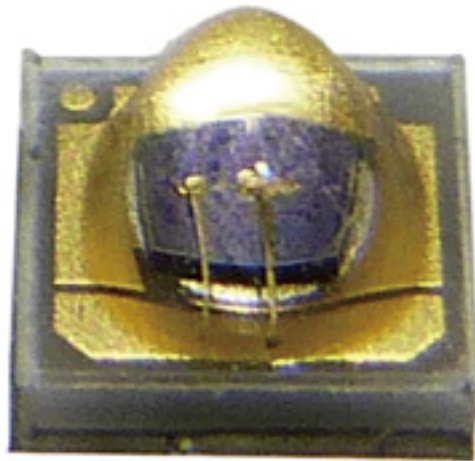


NMOP-10134-LSx

SURFACE MOUNT LED TAPE AND REEL



Product Series Model:

Part No.	Viewing Angle
NMOP-10134-LS6	60°
NMOP-10134-LS9	90°
NMOP-10134-LSA	(X)150° (Y)100°
NMOP-10134-LSC	45°
NMOP-10134-LSD	(X)100° (Y)60°
NMOP-10134-LSE	57°

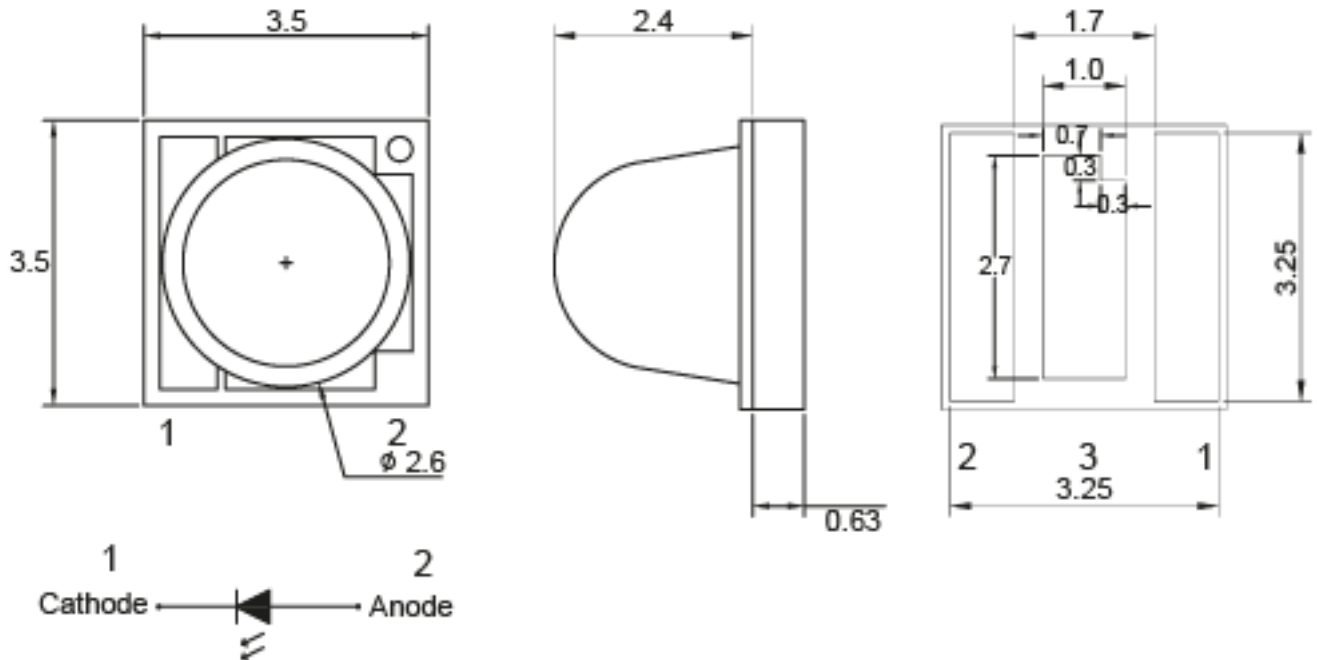
Device Selection Guide

Material	Color	
	Emitted	Lens
AlGaAs	Infrared	Water Clear

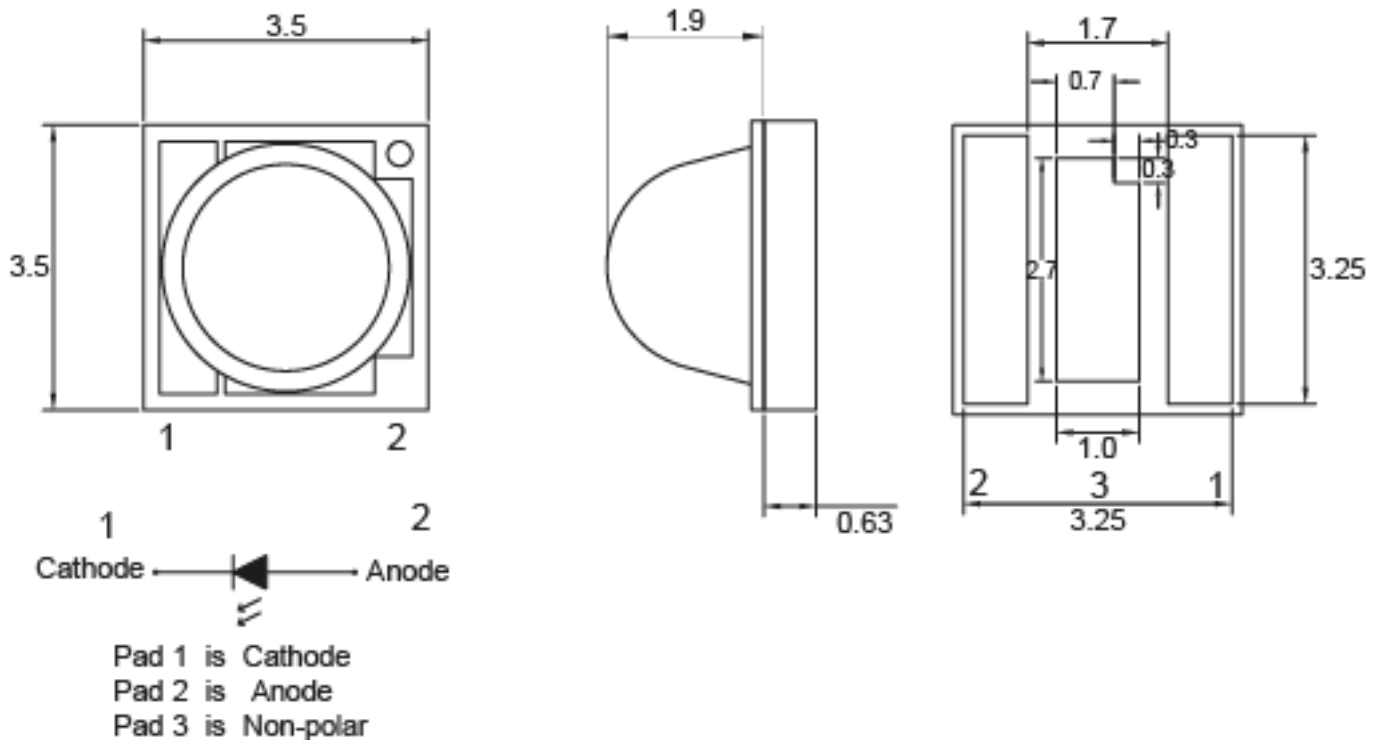
NMOP-10134-LSx

Package Dimensions

NMOP-10134-LS6



