



**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

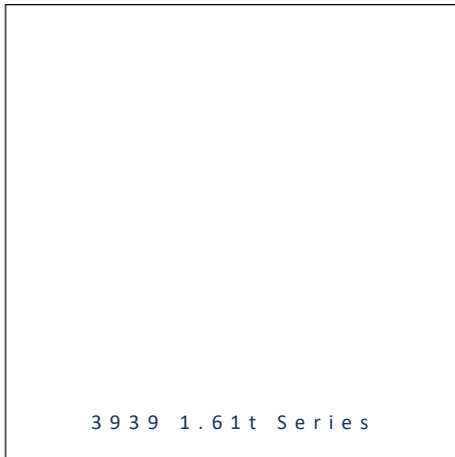


- ▶ Ceramic High Power
- ▶ 3939 1.61t Series
- ▶ IR 940nm / IR 850nm / Deep Red 660nm / True Green 525nm

NOM62S47



Release Date: 08 September 2022 Version: A1.0



### 3939 1.61t Series

**RoHS Compliant**



#### FEATURES (IR 940/IR 850/Red/Green\*):

- **Package:** Ceramic SMT Package with Glass Lens
- **Forward Current:** 150/150/150/150mA
- **Forward Voltage (typ.):** 1.6/1.6/2.3/3.2V
- **Luminous Power/Flux (typ.):** 40/40/12mW/18lm@150mA
- **Colour:** IR 940nm/IR 850nm/Deep Red/True Green
- **Wavelength:** 940/850/660/525nm
- **Viewing angle:** 120°
- **Materials:**
  - Die: AlGaInP/AlGaInP/AlGaInP/InGaN
  - Resin: Glass (Water Clear)
- **Operating Temperature:** -40~+80°C
- **Storage Temperature:** -40~+80°C
- **Grouping parameters:**
  - Forward voltage
  - Luminous flux
  - Peak Wavelength
- **Soldering methods:** IR Reflow soldering
- **Preconditioning:** MSL 4 according to J-STD020
- **Packing:** 12mm tape with max.2500pcs/reel, ø180mm (7")

#### APPLICATIONS:

- Light Inspection
- Detection Device
- Medical Device
- Plant Light

**CHARACTERISTICS:**


---

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

Parameter	Symbol	Ratings	Unit
Forward Current	I <sub>F</sub>	200	mA
Pulse Current D=0.01s Duty 1/10	I <sub>FP</sub>	300	mA
Reverse Voltage	V <sub>R</sub>	-5	V
Reverse Current @5V	I <sub>R</sub>	10	μA
Junction Temperature	T <sub>j</sub>	85	°C
Thermal Resistance	R <sub>TH</sub>	17.8	°C/W
Soldering Temperature	T <sub>SOL</sub>	260	°C
Operating Temperature	T <sub>OPR</sub>	-40~+80	°C
Storage Temperature	T <sub>STG</sub>	-40~+80	°C

