

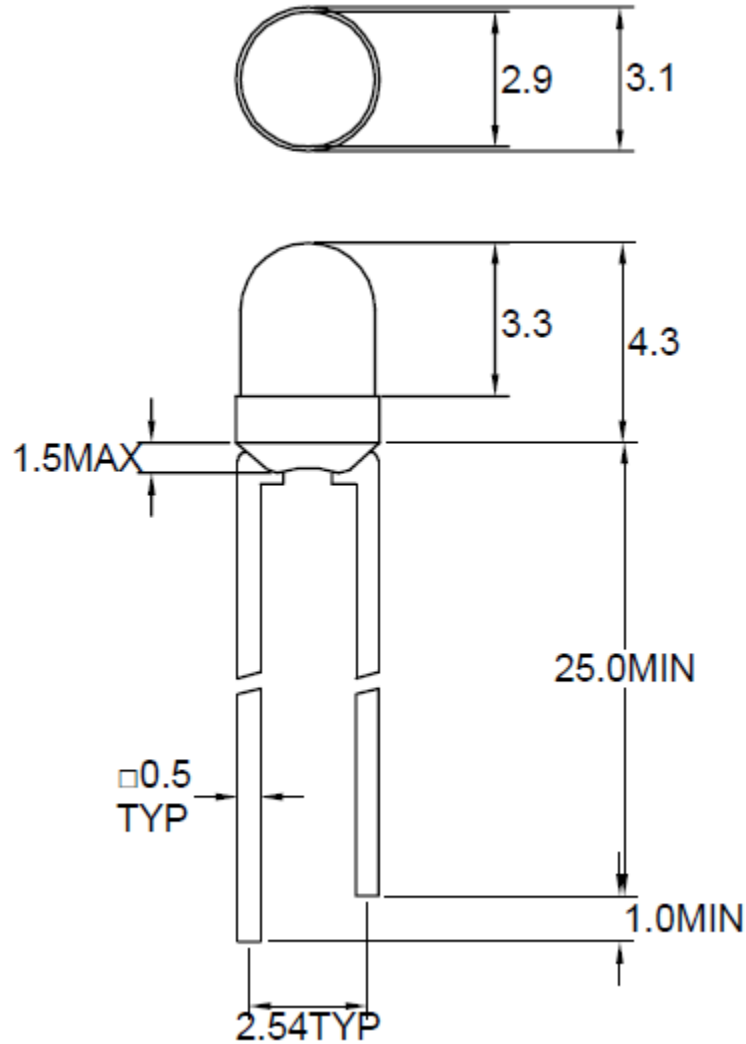


# American Opto Plus LED Corp.

## L354ED

3mm Red LED Lamp

### PACKAGE OUTLINES



Note: All dimensions are in millimeter, tolerance is  $\pm 0.25\text{mm}$ .

ITEM	MATERIALS
Lens color	Red Diffused
Dice	GaAsP/GaP
Emitted Color	Red



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### ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I <sub>F</sub>	30	mA
Peak Pulsed Forward Current*	I <sub>FP</sub>	120	mA
Power Dissipation	P <sub>D</sub>	100	mW
Reverse Current @ 5V	I <sub>R</sub>	10	μA
Operating Temperature	T <sub>OPR</sub>	-40~+85	°C
Storage Temperature	T <sub>STG</sub>	-40~+100	°C
Solder Temperature	T <sub>SLD</sub>	260°C for 5 seconds (2mm from body)	

\* I<sub>FP</sub> = Duty 1/10@10KHz

### OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	1.7	--	2.6	V
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =20mA	8.0	12	--	mcd
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> =20mA	--	635	--	nm
Spectral Half Width	Δλ	I <sub>F</sub> =20mA	--	45	--	nm
Viewing Angle	2θ <sub>1/2</sub>	I <sub>F</sub> =10mA	--	50	--	deg

\*Note: forward voltage tolerance: ±0.1V; luminous intensity tolerance: ±15%.



