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
- ▶ 3535 2.80t Series
- ▶ Yellow (585-595nm)

Release Date: 01 February 2025 Version: A1.1

N0Y56S90

3535 2.80t Series

RoHS Compliant

FEATURES:

- **Package:** Ceramic SMT Package with Silicon Lens
- **Forward Current:** 350~700mA
- **Forward Voltage (typ.):** 2.2V
- **Luminous Flux (typ.):** 60lm@350mA
- **Colour:** Yellow
- **Dominant Wavelength:** 585~595nm
- **Viewing Angle:** 60°
- **Materials:**
  - Resin: Silicon (Water Clear)
  - L/T Finish: Au plated
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping Parameters:**
  - Forward Voltage
  - Luminous Flux
  - Dominant Wavelength
- **Soldering Methods:** Reflow Soldering
- **MSL Level:** according to J-STD020 MSL 4
- **Packing:** 12mm tape with max.500pcs/reel, ø180mm (7'')

APPLICATIONS:

- Portable Lighting
- Outdoor Lighting
- Commercial Lighting
- Indoor Lighting
- Industrial Lighting
- Plant Grow Light

CHARACTERISTICS:

Absolute Maximum Characteristics (T_a=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I_F	700	mA
Pulse Forward Current	I_{PF}	1000	mA
Reverse Voltage	V_R	5	V
Reverse Current @5V	I_R	10	μA
Junction Temperature	T_j	115	°C
Operating Temperature	T_{OPR}	-40~+85	°C
Storage Temperature	T_{STG}	-40~+100	°C
Soldering Temperature	T_{SOL}	260	°C
Thermal Resistance - Junction to Solder Point	R_{th}	7	°C/W

* in the order of Cool White / Warm White

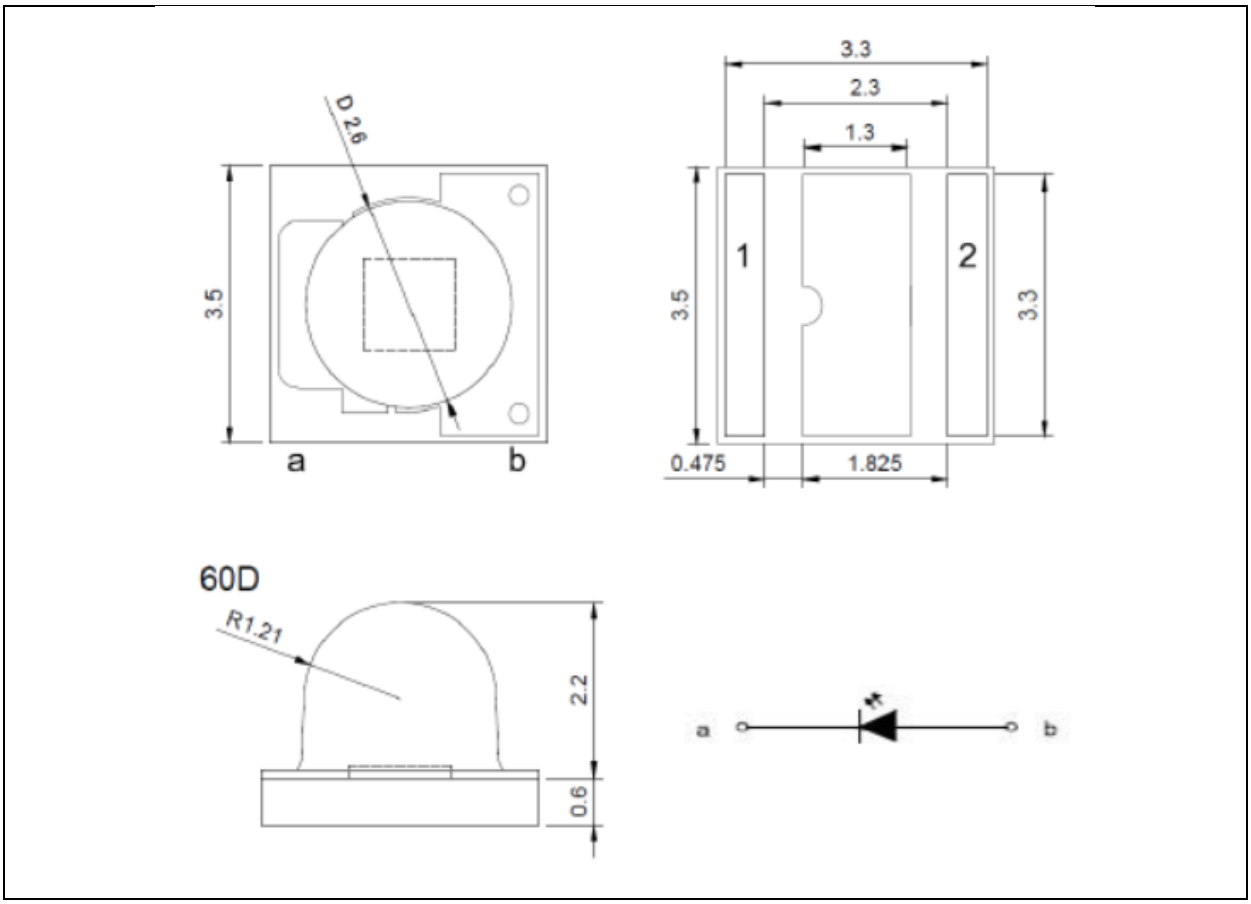
Electrical & Optical Characteristics (T_a=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	1.8	---	2.6	V	I_F=350mA
Luminous Flux	Φ_V	50	---	70	lm	I_F=350mA
Dominant Wavelength	λ_D	585	---	595	nm	I_F=350mA
Viewing Angle	$2\theta_{1/2}$	---	60	---	deg	I_F=350mA

