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

- ▶ Ceramic High Power
- ▶ 3939 2.6t Series
- ▶ IR 940nm / IR 850nm / Deep Red 660nm / True Green 525nm

Release Date: 08 September 2022 Version: A1.0

N0M62S46

3939 2.6t 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:** 60°
- **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_F	200	mA
Pulse Current D=0.01s Duty 1/10	I_{FP}	300	mA
Reverse Voltage	V_R	-5	V
Reverse Current @5V	I_R	10	μA
Junction Temperature	T_j	85	°C
Thermal Resistance	R_{TH}	17.8	°C/W
Soldering Temperature	T_{sol}	260	°C
Operating Temperature	T_{OPR}	-40~+80	°C
Storage Temperature	T_{STG}	-40~+80	°C

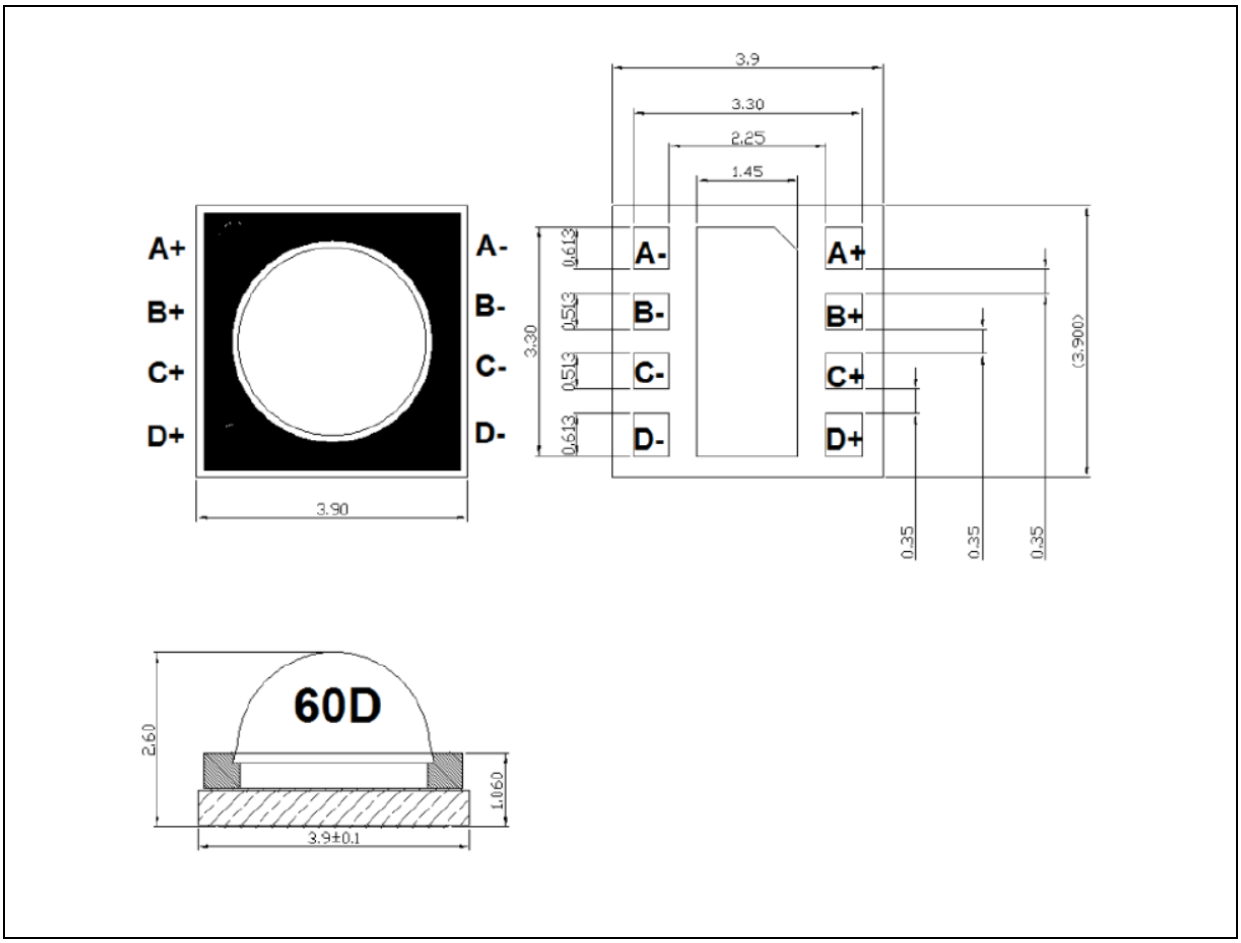
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
IR 940nm - Forward Voltage	V_F	1.3	---	1.8	V	I_F=150mA
IR 940nm - Luminous Power	P_o	30	---	50	mW	I_F=150mA
IR 940nm - Wavelength	W_P	930	---	950	nm	I_F=150mA
IR 850nm - Forward Voltage	V_F	1.3	---	1.8	V	I_F=150mA
IR 850nm - Luminous Power	P_o	30	---	50	mW	I_F=150mA
IR 850nm - Wavelength	W_P	840	---	860	nm	I_F=150mA
Red - Forward Voltage	V_F	1.8	---	2.8	V	I_F=150mA
Red - Luminous Flux	P_o	10	---	13	mW	I_F=150mA
Red - Wavelength	W_P	650	---	670	nm	I_F=150mA
Green - Forward Voltage	V_F	2.6	---	3.8	V	I_F=150mA
Green - Luminous Flux	Φ_V	17	---	20	lm	I_F=150mA
Green - Wavelength	W_P	520	---	530	nm	I_F=150mA
Viewing Angle	$2\theta_{1/2}$	---	60	---	deg	I_F=150mA

