



**BRIGHTTEK**  
**BRIGHTTEK (EUROPE) LIMITED**

*Brighten Up The World With LED!*



ISO/TS 16949:2009



BS EN ISO 14001:2004



QC 080000 IECQ HSPM

## PRODUCT DATASHEET



- ▶ Ceramic High Power
- ▶ 3535 1.1t Series
- ▶ Cool White 6000K / Warm White 3500K

NOD52S79



Release Date: 11 September 2020 Version: A1.0



### 3535 1.1t Series

**RoHS Compliant**



#### FEATURES:

- **Package:** Ceramic SMT Package with Silicon Lens
- **Forward Current:** 200/200mA\*
- **Forward Voltage (typ.):** 3.2/3.2V
- **Luminous Flux (typ.):** 35/25lm@200mA
- **Colour:** Cool White / Warm White
- **CCT/Wavelength:** 6000-6500K/3000-4000K
- **Viewing angle:** 130°
- **Materials:**
  - Die: InGaN/InGaN
  - Resin: Silicon (Yellow Diffused)
  - L/T Finish: Ag plated
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
  - Forward Voltage
  - Luminous Flux
  - CIE Chromaticity
- **Soldering methods:** IR Reflow Soldering
- **Preconditioning:** MSL3 according to J-STD020
- **Packing:** 12mm tape with min.100pcs/reel, ø180mm (7")

\* in order of Cool White / Warm White

#### APPLICATIONS:

- Portable Lighting
- Outdoor Lighting
- Commercial Lighting
- Indoor Lighting
- Industrial Lighting
- Street and Tunnel Lighting

## CHARACTERISTICS:

### Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I <sub>F</sub>	200	mA
Pulse Forward Current, D=0.01s Duty 1/10	I <sub>PF</sub>	300	mA
Reverse Current @5V	I <sub>R</sub>	10	μA
Reverse Voltage	V <sub>R</sub>	5	V
Junction Temperature	T <sub>J</sub>	115	°C
Operating Temperature	T <sub>OPR</sub>	-40~+85	°C
Storage Temperature	T <sub>STG</sub>	-40~+100	°C
Soldering Temperature	T <sub>SOL</sub>	260	°C
Thermal Resistance - Junction to Solder Point	R <sub>th</sub>	36	°C/W

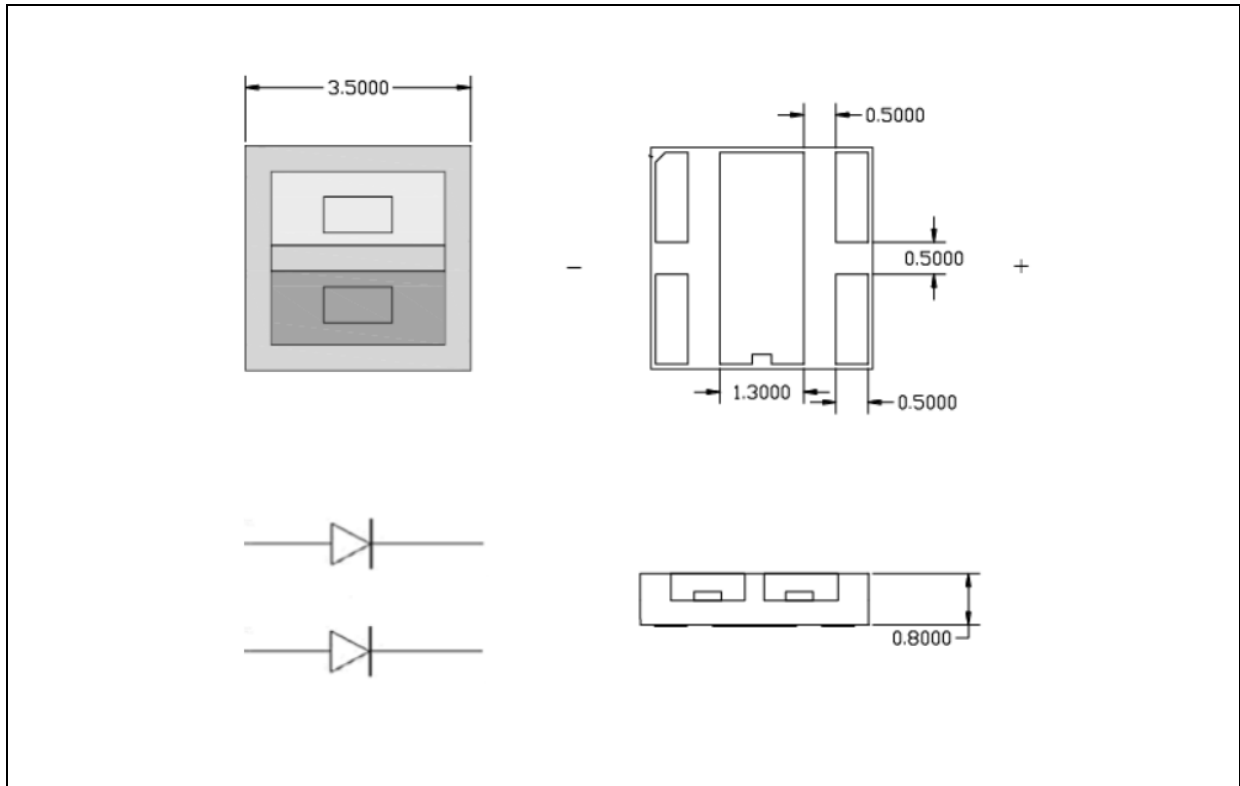
### Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V <sub>F</sub>	3.0/3.0*	3.2/3.2	3.5/3.5	V	I <sub>F</sub> =200mA
Luminous Flux	Φ <sub>V</sub>	30/20	---	40/30	lm	I <sub>F</sub> =200mA
Colour Temperature	CCT	6000/3000	---	6500/4000	K	I <sub>F</sub> =200mA
Viewing Angle	2θ <sub>1/2</sub>	---	130	---	deg	I <sub>F</sub> =200mA

