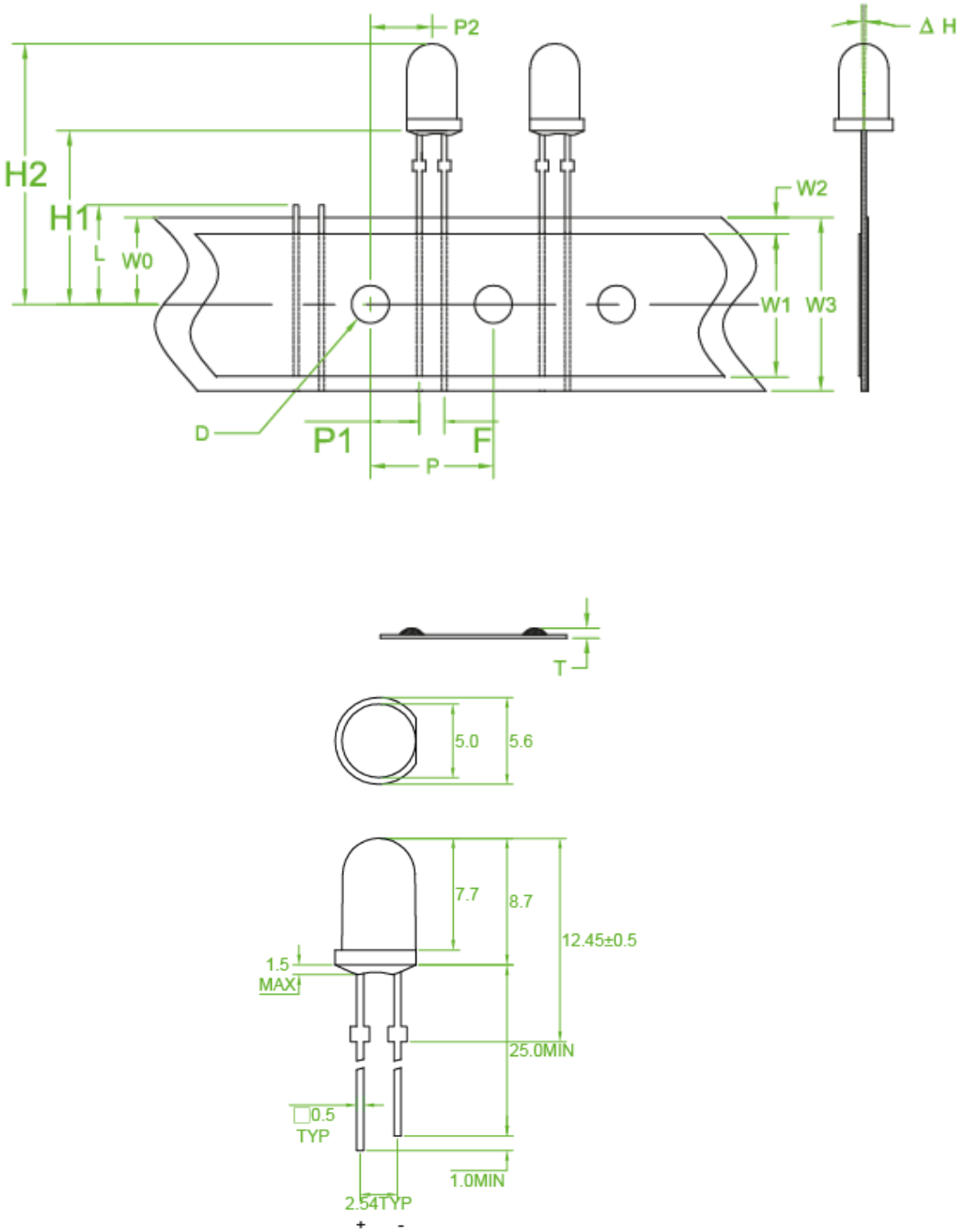
NMOP-10125

SUPER BRIGHT ROUND TYPE LED LAMPS

Package Dimensions:



Note : 1.All dimension are in millimeter tolerance is ±0.25mm unless otherwise noted.
2.Specifications are subject to change without notice.

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Absolute Maximum Ratings at Ta=25° C

Parameter	Symbol	Ratings	UNIT
		HYR	
Forward Current	I_F	30	mA
Peak forward current Duty 1/10@10KHz	I_{FP}	60	mA
Power Dissipation	PD	78	mW
Reverse Current @5V	Ir	10	μA
Electrostatic Discharge (*)	ESD	2000	V
Operating Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C

* Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling these LED. All devices, equipment and machinery must be properly grounded.

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

Part No	Material	Color		Dominant wavelenght λDnm		Spectral half-width Δλ nm	Forward voltage @20mA(V)		Luminous intensity @20mA(mcd)			Viewing angle 2θ 1/2 (deg)
		Emitted	Lens				Min.	Max.	Min.	Typ.	Max.	
NMOP-10125	AlGaInP	Yellow	Water Clear	585	595	20	1.7	2.6	7700	14000	26000	30

Note:

1. The forward voltage data did not including ±0.1V testing tolerance
2. The luminous intensity data did not including ±15% testing tolerance.