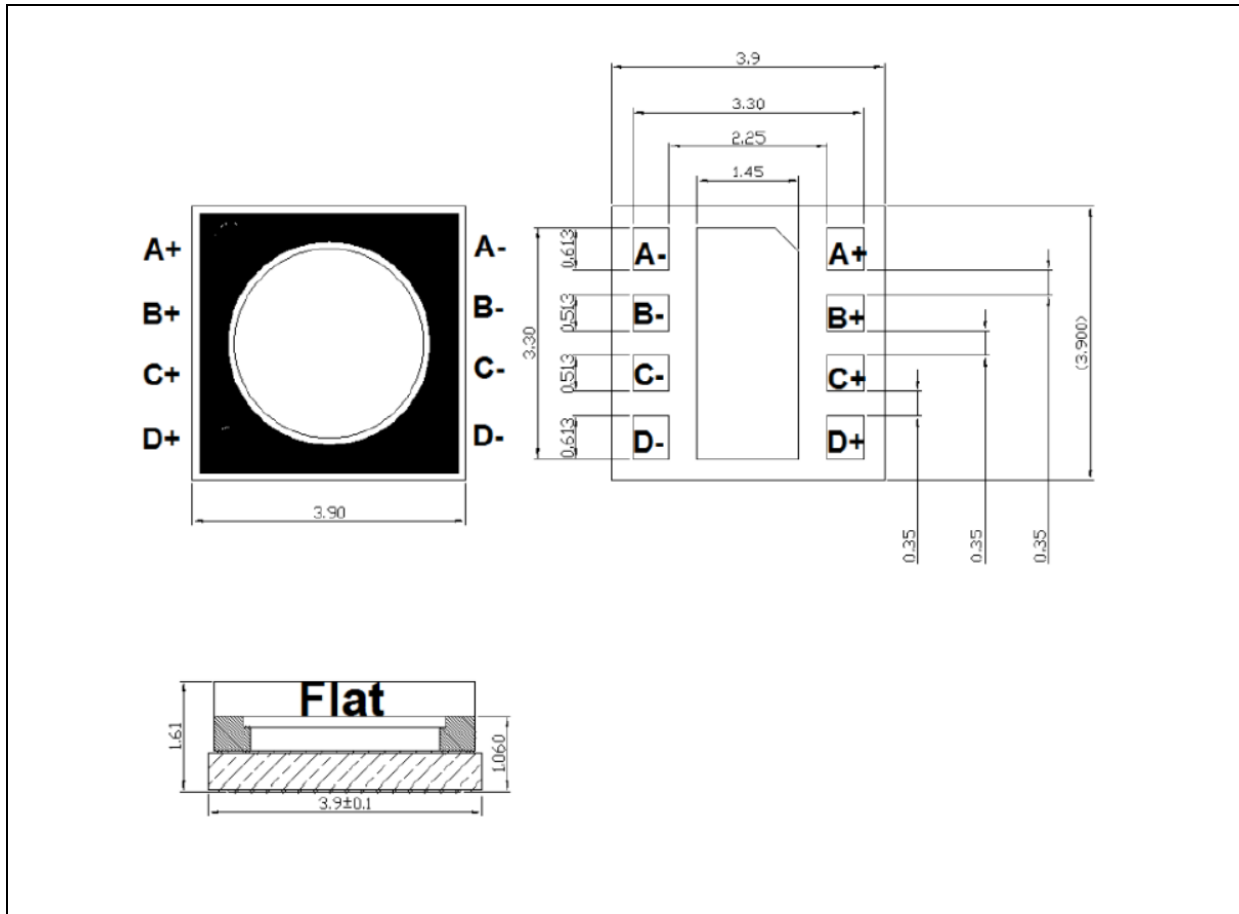
## Electrical &amp; Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
IR 940nm - Forward Voltage	V <sub>F</sub>	1.3	---	1.8	V	I <sub>F</sub> =150mA
IR 940nm - Luminous Power	P <sub>o</sub>	30	---	50	mW	I <sub>F</sub> =150mA
IR 940nm - Wavelength	W <sub>P</sub>	930	---	950	nm	I <sub>F</sub> =150mA
IR 850nm - Forward Voltage	V <sub>F</sub>	1.3	---	1.8	V	I <sub>F</sub> =150mA
IR 850nm - Luminous Power	P <sub>o</sub>	30	---	50	mW	I <sub>F</sub> =150mA
IR 850nm - Wavelength	W <sub>P</sub>	840	---	860	nm	I <sub>F</sub> =150mA
Red - Forward Voltage	V <sub>F</sub>	1.8	---	2.8	V	I <sub>F</sub> =150mA
Red - Luminous Flux	P <sub>o</sub>	10	---	13	mW	I <sub>F</sub> =150mA
Red - Wavelength	W <sub>P</sub>	650	---	670	nm	I <sub>F</sub> =150mA
Green - Forward Voltage	V <sub>F</sub>	2.6	---	3.8	V	I <sub>F</sub> =150mA
Green - Luminous Flux	Φ <sub>V</sub>	17	---	20	lm	I <sub>F</sub> =150mA
Green - Wavelength	W <sub>P</sub>	520	---	530	nm	I <sub>F</sub> =150mA
Viewing Angle	2θ <sub>1/2</sub>	---	120	---	deg	I <sub>F</sub> =150mA

