

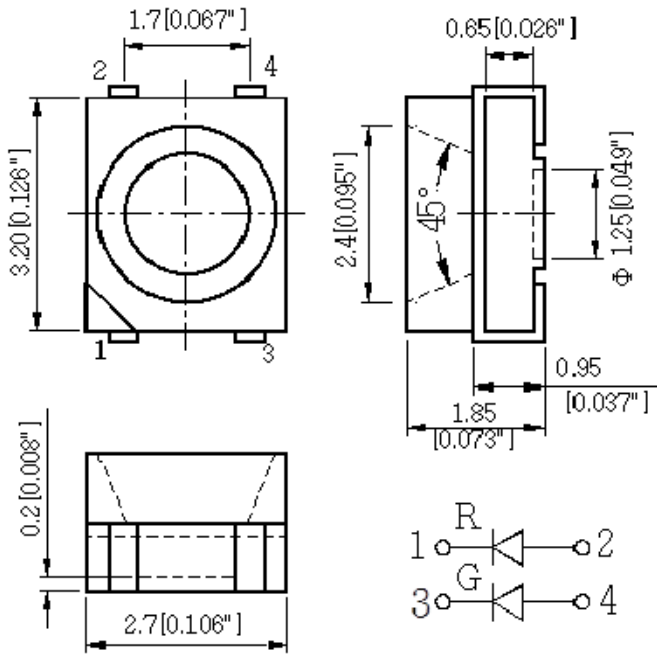


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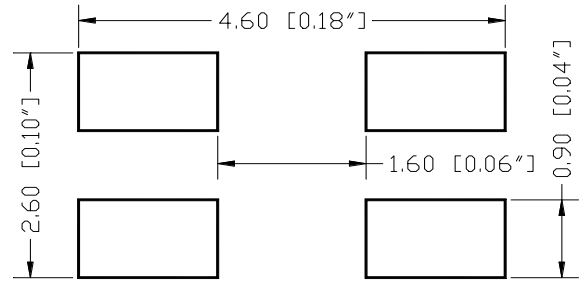
L955QEQGC-TR

3.2 x 2.7 x 1.85mm Bi-Color SMD

PACKAGE OUTLINES



RECOMMEND PAD LAYOUT



ITEM	MATERIALS	
Resin	Silicon	
Lens color	Water transparent	
Dice	Red	AlGaInP/GaAs
	Green	AlGaInP/GaAs

NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerances are $\pm 0.2\text{mm}$ (0.008inch) unless otherwise noted.



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Value		Unit
		R	G	
Power dissipation	Pd	75	75	mW
Forward current	If	30		mA
Reverse voltage	Vr	5		V
Operating temperature range	Top	-40~+80		°C
Storage temperature range	Tstg	-40~+85		°C
Peak pulsing current (1/8 duty f= 1kHz)	I _{fp}	125		mA

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
Wavelength at peak emission	λ peak	I _F = 20mA	R	--	650	--	nm
			G	--	572	--	
Spectral half bandwidth	$\Delta\lambda$	I _F = 20mA	R	--	18	--	nm
			G	--	17	--	
Dominant wavelength	λ dom	I _F = 20mA	R	630	640	650	nm
			G	565	570	576	
Forward Voltage	Vf	I _F = 20mA	R	1.7	2.0	2.5	V
			G	1.7	2.0	2.5	
Luminous intensity	I _v	I _F = 20mA	R	50	80	125	mcd
			G	40	80	125	
Viewing angle at 50% I _v	2 θ ½	I _F = 10mA	--	120	--	Deg	
Reverse current	I _r	V _r =5V	--	--	10	μ A	

