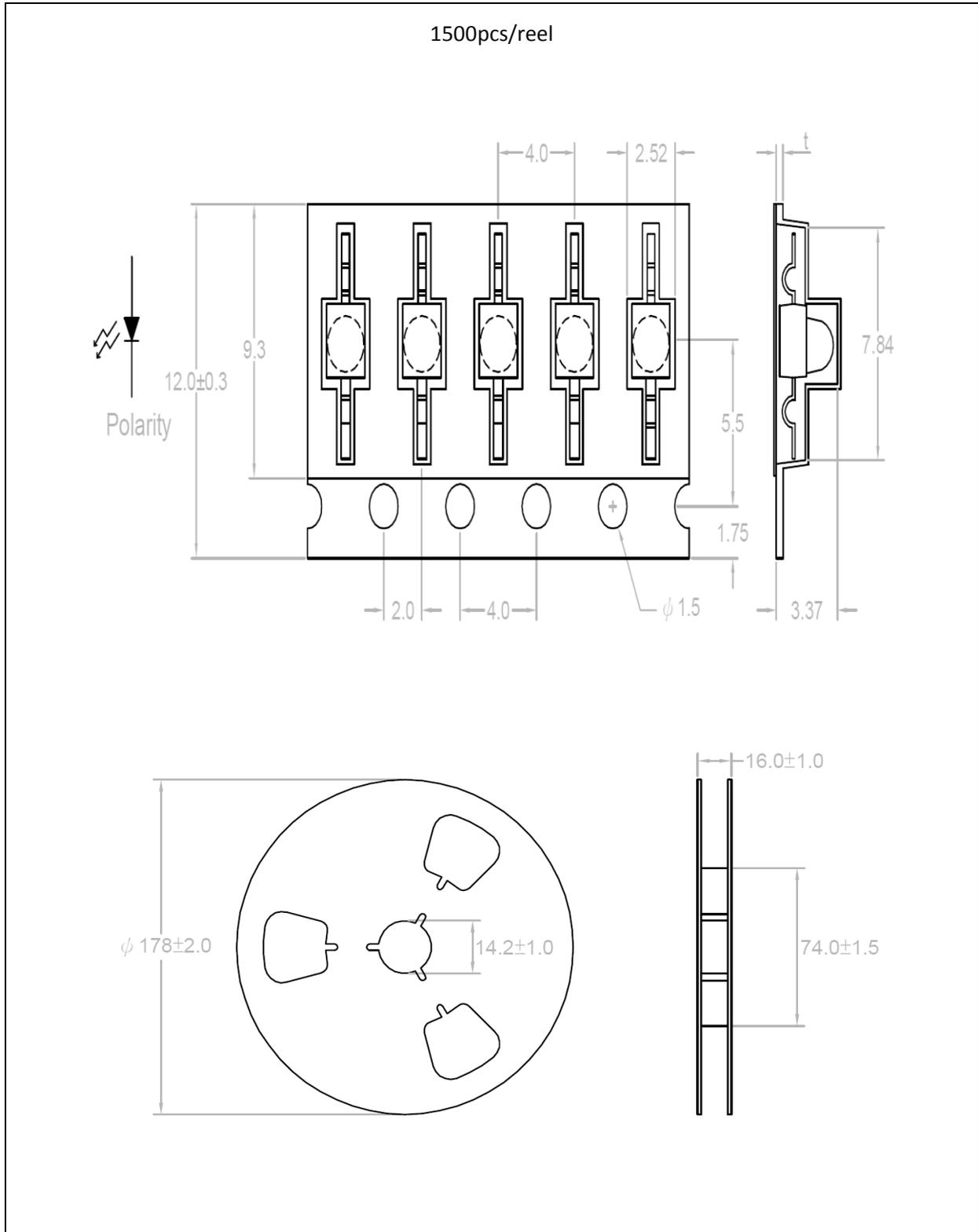
PRECAUTIONS OF USE:

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 month 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 descanting agent and apply baking at 60°C±5°C for 15hrs 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±3°C x 15hrs 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-electrosatic glove is recommended when handing 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	19/05/2016	Datasheet set-up.