LEDTRONICS, INC.®

23105 Kashiwa Court, Torrance, CA 90505
Phone: (800) 579-4875 or (310) 534-1505 Fax: (310) 534-1424
E-mail: webmaster@ledtronics.com
Website: http://www.ledtronics.com

SML5050RGB1K-TR

Red/Green/Blue
Surface Mount LED
5.4 ×5.0 ×1.5 mm Chip LED
120° viewing angle

DWG BY: PO / GP 08-13-07
CHK BY: PL 10-31-07
QA: __ __-__-__
MFG: __ __-__-__
REVISION LTR: - 10-31-07

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1. SPECIFICATIONS

(1) Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol		MAX.	Unit
Continuous Forward Current	If	R	20	mA
		G		
		B		
Pulse Forward Current*	Ifp	R	80	mA
		G	100	
		B	100	
Power Consumption	Pc	R	55	mW
		G	75	
		B	75	
Electrostatic Discharge	ESD	R	2000	V
		G	150	
		B	150	
Operating Temperature Range	Topr		-40 ~ +85	°C
Storage Temperature Range	Tstg		-40 ~ +100	°C
Reverse Voltage	Vr		5	V
Soldering Temperature	Tsld		Reflow Soldering:240°C /10sec	
			Hand Soldering:350°C /3sec	

*Duty 1/10 @ 1KHZ

(2) Electrical / Optical Characteristics (Ta=25°C)

Parameter	Symbol		Min.	Typ.	Max.	Unit	Test Condition
Forward Voltage*	Vf	R	/	2.0	2.8	V	If=20mA
		G	/	3.0	3.8		
		B	/	3.1	3.8		
Luminous intensity*	Iv	R	125	300	/	mcd	If=20mA
		G	430	700	/		If=20mA
		B	100	250	/		If=20mA
Dominant Wavelength	λd	R	615	623	635	nm	If=20mA
		G	/	523	532		
		B	460	468	475		
Spectrum Radiation Bandwidth	Δλ	R	/	17	/	nm	If=20mA
		G	/	38	/		
		B	/	27	/		
Reverse Current	Ir	R	/	/	10	uA	Vr=5V
		G	/	/	10		
		B	/	/	10		
Viewing Angle*	$2\theta_{1/2}$		/	120	/	Deg	If=20mA

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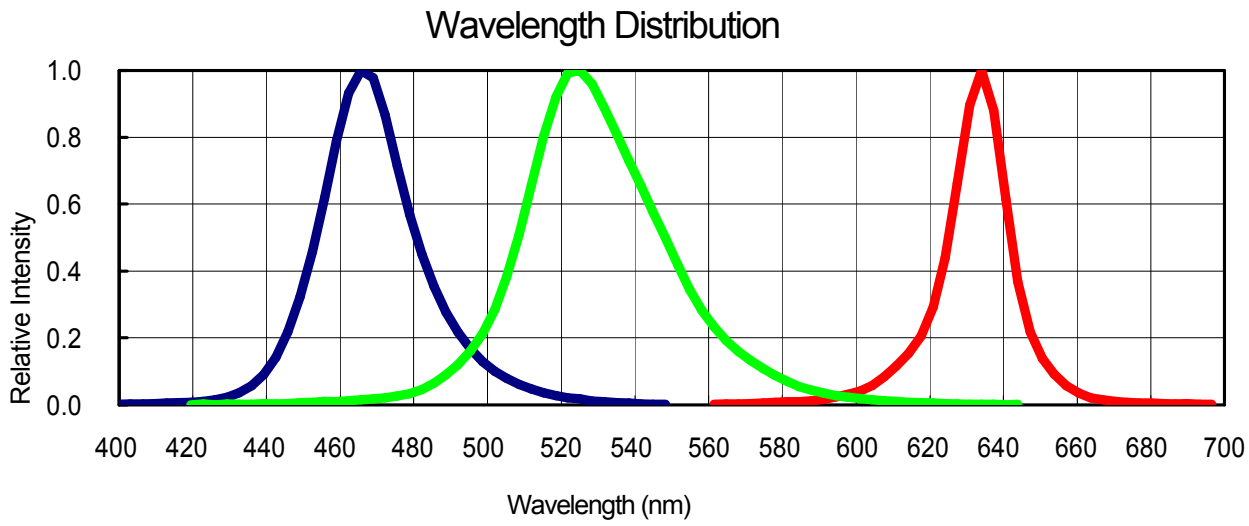
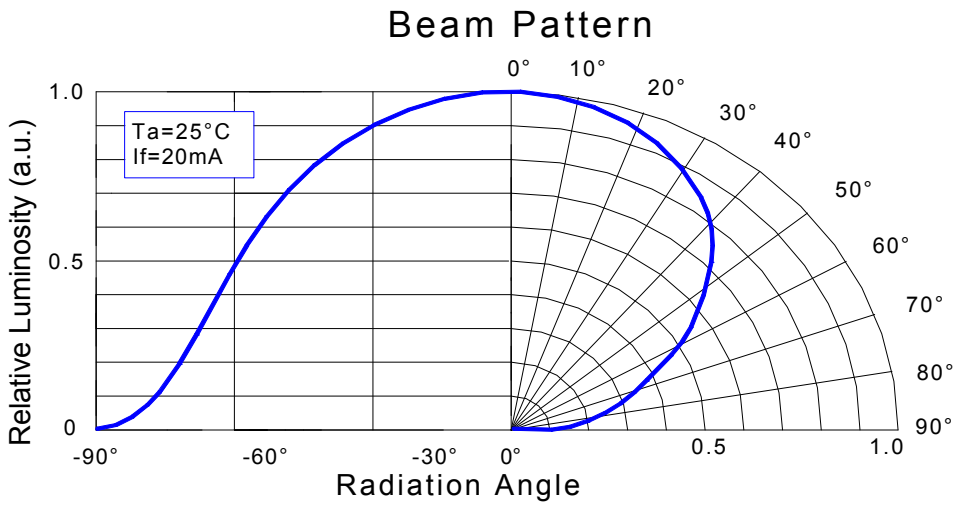
*Forward voltage measurement allowance is ±0.1V.
*Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
*Luminous Intensity Measurement Allowance is ± 10%.
*Dominant Wavelength measurement allowance is ±1nm.
*2 $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
*Please see attachments for BIN classifications.