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Brightness Code for Standard LED Lamps

Bin Code
HY Chip

Group	Luminous Intensity (mcd) at 20mA	
	Min.	Max.
A31	7.700	9.500
A32	9.500	11.500
A33	11.500	14.000
A34	14.000	17.000
A35	17.000	21.000
A36	21.000	26.000

Color Code

HY CHIP

Group	Wavelength (nm) at 20mA	
	Min.	Max.
15	585	587
16	587	589
17	589	592
18	592	595

Group	Forwardvoltage(V) at 20mA	
	Min.	Max.
V1	1.7	1.8
V2	1.8	2.0
V3	2.0	2.2
V4	2.2	2.4
V5	2.4	2.6

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Dimensions Symbol Information

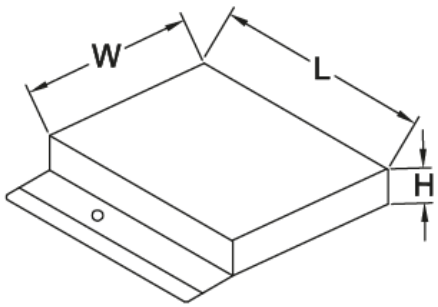
SYMBOL ITEMS	OPTION CODE	SYMBOL	SPECIFICATIONS			
			Minimum		Maximum	
			mm	inch	mm	inch
Tape Feed Hole Diameter		D	3.8	0.15	4.2	0.17
Component Lead Pitch		F	2.3	0.09	3.0	0.12
Front-To-Rear Deflection		ΔH			2.0	0.08
Feed Hole To Bottom Of Component	TBS-1	H1	17.5	0.69	18.5	0.73
	TBS-2		21.5	0.85	22.5	0.86
	TBS-3		25.5	1.0	26.5	1.04
	TBS-5		22.5	0.89	23.5	0.93
	TBS-6		19.9	0.78	20.9	0.82
	TBS-7		24.0	0.94	25.0	0.98
	TBS-8		24.5	0.96	25.5	1.0
	TBS-9		19.0	0.75	20.0	0.79
	TBS-10		18.4	0.72	19.4	0.76
Feed Hole To Overall Component Height		H2			36	1.42
Lead Length After Component Height		L	wo		11	0.43
Feed Hole Pitch		p	12.4	0.49	13.0	0.51
Lead Location		P1	4.4	0.17	5.8	0.23
Center Of Component Location		P2	5.1	0.2	7.7	0.3
Overall Taped Package Thickness		T			1.42	0.06
Feed Hole Location		wo	8.5	0.33	9.75	0.38
Adhesive Tape Width		W1	14.5	0.57	15.5	0.61
Adhesive Tape Position		W2	0	0	4.0	0.16
Tape Width		W3	17.5	0.69	19.0	0.75

Remark: TBS=Tape And Box Straight Leads

Dimensions Symbol Information

Description	Symbol	Specification			
		minimum		maxmum	
		mm	inch	mm	inch
Overall Length	L	330	13.0	240	13.4
Overall Width	W	265	10.4	275	10.8
Overall Thickness	H	50	1.97	60	2.4
Quantity/Box	2000PCS				

Package Dimensions



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Typical Electro-Optical Characteristics Curve