- Luminous flux (Φ<sub>V</sub>) ±10%, Forward Voltage (V<sub>F</sub>) ±0.1V, Viewing angle(2θ<sub>1/2</sub>) ±10°
- \* in order of Cool White / Warm White

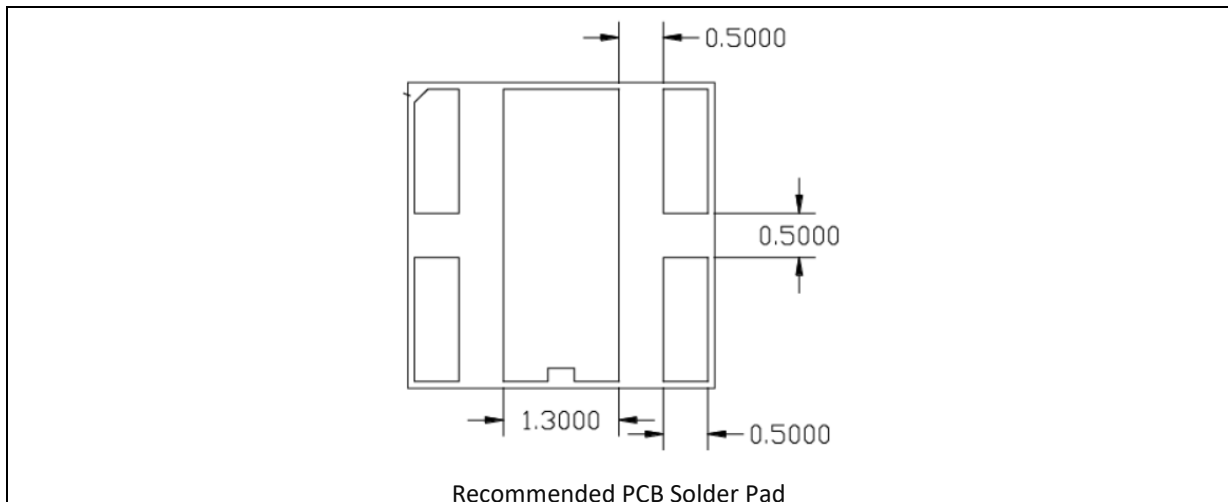
## OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).
2. Tolerance  $\pm 0.13\text{mm}$ , unless otherwise noted.

Recommended Soldering Pad Dimension:



1. Dimensions are in millimetre (mm).
2. Tolerance  $\pm 0.12\text{mm}$  with angle tolerance  $\pm 0.5^\circ$ .

**BINNING GROUPS:**


---

 Forward Voltage Classifications ( $I_F = 200\text{mA}$ ):

Code		Min.	Max.	Unit
V	Cool White	3.0	3.5	V
	Warm White	3.0	3.5	

 Luminous Flux Classifications ( $I_F = 200\text{mA}$ ):

