



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

Brighten up The World With LED!



ISO/TS 16949:2009



BSI
 BS EN ISO 14001:2004



QC 800000 IECQ HSP98

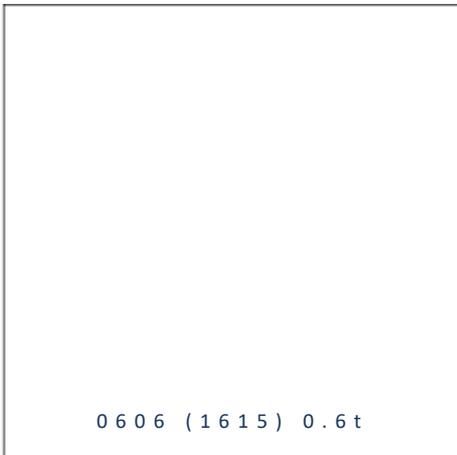
PRODUCT DATASHEET



- ▶ PCB / CHIP LED
- ▶ 0606 (1615) 0.6t
- ▶ Yellow 590nm / Green 570nm

Release Date: 27 May 2022 Version: A1.1

NOD05S32



0606 (1615) 0.6t

0606 (1615) 0.6t



FEATURES (Yellow/Green):

- **Package:** PCB / CHIP Top View SMT Package
- **Forward Current:** 20/20mA*
- **Forward Voltage (typ.):** 2.0/2.0V
- **Luminous Flux (typ.):** 95/30mcd @20mA
- **Colour:** Yellow/Green
- **CCT/Wavelength:** 590/570nm
- **Viewing angle:** 140/140°
- **Materials:**
 - Die: AlGaInP/AlGaInP
 - Resin: Epoxy (Water Clear)
- **Operating Temperature:** -40~+80°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
 - Forward voltage
 - Luminous intensity
 - Dominant Wavelength
- **Soldering methods:** Reflow soldering
- **Preconditioning:** MSL 3 according to JEDEC
- **Packing:** 8mm tape with max. 4000pcs/reel, ø180mm (7")

* in order of Yellow/Green

APPLICATIONS:

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

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I_F	30/30*	mA
Pulse Forward Current (duty 1/10; width 0.1ms)	I_{MAX}	100/100	mA
Reverse Voltage	V_R	5	V
Reverse Current @5V	I_R	10	μA
Junction Temperature	T_j	110	°C
Soldering Temperature	T_{sol}	260	°C
Operating Temperature	T_{OPR}	-40~+80	°C
Storage Temperature	T_{STG}	-40~+100	°C

- * In the order of Yellow/Green.