HYR CHIP

HY(R) CHIP

Fig.1 Forward current vs. Forward Voltage

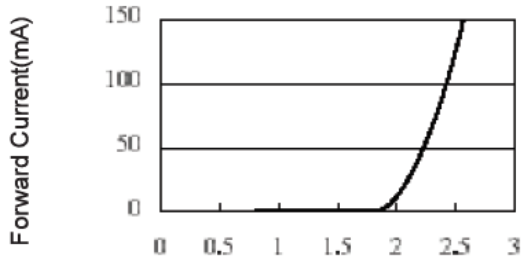


Fig.2 Relative Intensity vs. Forward Current

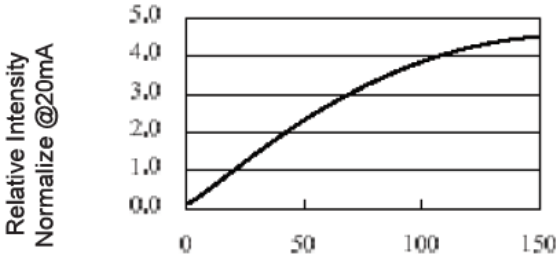


Fig.3 Forward Voltage vs. Temperature

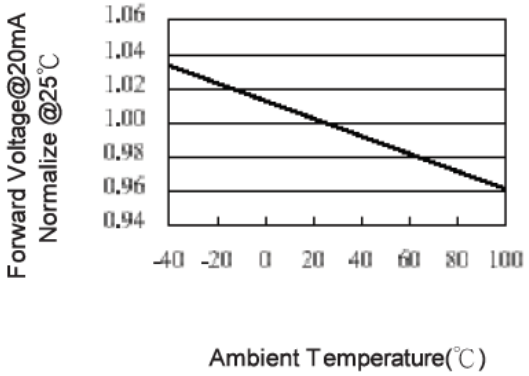


Fig.4 Relative Intensity vs. Temperature

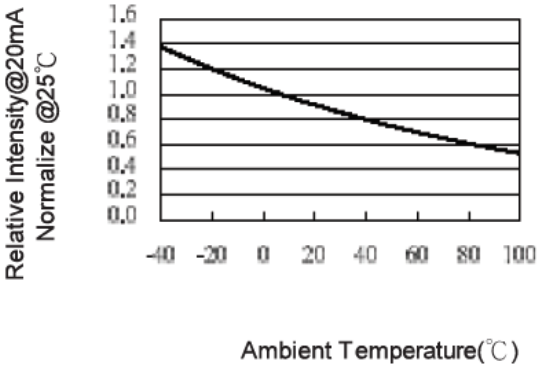
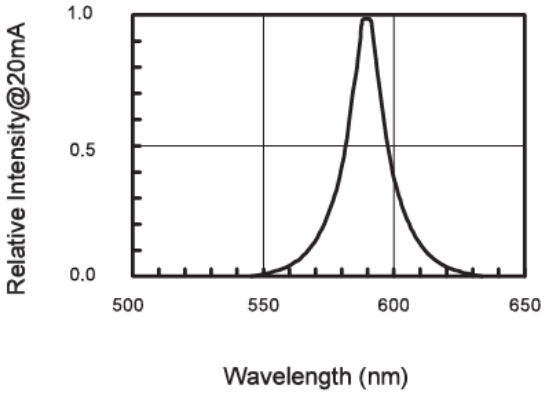


Fig.5 Relative Intensity vs. Wavelength



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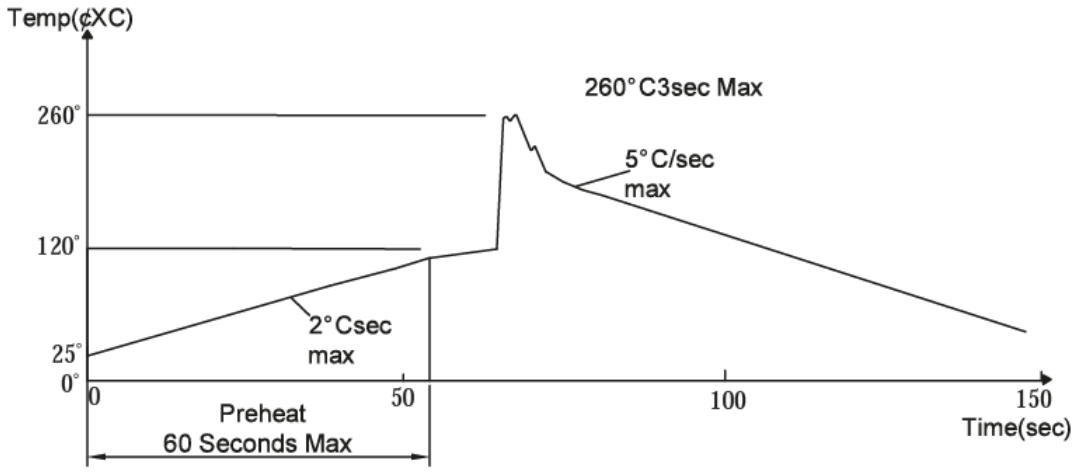
Soldering Condition(Pb-Free)

1. Iron:

Soldering Iron:	30W Max.
Temperature:	350°C Max
Soldering Time:	3 Seconds Max (One Time only)
Distance:	2mm Min (from solder joint to body)

2. Wave Soldering Profile

Dip Soldering	
Preheat:	120°C Max.
Preheat time:	60 seconds Max.
Ramp-up:	2°C/sec (max)
Ramp-Down:	-5°C/sec. (max)
Solder Bath:	260°C Max
Dipping Time:	3 seconds Max.
Distance:	2mm Min (From solder joint to body)



Note: 1. Wave solder should not be made more than one time.
2. You can just only one of the soldering conditions as above.

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Reliability Test:

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1. Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs,+72hrs)	This test ist conducted for the purpose of determining the resistance of a part in electrical and themal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105°C±5°C 2.t=1000 hrs (-24hrs,+72hrs)	The purpose of this is the resistance of the devide which is laid under conditi-on of high temperature for hours.	MIL-STD-883: 1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40°C±5°C 2.t=1000 hrs (-24hrs,+72hrs)	The purpose of this ist the resistance of the device which is laid under conditi-on of low temperature for hours	JIS C 7021: B-12
High Temperature High Humidity Storage Test	1.Ta=65°C±5°C 2.RH=90%~95% 3.t=24hrs ±2hrs	The purpose of this test is the resistance of teh device under tropical for hours	MIL-STD-202: 103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105°C±5°C & -40°C±5°C (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1. T.Sol=260°C±5°C 2.Dwell time = 10±1sec.	This test intended to deter-mine the thermal characteri-stic resistance of the devide to sudden exposures at extreme changes in tempe-rature when soldering the lead wire	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1. T.Sol=230°C±5°C 2.Dwell time = 5±1sec.	This test intended to see soldering well performed or not	MIL-STD-202:208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2

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