



**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
- ▶ 2016 0.78t Series
- ▶ SWIR (1250~1400nm)

**NOF62S42**



Release Date: 08 September 2022 Version: A1.0



2016 0.78t Series

### 2016 0.78t Series

**RoHS**  
Compliant



#### FEATURES:

- **Package:** Ceramic IR CHIP SMT Package
- **Forward Current:** 100mA
- **Forward Voltage (typ.):** 1.3V
- **Radiant Power (typ.):** 6mW@100mA
- **Colour:** Short Wavelength Infrared (SWIR)
- **Peak Wavelength:** 1250-1400nm
- **Viewing angle:** 120°
- **Materials:**
  - L/F: Ceramic
- **Operating Temperature:** -20~+65°C
- **Storage Temperature:** -20~+65°C
- **Grouping parameters:**
  - Forward Voltage
  - Radiant Power
  - Peak Wavelength
- **Soldering methods:** IR Reflow soldering
- **MSL:** Level 3 according to J-STD020
- **Packing:** 8mm tape with max.1000pcs/reel,  $\varnothing$ 178mm (7")

#### APPLICATIONS:

- Security Camera
- Medical Device
- Fluorochemistry
- Bacterial Identification
- Cosmetology
- Magnetic Particle Inspection
- Clean Room Inspection
- Mineralogy

**CHARACTERISTICS:**


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

Parameter	Symbol	Ratings	Unit
DC Forward Current	I <sub>F</sub>	100	mA
Reverse Voltage	V <sub>R</sub>	5	V
Leakage Current @5V	I <sub>R</sub>	10	μA
Junction Temperature	T <sub>J</sub>	125	°C
Thermal Resistance Junction to Solder Point	R <sub>thj-sp</sub>	292	°C/W
Operating Temperature	T <sub>OPR</sub>	-20~+65	°C
Storage Temperature	T <sub>STG</sub>	-20~+65	°C

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

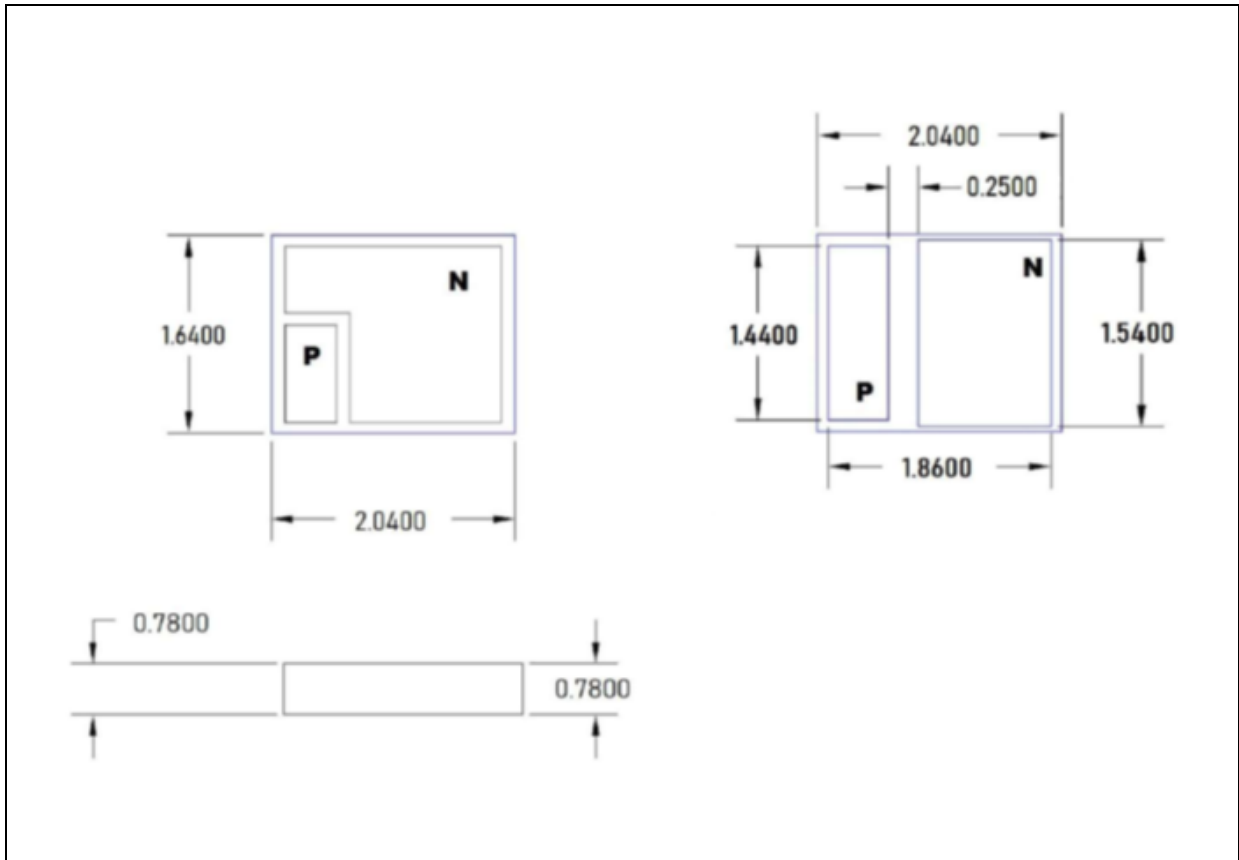
Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V <sub>F</sub>	0.9	---	1.6	V	I <sub>F</sub> =100mA
Radiant Power	P <sub>O</sub>	4	---	8	mW	I <sub>F</sub> =100mA
Peak Wavelength	W <sub>P</sub>	1250	---	1400	nm	I <sub>F</sub> =100mA
Viewing Angle	2θ <sub>1/2</sub>	---	120	---	deg	I <sub>F</sub> =100mA