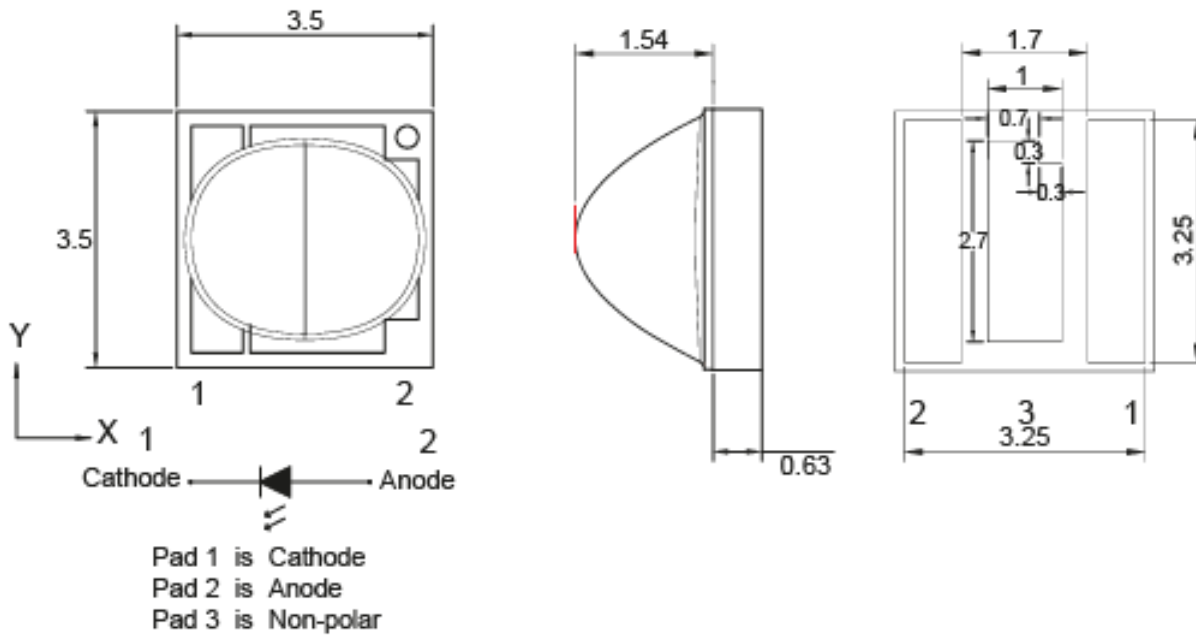
NMOP-10134-LS9



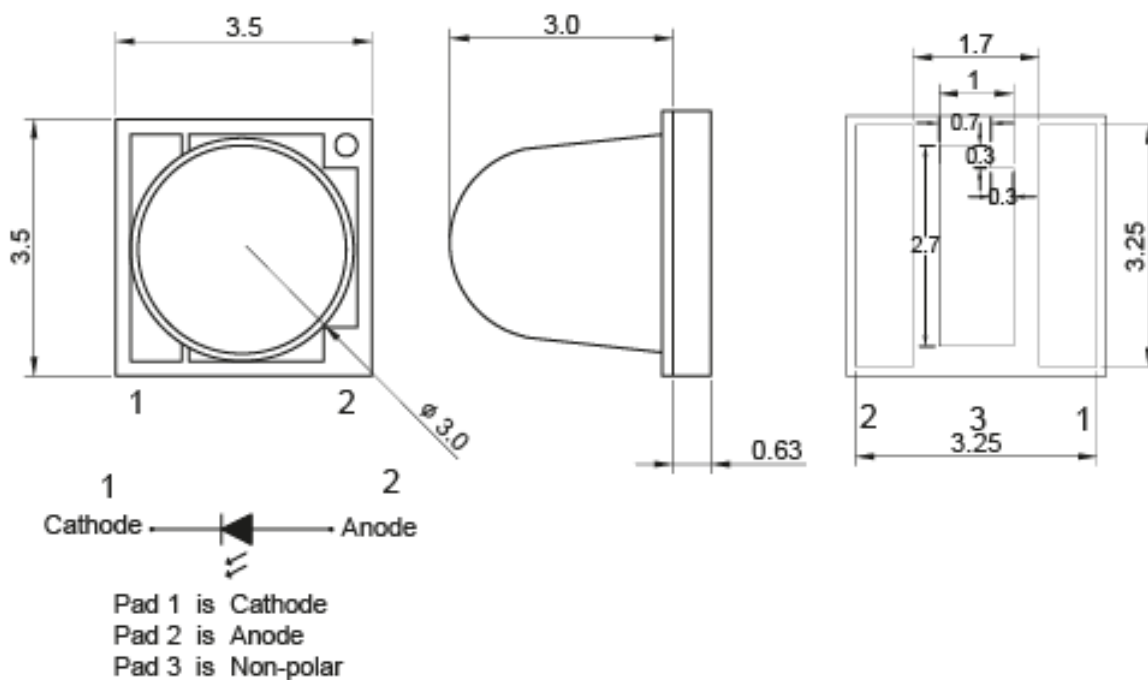
Note : 1. All dimension are in millimeter tolerance is ± 0.2 mm unless otherwise noted.
2. Specifications are subject to change without notice.