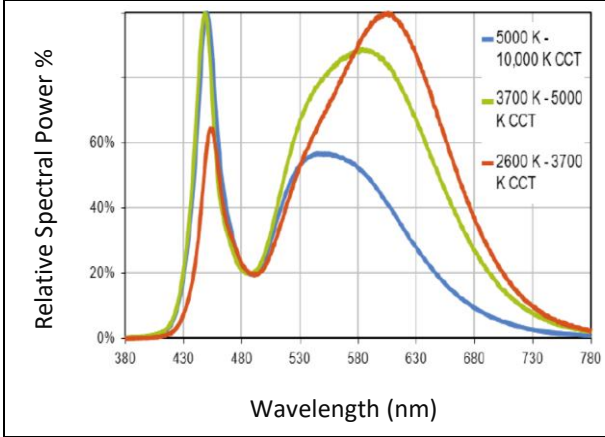
Code		Min.	Max.	Unit
IV	Cool White	30	40	lm
	Warm White	20	30	

 CCT Classifications ( $I_F = 200\text{mA}$ ):

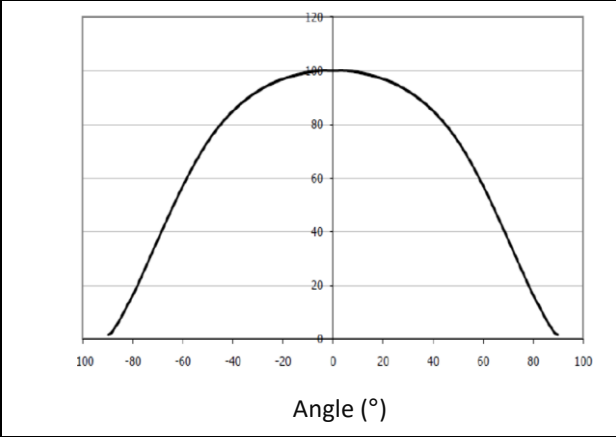
Code		Min.	Max.	Unit
CCT	Cool White	6000	6500	K
	Warm White	3000	4000	