1. Radiant Power (P<sub>O</sub>) ±10%, Forward Voltage (V<sub>F</sub>) ±0.05V, Wavelength (nm) ±2nm

## OUTLINE DIMENSION:

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Package Dimension:



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

**BINNING GROUPS:**


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 Forward Voltage Classifications ( $I_F = 100\text{mA}$ ):

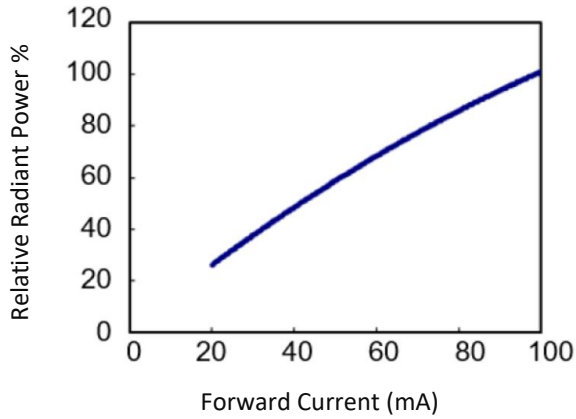
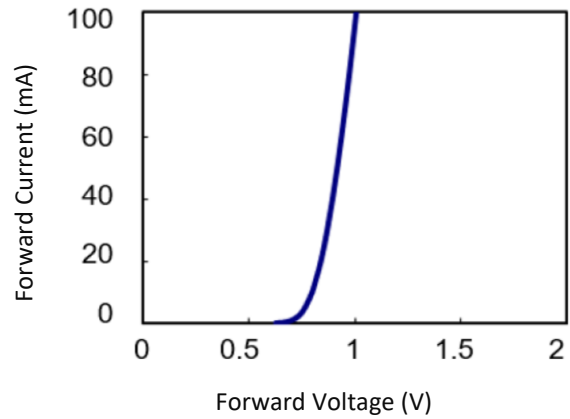
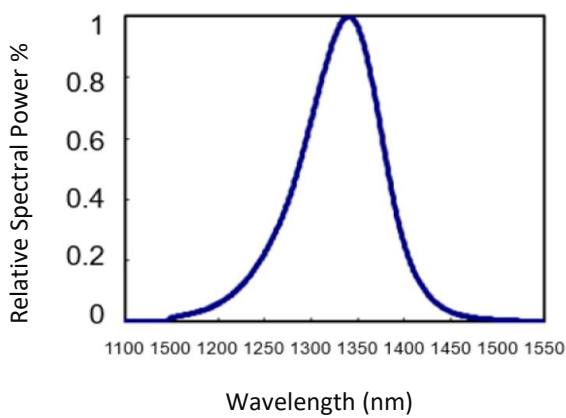
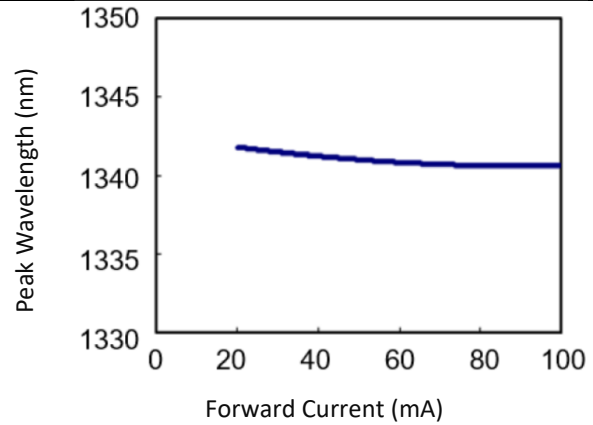
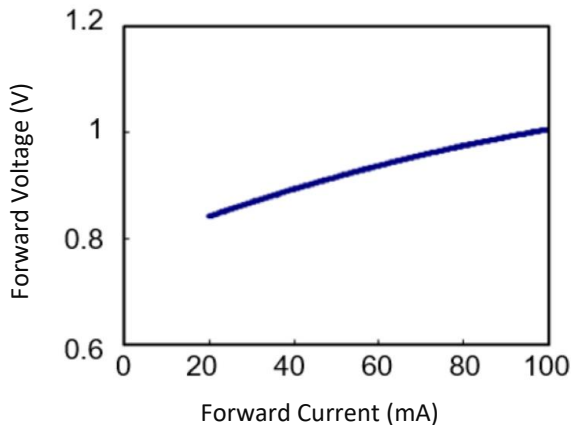
Code	Min.	Max.	Unit
V1	0.9	1.6	V

 Radiant Power Classifications ( $I_F = 100\text{mA}$ ):