(3) Typical Electrical / Optical Characteristics Curves





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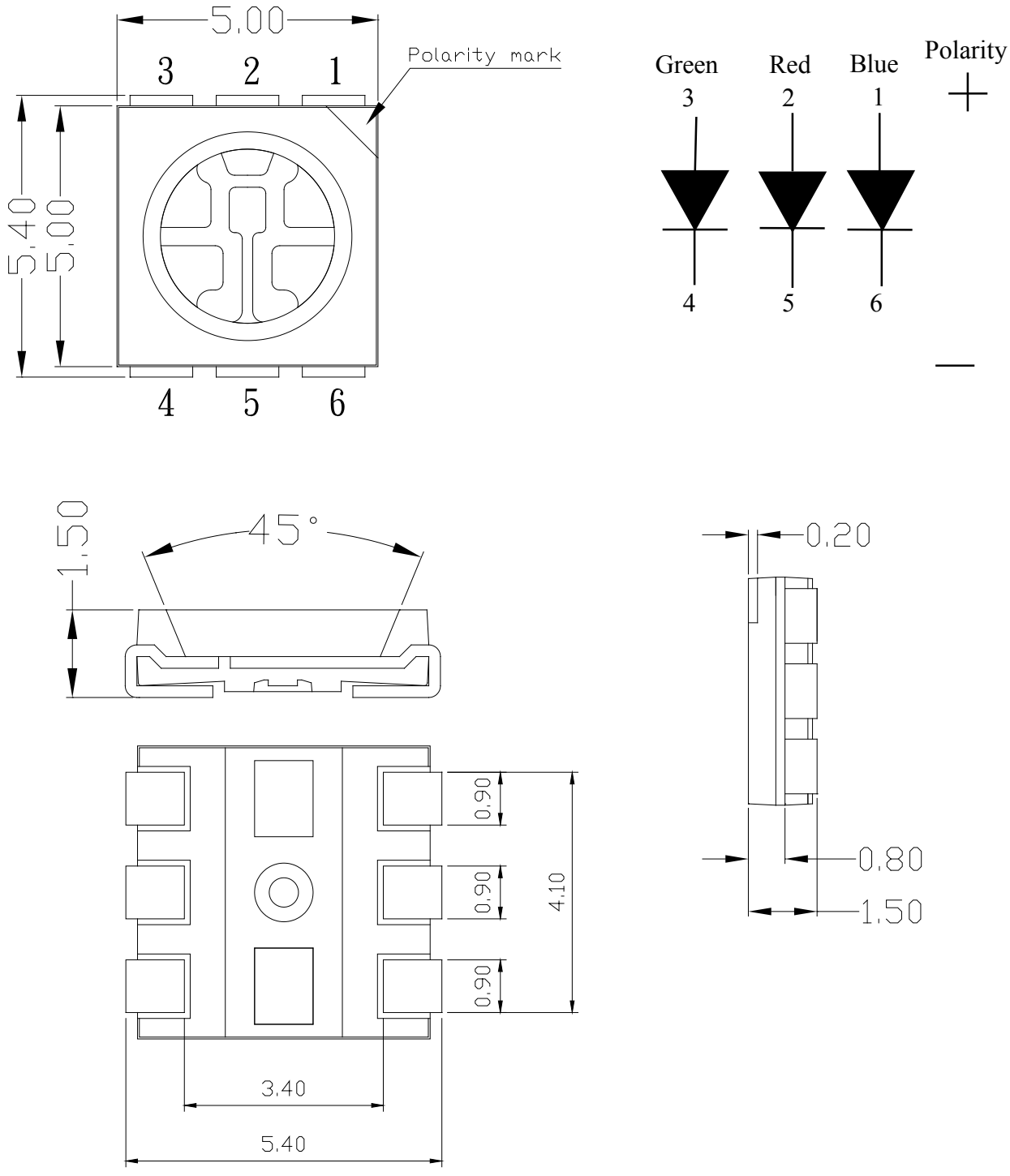
2. Package

