



American Opto Plus LED Corp.

L955QEQPGQBC

3.5 x 2.8 x 1.9 mm RGB PLCC4 LED

EDIT HISTORY:

- Version 1.0: 04/30/2013 – Preliminary Spec
- Version 1.1: 06/11/2014 – Changes to luminous intensity

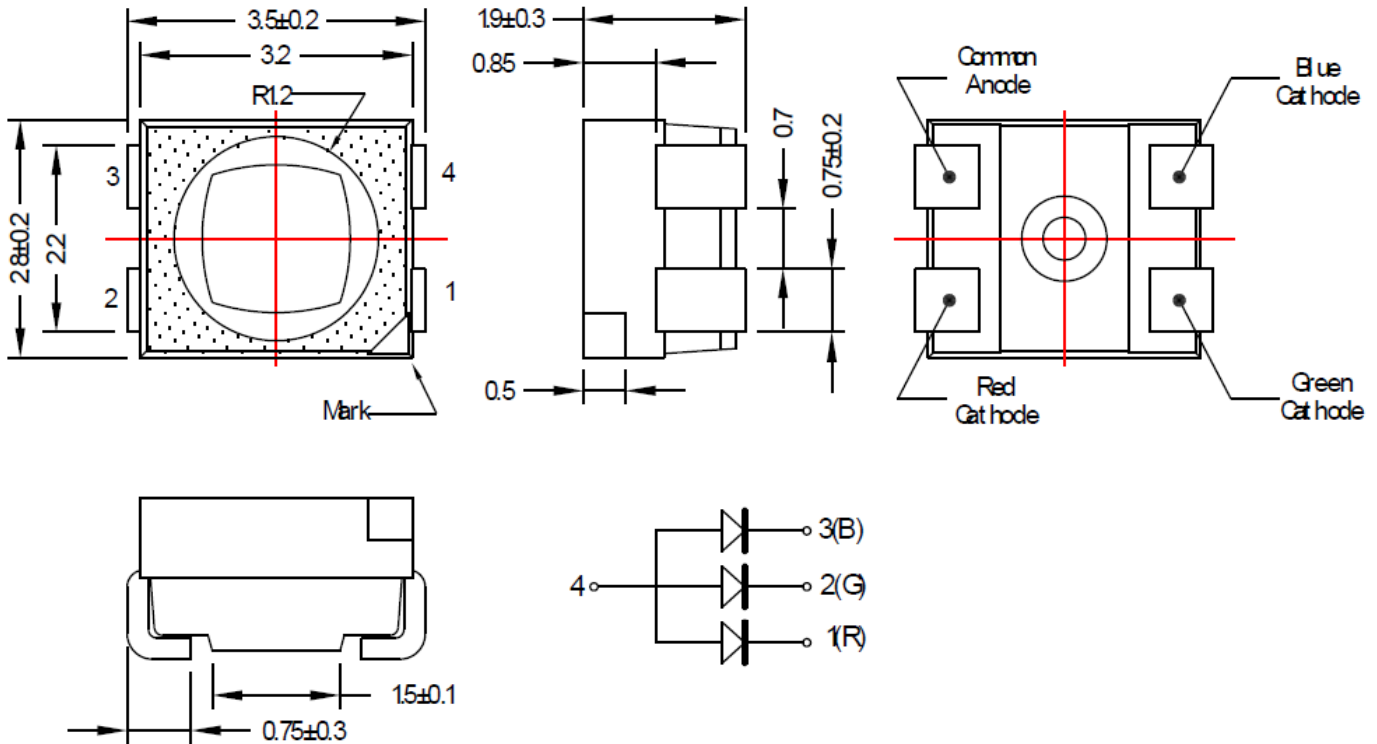


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PACKAGE SPECIFICATIONS



Item	Materials
Package	Heat-Resistant Polymer (Black Face)
Encapsulating Resin	Silicone
Electrodes	Ag Plating Copper Alloy

Notes:

1. All dimensions in mm
2. Electrical connection between all cathodes is recommended



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Ratings			Unit
		R	PG	B	
DC Forward Current	I _F	30	25	25	mA
Peak Pulsed Forward Current*	I _{FP}	100	100	100	mA
Reverse Voltage	V _R	5	5	5	V
Power Dissipation	P _D	72	90	90	mW
Total Power Dissipation**	P _{TOT}	250			mW
Human Body Mode	HBM	>1000			V
Operating temperature range	T _{OPR}	-30~+85			°C
Storage temperature range	T _{STG}	-40~+100			°C
Solder Dipping Temperature	T _{SOL}	Reflow soldering: 260°C for 5 sec Hand soldering: 350°C for 3 sec			

*I_{FP} Conditions: Pulse width ≤ 10msec and duty ≤ 1/10

**Value for total power dissipation when two or more devices are lit simultaneously.

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit	
Forward Voltage	V _F	I _f =20mA	R	--	2.1	2.4	V
			PG	--	3.2	3.6	
			B	--	3.2	3.6	
Luminous Flux	Φ _V		R	--	1.9	--	lm
			PG	--	3.9	--	
			B	--	1.0	--	
Luminous Intensity	I _V		R	0.55	0.85	--	cd
			PG	0.8	1.5	--	
			B	0.25	0.33	--	
Dominant Wavelength	λ _D	R	620	625	630	nm	
		PG	525	530	535		
		B	465	470	475		
Peak Wavelength	λ _P	R	--	635	--	nm	
		PG	--	525	--		
		B	--	460	--		
Viewing Angle	2θ ½	--	--	120	--	nm	
Reverse Current	I _R	V _R =5V	--	--	--	50 μA	

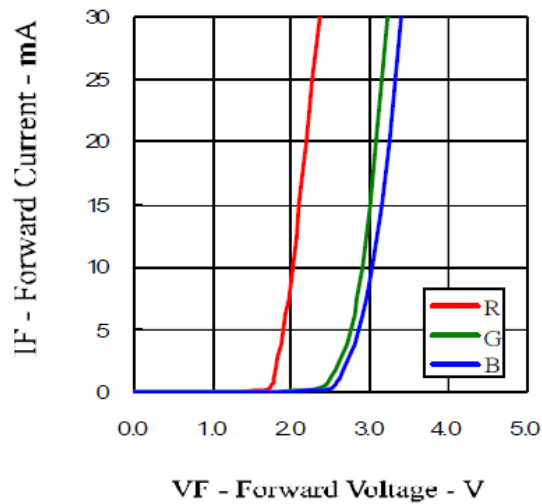


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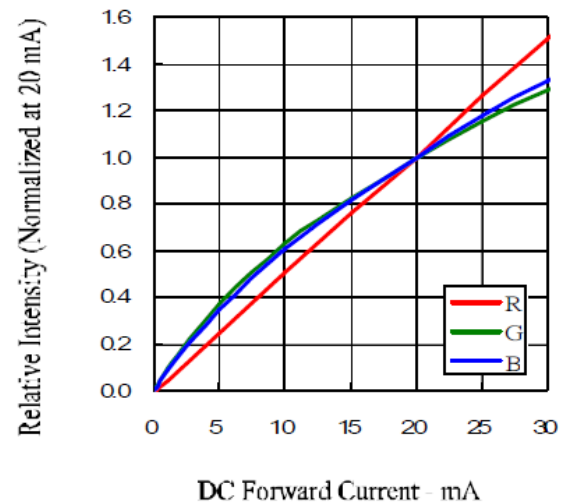
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TYPICAL ELECTRICAL-OPTICAL CHARACTERISTIC CURVES