1. Radiant Flux (Φ_V) ±5%, Forward Voltage (V_F) ±0.06V, Viewing angle($2\theta_{1/2}$) ±10°

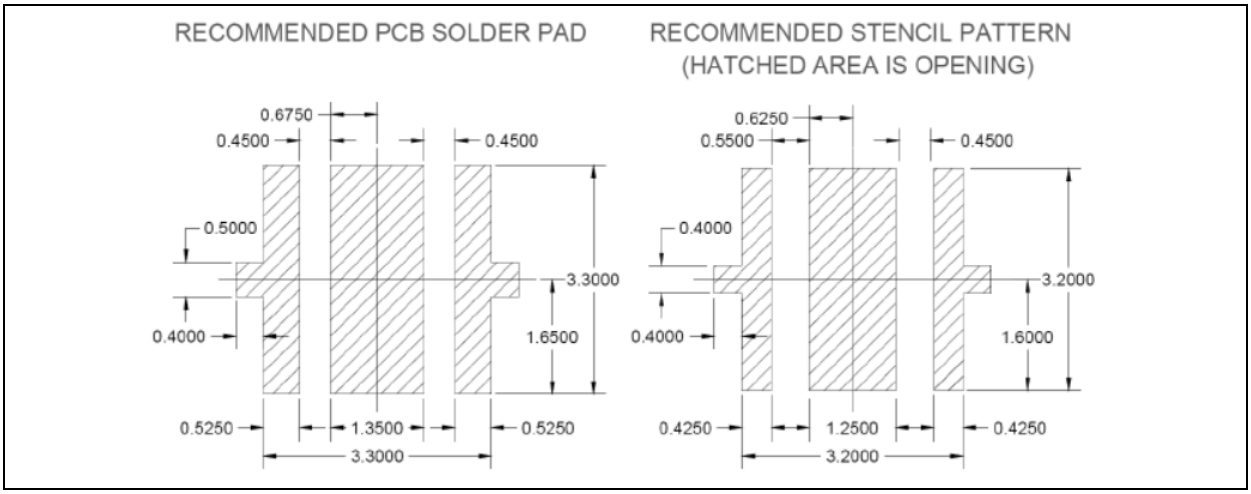
OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).
2. Tolerance ±0.13mm, unless otherwise noted.

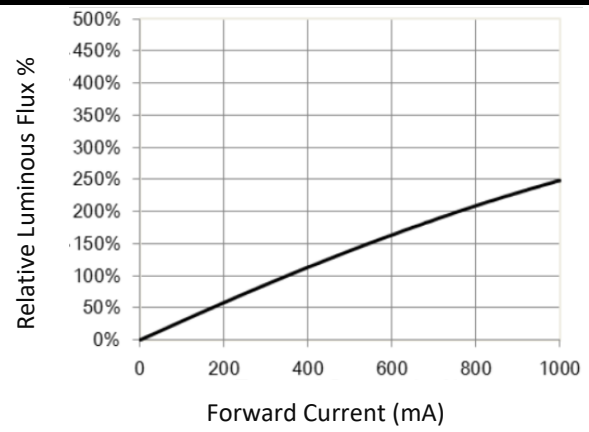
Recommended Soldering Pad Dimension:



