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

ISO/TS 16949:2009 BS EN ISO 14001:2004 QC 080000 IECQ HSPM

PRODUCT DATASHEET

- ▶ Subminiature SMD
- ▶ 2421 2.80t Series
- ▶ Yellow (590nm)

Release Date: 13 January 2025 Version: A1.1

N0Y12S30
N0Y12S30SR

2421 2.80t Series

2421 2.80t Series

RoHS Compliant

FEATURES:

- **Package:** Subminiature Top View SMD
- **Forward Current:** 20mA
- **Forward Voltage (typ.):** 2.0V
- **Luminous Intensity (typ.):** 2600mcd@20mA
- **Colour:** Yellow
- **Dominant Wavelength (typ.):** 590nm
- **Viewing angle:** 20°
- **Materials:**
  - Die: AlGaInP/GaAs
  - Resin: Epoxy (Water Clear)
- **Operating Temperature:** -40~+80°C
- **Storage Temperature:** -40~+85°C
- **Grouping Parameters:**
  - Forward voltage
  - Luminous intensity
  - Dominant wavelength
- **Soldering Methods:** Reflow
- **MSL Level:** acc. to JEDEC Level 3
- **Packing:** 16mm tape with max.1500pcs/reel, ø180mm (7’’); or max.5000pcs/reel, ø330mm (13’’)

APPLICATIONS:

- Backlighting
- Indication Light
- Switch light
- Dashboard

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	30	mA
Peak Forward Current Duty 1/8@1KHz	I_{FP}	125	mA
Reverse Current @5V	I_R	10	μA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	75	mW
Operating Temperature	T_{OPR}	-40~+80	°C
Storage Temperature	T_{STG}	-40~+85	°C

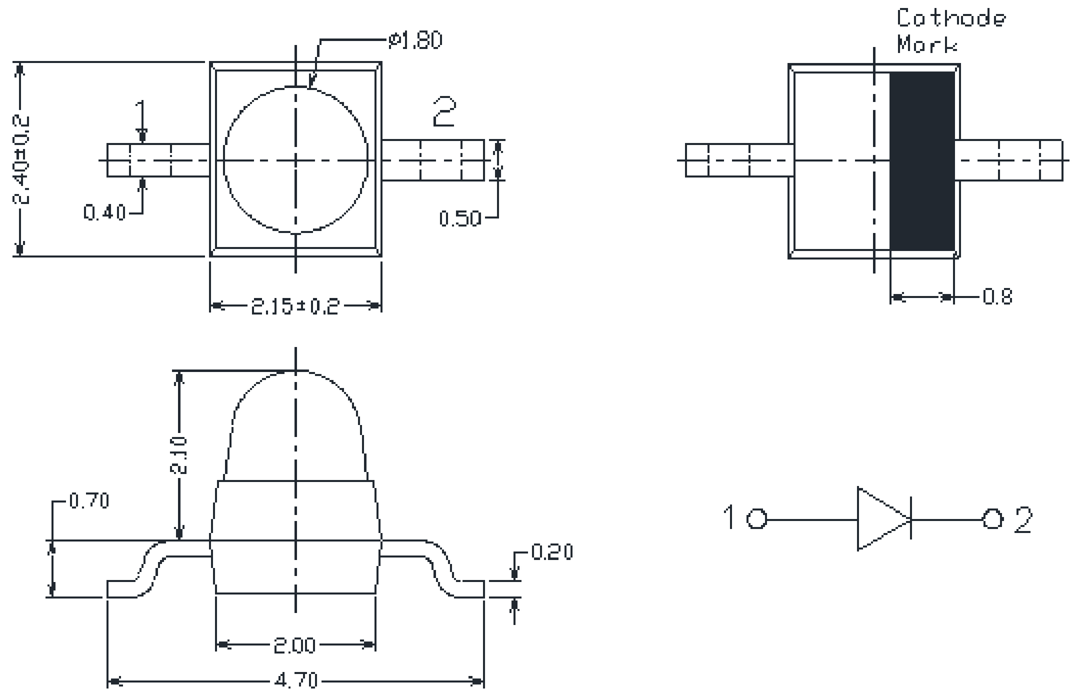
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	1.7	2.0	2.5	V	I_F=20mA
Luminous Intensity	I_V	1250	2600	5200	mcd	I_F=20mA
Dominant Wavelength	λ_D	585	590	595	nm	I_F=20mA
Peak Wavelength	λ_P	---	595	---	nm	I_F=20mA
Spectral Line Half Bandwidth	$\Delta\lambda$	---	16	---	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, Viewing angle($2\theta_{1/2}$) ±5%