NMOP-10134-LSx

NMOP-10134-LSA



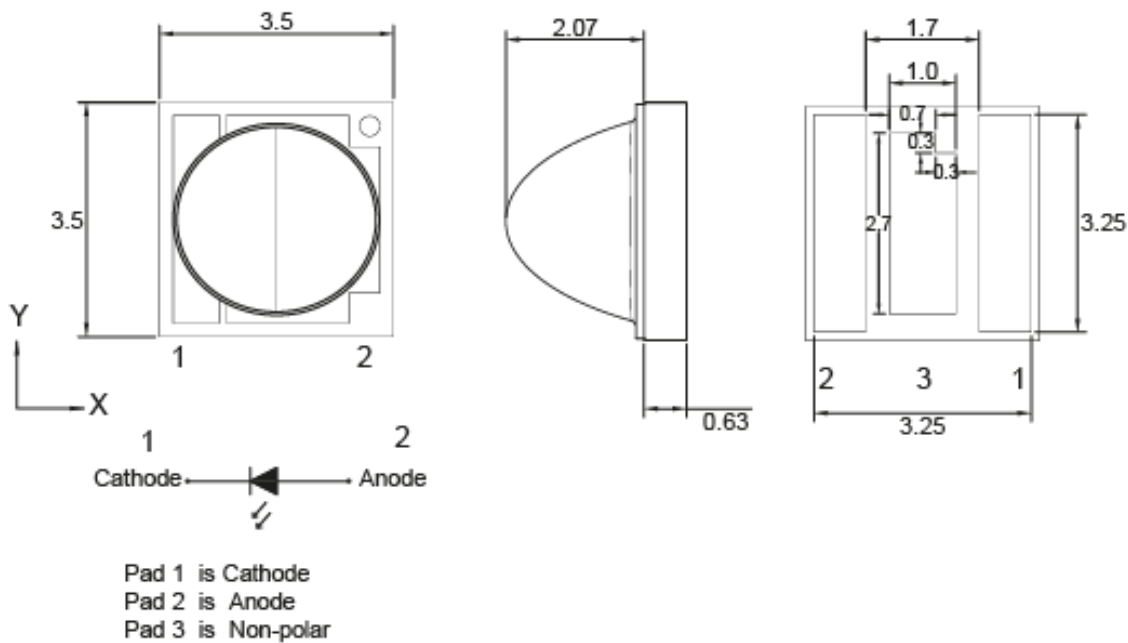
NMOP-10134-LSC



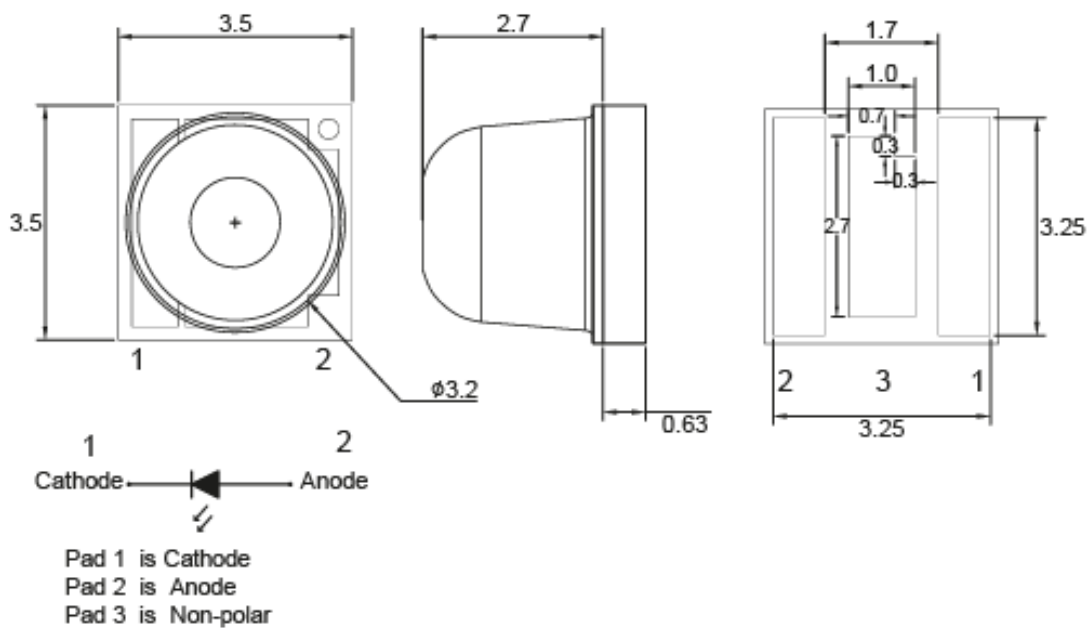
Note : 1. All dimension are in millimeter tolerance is $\pm 0.2\text{mm}$ unless otherwise noted.
2. Specifications are subject to change without notice.

NMOP-10134-LSx

NMOP-10134-LSD

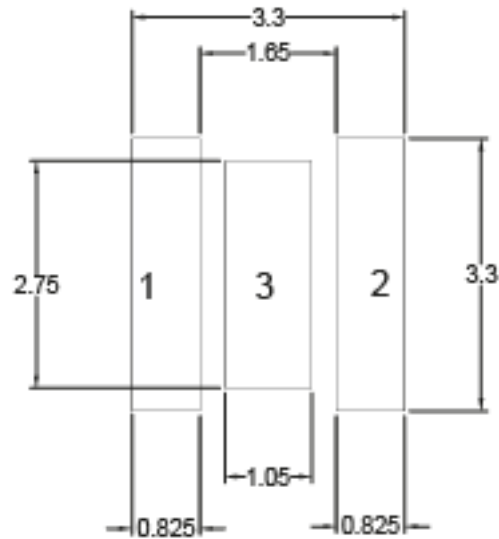


NMOP-10134-LSE



Note : 1. All dimension are in millimeter tolerance is $\pm 0.2\text{mm}$ unless otherwise noted.
2. Specifications are subject to change without notice.

