



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



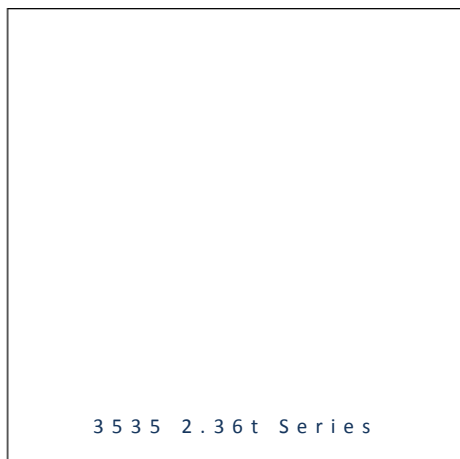
- ▶ Ceramic High Power
- ▶ 3535 Series 2.36t
- ▶ Infrared (850nm)

PRELIMINARY

NOF17S73P



Release Date: 22 January 2016 Version: A1.0



3535 2.36t Series

RoHS
Compliant



FEATURES:

- **Package:** Ceramic SMT Package with Silicon Lens
- **Forward Current:** 700mA
- **Forward Voltage (typ.):** 2.0V
- **Radiant Power (typ.):** 500mW@700mA
- **Colour:** Infrared (IR)
- **Wavelength:** 850nm
- **Viewing angle:** 130°
- **Materials:**
 - Die: GaAlAs
 - Resin: Silicon (Water Clear)
 - L/T Finish: Ag plated
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+100°C
- **Grouping parameters:**
 - Forward Voltage
 - Radiant Power
 - Peak Wavelength
- **Soldering methods:** Reflow
- **Preconditioning:** MSL3 according to J-STD020
- **Packing:** 12mm tape with 100pcs Min./reel, ø180mm (7")

APPLICATIONS:

- Security Camera
- Motion Detection
- Night Viewer
- Switch Sensor
- Smoke Detector

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I_F	1000	mA
Pulse Forward Current Duty 1/10@10KHz	I_{PF}	1000	mA
Reverse Current @5V	I_R	10	μA
Junction Temperature	T_j	115	°C
Electrostatic Discharge (HBM) 100pf/1.5K Ω	ESD	2000	V
Electrostatic Discharge (MM) 200pf/0K Ω		150	V
Operating Temperature	T_{OPR}	-40~+85	°C
Storage Temperature	T_{STG}	-40~+100	°C
Soldering Temperature	T_{SOL}	260	°C
Thermal Resistance	R_{th}	8	°C/W

Electrical & Optical Characteristics (Ta=25°C)

