

NMOP-10247

Features:

1. Package in 8mm carrier tape on 7" diameter reel.
2. Compatible with automatic placement equipment.
3. Compatible with infrared and vapor phase reflow solder process.
4. Mono-color type.
5. Pb-free.
6. The product itself will remain within RoHS compliant version.

Descriptions:

1. The NMOP-10247 SMD Taping is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
2. Besides, lightweight makes them ideal for miniature applications. etc.

Applications:

1. Backlighting in dashboard and switch.
2. Telecommunication : indicator and backlighting in telephone and fax.
3. Flat backlight for LCD, switch and symbol
4. General use.

Device Selection Guide

Part No.	Material	COLOR	
		Emitted	Lens
NMOP-10247	AlGaInP	Red	Water Clear
	AlGaInP	Green	

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Ratings		UNIT
		HEL	9UG	
Power Dissipation	PD	60	60	mW
Peak pulse current Duty 1/10@10KHz	I _{FP}	60	60	mA
Forward Current	I _F	25	25	mA
Reverse Voltage	V _r	5	5	V
Electrostatic Discharge	ESD	2000		V
Operating Temperature	T _{opr}	-40 ~ +85		°C
Storage Temperature	T _{stg}	-40 ~ +90		°C
Soldering Temperature	T _{sol}	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.		

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

Parameter	Symbol		Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	IV	HEL	45	----	112	mcd	IF=20mA
		9UG	28.5	----	72		
Peak Wavelength	λ p	HEL	----	632	----	nm	
		9UG	----	575	----		
Dominant Wavelength	λ d	HEL	617	----	625	nm	
		9UG	567.5	----	575.5		
Spectrum Radiation Bandwidth	$\triangle \lambda$	HEL	----	20	----	nm	
		9UG	----	20	----		
Forward Voltage	VF	HEL	1.7	2.0	2.4	V	
		9UG	1.7	2.0	2.4		
Viewing Angle	2 θ 1/2		----	120	----	Deg	
Reverse Current	Ir	HEL	----	----	10	μ A	Vr=5V
		9UG	----	----	10		

Note : 1.The forward voltage data did not including ±0.1V testing tolerance.
2.The luminous intensity data did not including ±11% testing tolerance.

Luminous Intensity Classification

Unit(mcd) at 20mA			
BIN CODE		Min	Max
HEL	P1	45	57
	P2	57	72
	Q1	72	90
	Q2	90	112

Unit(mcd) at 20mA			
BIN CODE		Min	Max
9UG	N1	28.5	36
	N2	36	45
	P1	45	57
	P2	57	72