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### TYPICAL OPTICAL-ELECTRICAL CHARACTERISTICS CURVES

Fig.1 Forward current vs. Forward Voltage

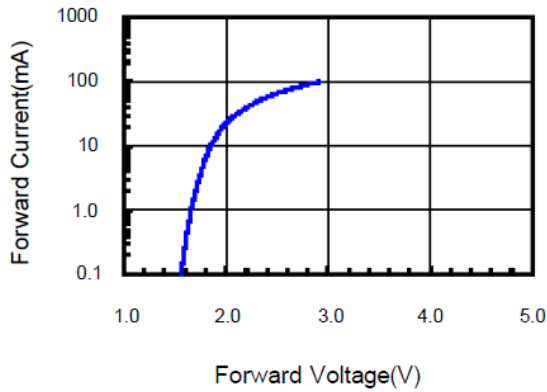


Fig.2 Relative Intensity vs. Forward Current

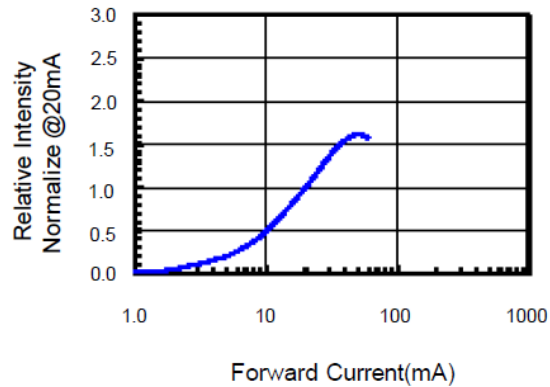


Fig.3 Forward Voltage vs. Temperature

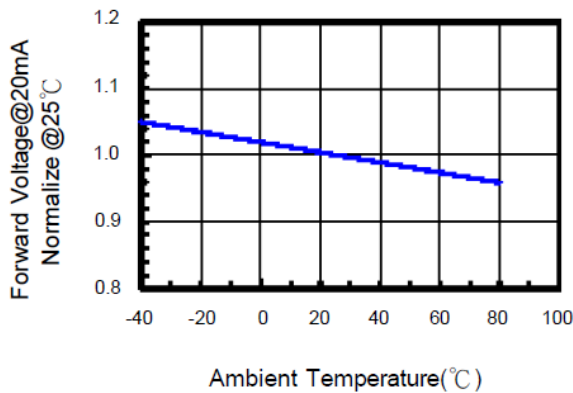


Fig.4 Relative Intensity vs. Temperature

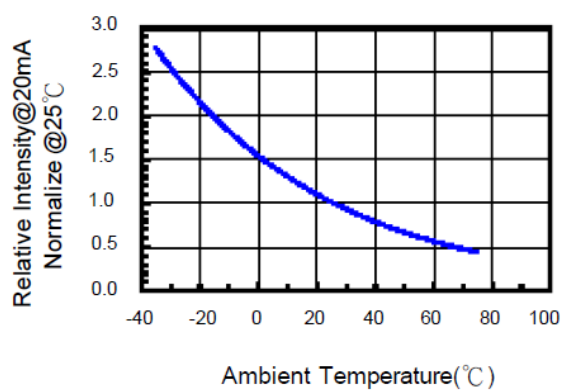
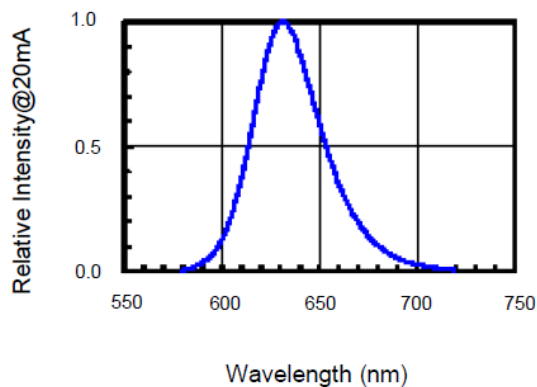
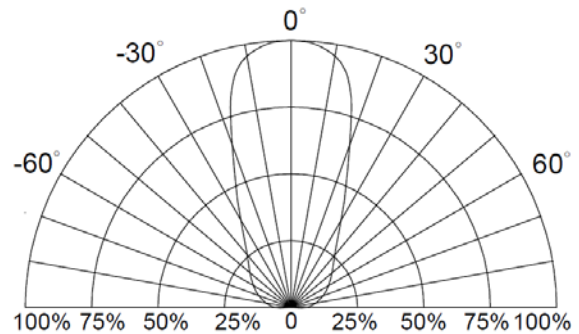


Fig.5 Relative Intensity vs. Wavelength



Directivity Radiation





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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 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