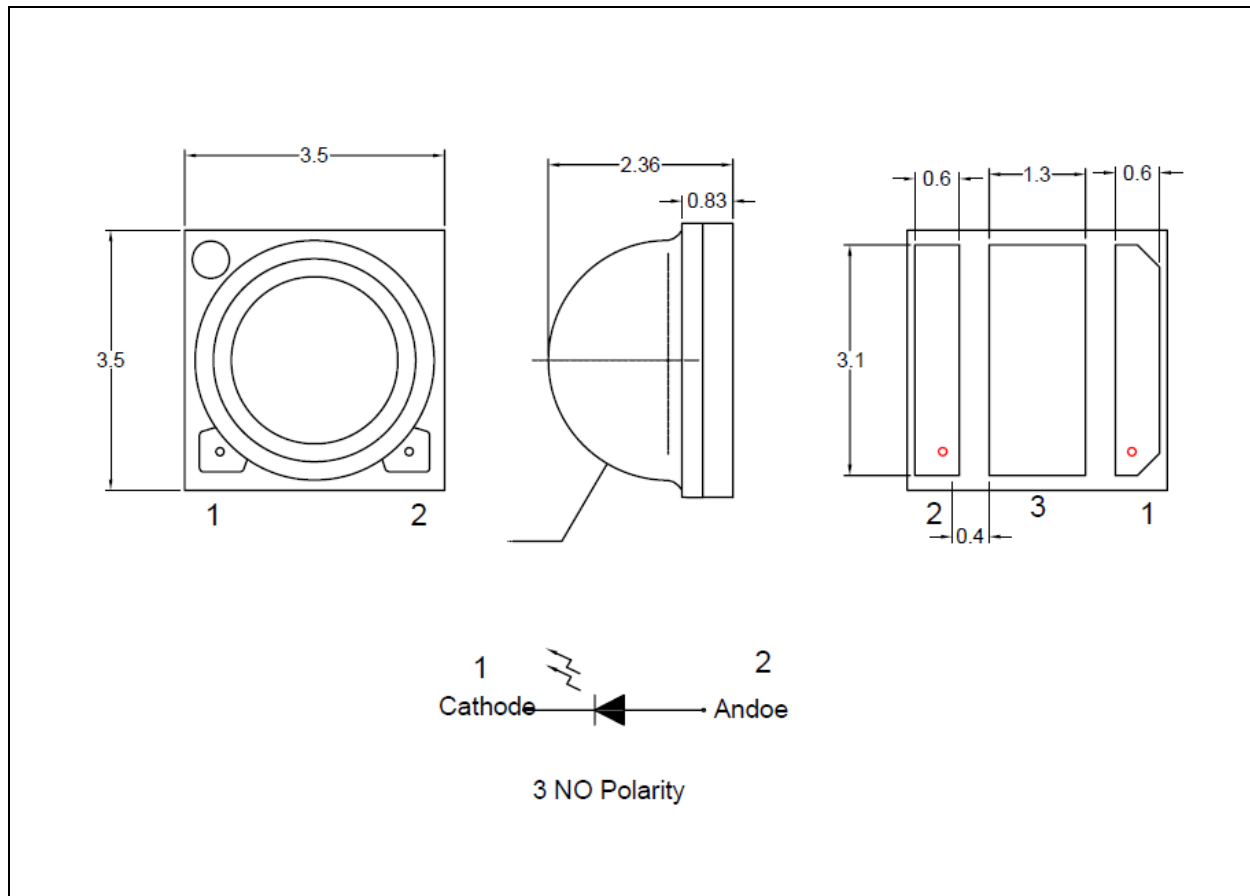
Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Forward Voltage	V_F	1.4	2.0	2.6	V	$I_F=700mA$
Radiant Power	P_O	350	500	600	mW	$I_F=700mA$
Peak Wavelength	λ_p	---	850	---	nm	$I_F=700mA$
Spectral Half Width	$\Delta\lambda$	---	50	---	nm	$I_F=700mA$
Viewing Angle	$2\theta_{1/2}$	---	130	---	deg	$I_F=700mA$

1. Radiant Intensity $\pm 15\%$, Forward Voltage $\pm 0.1V$



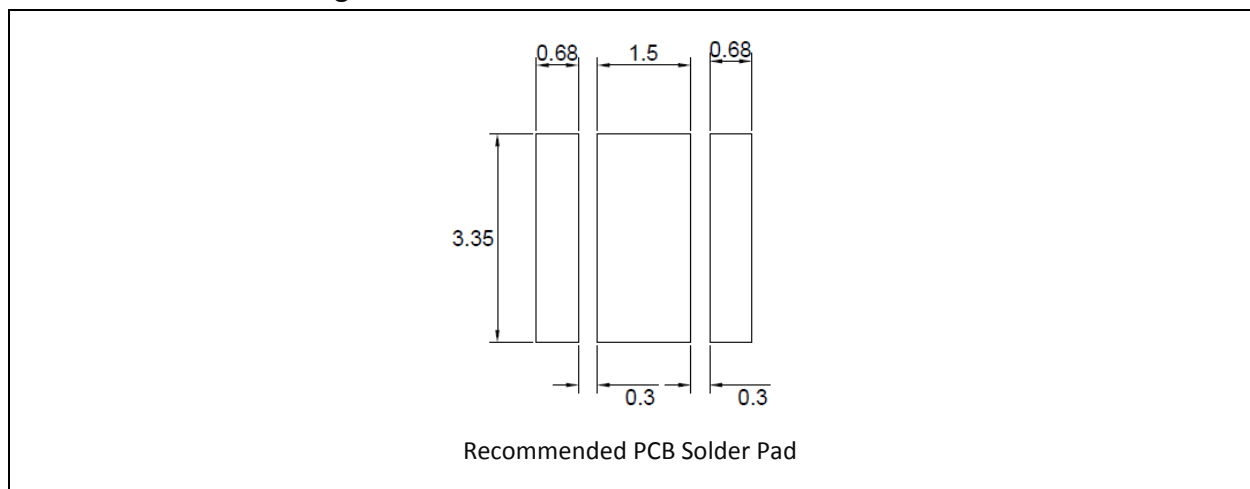
OUTLINE DIMENSION:

Package Dimension:



1. All dimensions are in millimetre (mm).
2. Tolerance $\pm 0.2\text{mm}$, unless otherwise noted.

Recommended Soldering Pad Dimension:



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

BINNING GROUPS:

Forward Voltage Classifications ($I_F = 700\text{mA}$):

Code	Min.	Max.	Unit
V1426	1.4	2.6	V

Radiant Power Classifications ($I_F = 700\text{mA}$):

Code	Min.	Max.	Unit
PG	350	400	mW
PH	400	450	
PJ	450	500	
PK	500	550	
PL	550	600	

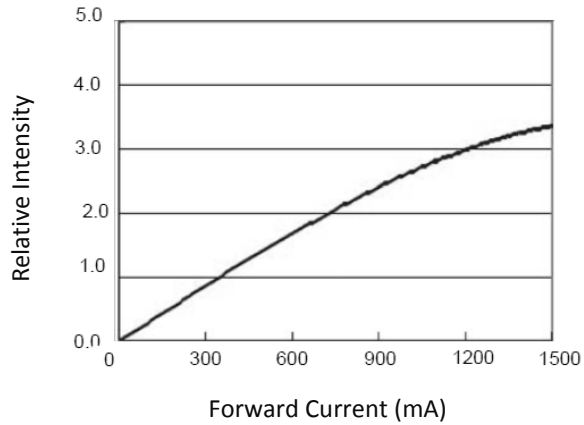
Peak Wavelength Classifications ($I_F = 700\text{mA}$):

Code	Min.	Max.	Unit
IR1	840	870	nm

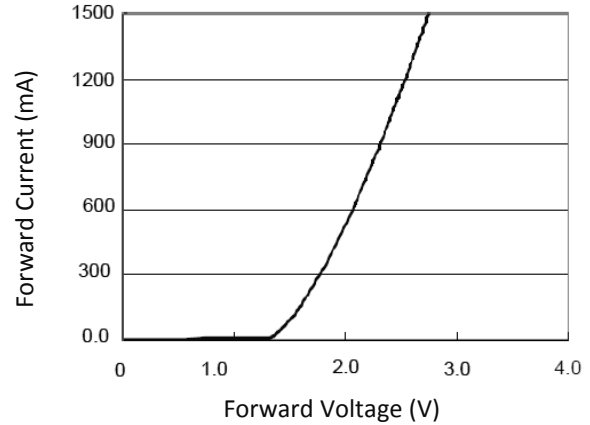


ELECTRO-OPTICAL CHARACTERISTICS:

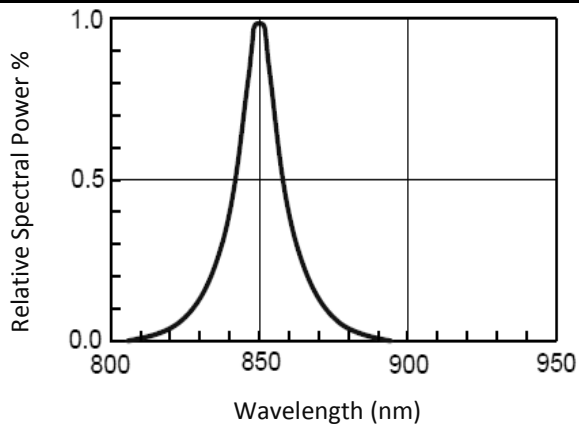
Relative Intensity (350mA) v.s. Forward Current