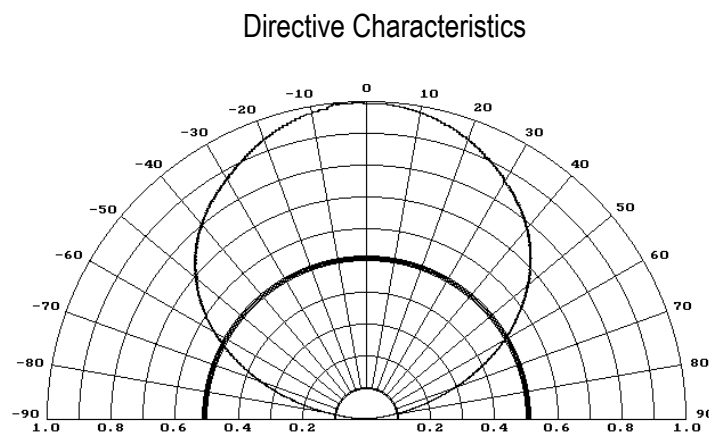
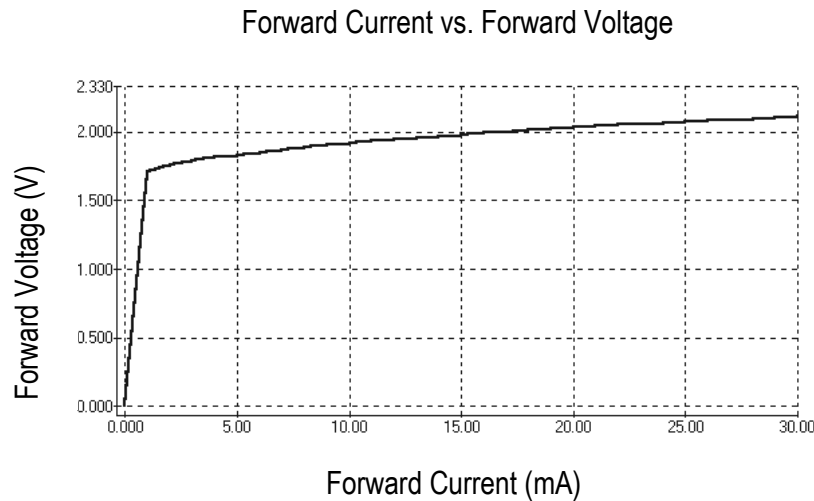
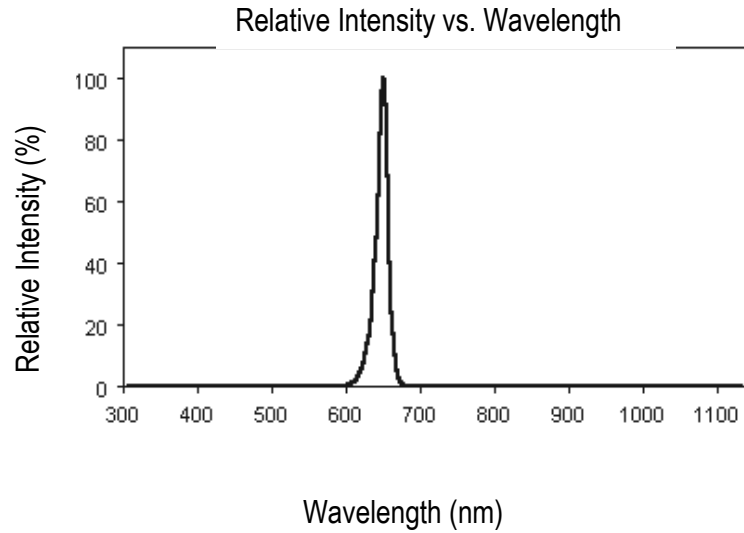


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OPTICAL CHARACTERISTIC CURVES (Red)