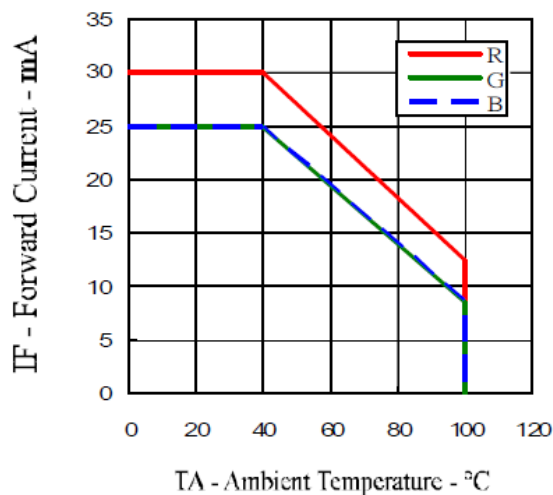
Forward Current vs. Forward Voltage



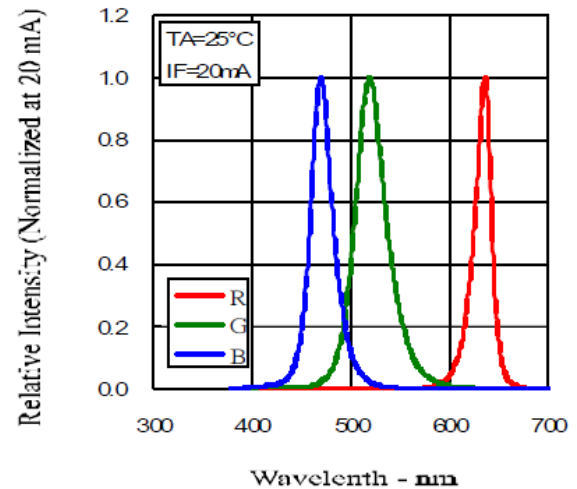
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temperature



Relative Intensity vs. Wavelength



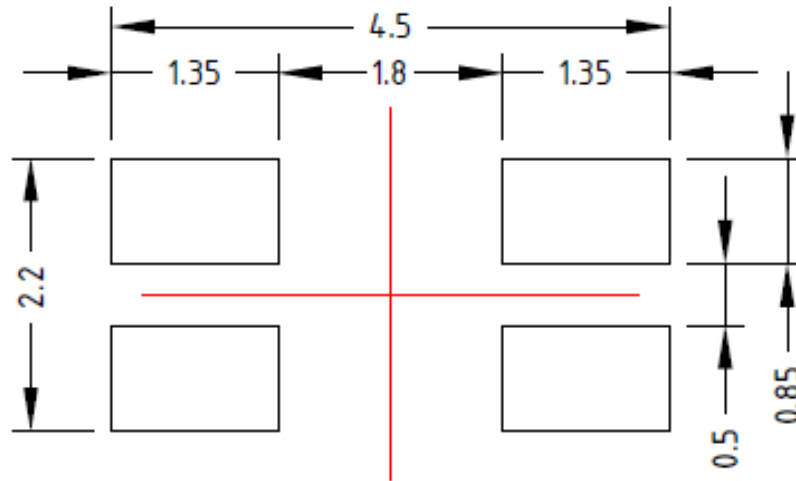


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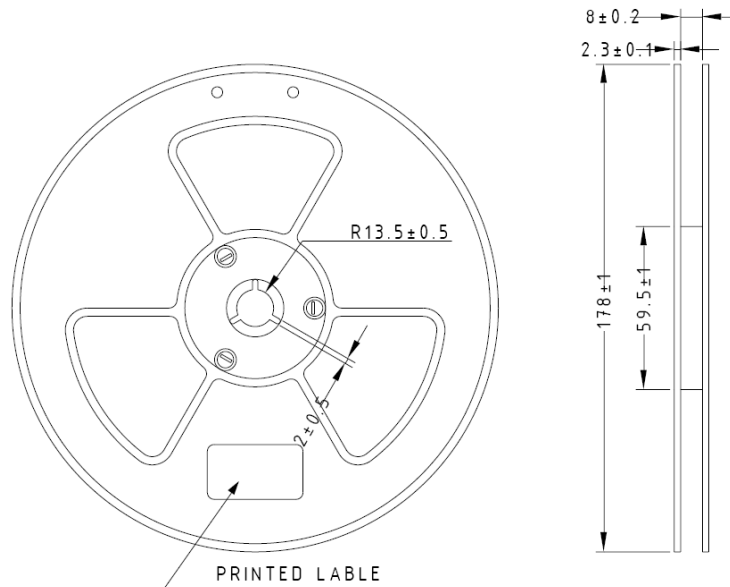
L955QE QPGQBC

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RECOMMENDED SOLDERING PATTERN



