

3CHIP SMD LED SPECIFICATION

Drawn by	Checked by	Approved by

Rev. 0.0



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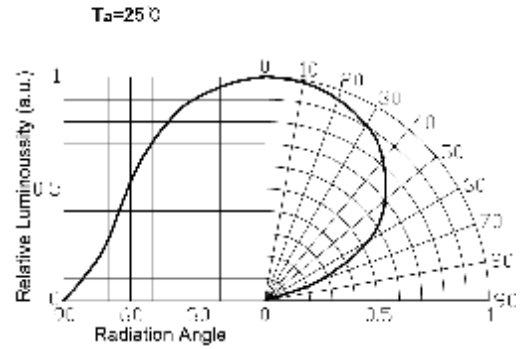
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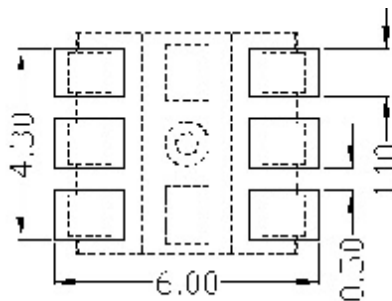
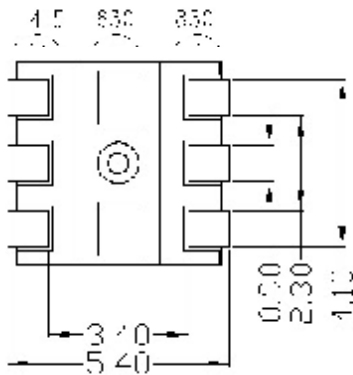
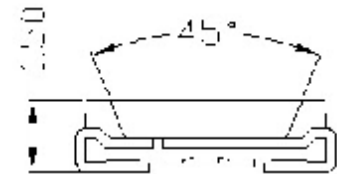
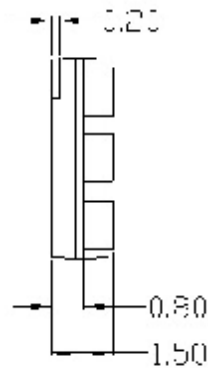
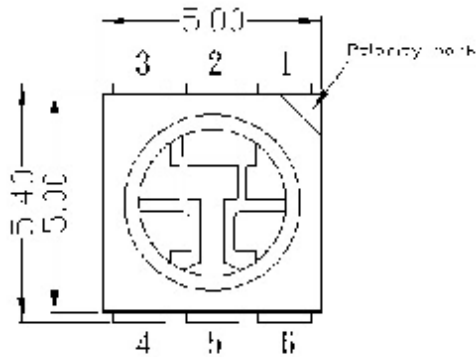
1. Features

- PLCC-6 Package.
- TOP View LED.
- High luminous flux output.
- High current capability.
- Wide viewing angle.
- Pb-Free.
- RoHS compliant.

Radiation Diagram



2. Dimension





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3. Absolute maximum ratings (Ta=25°C)

Parameter	Sym	UV	Red	IR	Unit
Continuous Forward Current	IF	20	20	50	mA
Reverse Voltage	VR	5	5	5	V
Power Dissipation	Pc	63	68	110	mW
Pulsed forward current	IPF	70	80	200	mA
Operating Temperature	Topr	-40 ~ +85			°C
Storage Temperature	Tstg	-40 ~ +100			°C
Soldering Temperature	Tslid	Reflow Soldering:240°C/10sec			
		Hand Soldering:350°C/3sec			

Note:1. LEDs are not designed to be driven in reverse bias.
 2. Condition for IFP is pulse of 1/10 duty and 0.1msec width

4. Optoelectronic characteristics (Ta=25°C)

Parameter	Sym	Condition	min	Type	Max	Unit
Forward Voltage	VF	UV	IF = 20mA		3.2	V
		R	IF = 20mA		2.9	
		IR	IF = 50mA		2.2	
Luminous intensity	Iv	UV	IF = 20mA		24	mW
		R	IF = 20mA		500	mcd
		IR	IF = 50mA		15	mW
Dominant Wavelength	λp	UV	IF = 20mA		410	nm
	λd	R	IF = 20mA		625	
	λp	IR	IF = 50mA		830	
Viewing Angle	2θ _{1/2}				120	Deg

