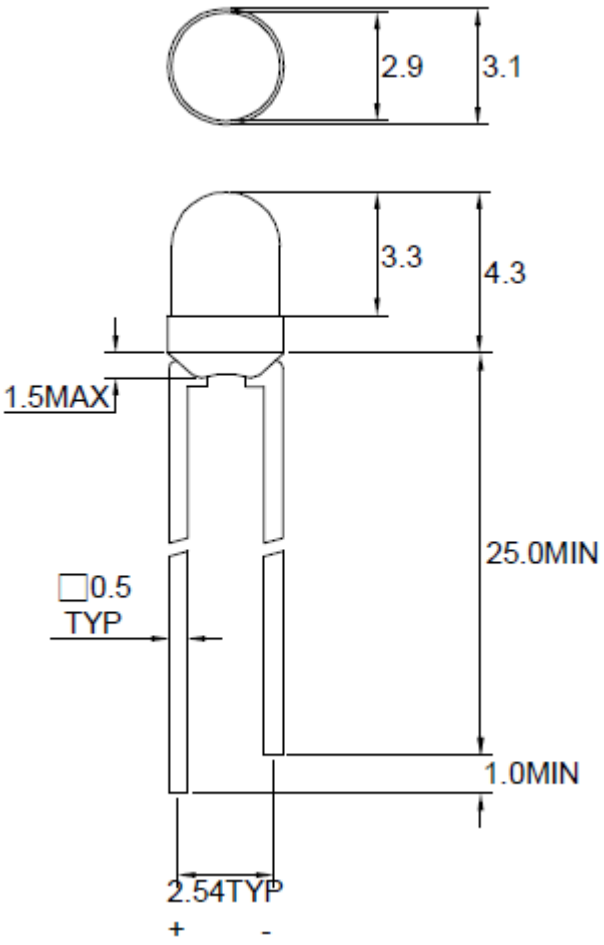
American Opto Plus LED Corp.
L354L-ED
3 mm Red LED Lamp with Diffused Lens

PACKAGE DIMENSION



Notes

1. All dimensions are in millimeters; tolerance is ±0.25mm unless otherwise noted
2. Specifications are subject to change without notice

Material	Color	
	Emitted	Lens
GaAsP/GaP	Red	Red Diffused

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

	Symbol	Rating	Unit
Forward Current	I_F	30	mA
Forward Peak Current (1/10 duty @10kHz)	I_{FP}	120	mA
Power Dissipation	P_D	100	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)

	Symbol	Test Condition	Rating			Unit
			Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=20mA	1.7	--	2.6	V
Peak Wavelength	λ_p	--	--	635	--	nm
Spectral half-width	$\Delta\lambda$	--	--	45	--	nm
Luminous Intensity	I_V	I_F=10mA	8.0	12	--	mcd
Viewing Angle	2Θ1/2	--	--	50	--	deg

Notes:
1. The Forward voltage data did not include ±0.1V testing tolerance
2. The luminous intensity data did not include ±15% testing tolerance