REEL DIMENSION



Note : Baking is required under the following conditions:
The pack has been opened for more than four weeks.
Baking recommended conditions:
60 ± 5 °C for 20 hours.
Reel size: 2000 pcs

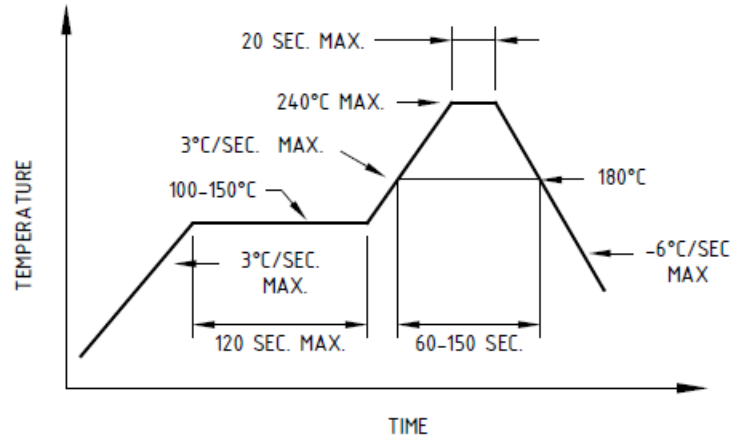


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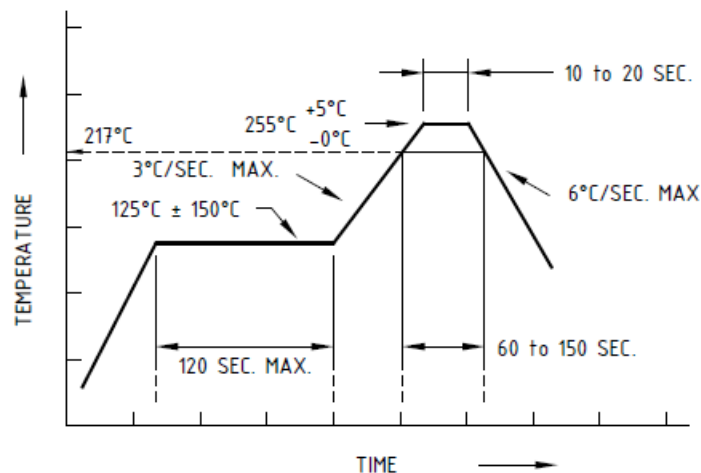
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SOLDERING CONDITIONS



Recommended reflow soldering profile



Recommended Pb-free reflow soldering profile

- Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the Characteristics of the LEDs will or will not be damaged by repairing.
- Reflow soldering should not be done more than two times.
- When soldering, do not put stress on the LEDs during heating.
- After soldering, do not warp the circuit board.