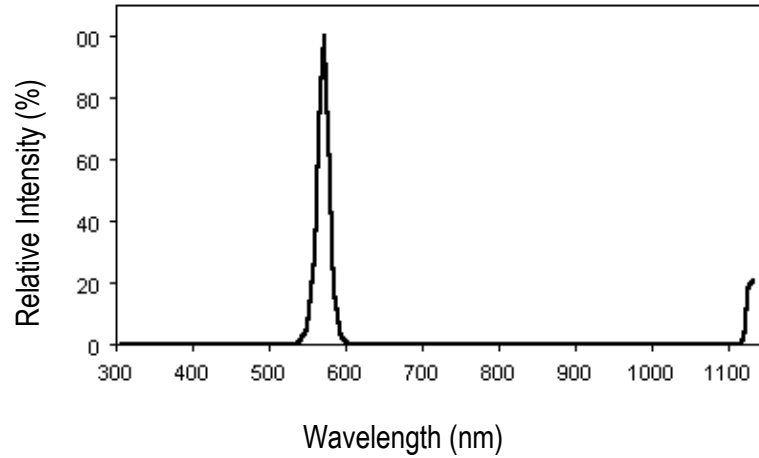
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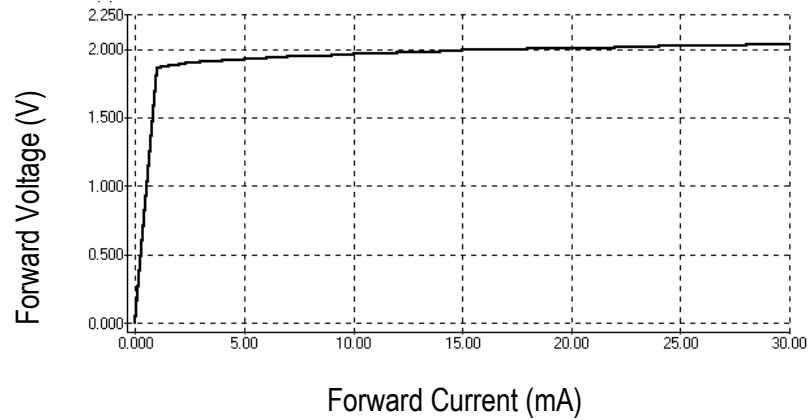
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OPTICAL CHARACTERISTIC CURVES (Green)

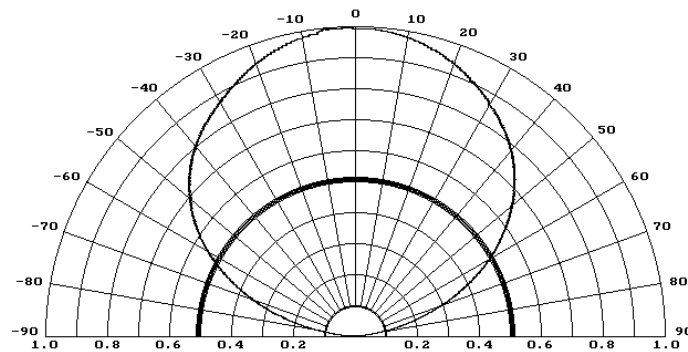
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



Directive Characteristics



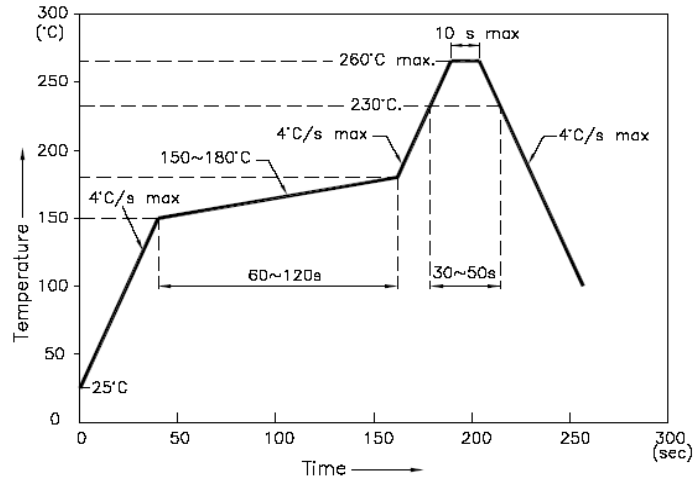


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REFLOW PROFILE



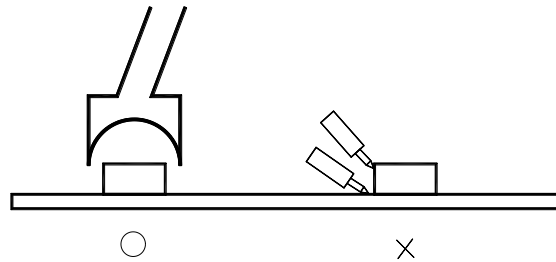
NOTES:

1. We recommend the reflow temperature 245°C (±5°C).the maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

- Soldering iron
- Basic spec is ≤ 5sec when 260°C. If temperature is higher, time should be shorter
- (+10°C → -1sec). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 230°C .

Rework

1. Customer must finish rework within 5 sec under 260°C.
2. The head of iron cannot touch copper foil
3. Twin-head type is preferred.



- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow, solder etc.



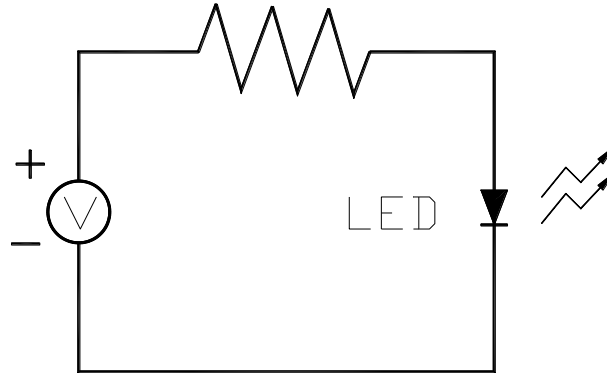
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TEST CIRCUIT AND HANDLING PRECAUTIONS

● Test circuit



● Handling precautions

1. Over-current-proof

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Shelf life in sealed bag: 12 month at 5°C~30°C and < 60% R.H

3. After the package is opened:

3.1. It is recommended to bake before the first use:

Baking condition:

a. $60\pm 3^{\circ}\text{C}$ x (36~48hrs) and < 5%RH, taped reel type

b. $110\pm 3^{\circ}\text{C}$ x (8~16hr), bulk type

3.2. The products should be used within a week:

a. It is recommended to bake before soldering when the pack is unsealed after 72hrs

b. Baking condition as 3.1 baking condition.



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Test items and results of reliability

Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-20°C 30min ↑↓ 80°C 30min	100 cycle	0/22
	Thermal Shock	-20°C 15min ↑↓ 80°C 15min	100 cycle	0/22
	High Humidity Heat Cycle	30°C ↔ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	T _a =80°C	1000 hrs	0/22
	Humidity Heat Storage	T _a =60°C RH=90%	1000 hrs	0/22
	Low Temperature Storage	T _a =-30°C	1000 hrs	0/22
Operation Sequence	Life Test	T _a =25°C I _F =20mA	1000 hrs	0/22
	High Humidity Heat Life Test	60°C RH=90% I _F =10mA	500 hrs	0/22
	Low Temperature Life Test	T _a =-20°C I _F =20mA	1000 hrs	0/22



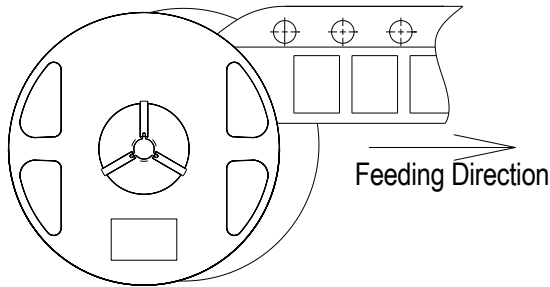
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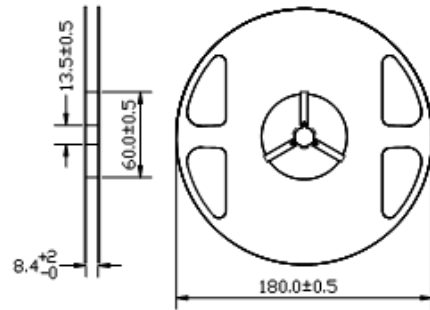
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PACKAGING SPECIFICATION

