



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

Brighten up The World With LED!



ISO/TS 16949:2009

BSI EM ISO 14001:2004

QC 800000 IECQ HSP98

PRODUCT DATASHEET

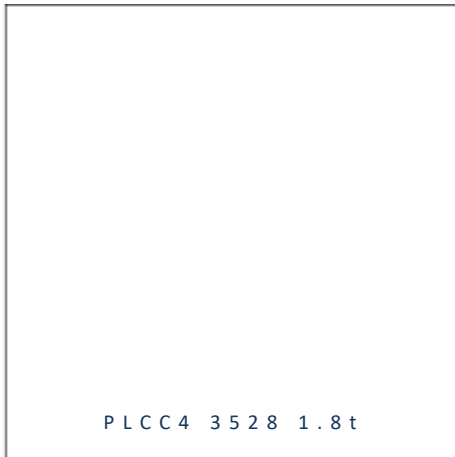


- ▶ PLCC4 SMD
- ▶ 3528 1.8t
- ▶ Yellow (590nm)

NOY19S79



Release Date: 24 September 2018 Version: A1.1



PLCC4 3528 1.8t



FEATURES:

- **Package:** PLCC4 Top View SMT White Package
- **Forward Current:** 50mA
- **Forward Voltage (typ.):** 2.1V
- **Luminous Intensity (typ.):** 1600mcd@50mA
- **Colour:** Yellow
- **Wavelength:** 590nm
- **Viewing angle:** 120°
- **Materials:**
 - Die: AlGaInP
 - Resin: Silicone (Water Clear)
 - L/F Finish: Ag Plated
- **Operating Temperature:** -40~+80°C
- **Storage Temperature:** -40~+85°C
- **Grouping parameters:**
 - Forward voltage
 - Luminous intensity
 - Dominant Wavelength
- **Soldering methods:** Reflow soldering
- **Preconditioning:** acc. to JEDEC Level 3
- **Packing:** 8mm tape with Max.2000pcs/reel, ø180mm (7")

APPLICATIONS:

- LED Display
- Indicator
- Traffic Display
- Decoration Lighting

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I _F	50	mA
Peak Forward Current Duty 1/8@1KHz	I _{FP}	125	mA
Reverse Voltage	V _R	5	V
Reverse Current @5V	I _R	10	μA
Power Dissipation	P _D	145	mW
Operating Temperature	T _{OPR}	-40~+80	°C
Storage Temperature	T _{STG}	-40~+85	°C

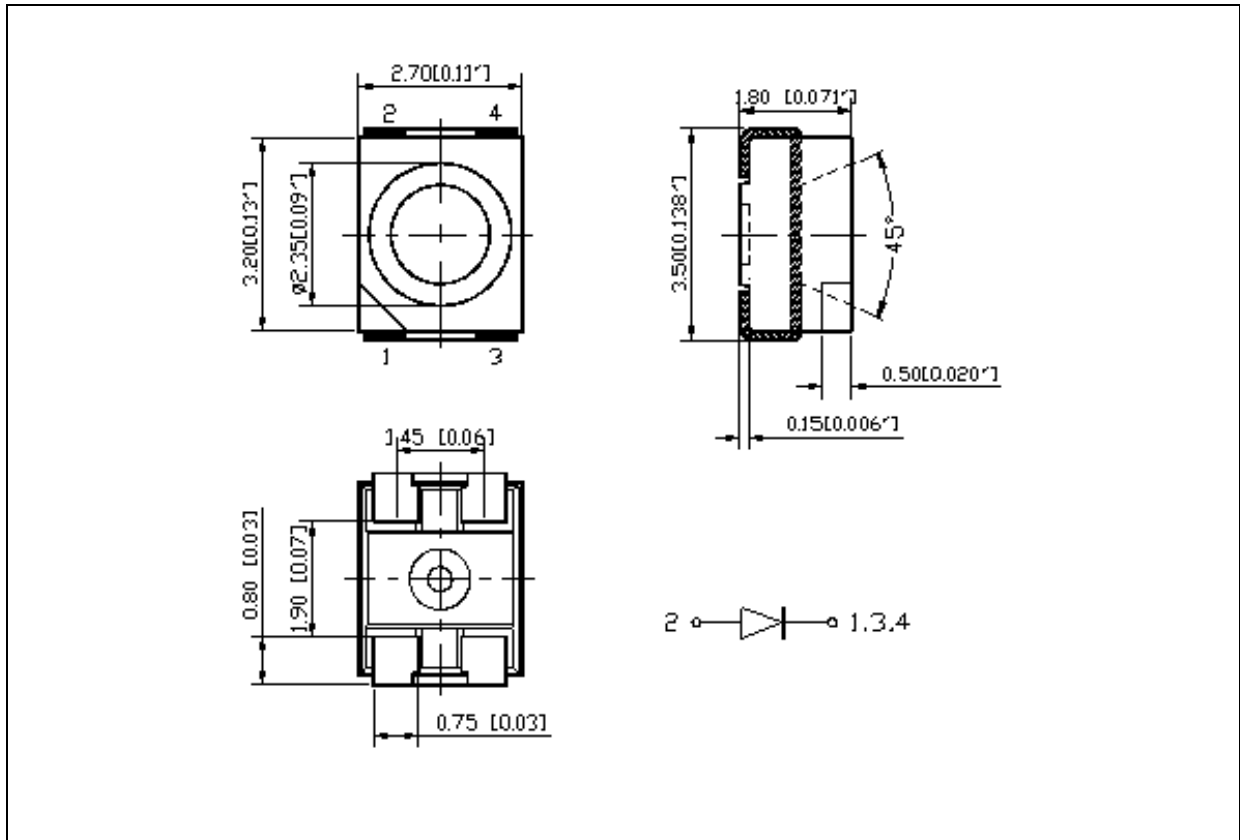
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V _F	1.9	2.1	2.9	V	I _F =50mA
Luminous Intensity	I _v	1000	1600	2500	mcd	I _F =50mA
Dominant Wavelength	λ _D	585	590	595	nm	I _F =50mA
Peak Wavelength	λ _P	---	594	---	nm	I _F =50mA
Spectral Half Bandwidth	Δλ	---	18	---	nm	I _F =50mA
Viewing Angle	2θ _{1/2}	---	120	---	deg	I _F =50mA

