



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



- ▶ UVC LED
- ▶ 3535 1.6t Series
- ▶ UV (270~280nm)

NOQ51S30Z



Release Date: 24 May 2020 Version: A1.2



3535 1.6t Series

RoHS
Compliant



FEATURES:

- **Package:** UVC SMT Package with Quartz Glass Lens
- **Forward Current:** 150mA
- **Forward Voltage (typ.):** 8.0V
- **Radiant Power (typ.):** 10mW@150mA
- **Colour:** Ultraviolet (UV)
- **Wavelength:** 270~280nm
- **Viewing angle:** 120°
- **Materials:**
 - Die: InGaN
 - Resin: Quartz Glass (Water Clear)
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
 - Forward voltage
 - Radiant power
 - Peak Wavelength
- **Soldering methods:** Reflow soldering
- **MSL:** Level 3 according to J-STD020
- **Packing:** 12mm tape with max.500pcs/reel, \varnothing 180mm (7")

APPLICATIONS:

- Disinfection
- Sterilization
- Bio-Analysis
- Detection
- Sensor Light
- Fluorescent Spectroscopy
- Counterfeit Detector

**CHARACTERISTICS:**

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Maximum Forward Current	I _{MAX}	150	mA
Power Dissipation	P _D	1000	mW
Reverse Voltage	V _R	5	V
Reverse Current @5V	I _r	10	μA
Operating Temperature	T _{ORG}	-10~+60	°C
Storage Temperature	T _{STG}	-40~+100	°C
Solder Temperature	T _{SOL}	260	°C

Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V _F	7.0	8.0	9.0	V	I _F =150mA
Radiant Power	P _O	---	10.0	---	mW	I _F =150mA
Peak Wavelength	W _P	270	275	280	nm	I _F =150mA
Spectrum Half Width	Δλ	---	11	15	nm	I _F =150mA
Viewing Angle	2θ _{1/2}	---	120	---	deg	I _F =150mA

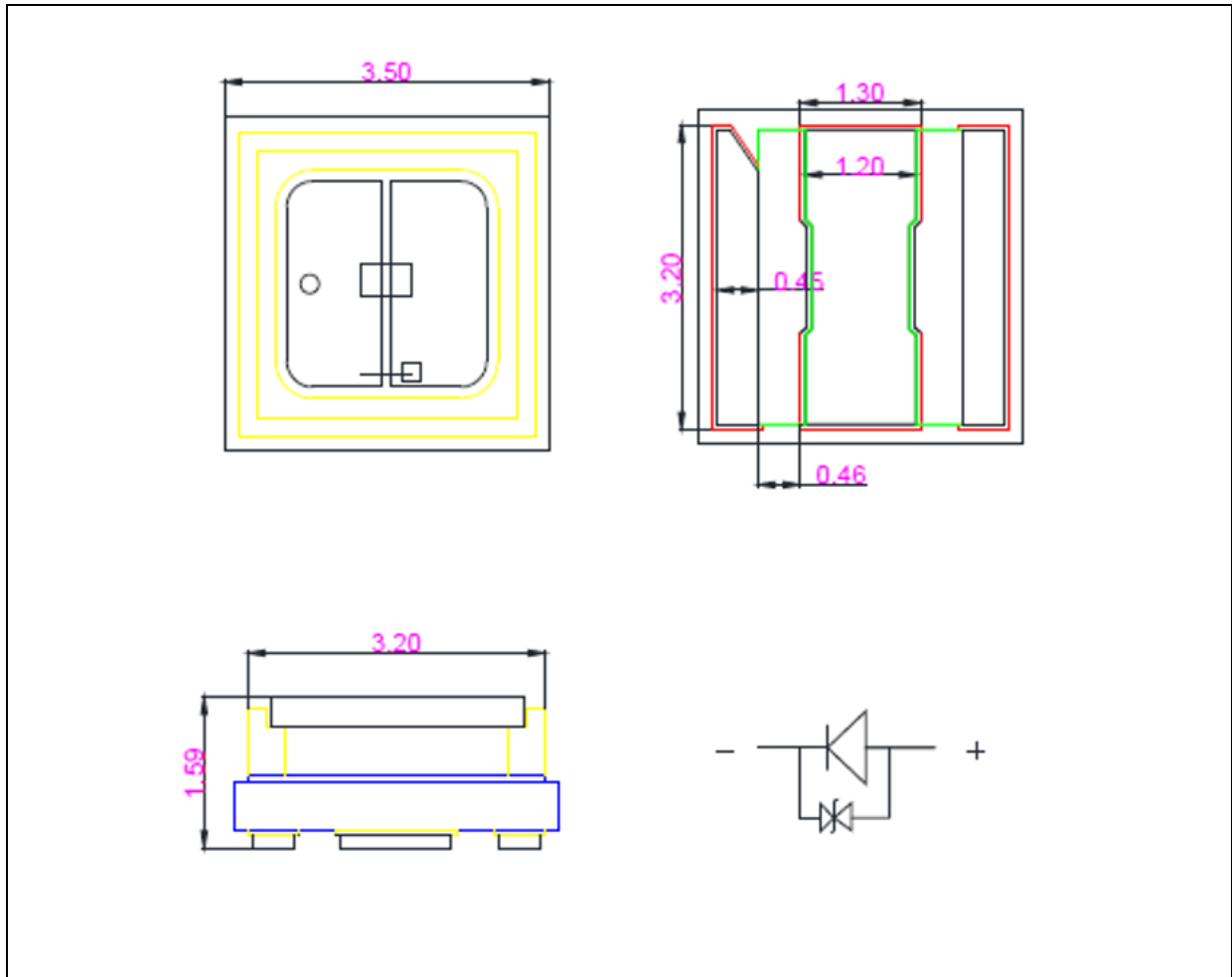
1. Radiant Power (P_O) ±10%, Forward Voltage (V_F) ±0.2V, Viewing angle(2θ_{1/2}) ±10°, Peak Wavelength (nm) ±3nm