**ELECTRO-OPTICAL CHARACTERISTICS:**

Relative Spectral Power v.s. Wavelength

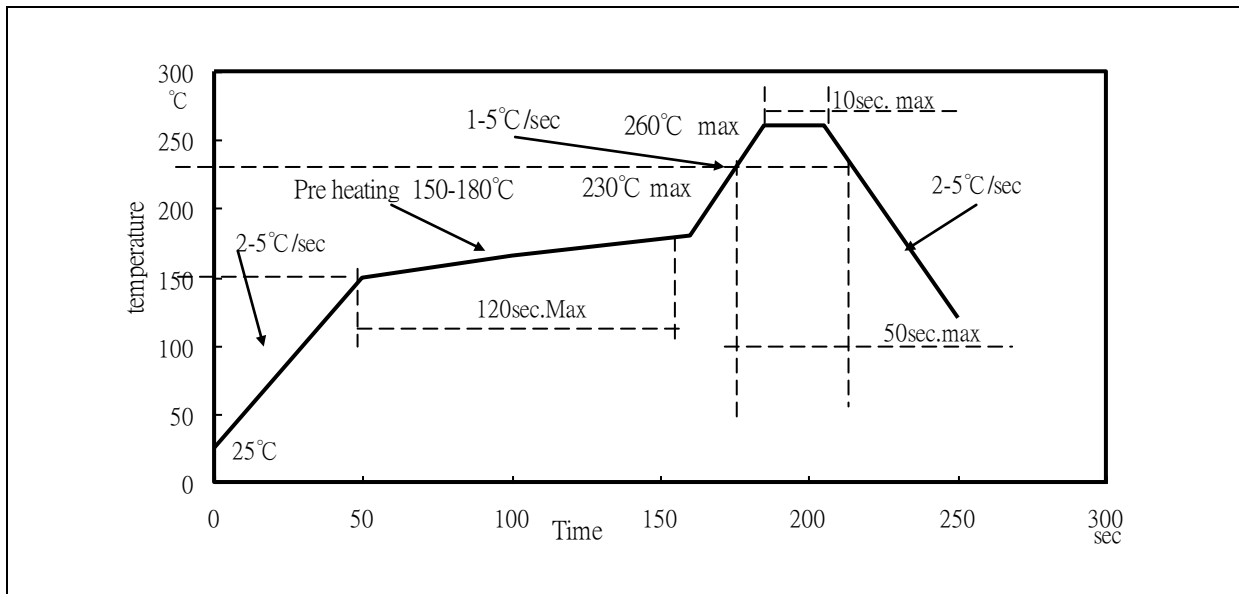


Directive Radiation



## RECOMMENDED SOLDERING PROFILE:

### Reflow Lead-free Solder:

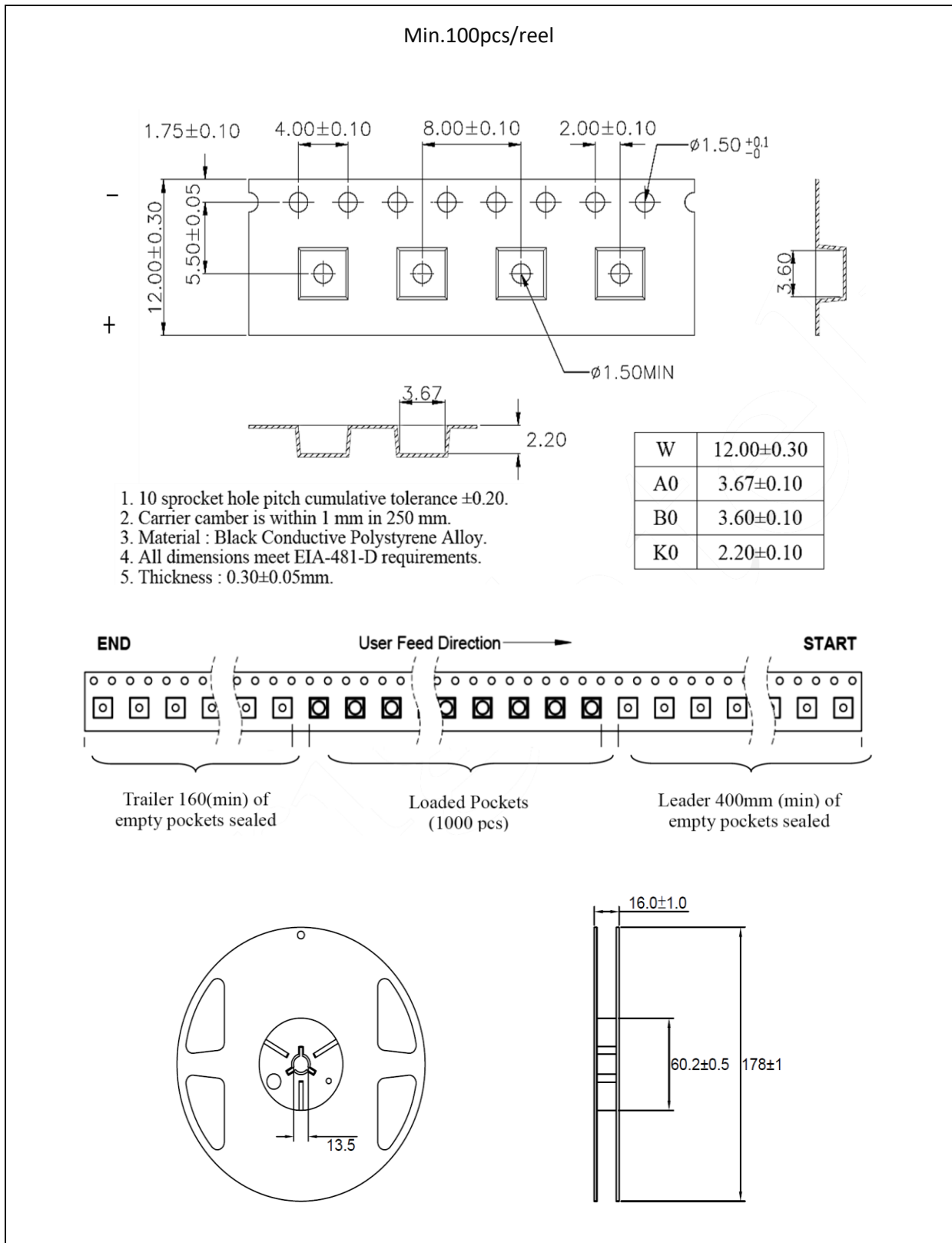


#### Note:

1. Maximum reflow soldering: 2 times.
2. The 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 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 desiccating agent and apply baking at 60°C±5°C for 15hrs before use.

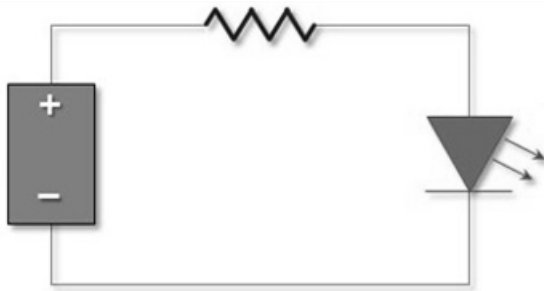
### Baking:

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 15hrs and <5%RH, taped / reel package.

It's normal to see slight color fading of carrier (light Warm White) 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	11/09/2020	Datasheet set-up.