Dominant Wavelength Classification

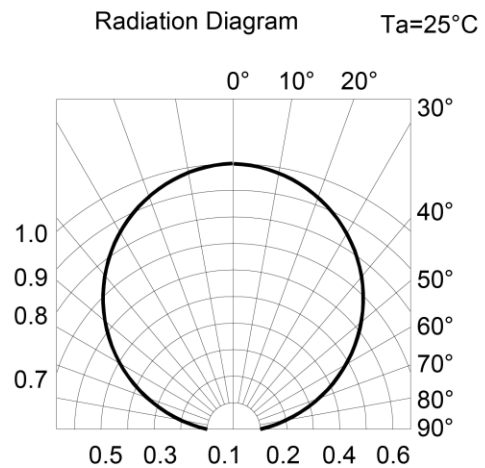
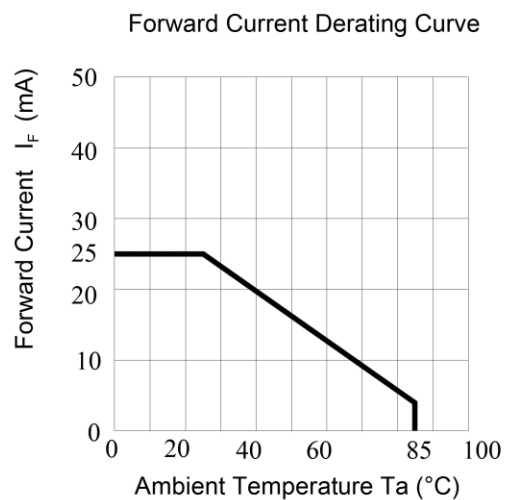
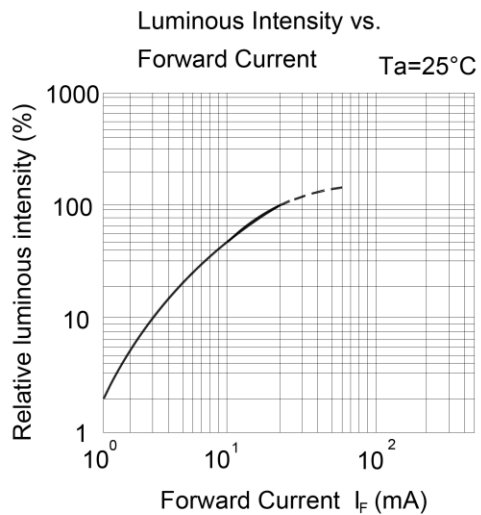
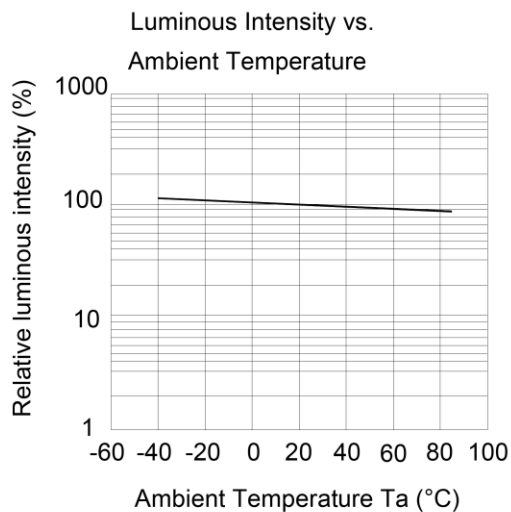
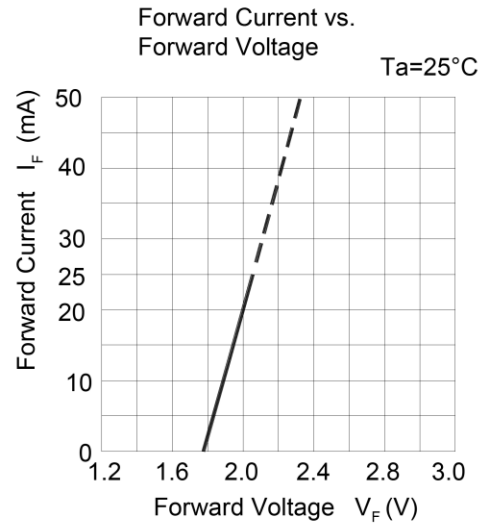
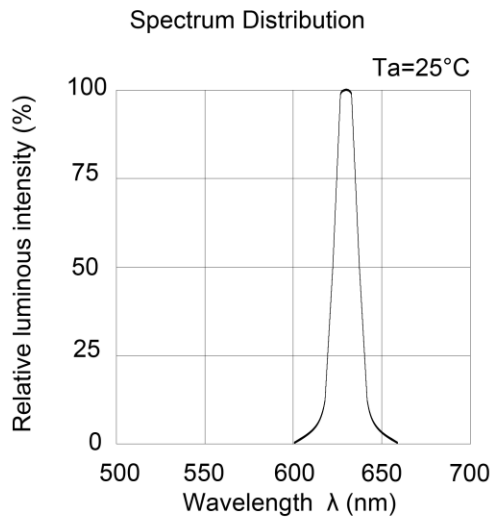
λd (nm) at 20mA			
BIN CODE		Min	Max
9UG	C15	567.5	569.5
	C16	569.5	571.5
	C17	571.5	573.5
	C18	573.5	575.5

Note:

- 1:Tolerance of Luminous Intensity $\pm 11\%$
2. Tolerance of The Dominant Wavelength $\pm 1\text{nm}$