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

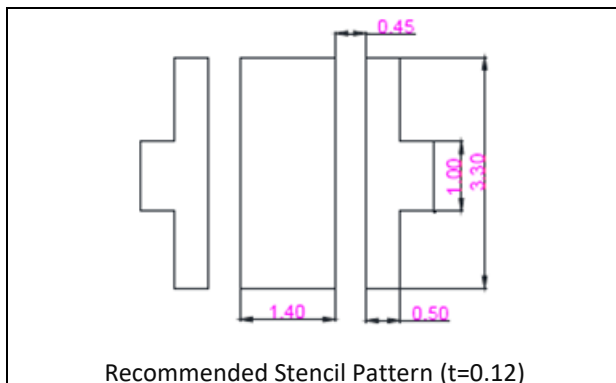
OUTLINE DIMENSION:

Package Dimension:



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

Recommended Soldering Pad Dimension:



1. Dimensions are in millimetre (mm).
2. Tolerance ± 0.13 mm with angle tolerance $\pm 0.5^\circ$.



BINNING GROUPS:

Forward Voltage Classifications ($I_F = 150\text{mA}$):

Code	Min.	Max.	Unit
V1	7.0	9.0	V

Radiant Power Classifications ($I_F = 150\text{mA}$):

Code	Min.	Max.	Unit
H1	4	18	mW

Wavelength Classifications ($I_F = 150\text{mA}$):

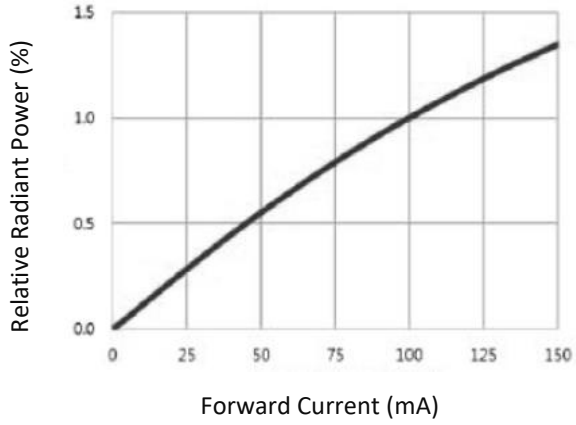
Code	Min.	Max.	Unit
UVC	270	280	nm



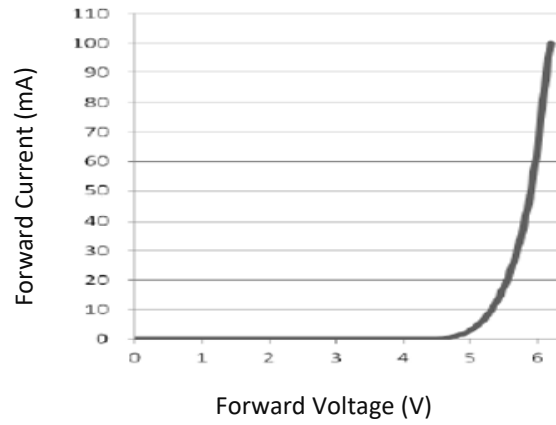
BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