Note:
 1. Forward voltage measurement allowance is ±0.1V.
 2. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
 3. Luminous Intensity Measurement Allowance is ± 10%.
 4. Dominant Wavelength measurement allowance is ±1nm.
 5. 2θ_{1/2} is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

5. Reliability Test

Test Item	Test Conditions	Note	Number of Damaged
Steady State Operating Life	Ta = 25°C IF=50mA	1000hrs	0/20
Steady State Operating Life of Low Temperature	Ta=-35°C, IF=50mA	240hrs	0/20
Steady State Operating Life of High Temperature	Ta=85°C, IF=50mA	240hrs	0/20
Resistance to soldering Heat	Tslid=260 ± 5°C, 10sec. 3mm from the base of the epoxy bulb	1 time	0/10
Temperature Cycle	Ta = -40°C ~ 100°C (1 Cycle = 1hr)	100 cycles	0/20



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■ UV-LED Typical Electro-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

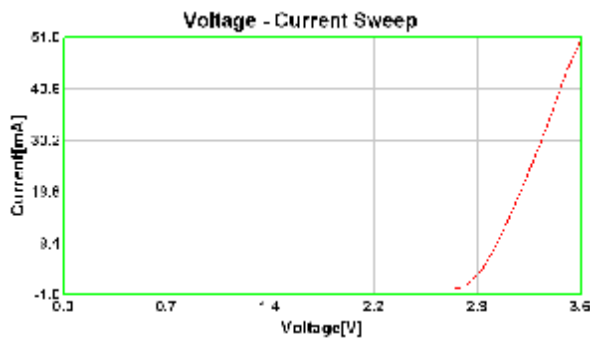


Fig 2. Relative Intensity(mW) vs. Forward Current

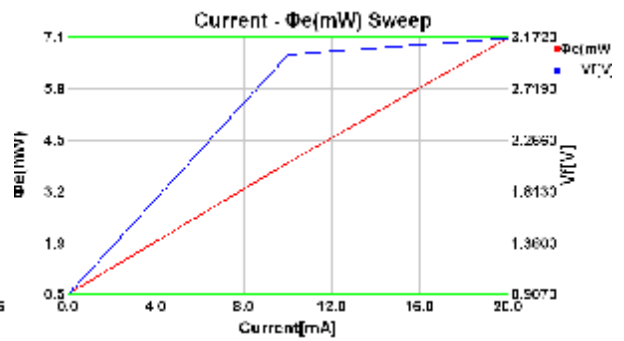


Fig 3. Relative Intensity vs. Wavelength

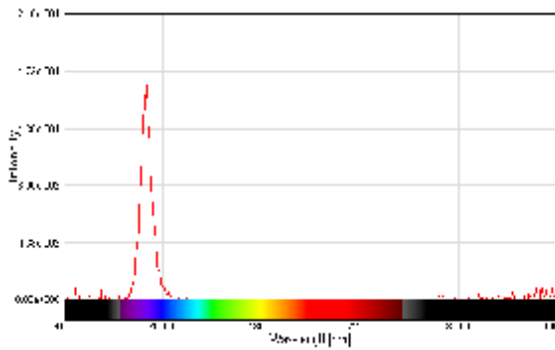
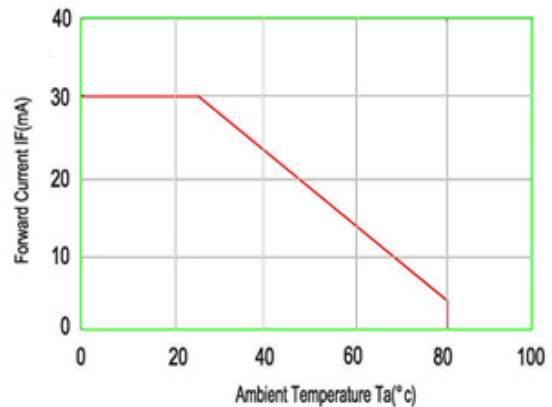


Fig 4. Relative Intensity(mA) vs. Temperature





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■ RED-LED Typical Electro-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