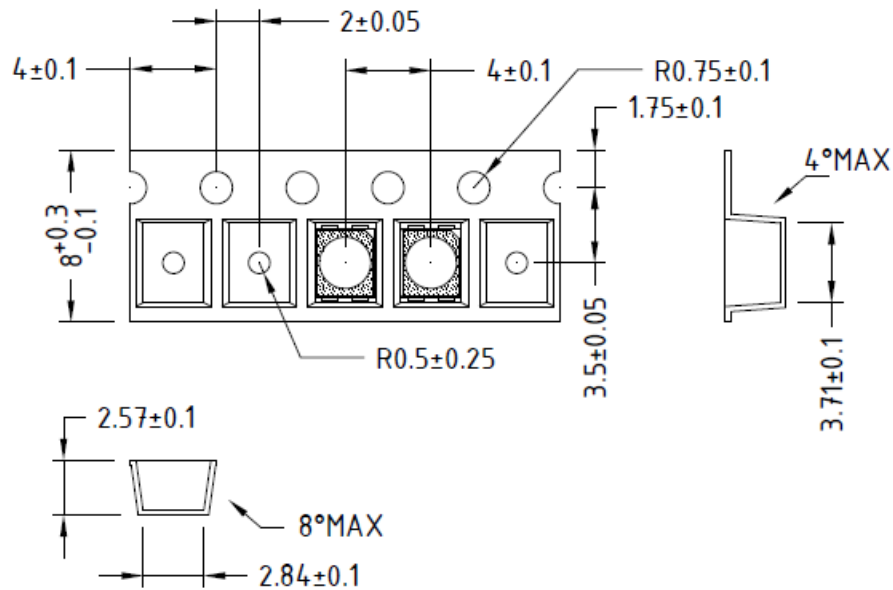


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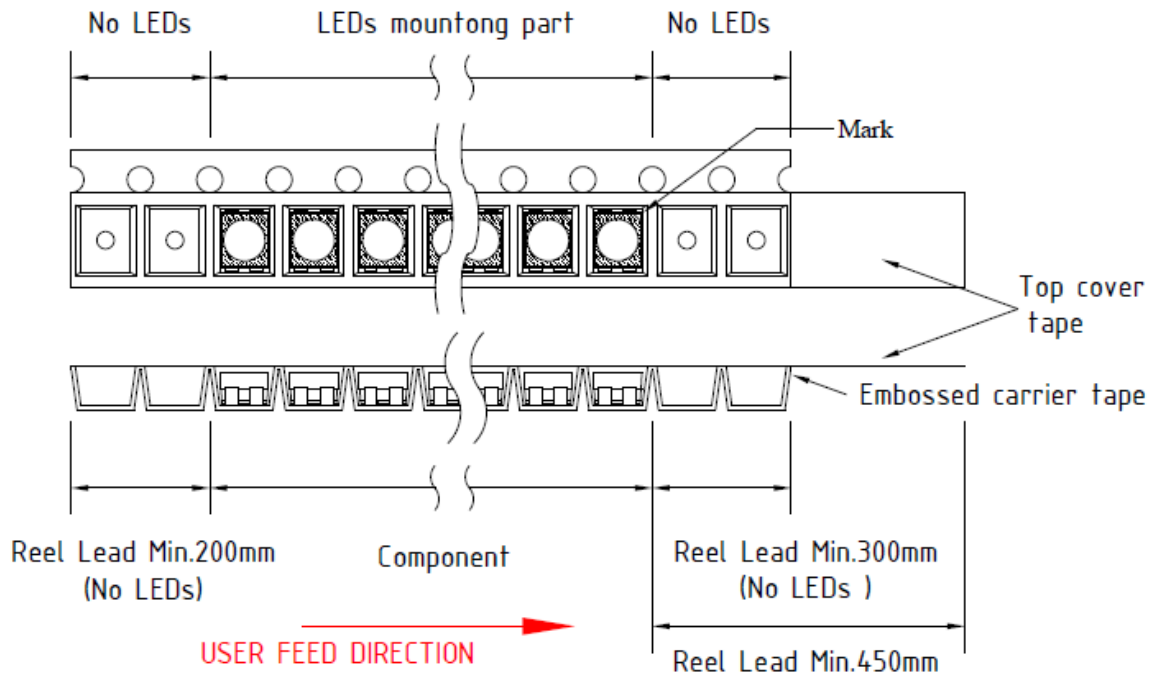
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TAPE DIMENSION



TAPE LEADER AND TRAILER DIMENSION





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MOISTURE SENSITIVITY

AOP's SMD LED are shipped in sealed, moisture-barrier bags(MBB) designed for long shelf life. If SMD LED has exposed with moist environments before soldering, this may cause damage to SMD LED during soldering(reflow) operation.

STORAGE / FLOOR TIME

Condition	Temperature(C)	Humidity(RH)	Period of Time
Before Open	30	60	6 month from shipping date
After Open	30	60	Within 48 hours

※ MSL of this product are MSL4, please see IPC/JEDEC STD020D for more detail.

※ LEDs reach floor time may be damaged while soldering/reflow processing, please discard the LED.

※ If RH indicator card show 60% RH when unseal the package, please bake/discard the LED.

RESEAL

※ AOP's aluminum MBB may reuse as to reseal the unused LED if MBB has not damaged or have any holes on it.

※ Moisture absorbent material (Silica gel) may be reuse if it does not become pink.

※ Proper resealed LED's Floor time will NOT RESET, only stop counting until open.

※ If RH indicator card show 60%RH when open the package, please bake/discard the LED.