ELECTRO-OPTICAL CHARACTERISTICS:

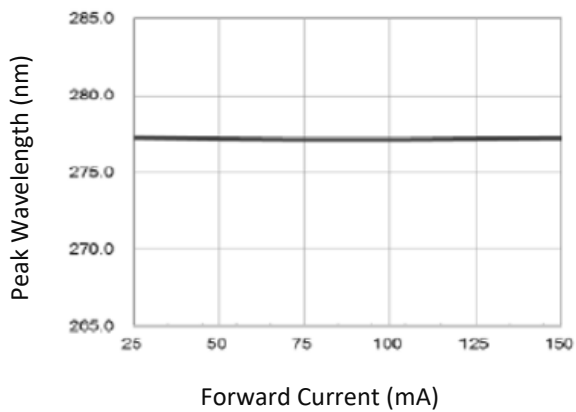
Relative Power v.s. Forward Current



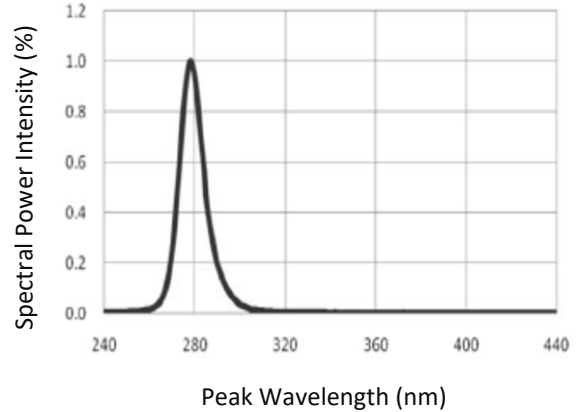
Forward Current v.s. Forward Voltage



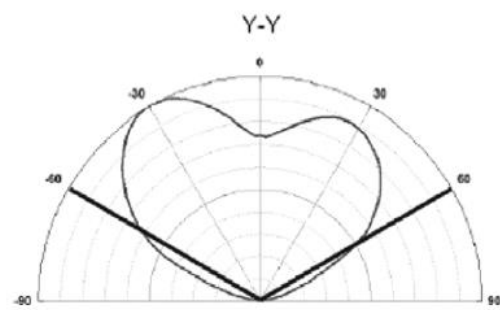
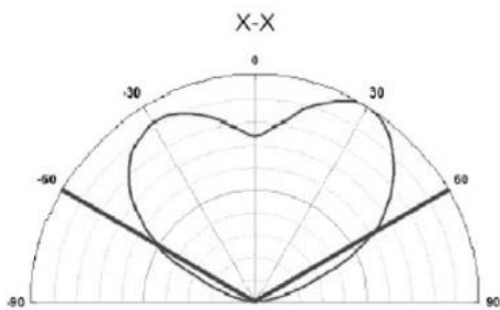
Relative Power v.s. Forward Current



