



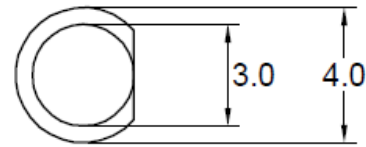
American Opto Plus LED Corp.

L314NRD-36D

3mm Super Red LED Lamp

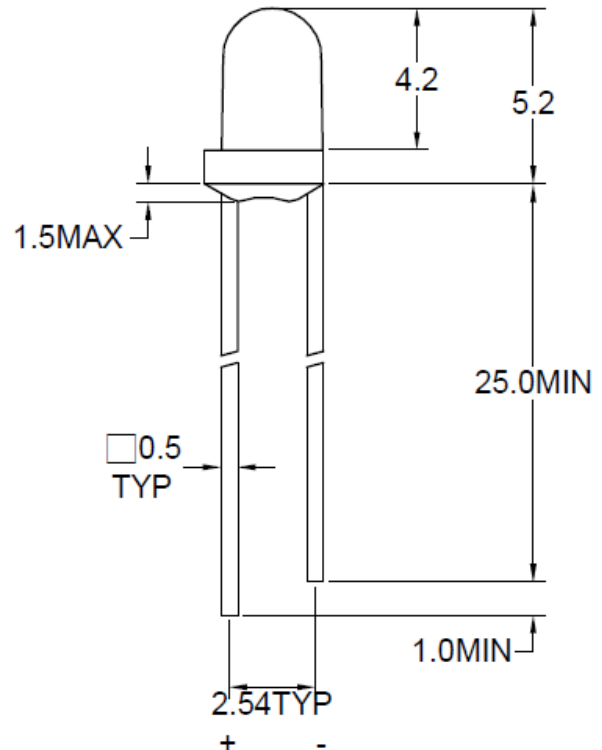
DESCRIPTION

- Round Type
- 3mm Diameter
- Lens Color: Red Diffused
- With Flange
- Solder leads without standoffs



FEATURES

- Emitted Color: Super Red
- Technology: GaAIAs
- High Luminous Intensity
- Peak Wavelength $\lambda_P = 660\text{nm}$
- Viewing Angle: 36°



Note: all dimensions are in millimeters; tolerance is $\pm 0.25\text{mm}$ unless otherwise noted.

Part Number	Material	Color		Viewing Angle
		Emitted	Lens	
L314NRD-36D	GaAIAs	Super Red	Red Diffused	36°



American Opto Plus LED Corp.

L314NRD-36D

3mm Super Red LED Lamp

ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Value	Unit
DC Forward Current	I _F	40	mA
Peak Forward Current (Duty 1/10@10KHz)	I _{FP}	120	mA
Power Dissipation	P _D	120	mW
Reverse Current @ 5V	I _R	10	μA
Operating Temperature	T _{OPR}	-40~+85	°C
Storage Temperature	T _{STG}	-40~+100	°C

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Luminous Intensity	I _v	I _F =20mA	220	350	450	mcd
Peak Wavelength	λ _P	I _F =20mA	--	660	--	nm
Spectral Line Half-Width	Δλ	I _F =20mA	--	20	--	nm
Forward Voltage	V _F	I _F =20mA	1.5	--	2.4	V
Viewing Angle	2θ1/2	I _F =20mA	--	--	36	deg

Notes:

1. Forward voltage data did not include ±0.1V testing tolerance.
2. Luminous intensity data did not include ±15% testing tolerance.



American Opto Plus LED Corp.