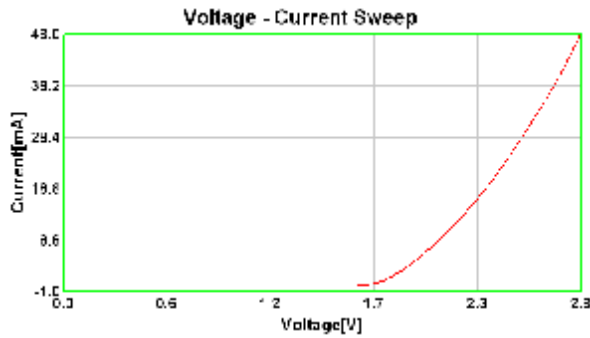


Fig 2. Relative Intensity(mcd) vs. Forward Current

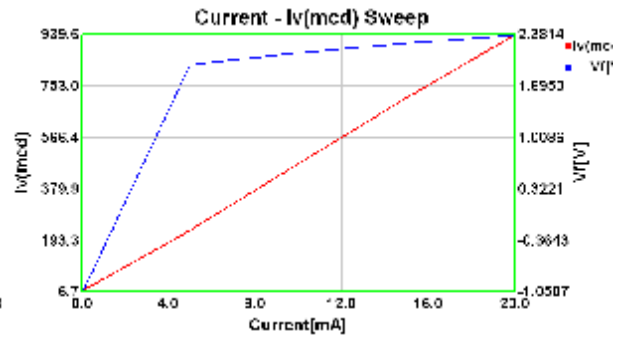


Fig 3. Relative Intensity vs. Wavelength

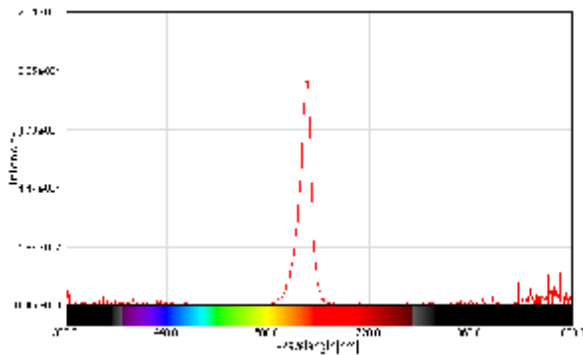
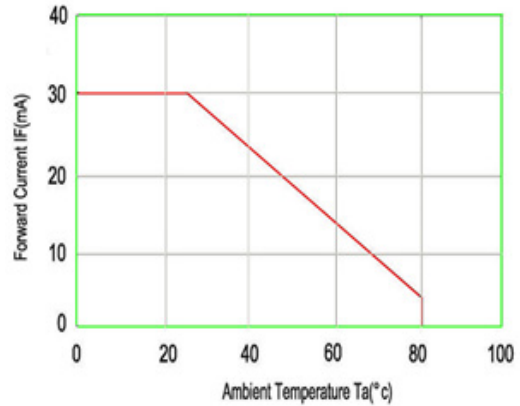


Fig 4. Relative Intensity(mA) vs. Temperature





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■ IR-LED Typical Electro-Optical Characteristics Curve:

Fig 1. Forward Current vs. Forward Voltage

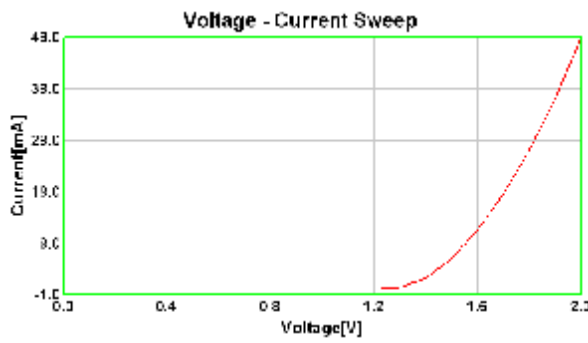


Fig 2. Relative Intensity(mW) vs. Forward Current

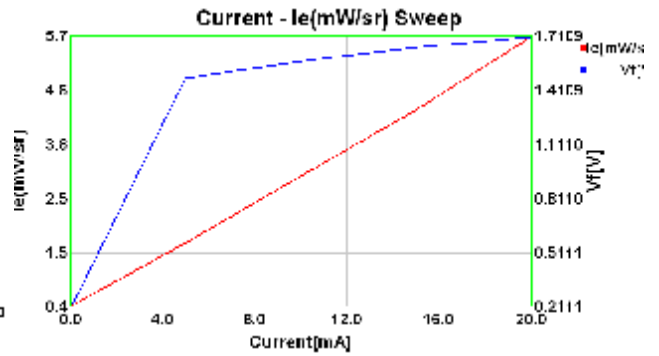


Fig 3. Relative Intensity vs. Wavelength

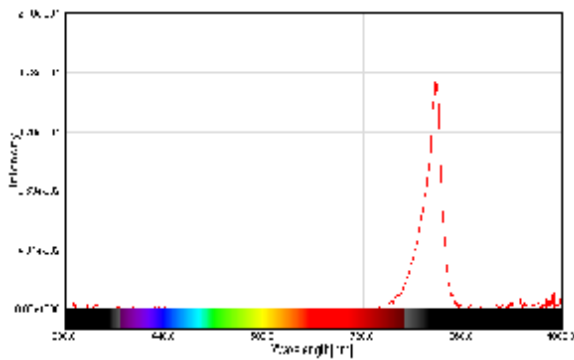
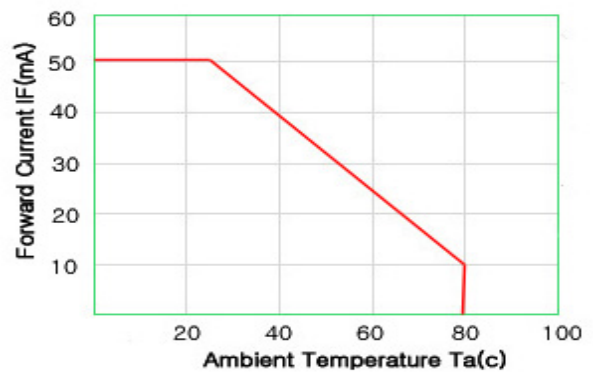


Fig 4. Relative Intensity(mA) vs. Temperature

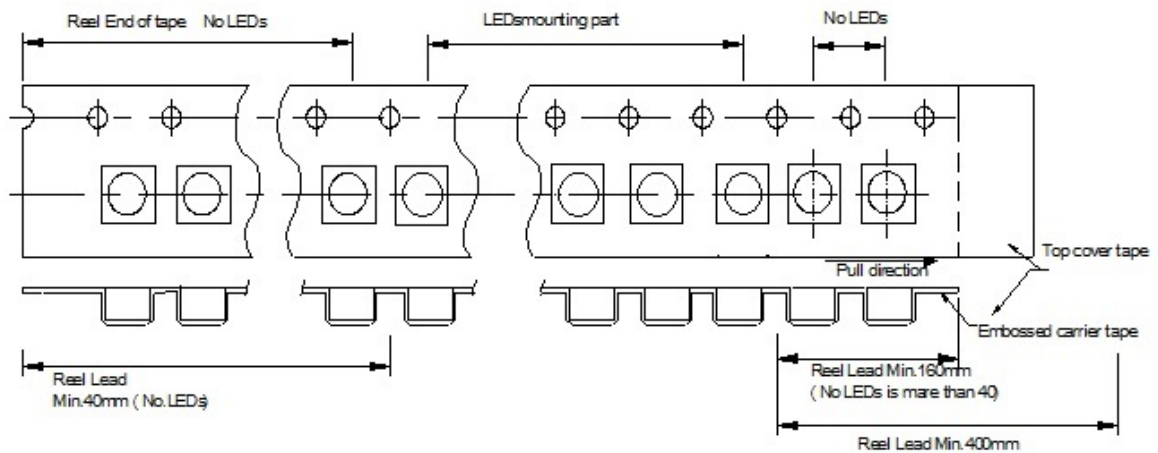
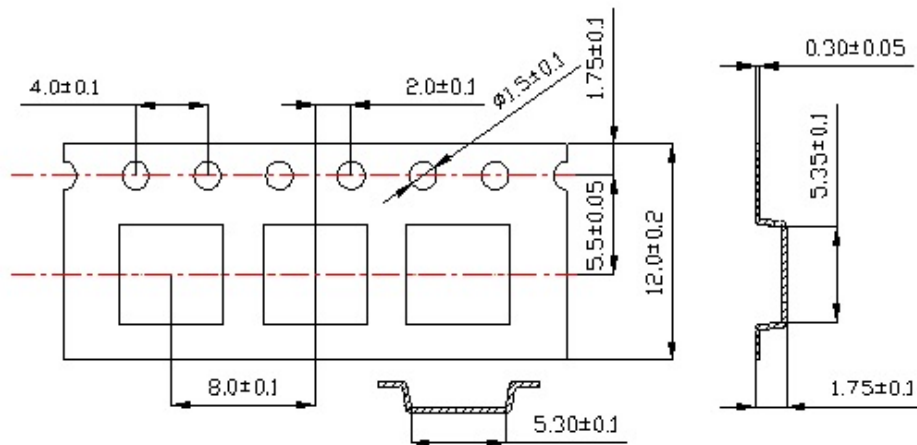
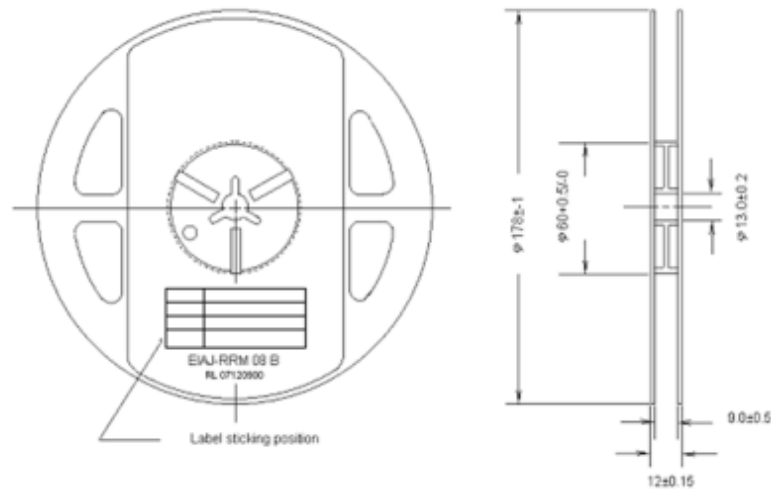