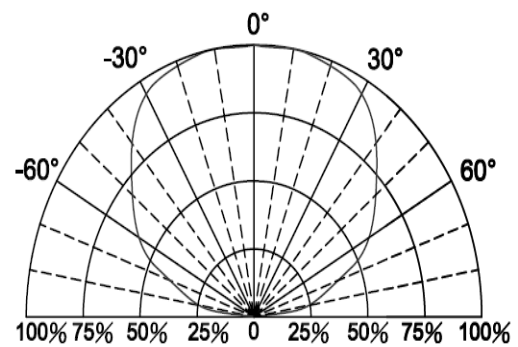
Forward Current v.s. Forward Voltage



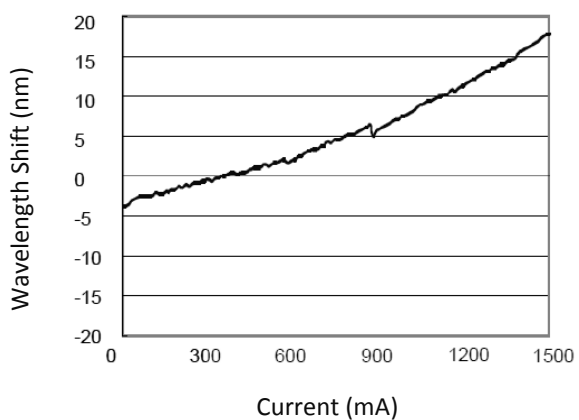
Relative Spectral Power v.s. Wavelength



Directive Radiation



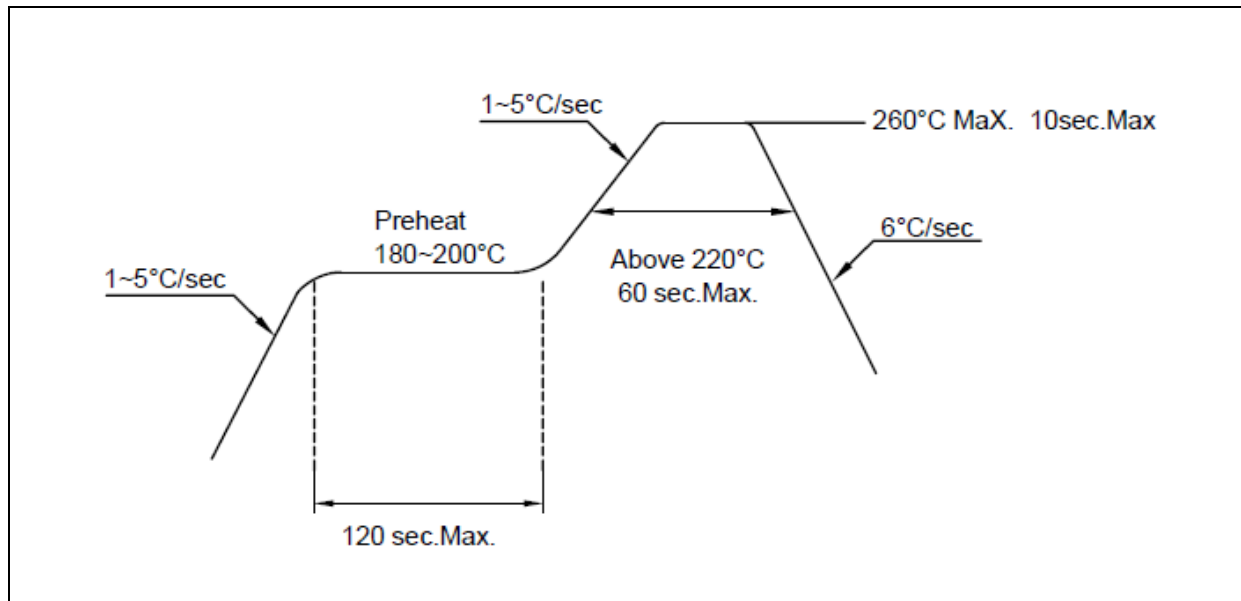
Current v.s. Wavelength Shift





RECOMMENDED SOLDERING PROFILE:

Reflow Lead-free Solder:



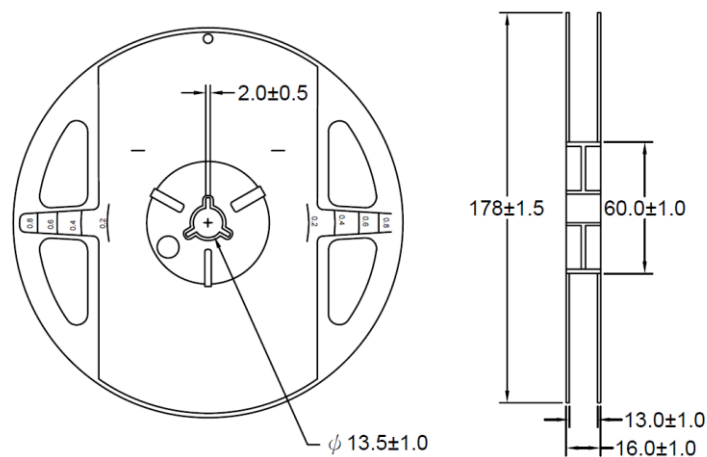
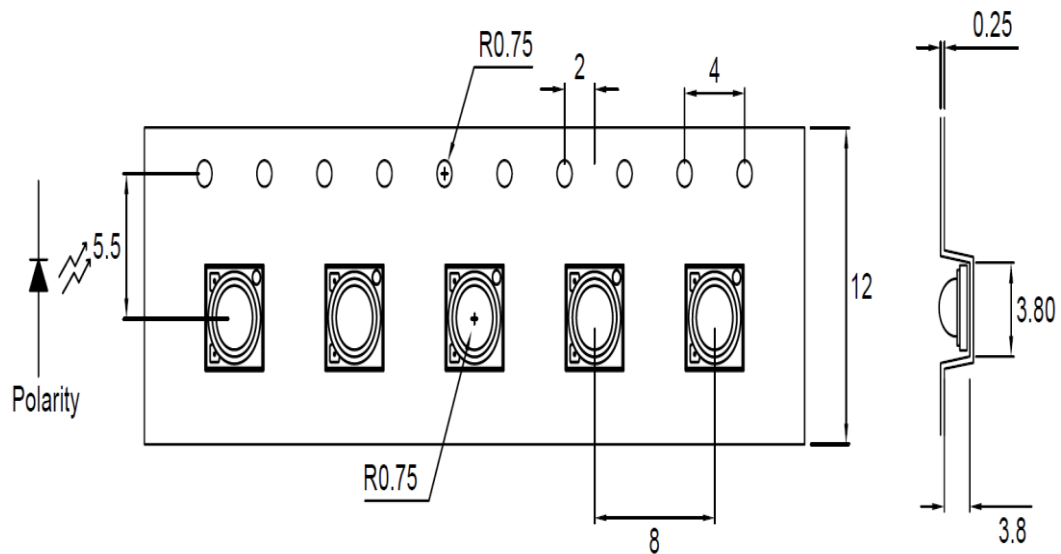
Note:

1. Maximum reflow soldering: 2 times.
2. Before, during, and after soldering, should not apply stress on the components and PCB board.

PACKING SPECIFICATION:

Reel Dimension:

100pcs Min./reel (Maximum 2000pcs)



PRECAUTIONS OF USE:

Storage:

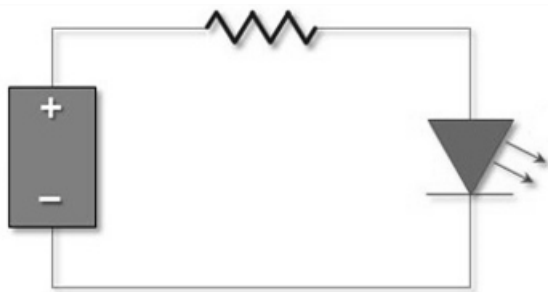
It is recommended to store the products in the following conditions:

- Humidity: 60% R.H. Max.
- Temperature: 5°C~30°C (41°F ~86°F).

Shelf life in sealed bag: 12 month 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 and apply baking at 60°C±5°C for 15hrs before use.

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	22/01/2016	Datasheet set-up.