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

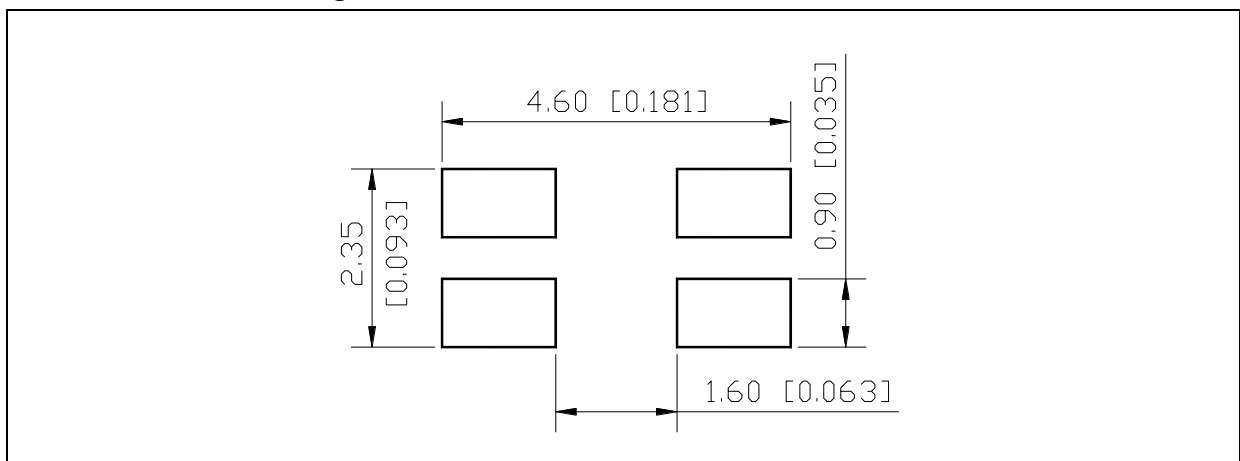
OUTLINE DIMENSION:

Package Dimension:



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

Recommended Soldering Pad Dimension:



1. Dimensions are in millimetre (mm).
2. Tolerance ± 0.2 mm.

BINNING GROUPS:

 Forward Voltage Classifications ($I_F = 50\text{mA}$):

Code	Min.	Max.	Unit
□	1.9	2.9	V

 Luminous Intensity Classifications ($I_F = 50\text{mA}$):

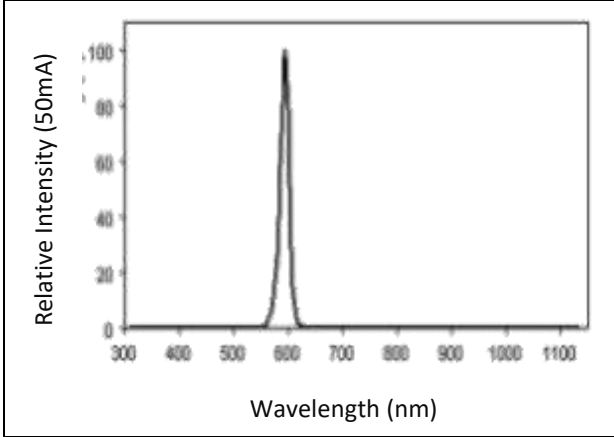
Code	Min.	Max.	Unit
T	1000	1250	mcd
U	1250	1600	
V	1600	2000	
W	2000	2500	