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■ Reel Structure & Packing

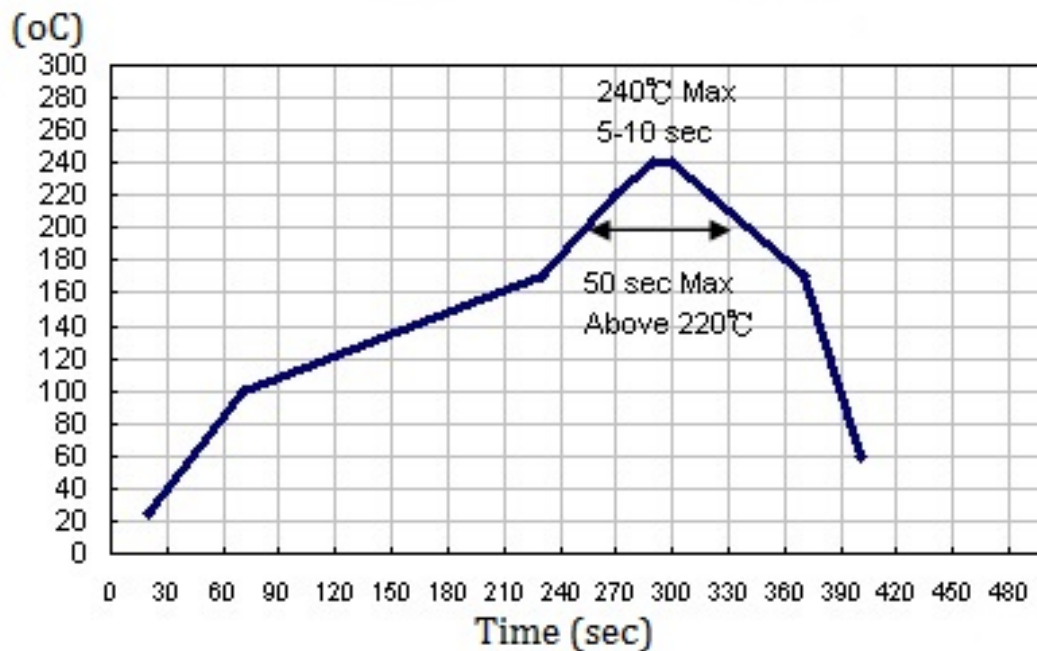




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■ Solder Reflow Process Parameters



- Reflow soldering should not be done more than twice.
- When soldering, do not stress on LEDs during heating.
- After soldering, do not warp the circuit board.