L314NRD-36D

3mm Super Red LED Lamp

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVE

Fig.1 Forward current vs. Forward Voltage

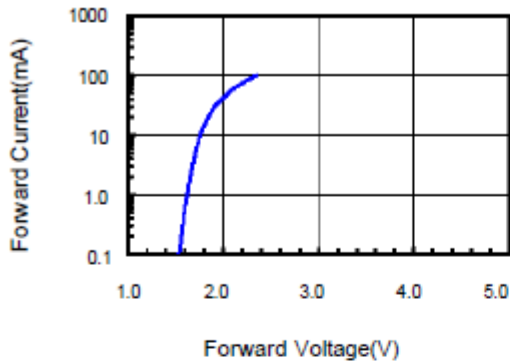


Fig.2 Relative Intensity vs. Forward Current

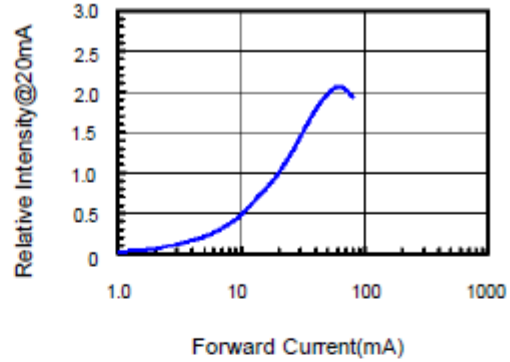


Fig.3 Forward Voltage vs. Temperature

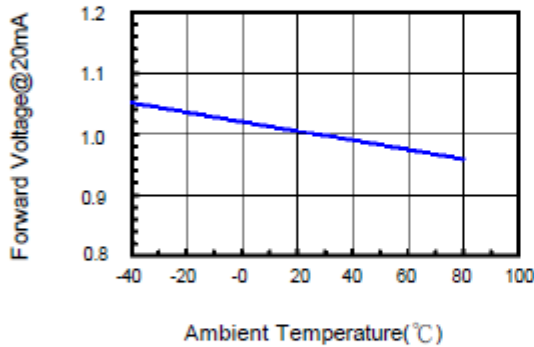


Fig.4 Relative Intensity vs. Temperature

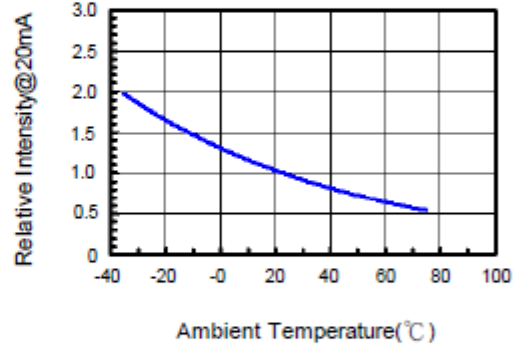
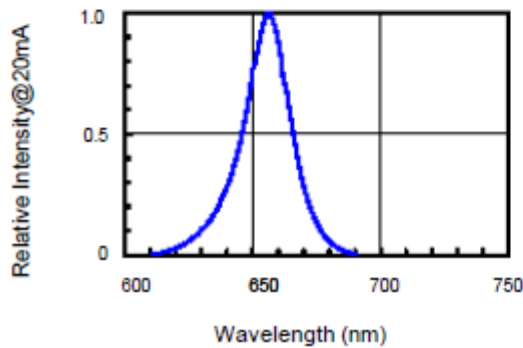
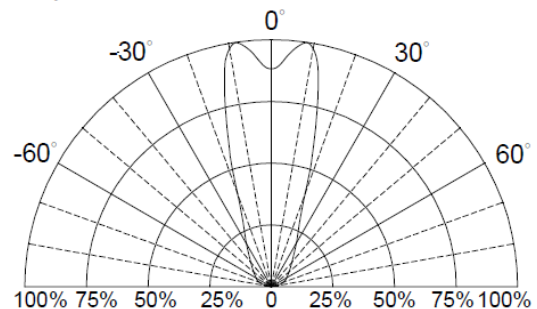


Fig.5 Relative Intensity vs. Wavelength



Directivity Radiation





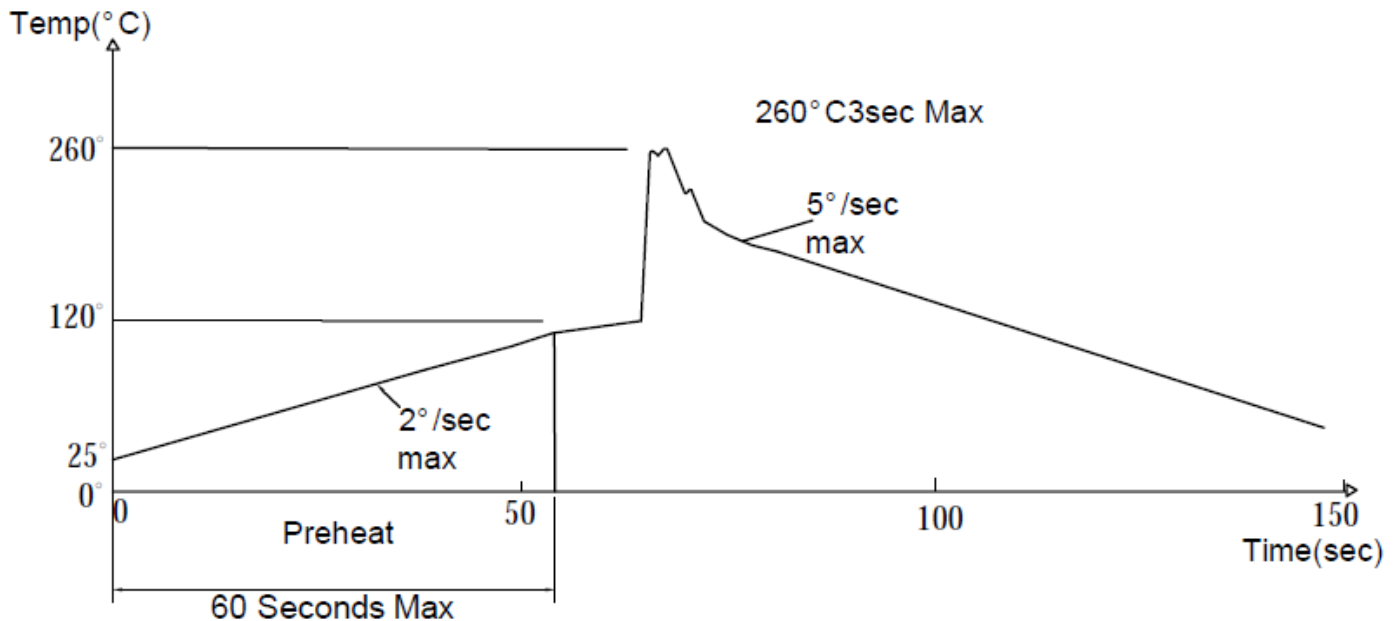
American Opto Plus LED Corp.

L314NRD-36D

3mm Super Red LED Lamp

SOLDERING PROFILE

1. Iron:
Soldering Iron: 30W max
Temperature 350 °C max
Soldering Time: 3 seconds max (one time)
Distance: 2mm min (from solder joint to body)
2. Wave Soldering Profile:
Dip soldering
Preheat: 120 °C max
Preheat time: 120 seconds max
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)



Notes:

1. Wave solder should not be made more than one time.
2. Only select one of the soldering conditions as above.



American Opto Plus LED Corp.

L314NRD-36D

3mm Super Red LED Lamp

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 is conducted for the purpose of determining the resistance of a part in electrical and thermal 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 device which is laid under condition 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 is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65 °C±5°C 2.RH=90 %~95% 3.t=240hrs ±2hrs	The purpose of this test is the resistance of the 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 determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature 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