(1) Outline Dimension (unit= mm)



1. All dimensions are in millimeters.
2. Tolerance are ±0.1mm, unless otherwise noted.

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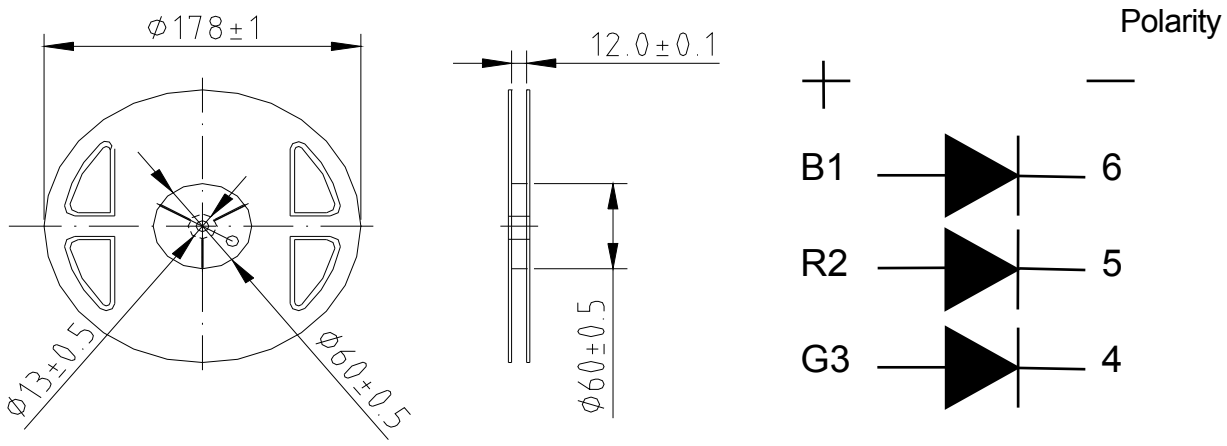
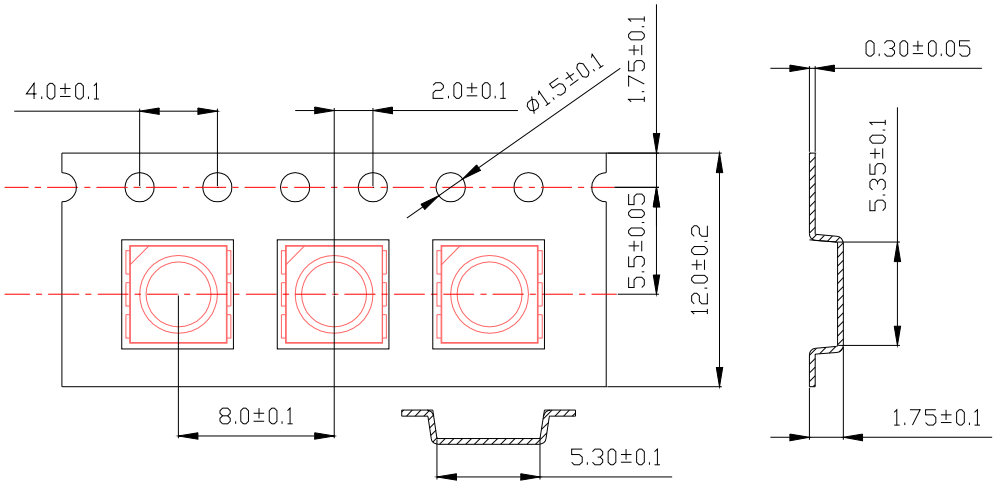
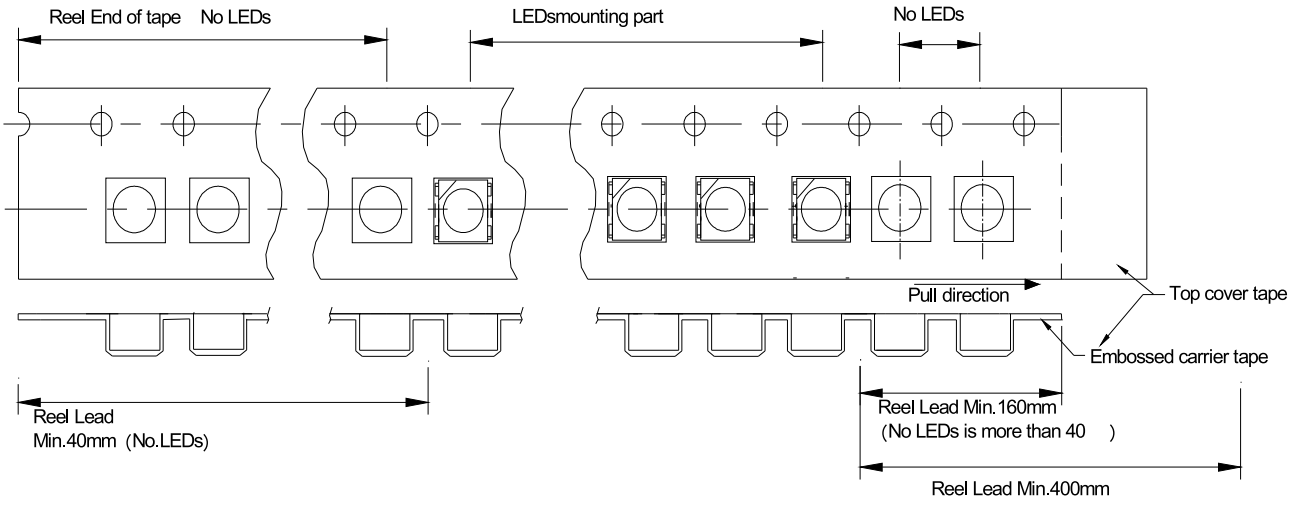
(2) Taping Dimension (unit= mm)