Code	Min.	Max.	Unit
H1	4	8	mW

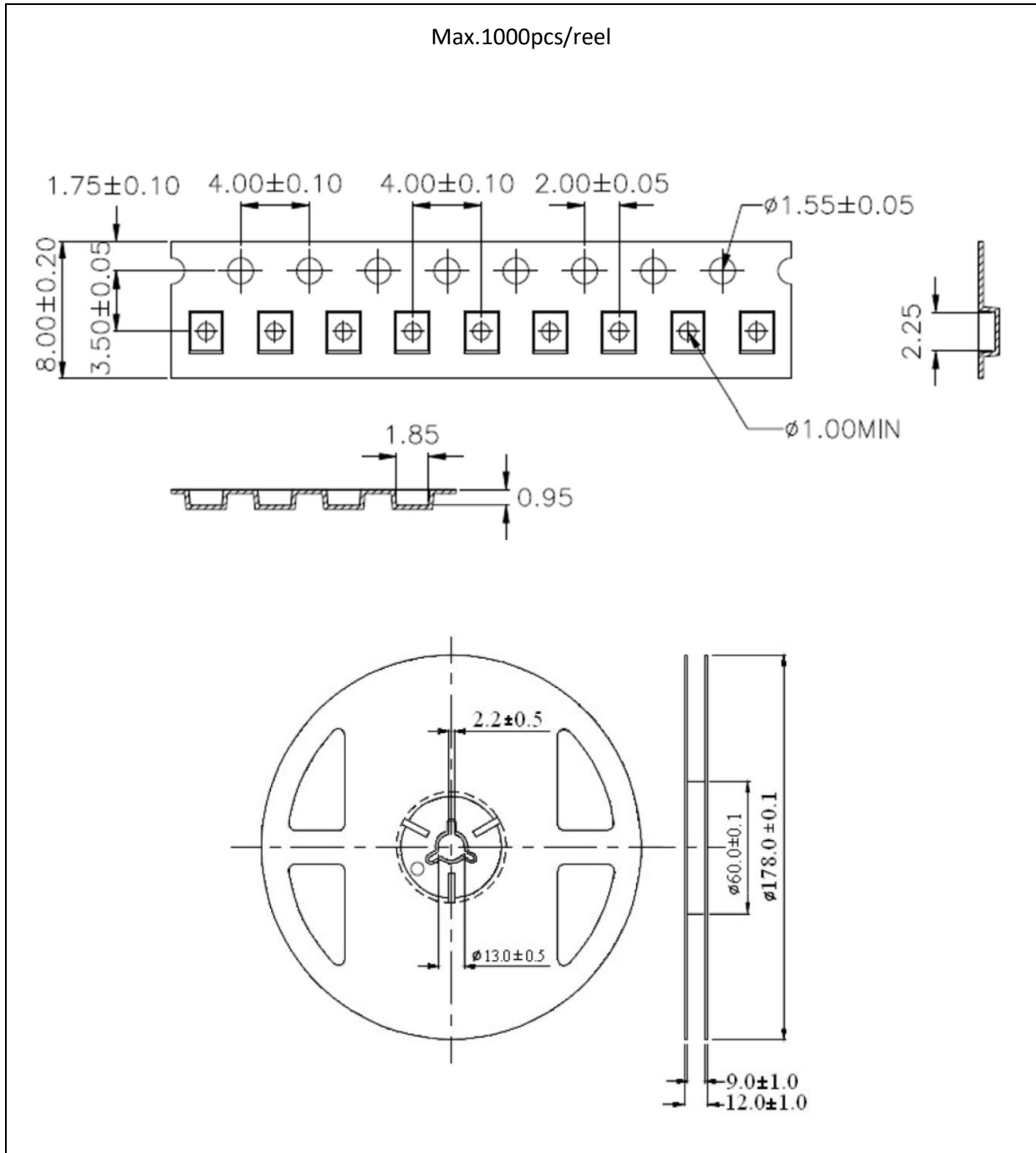
 Peak Wavelength Classifications ( $I_F = 100\text{mA}$ ):

Code	Min.	Max.	Unit
IR1250	1250	1300	nm
IR1300	1300	1350	
IR1350	1350	1400	

**ELECTRO-OPTICAL CHARACTERISTICS:**
**Relative Radiant Power v.s. Forward Current**

**Forward Current v.s. Forward Voltage**

**Relative Spectral Power v.s. Wavelength**

**Forward Current v.s. Wavelength**

**Forward Voltage v.s. Forward Current**


**PACKING SPECIFICATION:**

Reel Dimension:



## PRECAUTIONS OF USE:

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### 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.

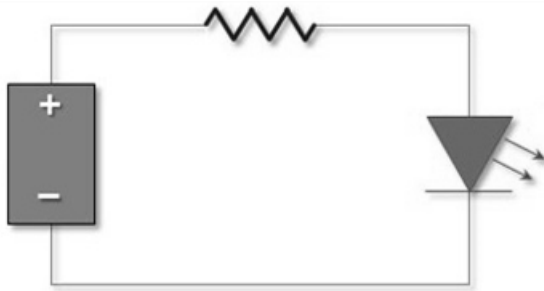
### Baking:

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:

- 65±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:**

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Version	Date	Summary of Revision
A1.0	08/09/2022	Datasheet set-up.