TYPICAL ELECTRICAL-OPTICAL CHARACTERISTIC CURVES

Fig.1 Forward current vs. Forward Voltage

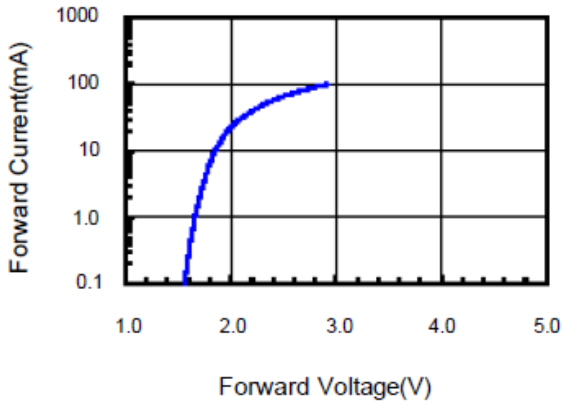


Fig.2 Relative Intensity vs. Forward Current

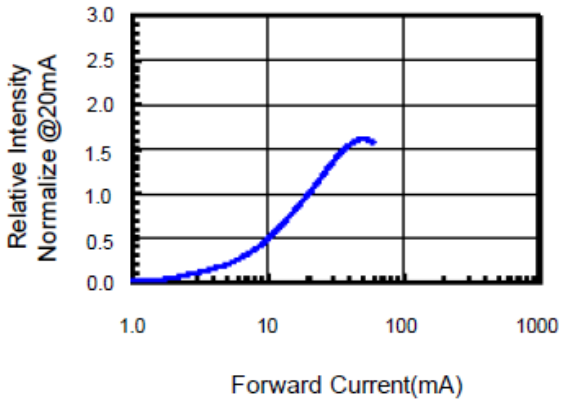


Fig.3 Forward Voltage vs. Temperature

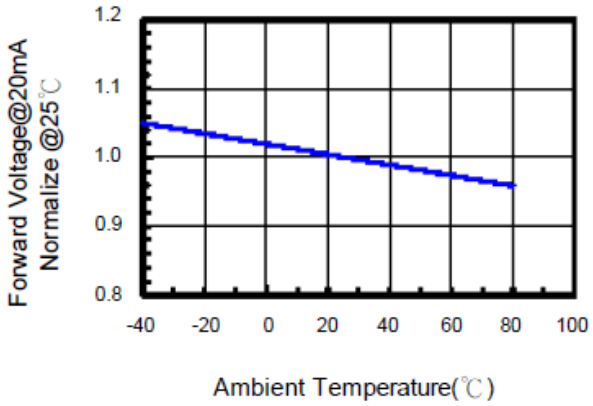


Fig.4 Relative Intensity vs. Temperature

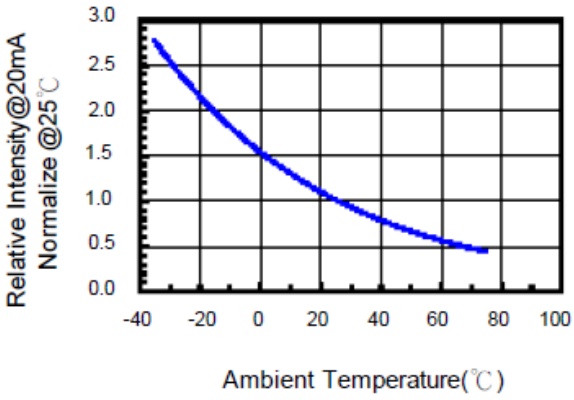
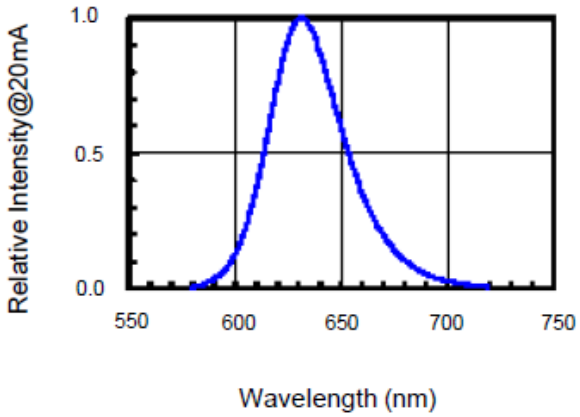
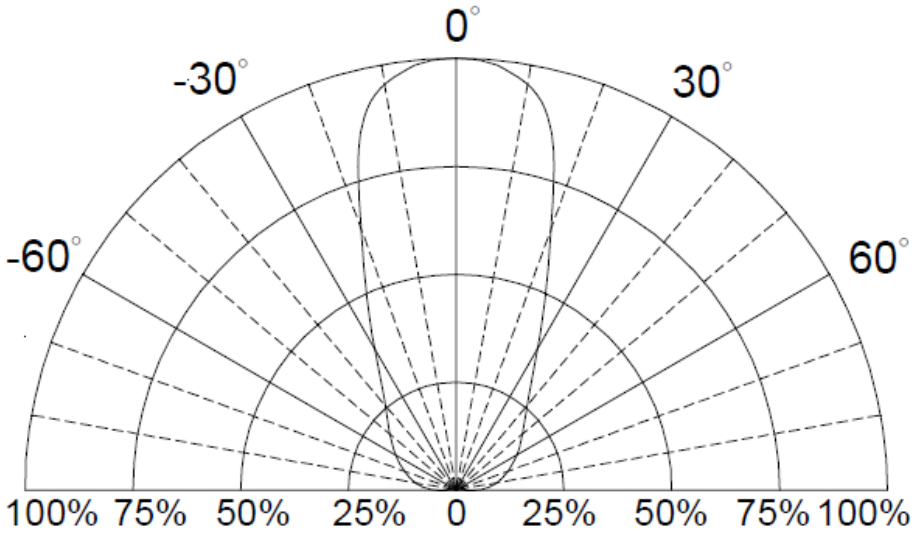