Recommended Soldering Pad Dimensions



Note : The tolerances unless mentioned is ± 0.1 mm, Unit=mm.

Absolute Maximum Ratings at Ta=25° C

Parameter	Symbol	Ratings	UNIT
Power Consumption	P_{tot}	5.5	W
DC Forward Current	I_F	1500	mA
Reverse Current (VR=5V)	I_r	10	μA
Peak pulse current Duty 1/10@10KHz	I_{FP}	2000	mA
ESD Sensitivity	HMB 100pf/1.5K Ω	2K	V
	MM 200pf/0 Ω	150	V
LED junction Temperature	T_j	145	°C
Thermal resistance	$R_{\text{th j-s}}$	8	°C/W
Operating Temperature	T_{opr}	-40 ~ +125	°C
Storage Temperature	T_{stg}	-40 ~ +125	°C
Soldering Temperature	T_p	260	°C

Typical Electrical & Optical Characteristics (Ta=25° C)

Radiant Intensity	Symbol	Min.	Typ.	Max.	Unit	Condition
NMOP-10134-LS6	I _e	620	880	---	mW/sr	IF=1A
		---	1300	---		IF=1.5A
NMOP-10134-LS9	I _e	360	540	---	mW/sr	IF=1A
		---	780	---		IF=1.5A
NMOP-10134-LSA	I _e	300	400	---	mW/sr	IF=1A
		---	600	---		IF=1.5A
NMOP-10134-LSC	I _e	890	1150	---	mW/sr	IF=1A
		---	1700	---		IF=1.5A
NMOP-10134-LSD	I _e	430	560	---	mW/sr	IF=1A
		---	830	---		IF=1.5A
NMOP-10134-LSE	I _e	620	810	---	mW/sr	IF=1A
		---	1200	---		IF=1.5A

Note : 1.The forward voltage data did not including $\pm 0.1V$ testing tolerance.
2.The radiant intensity data did not including $\pm 15\%$ testing tolerance.

Typical Electrical & Optical Characteristics (Ta=25° C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Radiant Flux	Φ_e	---	1350	---	mW	IF=1A
		---	2000	---		IF=1.5A
Peak Emission Wavelength	λ_P	---	850	---	nm	IF=1A
Spectral Line Half Width	$\Delta\lambda$	---	40	---	nm	IF=1A
Forward Voltage	VF	2.7	---	3.6	V	IF=1A
		---	3.4	---		IF=1.5A

Viewing Angle	Symbol	Value	Unit	Condition
NMOP-10134-LS6	2θ 1/2	60	deg	IF=1A
NMOP-10134-LS9		90		IF=1A
NMOP-10134-LSA		(X)150 (Y)100		IF=1A
NMOP-10134-LSC		45		IF=1A
NMOP-10134-LSD		(X)100 (Y)60		IF=1A
NMOP-10134-LSE		57		IF=1A

Note : 1.The forward voltage data did not including $\pm 0.1V$ testing tolerance.
 2.The radiant intensity data did not including $\pm 15\%$ testing tolerance.