 Wavelength Classifications ($I_F = 50\text{mA}$):

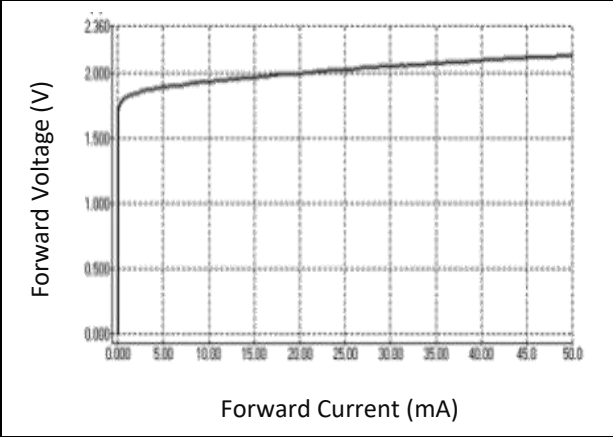
Code	Min.	Max.	Unit
M	585	590	nm
N	590	595	

ELECTRO-OPTICAL CHARACTERISTICS:

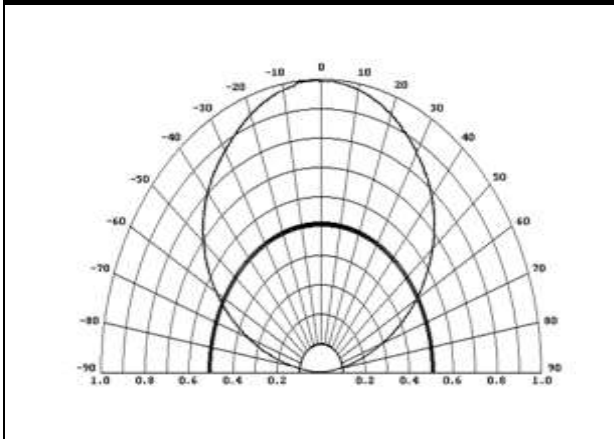
Relative Spectral Distribution



Forward Current v.s. Forward Voltage

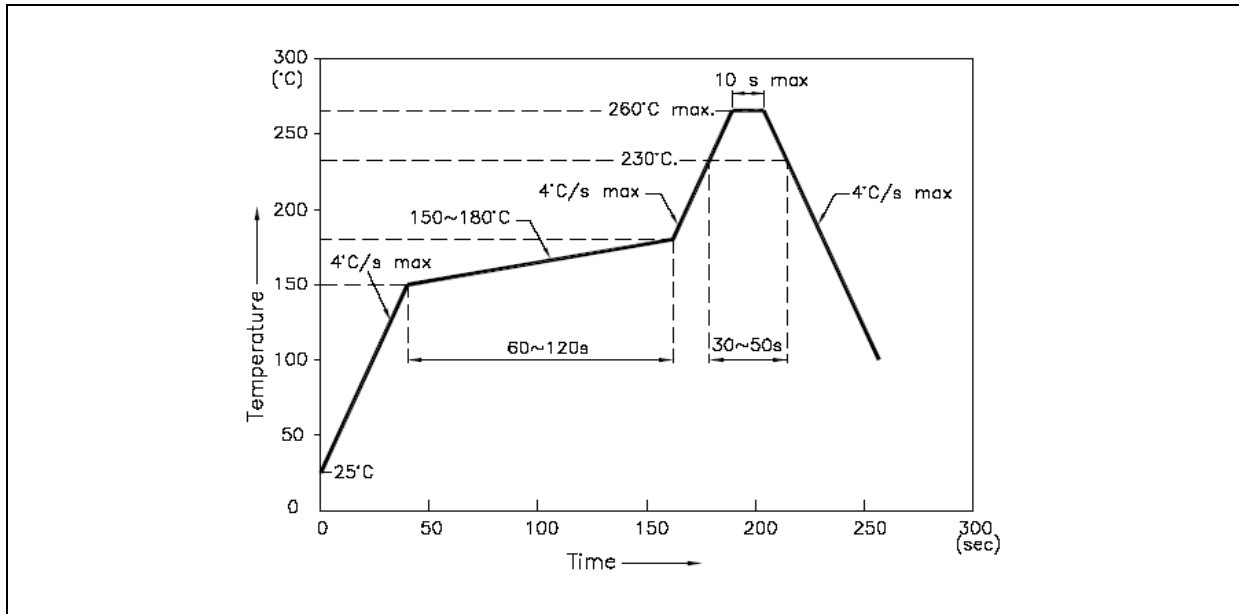


Directive Radiation



RECOMMENDED SOLDERING PROFILE:

Lead-free Solder:

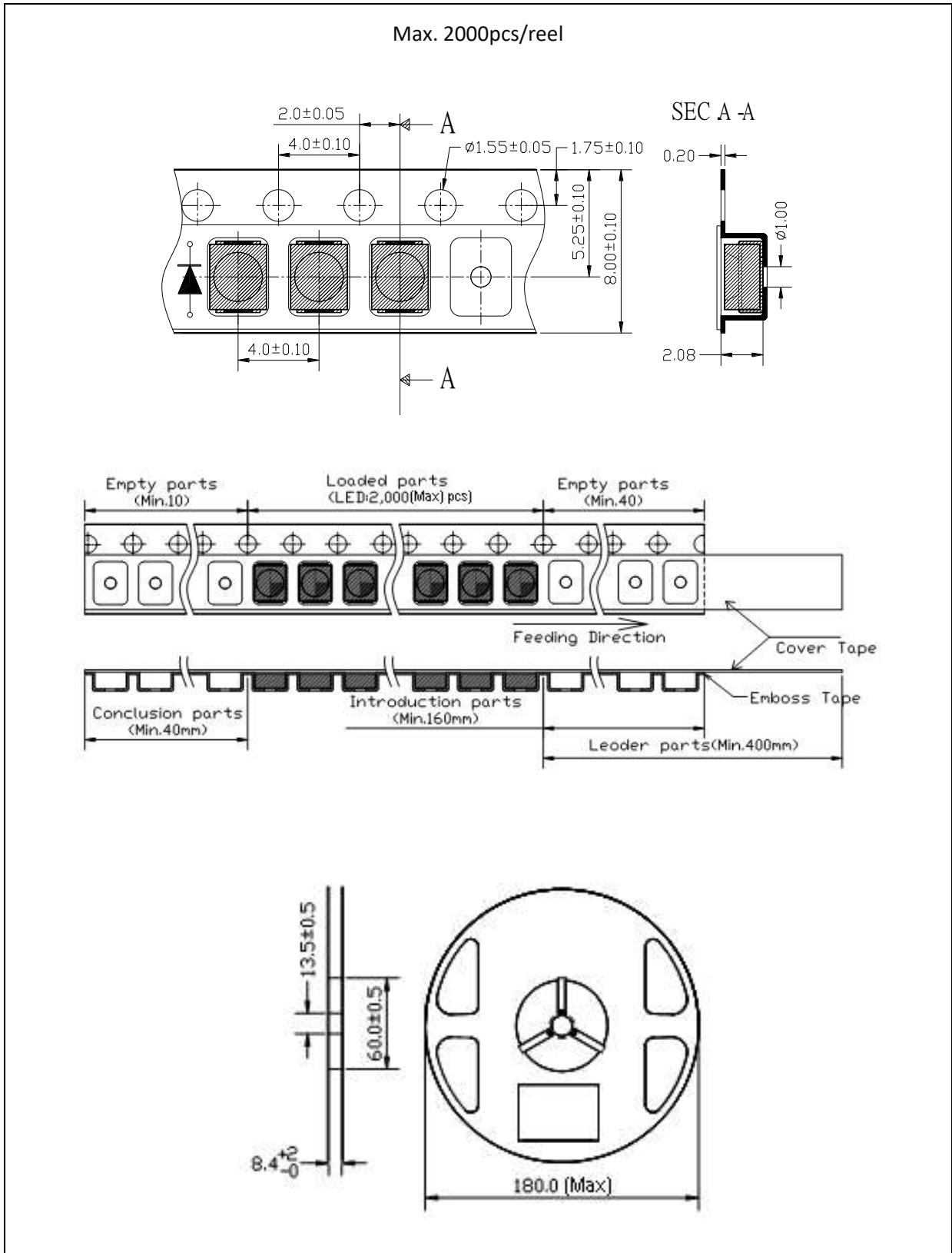


Note:

1. Maximum reflow soldering: 2 times.
2. The recommend soldering temperature is 245°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 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 36hrs 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	21/11/2016	Datasheet set-up.
A1.1	24/09/2018	New datasheet format.