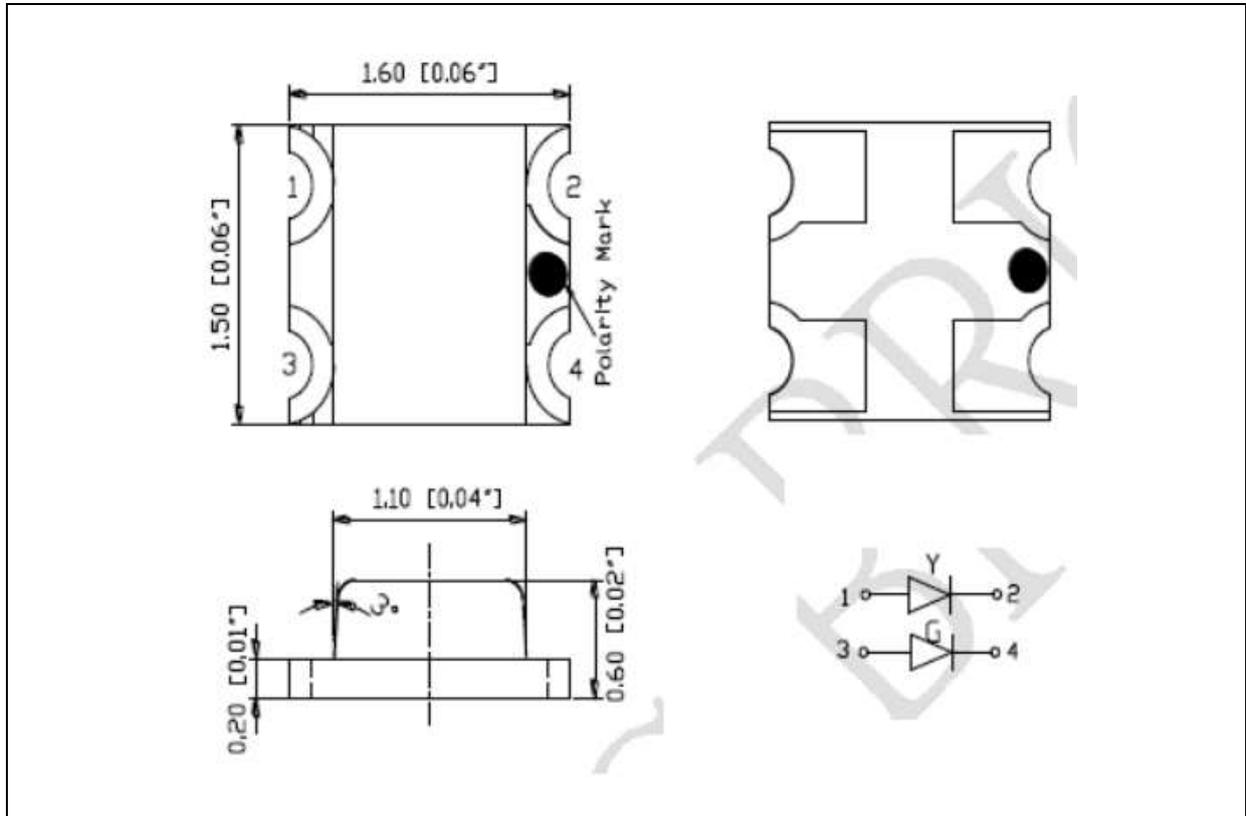
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Yellow - Forward Voltage	V_F	---	2.0	2.5	V	$I_F=20mA$
Yellow - Luminous Intensity	I_V	---	95	---	mcd	$I_F=20mA$
Yellow - Wavelength	λ_D	585	590	595	nm	$I_F=20mA$
Special Half Bandwidth	$\Delta\lambda$	---	20	---	nm	$I_F=20mA$
Green - Forward Voltage	V_F	---	2.0	2.5	V	$I_F=20mA$
Green - Luminous Intensity	I_V	---	30	---	mcd	$I_F=20mA$
Green - Wavelength	λ_P	565	570	576	nm	$I_F=20mA$
Special Half Bandwidth	$\Delta\lambda$	---	20	---	nm	$I_F=20mA$
Viewing Angle	$2\theta_{1/2}$	---	140	---	deg	$I_F=20mA$

1. Luminous intensity (I_V) $\pm 10\%$, Forward Voltage (V_F) $\pm 0.1V$, Viewing angle($2\theta_{1/2}$) $\pm 5\%$, Wavelength (λ) $\pm 1nm$

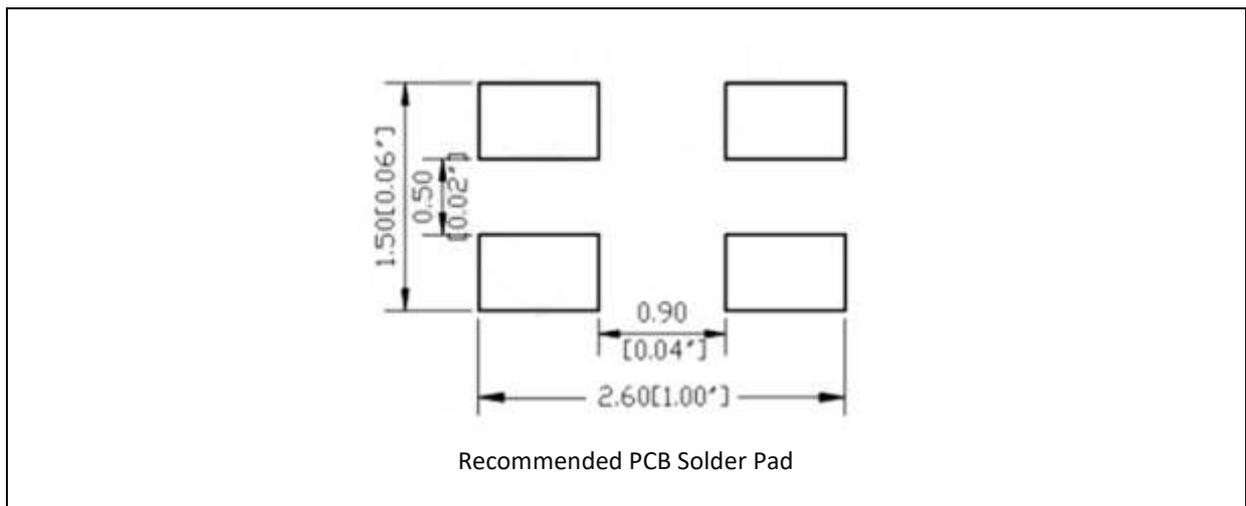
OUTLINE DIMENSION:

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

Code		Min.	Max.	Unit
Yellow	□	1.9	2.2	V
	1	2.2	2.5	
Green	□	1.9	2.2	V
	1	2.2	2.5	

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

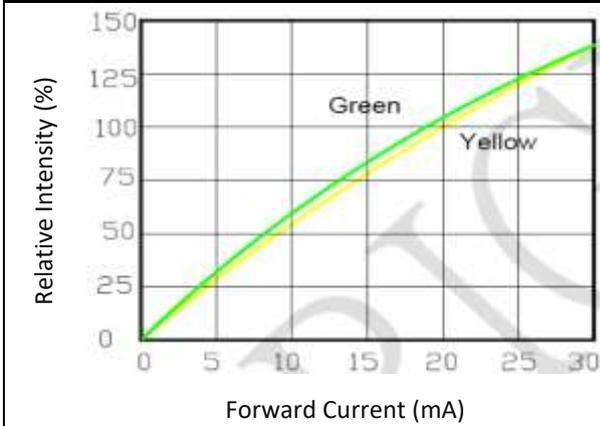
Code		Min.	Max.	Unit
Yellow	G	50	63	mcd
	H	63	80	
	I	80	100	
	J	100	125	
	K	125	160	
Green	B	16	20	mcd
	C	20	25	
	D	25	32	
	E	32	40	
	F	40	50	

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

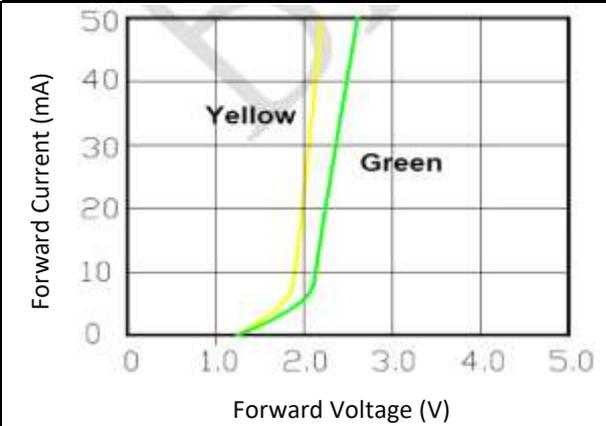
Code		Min.	Max.	Unit
Yellow	m	585	590	nm
	n	590	595	
Green	h	565	568	nm
	i	568	572	
	j	572	576	

ELECTRO-OPTICAL CHARACTERISTICS:

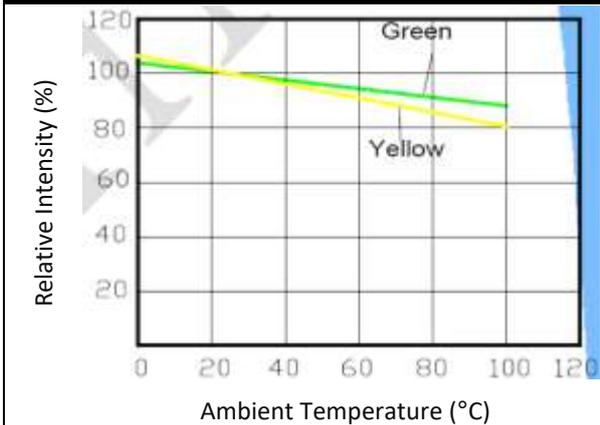
Relative Intensity v.s. Forward Current



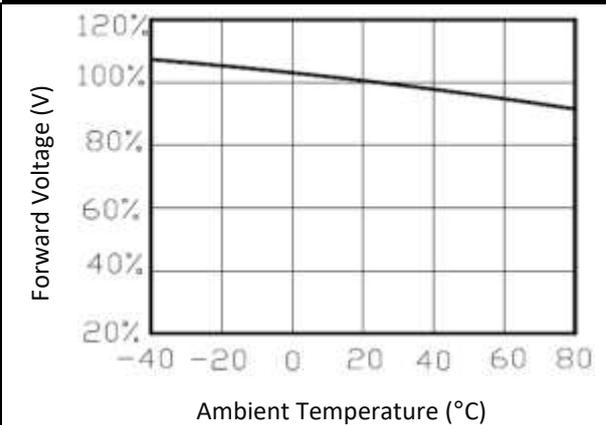
Forward Current v.s. Forward Voltage



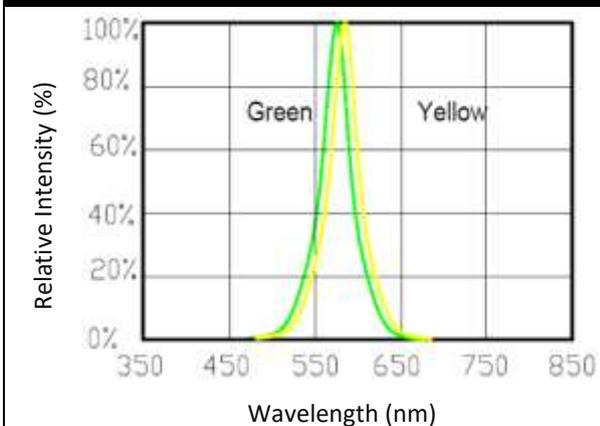
Relative Intensity v.s. Ambient Temperature



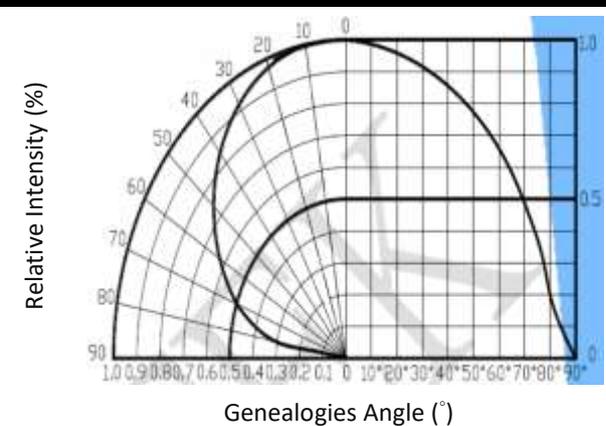
Forward Voltage v.s. Ambient Temperature