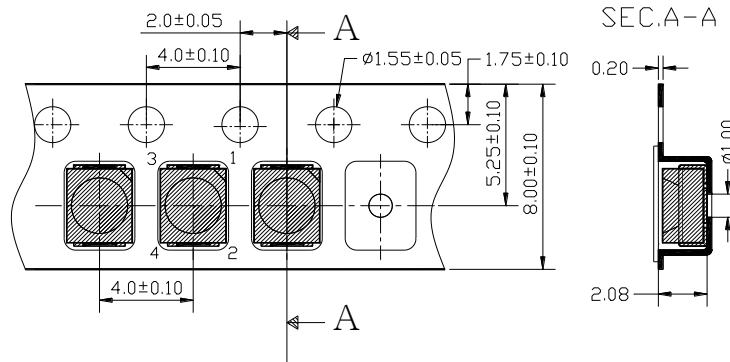
● Feeding Direction



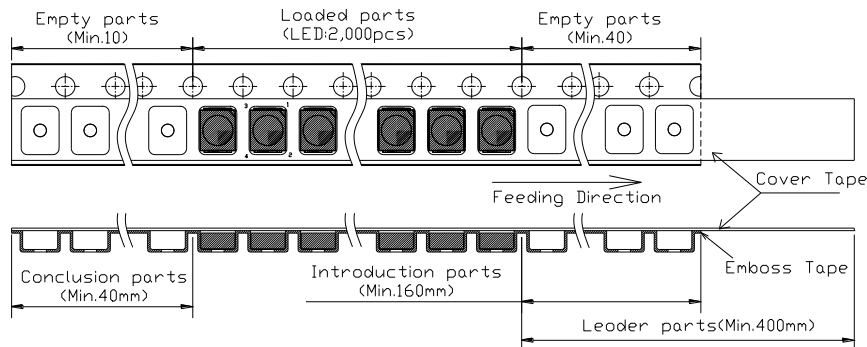
● Dimensions of Reel (Unit: mm)



● Dimensions of Tape (Unit: mm)



● Arrangement of Tape



Notes:

1. Empty component pockets are sealed with top cover tape.
2. The maximum number of missing lamps is two.
3. 2,000pcs/Reel



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Forward Voltage Rank Combination (IF=20mA)

Rank Code		Min.	Max.	Unit
Red	<input type="checkbox"/>	1.7	2.5	V
Green	<input type="checkbox"/>	1.7	2.5	

Luminous Intensity Rank Combination (IF=20mA)

Rank Code		Min.	Max.	Unit
Red	G	50	63	mcd
	H	63	80	
	I	80	100	
	J	100	125	
Green	F	40	50	
	G	50	63	
	H	63	80	
	I	80	100	
	J	100	125	

Dominant Wavelength Rank Combination (IF=20mA)

Red	v	630	635	nm
	w	635	650	
Green	h	565	568	
	i	568	572	
	j	572	576	

Group Name on Label (Example DATA: Mn Gi 20)

DATA: <input type="checkbox"/> Hw <input type="checkbox"/> Hi 20		Vf(V)	Iv (mcd)	λ_d (nm)	Test Condition
Red	Green				
Red	<input type="checkbox"/> →H→w→20	1.7~2.5	63~80	635~650	IF=20mA
Green	<input type="checkbox"/> →H→i→20	1.7~2.5	63~80	568~572	

NOTE:

1. The tolerance of luminous intensity (Iv) is $\pm 15\%$.
2. The tolerance of dominant wavelength is $\pm 1\text{nm}$.
3. This specification is preliminary.