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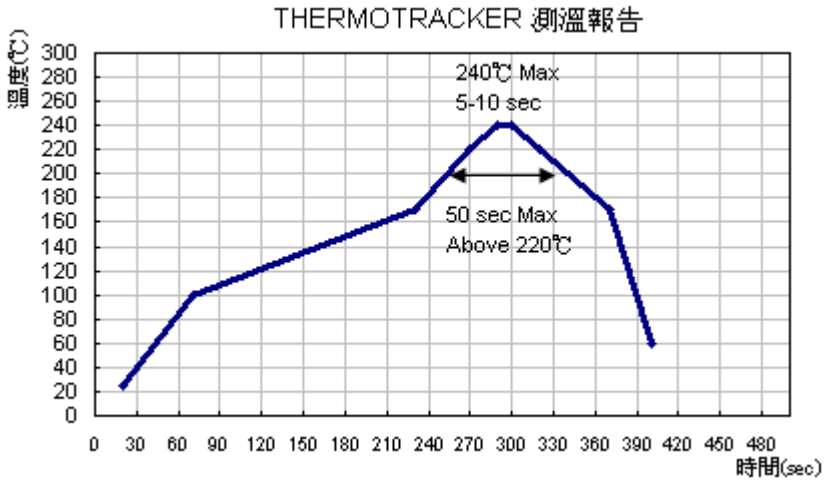
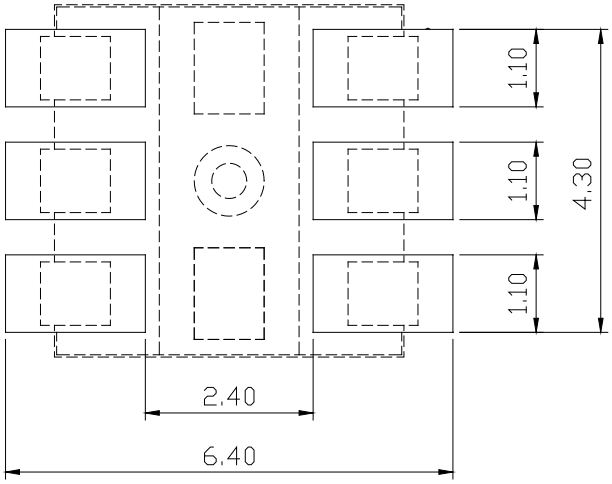
3. Handling Precaution

(1) Recommended soldering conditions

1.1 Reflow solder temperature profile



1.2 Recommended Soldering pad design (unit= mm)



1.3 Soldering conditions

* 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.

(2) Repairing

* Repair should not be done after the LEDs have been soldered. When repair is unavoidable, double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will be damaged by repair or not.

(3) Cleaning

* It is recommended to use isopropyl alcohol as a solvent to clean the LEDs. When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the package and the resin or not.

(4) Advice on Device Usage

* It is recommended that user should complete the use of the whole package within 8 hours upon unsealing. In the event of incomplete usage, it is advised that user preheat the remaining devices at 60°C for 8 hours prior to use.