Typical Electro-Optical Characteristics Curve

Fig.1 Relative Intensity
VS. Forward Current

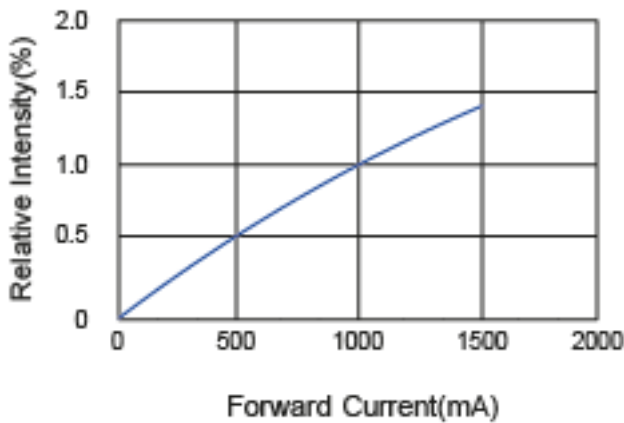


Fig.2 Forward Current
VS. Ambient Temperature

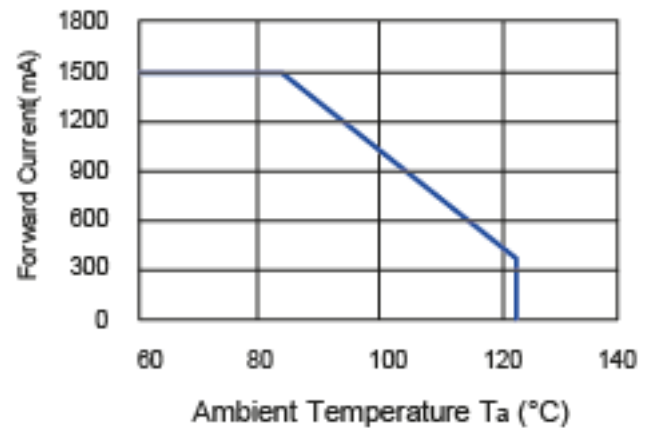


Fig.3 Relative Radiant Power
VS. Wavelength

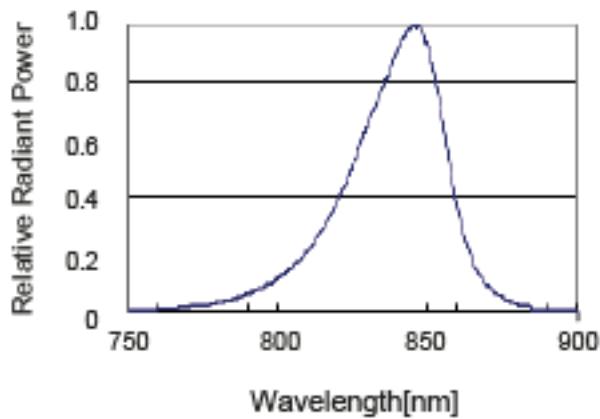
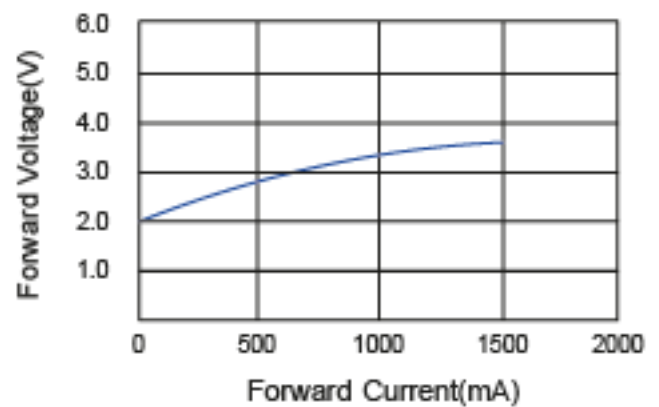
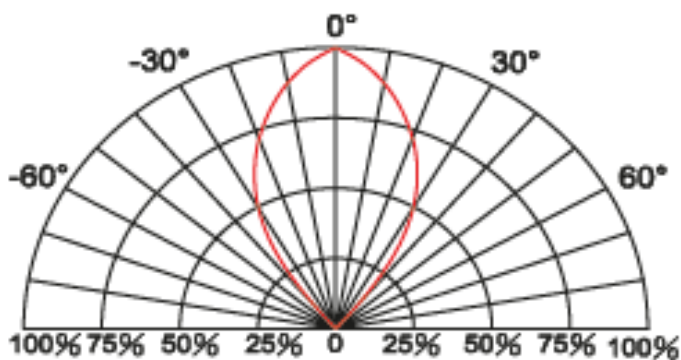
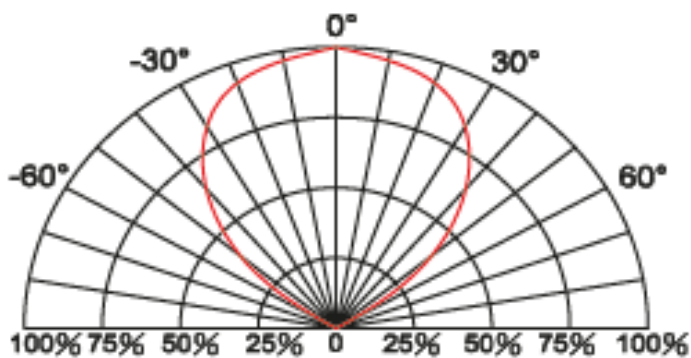