Fig.5 Relative Intensity vs. Wavelength



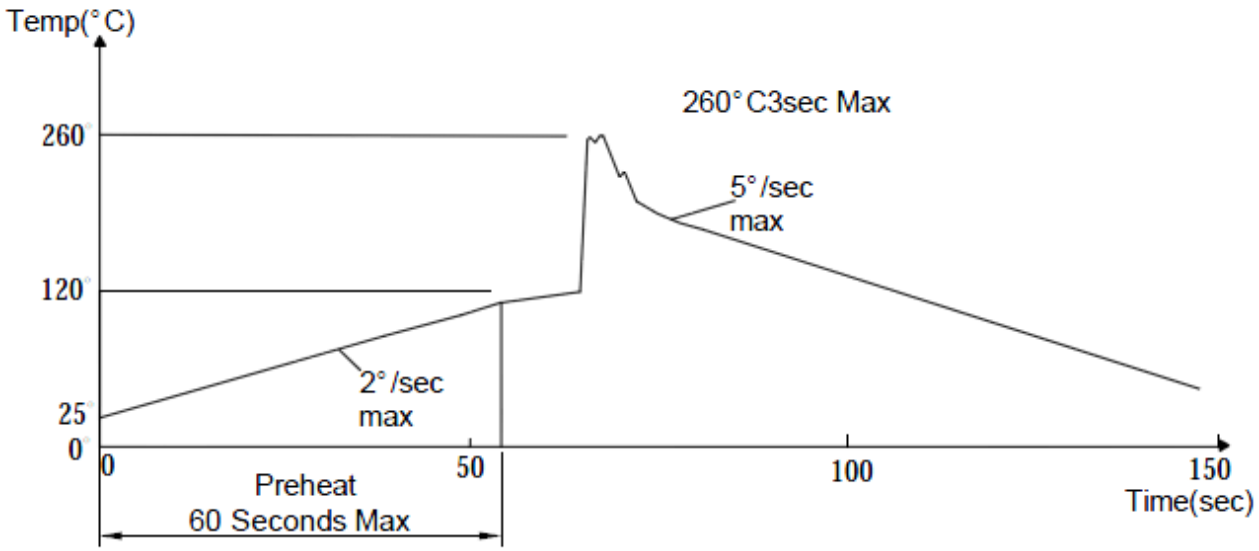
DIRECTIVITY RADIATION



SOLDERING CONDITION (PB-FREE)

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: 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 case)



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

RELIABLITY 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±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-STTD-883: 1008 JIS C 7021: B-10
Low Temperature Storage Test	1. Ta=40±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 Humidity Test	1. Ta=65±5°C 2. RH=90%~95% 3. t=240hrs±2 hrs	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±5°C & -40±5°C (10 min) (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