Relative Spectral Power Distribution



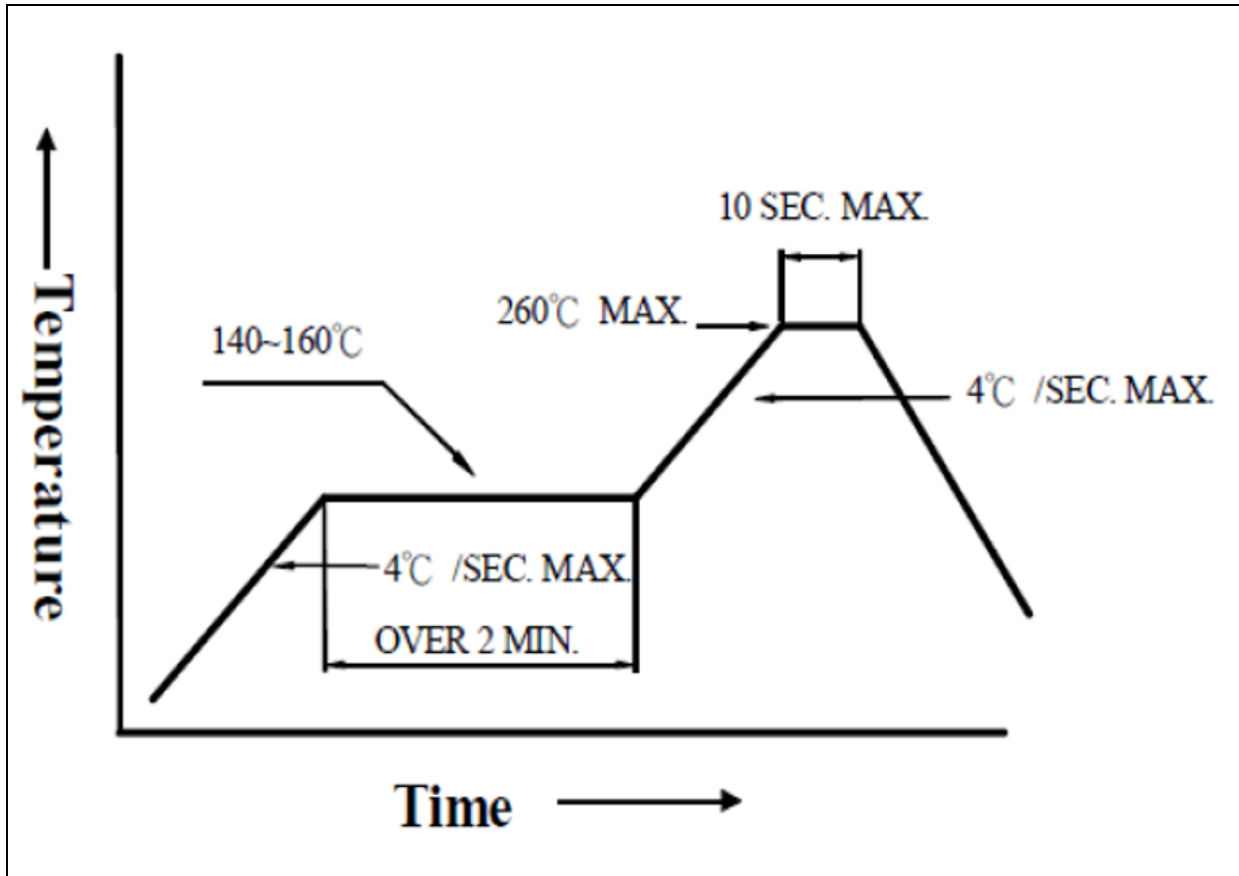
Directive Radiation





RECOMMENDED SOLDERING PROFILE:

Lead-free Solder:



Note:

1. Maximum reflow soldering: 1 time.
2. Recommended reflow temperature 240°C . Maximum soldering temperature should be limited to 245°C .
3. Before, during, and after soldering, should not apply stress on the components and PCB board.

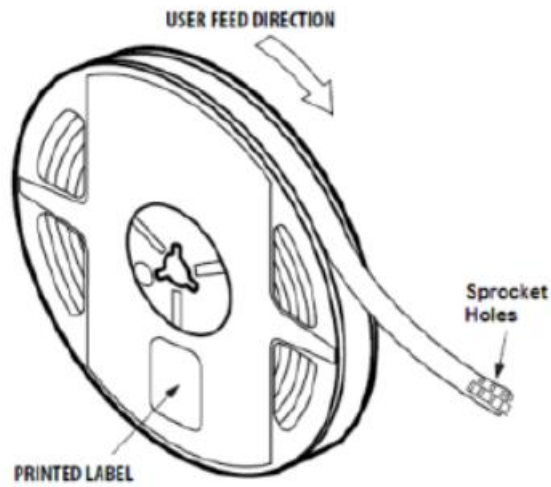


BRIGHTEK
BRIGHTEK (EUROPE) LIMITED

PACKING SPECIFICATION:

Reel Dimension:

Max.500pcs/reel





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 under <10% R.H. and apply baking before use.

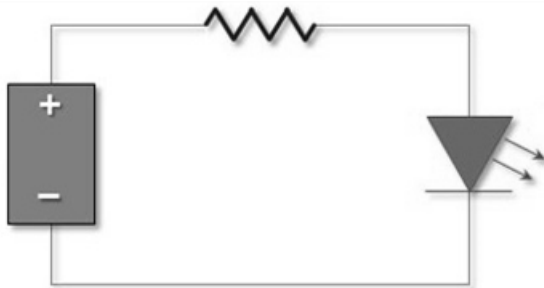
Baking:

It is required to bake the LED before soldering if the pack has been unsealed for longer than 24hrs. The suggested baking conditions are as followings:

- 60±5°C x 48hrs 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 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.



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

REVISION RECORD:

Version	Date	Summary of Revision
A1.0	19/04/2020	Datasheet set-up.
A1.1	21/05/2020	Correct part number.
A1.2	24/05/2020	Add product photo.