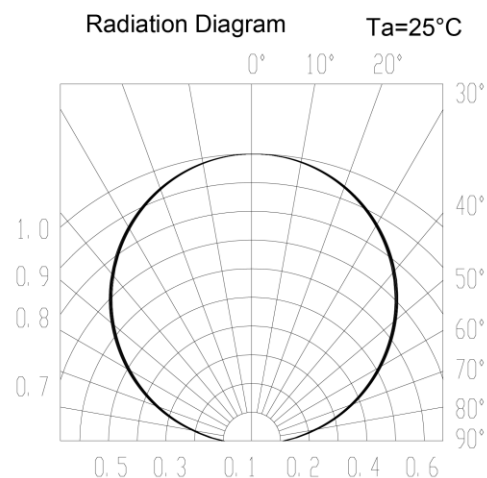
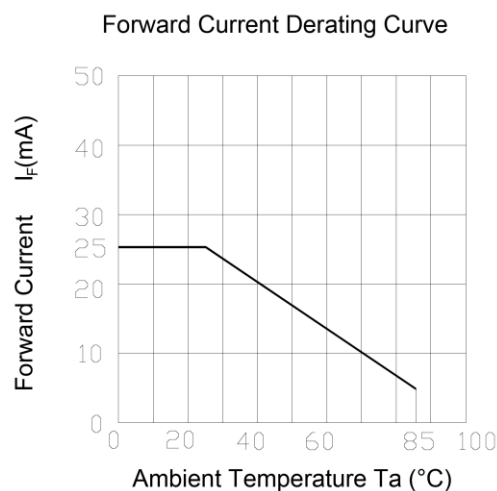
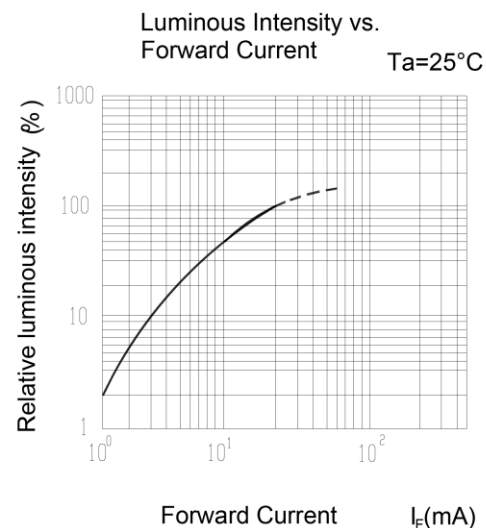
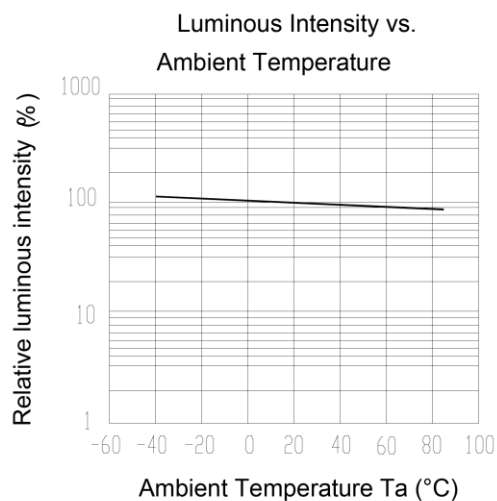
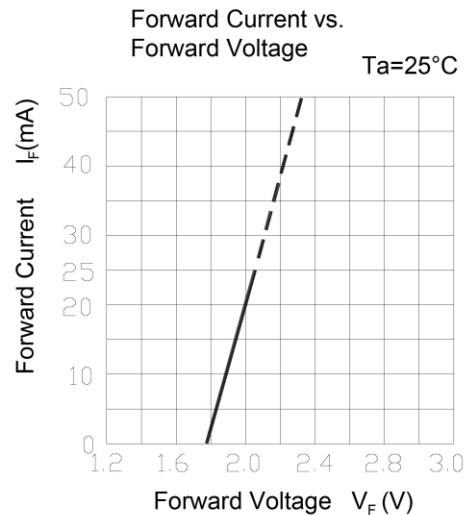
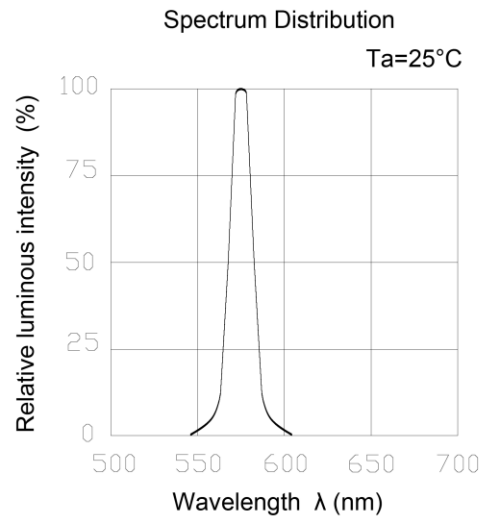
Typical Electro-Optical Characteristics Curve