1. Luminous intensity (I_V) ±10%, Forward Voltage (V_F) ±0.1V

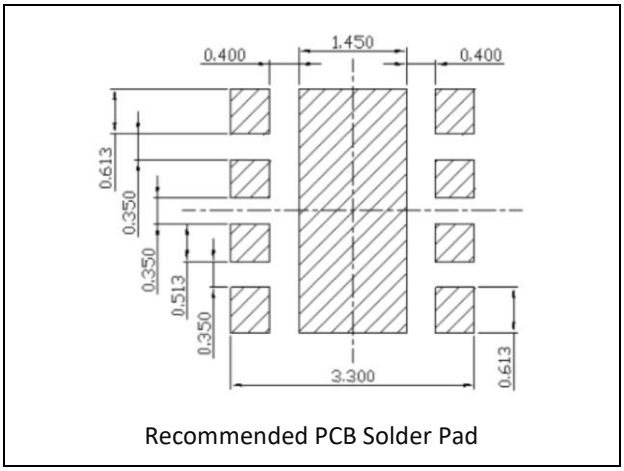
OUTLINE DIMENSION:

Package Dimension:



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

Recommended Soldering Pad Dimension:

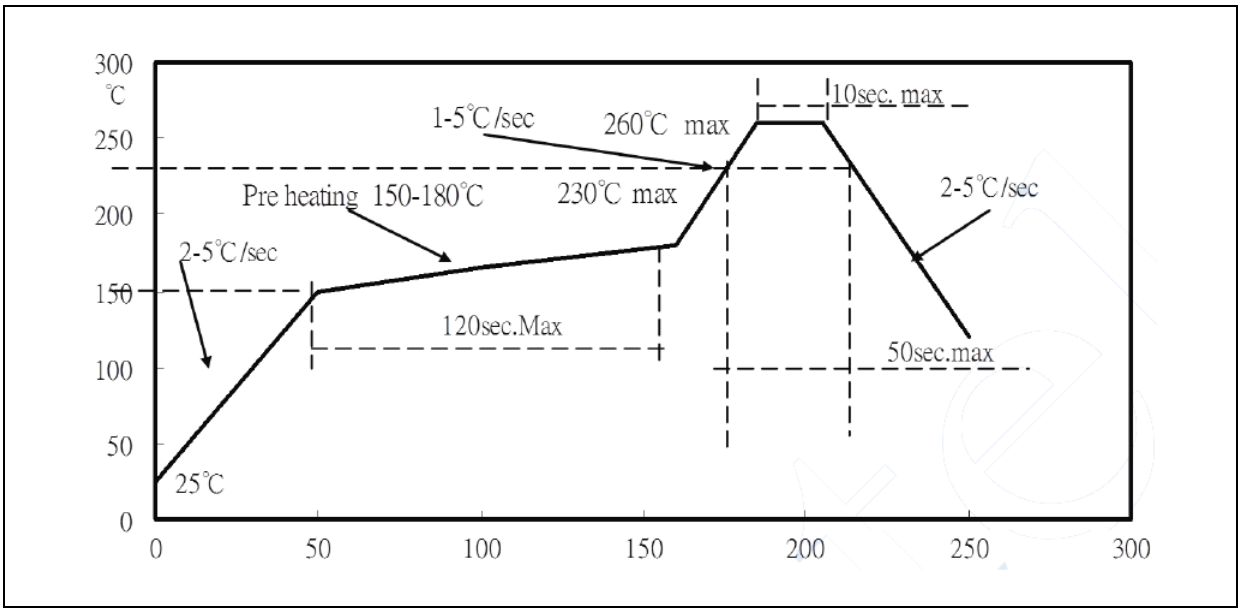


Recommended PCB Solder Pad

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

RECOMMENDED SOLDERING PROFILE:

Lead-free Solder:



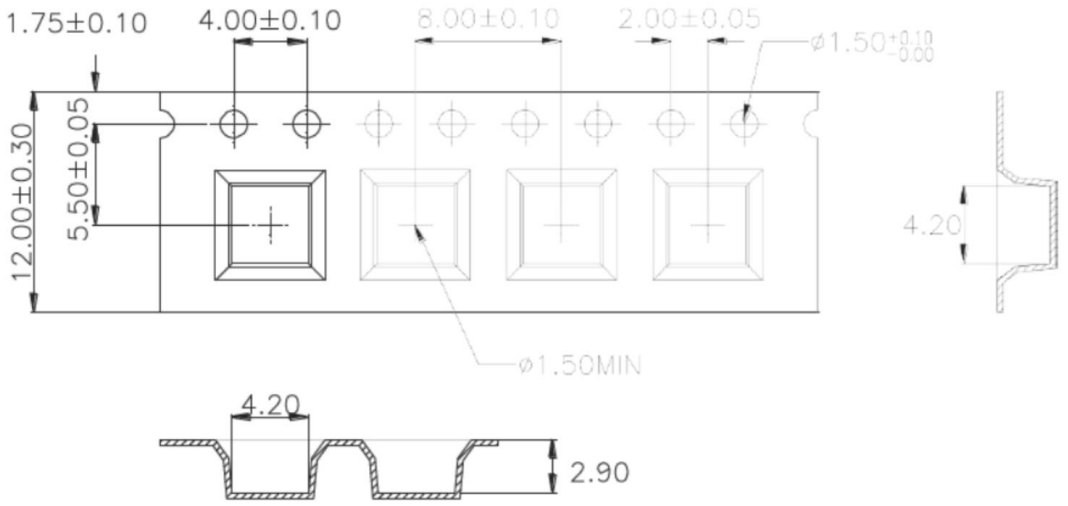
Note:

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:

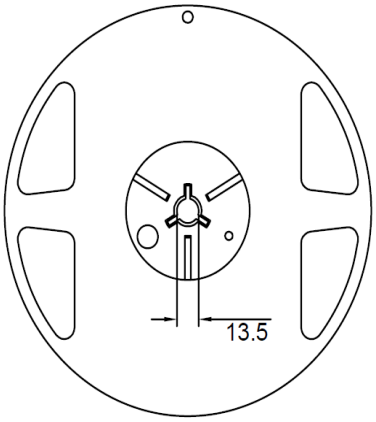
Max.2500pcs/reel

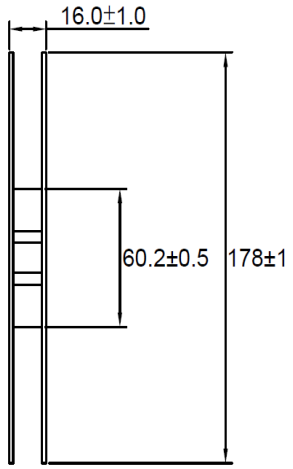


1. 10 sprocket hole pitch cumulative tolerance ±0.20.
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness : 0.30±0.05mm.

6. Packing length per 22 " reel : 62.5 Meters(1:3).
7. Component load per 13" reel : 2500 pcs.

W	12.00±0.30
A0	4.20±0.10
B0	4.20±0.10
K0	2.90±0.10





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.

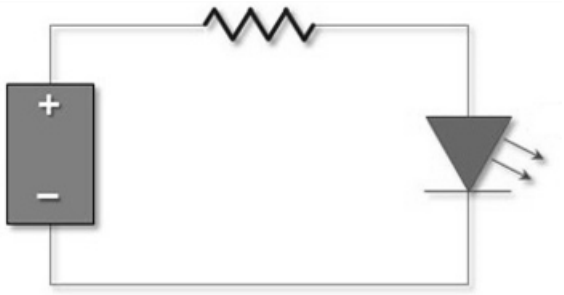
Baking:

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±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 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	08/09/2022	Datasheet set-up.