Fig.4 Forward Voltage
VS. Forward Current

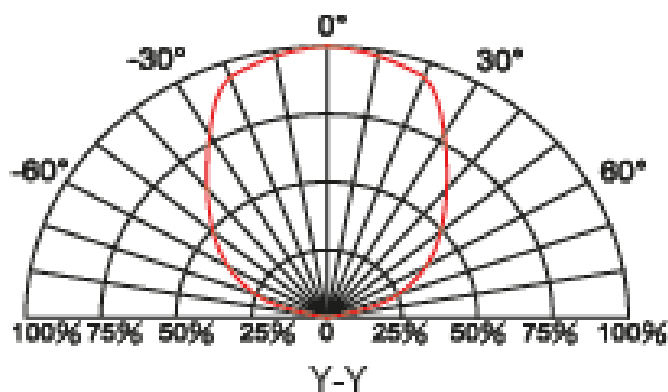
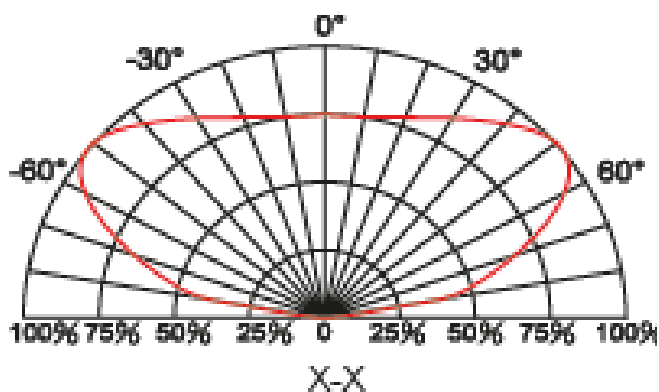




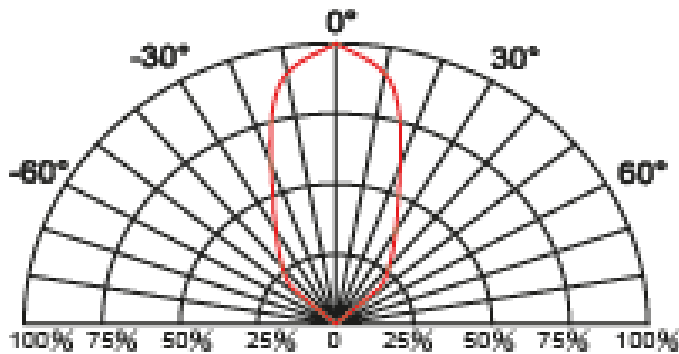
NMOP-10134-LS6



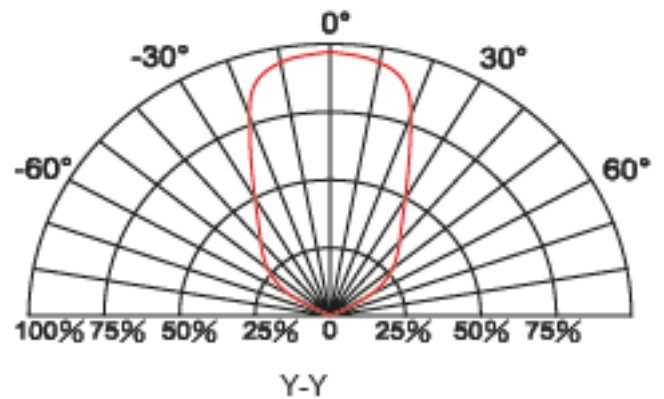
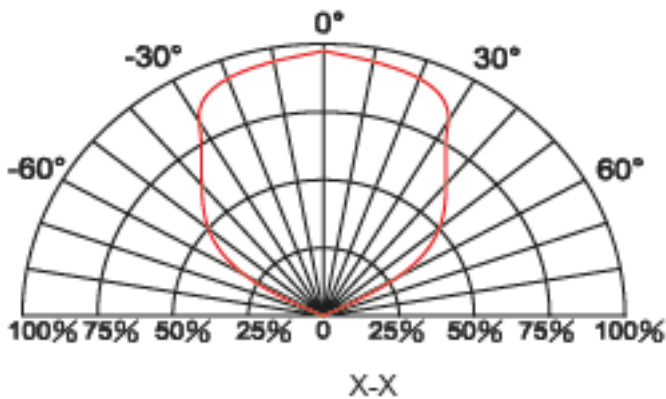
NMOP-10134-LS9