HEL

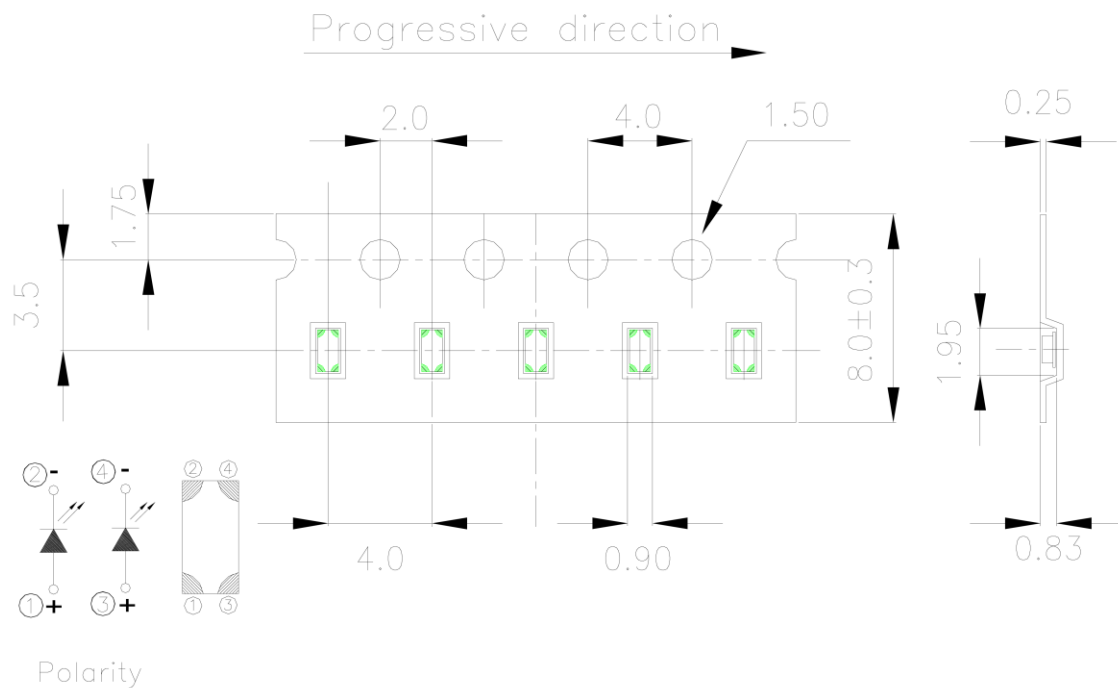


Typical Electro-Optical Characteristics Curve

9UG

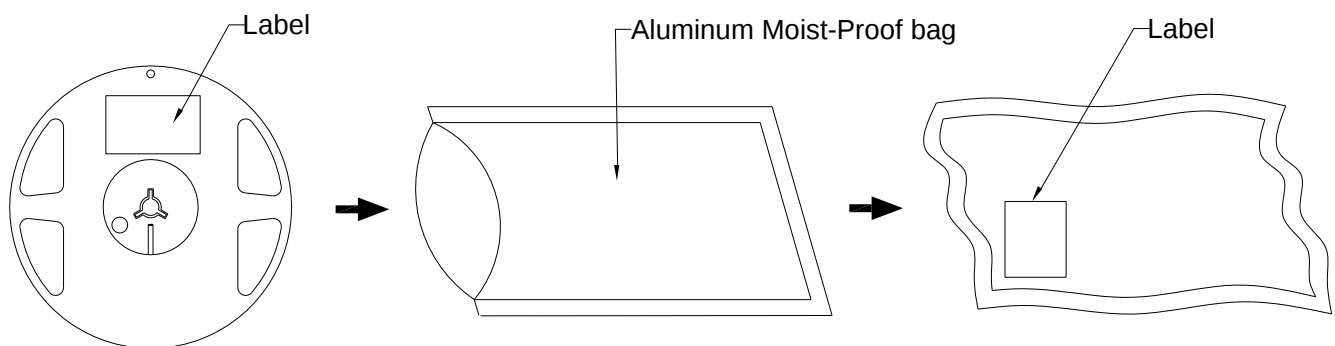


Carrier Tape Dimensions



Note : The tolerances unless mentioned is $\pm 0.1\text{mm}$

Packing Specifications



Part No.	Description	Quantity/Reel
NMOP-10247	8.0mm tape, 7" reel	3000 devices

Label Explanation

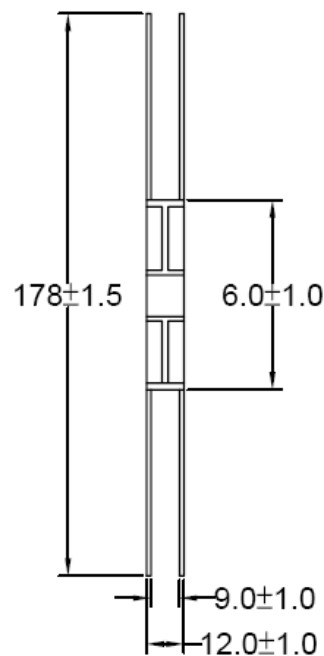
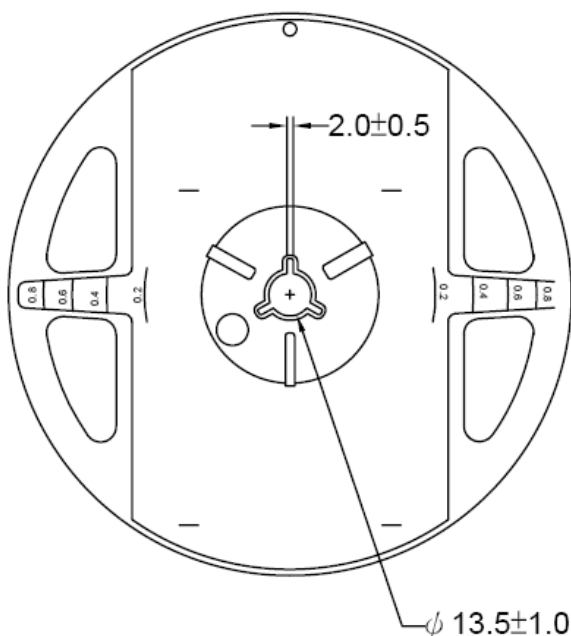
	
PART :	XXXXXXXXXXXXXXXXXX
LOT :	 XXXXXXXXXX
QTY(PCS):	XXXX
BIN/HUE :	 XXXXX
	 VF:XX-XX

BIN : Luminous Intensity

HUE : Dominant Wavelength

VF: Forward Voltage

Reel Dimensions



Precautions For Use:

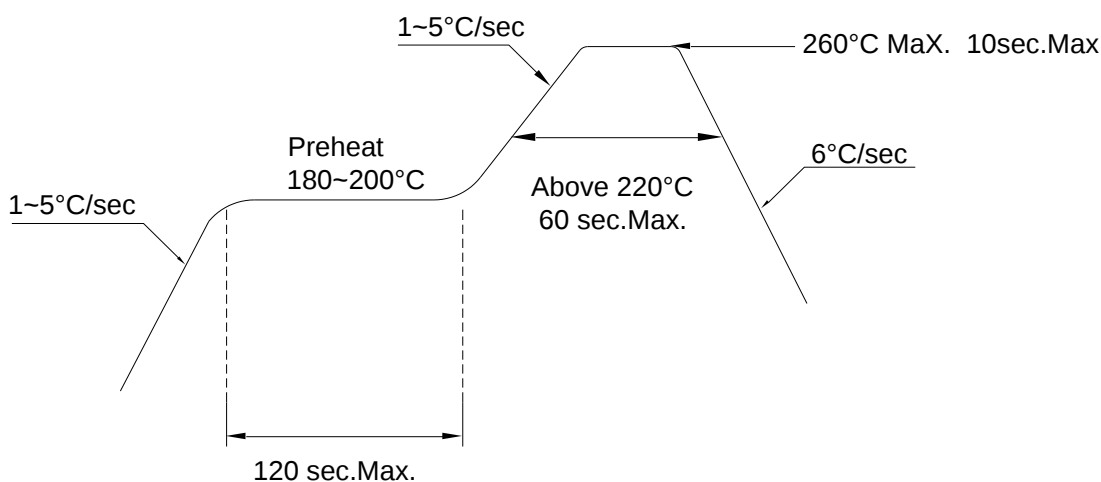
Storage time:

1. Calculated shelf life before opening is 18 months at $< 30^{\circ}\text{C}$ and $< 90\%$ relative humidity (RH)
2. After bag is opened, devices which will be subjected to reflow soldering or other high temperature processes must be
 - a) Assembled within one years in an environment of $\leq 30^{\circ}\text{C}$ / 60% RH, or
 - b) Stored at ambient of 10% RH or less
3. Devices are required baking before assembly if:
 - a) Humidity Indicator Card reads $>10\%$ (for level 2a -5a) or $>60\%$ (for level 2) at ambient temperature $23\pm 5^{\circ}\text{C}$
 - b) 2.a) or 2.b) doesn't meet
4. If baking is required, devices should be baked for >72 hours at $60\pm 5^{\circ}\text{C}$ / 5% RH. Performing baking only once, and using the baked devices within 72 hours.

Over current- protection

The LEDs is sensitive parts, slight voltage shift will cause big change and will cause burn out. Customer must apply resistors for protection.

LED soldering



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.