 1. Luminous intensity (I<sub>v</sub>) ±10%, Forward Voltage (V<sub>F</sub>) ±0.1V

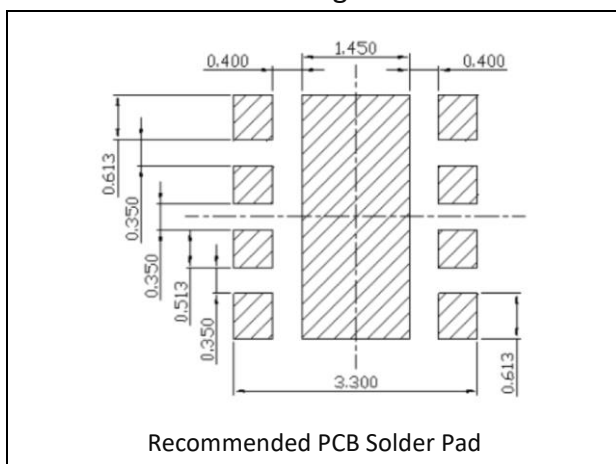
## OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).
2. Tolerance  $\pm 0.1$ mm, unless otherwise noted.

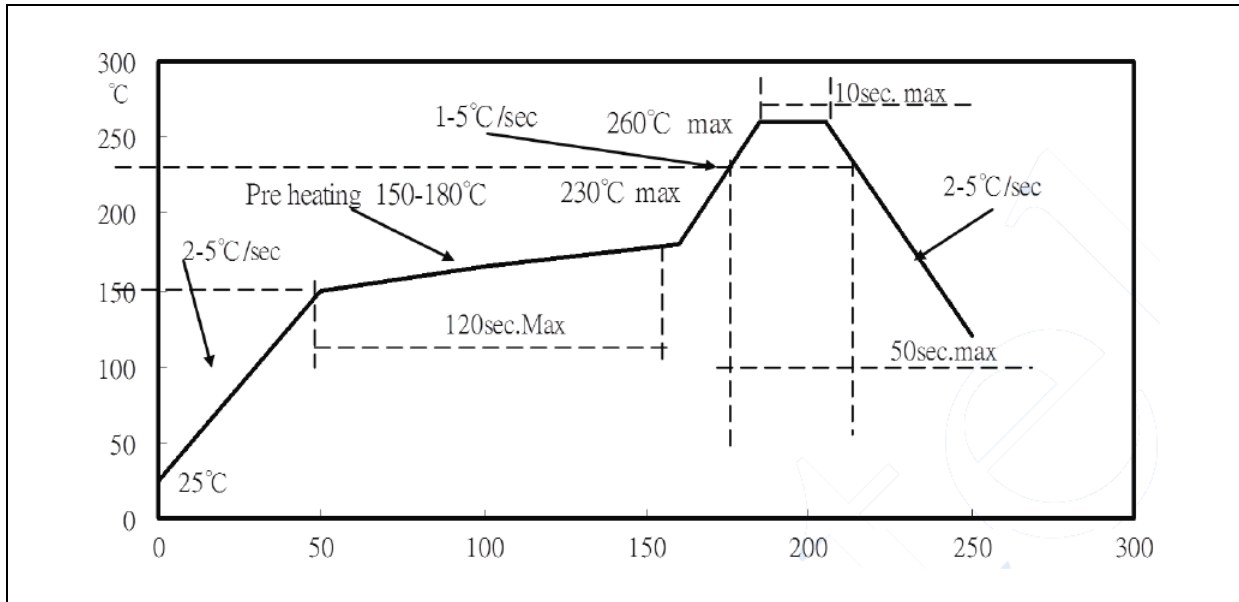
Recommended Soldering Pad Dimension:



1. Dimensions are in millimetre (mm).
2. Tolerance  $\pm 0.1$ mm with angle tolerance  $\pm 0.5^\circ$ .

## RECOMMENDED SOLDERING PROFILE:

Lead-free Solder:

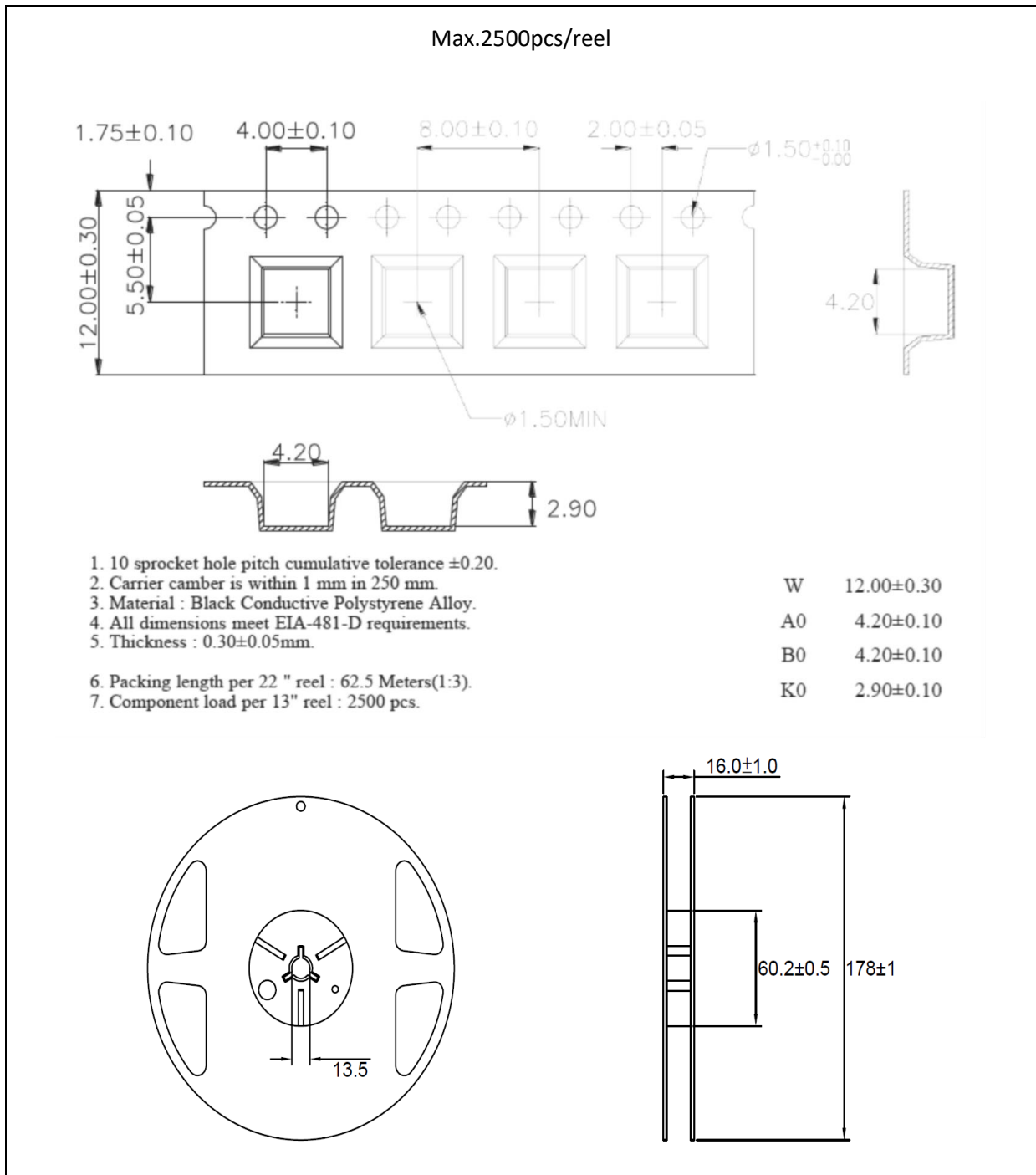


Note:

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 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.

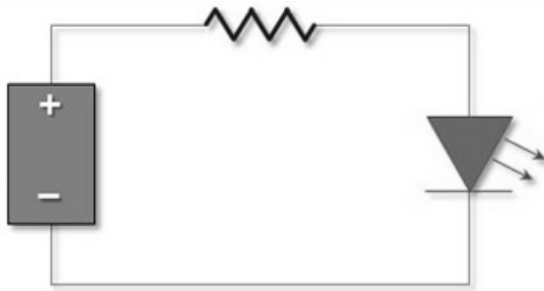
### Baking:

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-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	08/09/2022	Datasheet set-up.