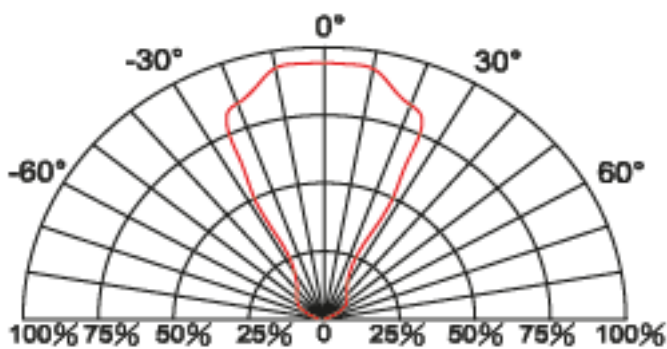
NMOP-10134-LSA



NMOP-10134-LSC



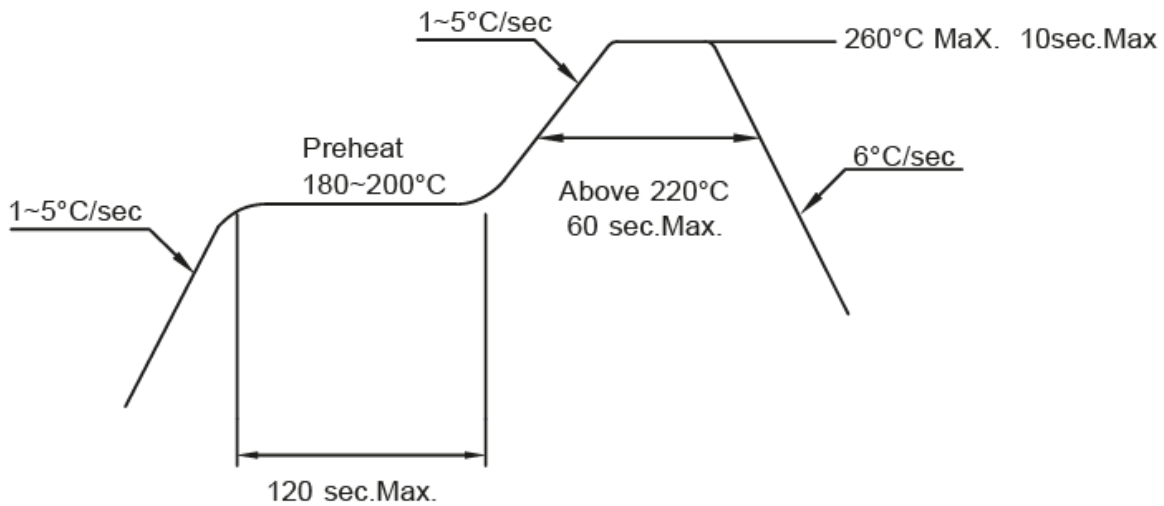
NMOP-10134-LSD



NMOP-10134-LSE

Recommended Soldering Conditions

PB-Free Reflow Solder



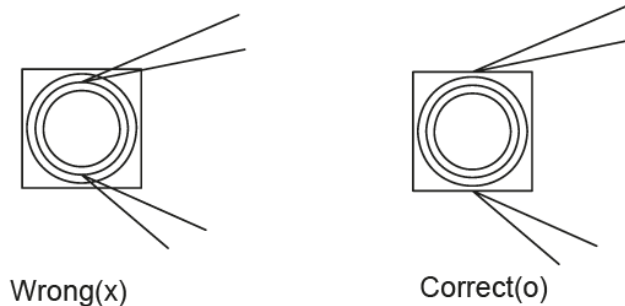
- Note:
- 1.Reflow soldering should not be done more than two times.
 - 2.When soldering,do not put stress on the LEDs during heating.
 - 3.After soldering,do not warp the circuit board.

Reliability Test:

Classification	Test Item	Test Condition	Sample Size
Endurance Test	Operating Life Test	1. Ta=25°C 2. If=1A 3. t=1000 hrs (-24hrs,+72hrs)	22
	High Temperature Storage Test	1. Ta=100°C±5°C 2. t=1000 hrs (-24hrs,+72hrs)	22
	Low Temperature Storage Test	1. Ta=-40°C±5°C 2. t=1000 hrs (-24hrs,+72hrs)	22
	High Temperature High Humidity Storage Test	1. Ta=85°C 2. RH=85% 3. t=1000hrs(-24hrs,+72hrs)	22
Environmental Test	Thermal Shock Test	1. Ta=100°C±5°C ~ -40°C±5°C 20min/ 10sec / 20min 2. total 100 cycles	22
	Temperature Cycling	1. 100°C±5°C ~ -40°C±5°C 30mins / 5mins / 30mins 2. 100 Cycles	22
	IR Reflow	1. T=260°C Max. 10sec.Max. 2. 6 Min	22

Please follow the guideline to grab LEDs

- don't touch lens with the fingers
- use tweezers to grab LED
- don't apply more than 4N of lens(400G) directly onto the lens
- don't touch lens with the tweezers

**Lens cleaning**

in the case where a minimal level of dirt and dust particles can not be guaranteed, a suitable cleaning solution can be applied to the lens surface

- try a gentle swabbing using a lint-free swab
- if needed, the use of lint-free swab and isopropyl alcohol used gently removes dirt from the lens
- don't use other solvents as they may directly react with the led assembly.
- don't use ultrasonic cleaning that the led will be damaged

Disclaimer

The information in this data sheet subject to change without notice.
Always make sure to use the most recent release, or consult with us before your final selection.