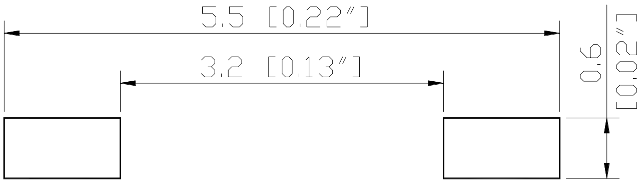
OUTLINE DIMENSION:

Package Dimension:



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

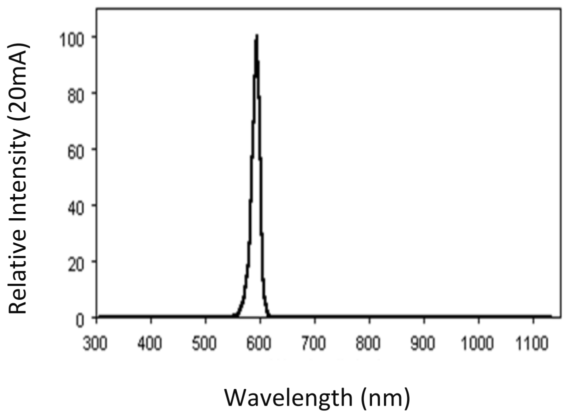
Recommended Soldering Pad Dimension:



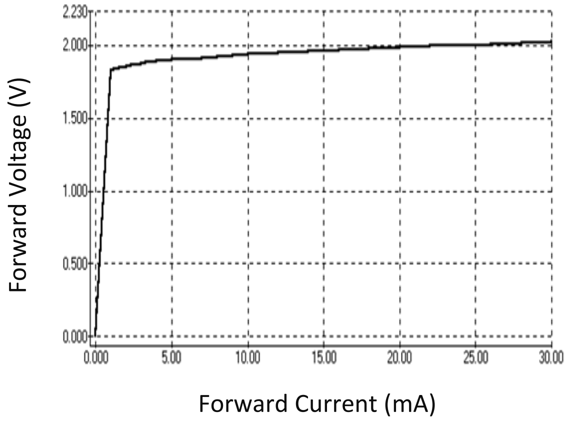
1. Dimensions are in millimetre (mm).
2. Tolerance ±0.1mm with angle tolerance ±0.5°.

ELECTRO-OPTICAL CHARACTERISTICS:

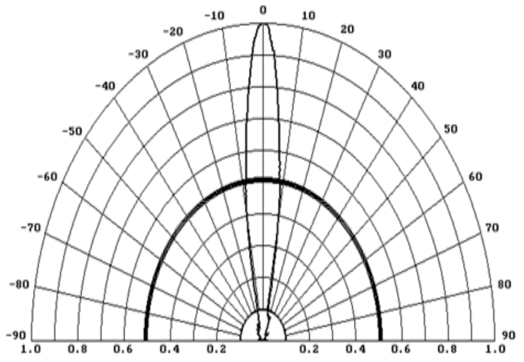
Relative Spectral Distribution



Forward Current v.s. Forward Voltage

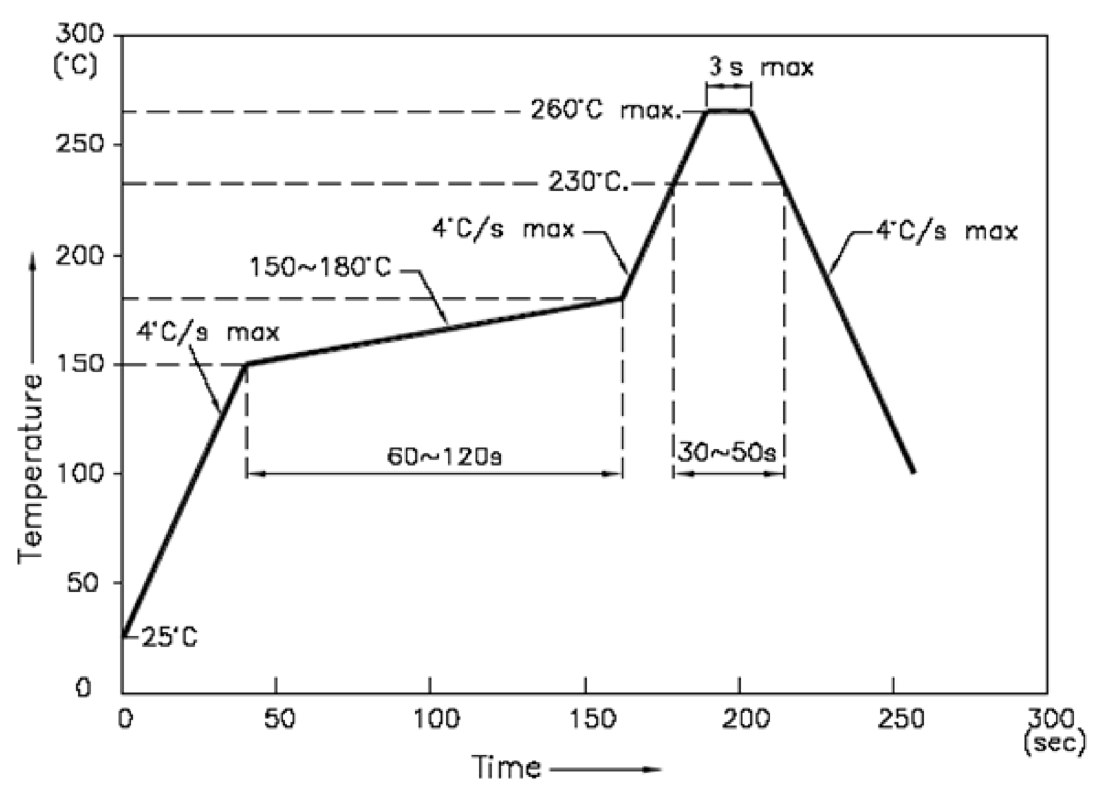


Directive Radiation



RECOMMENDED SOLDERING PROFILE:

Reflow Solder:



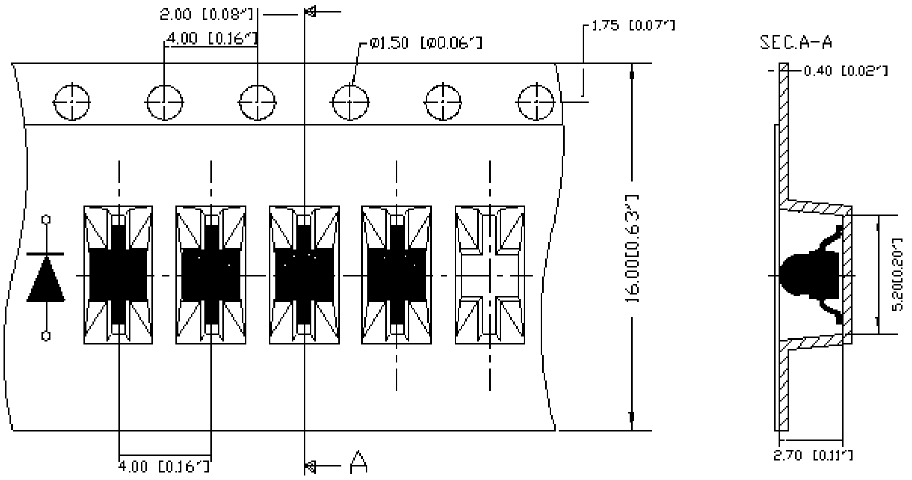
Note:

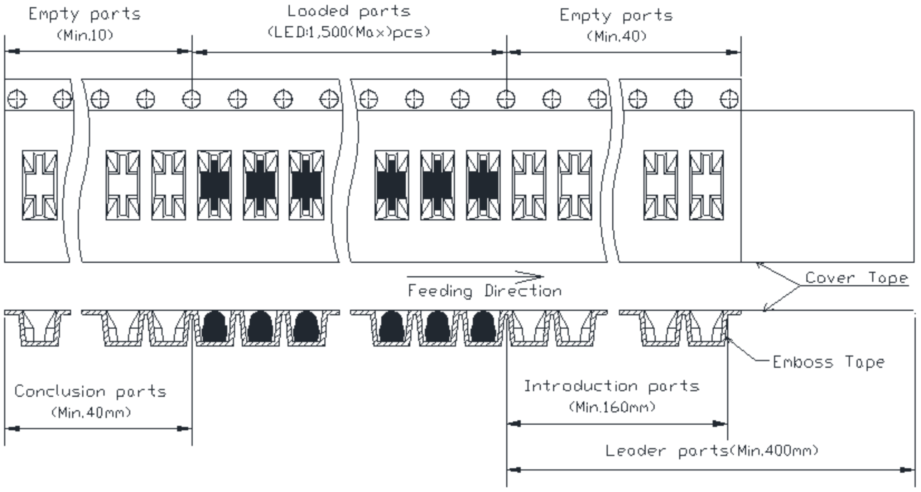
1. Recommend reflow temperature 245°C. The maximum soldering temperature should be limited to 260°C.
2. Maximum reflow soldering: 2 times.
3. Before, during, and after soldering, should not apply stress on the components and PCB board.

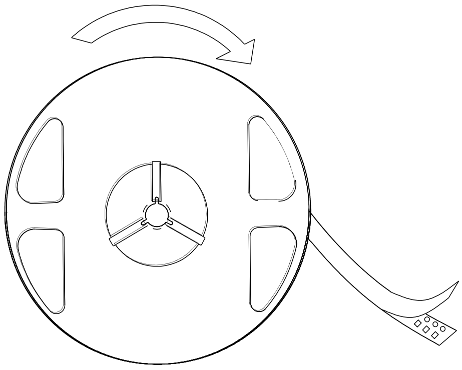
PACKING SPECIFICATION (7'' Reel):

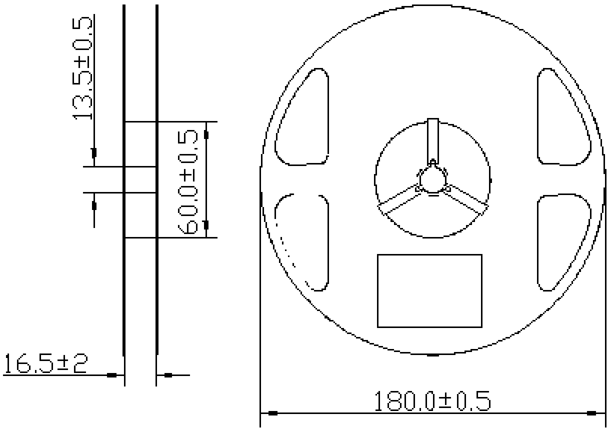
N0Y12S30 - Reel Dimension:

Max.1500pcs/reel





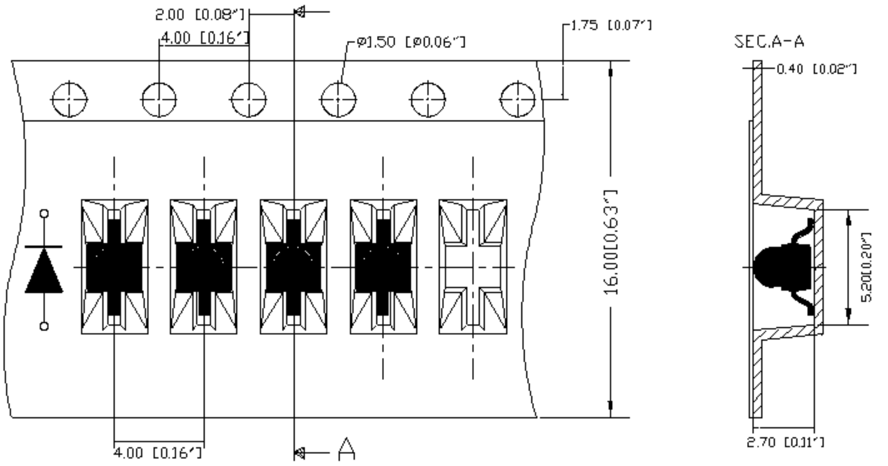


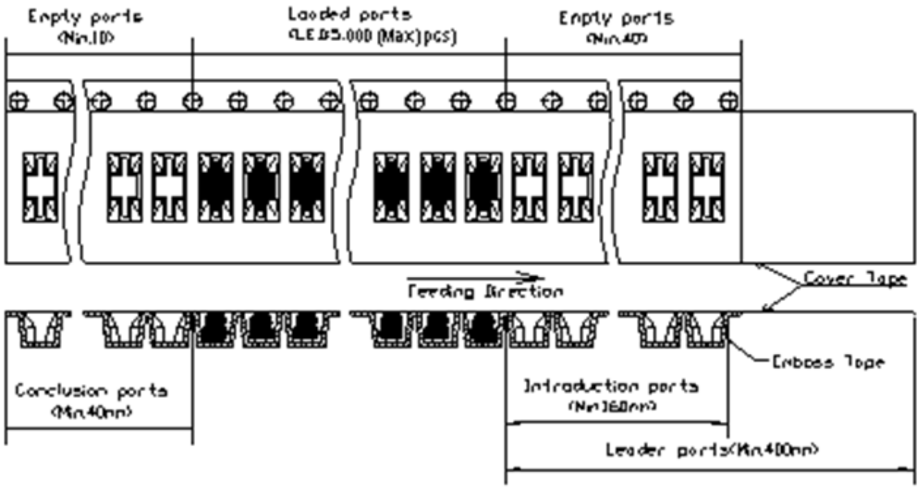


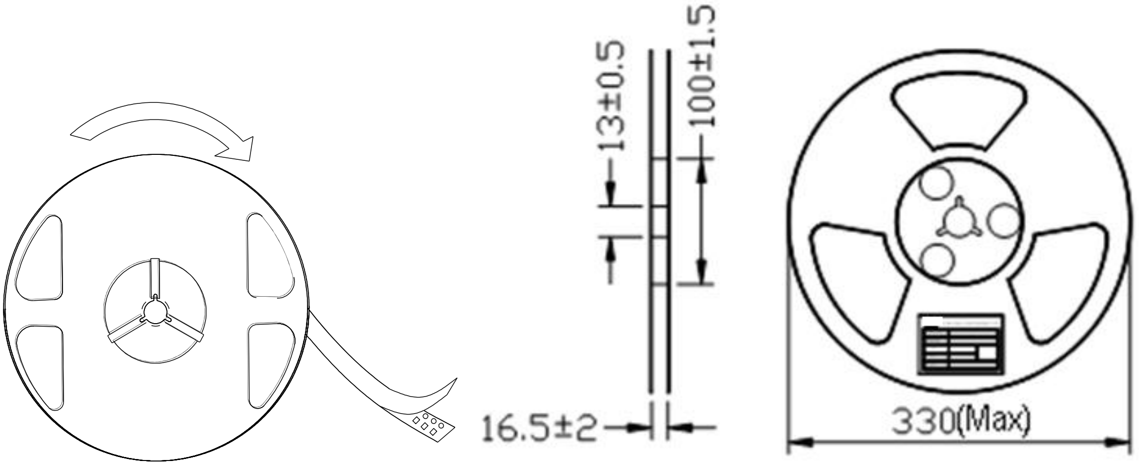
PACKING SPECIFICATION (13'' Reel):

N0Y12S30SR - Reel Dimension:

Max.5000pcs/reel







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 descanting agent <10% R.H. and apply baking before use.

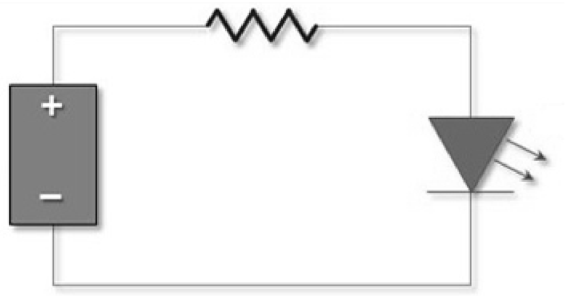
Baking:

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-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	07/08/2014	Datasheet set-up.
A1.1	13/01/2025	Revise packing information.