Relative Spectral Distribution

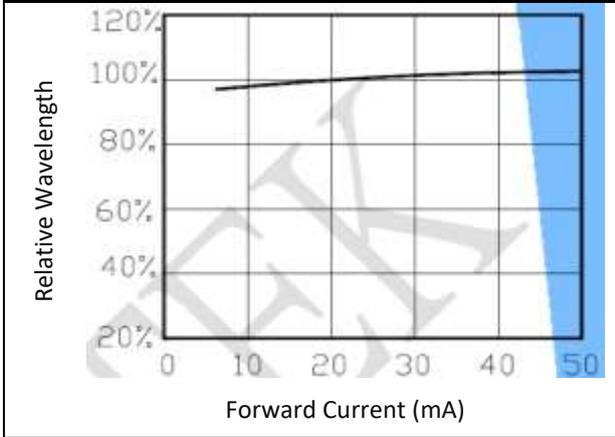


Directive Radiation

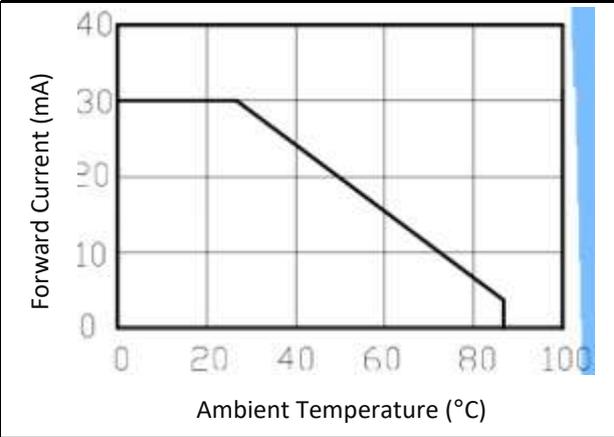


ELECTRO-OPTICAL CHARACTERISTICS:

Wavelength Shift v.s. Forward Current

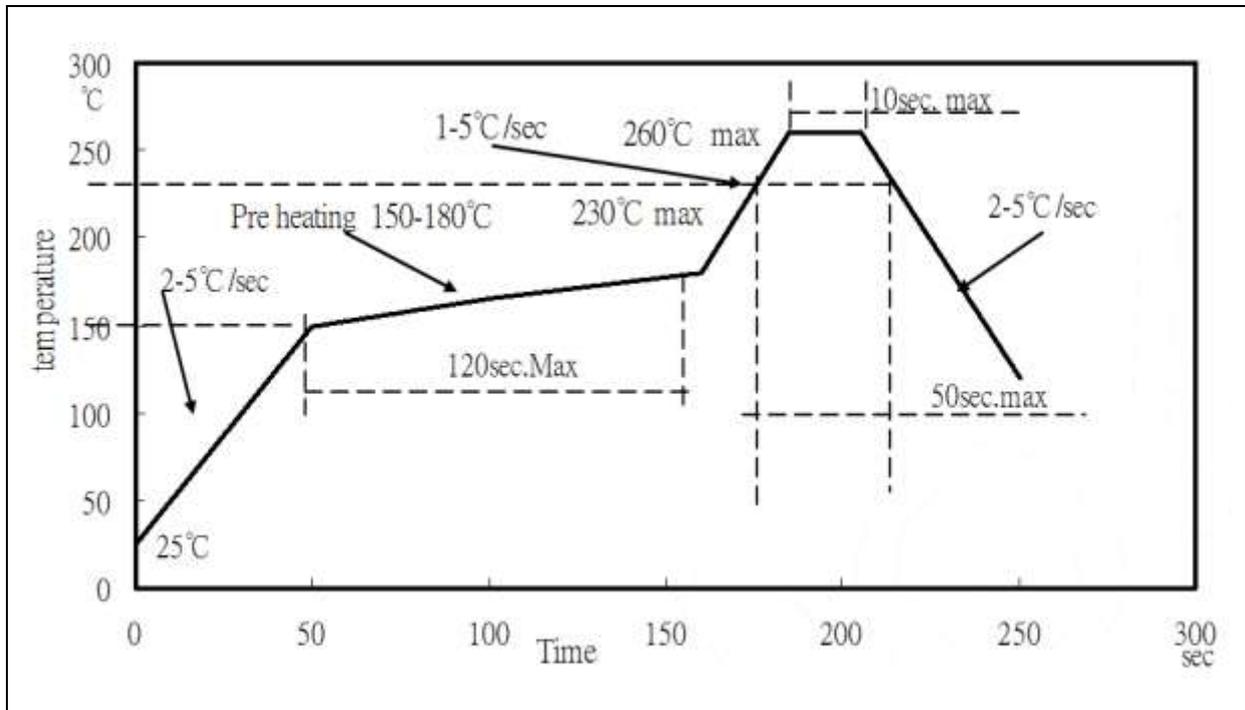


Maximum Current v.s. Ambient Temperature



RECOMMENDED SOLDERING PROFILE:

Lead-free Solder:

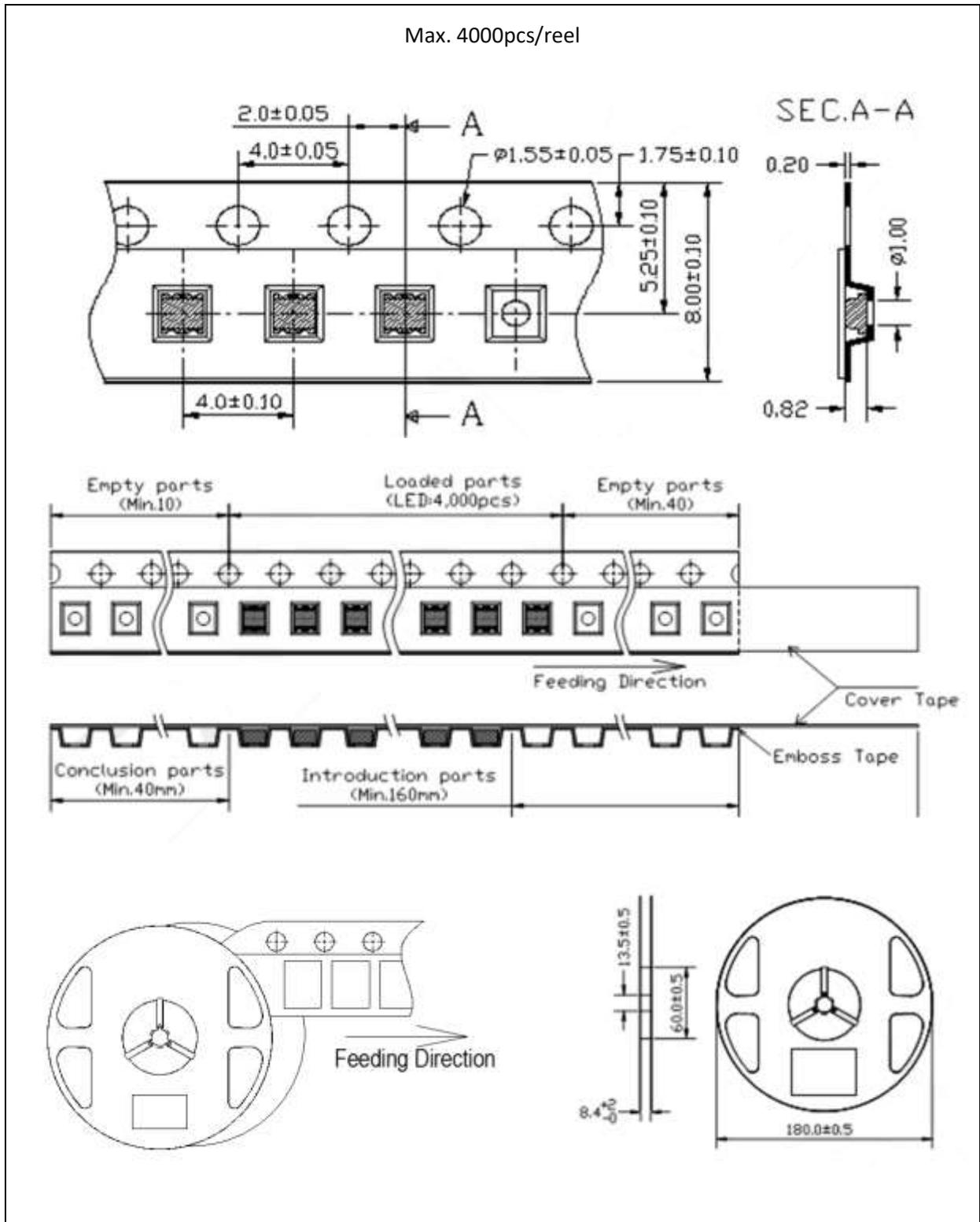


Note:

1. Maximum reflow soldering: 1 time.
2. Recommended reflow temperature is 240°C; the maximum soldering temperature should be limited to 260°C.
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±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-electrosatic 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	20/05/2016	Datasheet set-up.
A1.1	27/05/2022	New datasheet format.