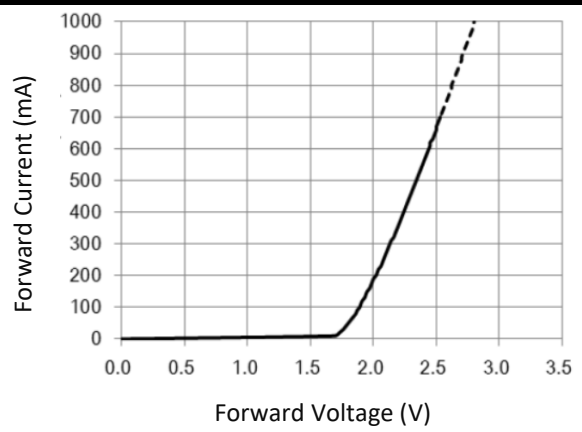
1. Dimensions are in millimetre (mm).
2. Tolerance ±0.12mm with angle tolerance ±0.5°.

ELECTRO-OPTICAL CHARACTERISTICS:

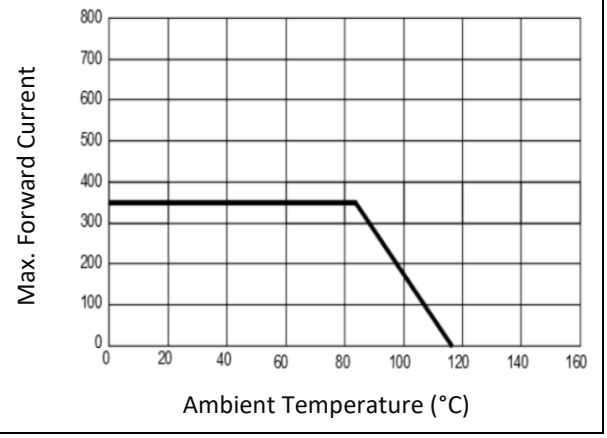
Relative Luminous Flux v.s. Forward Current



Forward Current v.s. Forward Voltage



Max. Current v.s. Ambient Temperature



BINNING GROUPS:

Forward Voltage Classifications (I_F = 350mA):

Code	Min.	Max.	Unit
V18	1.8	2.0	V
V20	2.0	2.2	
V22	2.2	2.4	
V24	2.4	2.6	

Luminous Flux Classifications (I_F = 350mA):

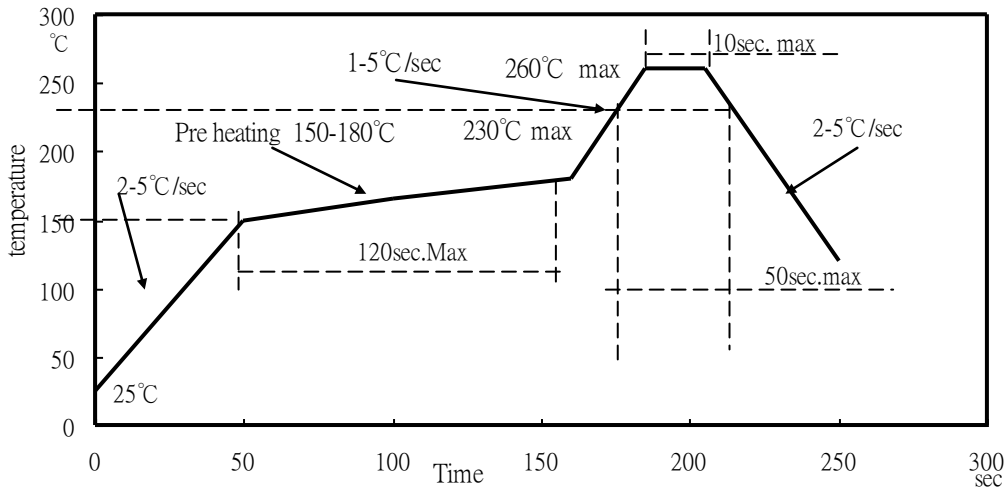
Code	Min.	Max.	Unit
Y50	50	55	lm
Y55	55	60	
Y60	60	65	
Y65	65	70	

Dominant Wavelength Classifications (I_F = 350mA):

Code	Min.	Max.	Unit
Y1	585	590	nm
Y2	590	595	

RECOMMENDED SOLDERING PROFILE:

Reflow Lead-free Solder:



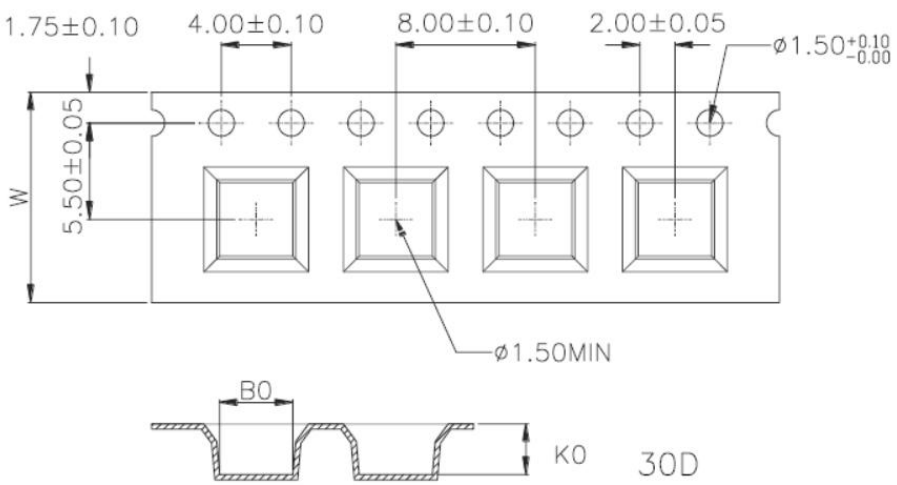
Note:

1. Maxima reflow soldering: 3 times.
2. The recommend reflow temperature is 240°C. The maxima 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.500pcs/reel



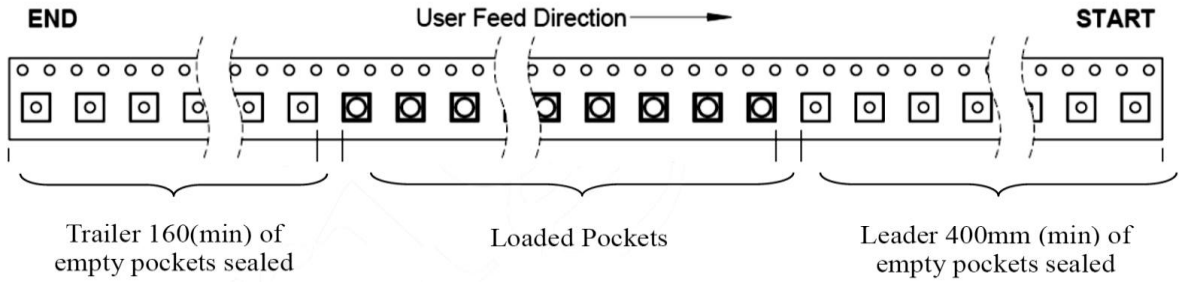
1. 10 sprocket hole pitch cumulative tolerance ±0.20.
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness : 0.30±0.05mm.
6. Packing length per 22 " reel : 62.5 Meters(1:3).

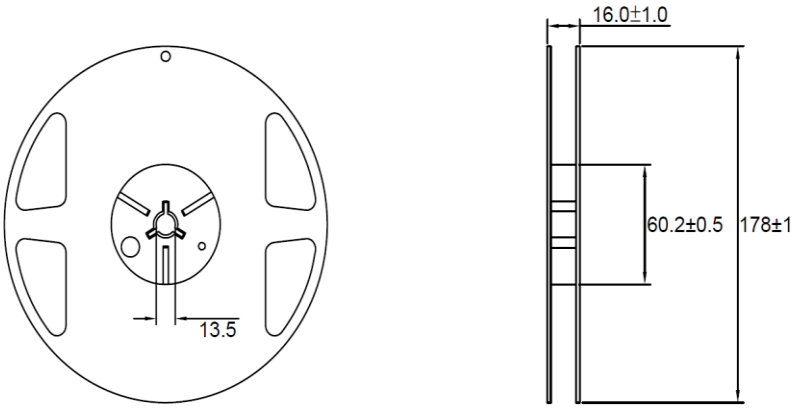
30D

W	12.00±0.30
A0	4.20±0.10
B0	4.20±0.10
K0	3.50±0.10

60D

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.

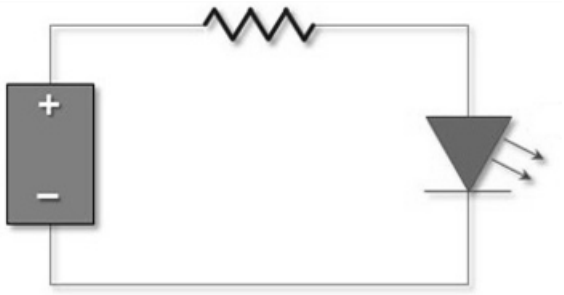
Baking:

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	17/01/2022	Datasheet set-up.
A1.1	01/02/2025	New datasheet format.