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

SML06R6C-TR

Ultra Red

Surface Mount LED

2.0 ×1.25 ×0.8 mm Chip LED

150° viewing angle

DWG BY: OCC / GP 02-24-12
CHK BY: PL 02-28-12
QA: RD 02-28-12
REVISION LTR: B ECR#: 022212-RTD01 02-24-12

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Features

Package	2521(h=0.8mm) Type, Milky White resin
Product features	• Outer Dimension 3.0 x 1.5 x 1.5mm (L x W x H) • Lead–free soldering compatible • RoHS compliant
Die material	: GaAlAs
Rank grouping parameter	Sorted by luminous intensity per rank taping
Assembly method	Auto pick & place machine (Auto Mounter)
Soldering methods	Reflow soldering and manual soldering
Taping and reel	4,000pcs per reel in a 8mm width tape. (Standard) Reel diameter: ϕ180mm
ESD	More than 2kV(HBM)

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Absolute Maximum Ratings

(Ta=25℃)

Item	Symbol	Absolute Maximum Ratings	Unit
Power Dissipation	P_d	57.5	mW
Forward Current	I_F	25	mA
Pulse Forward Current *1	I_{FRM}	60	mA
Derating (Ta=25℃ or higher)	ΔI_F	0.36	mA/℃
	ΔI_{FRM}	0.86	mA/℃
Reverse Voltage	V_R	4	V
Operating Temperature	T_{opr}	-40～+85	℃
Storage Temperature	T_{stg}	-40～+100	℃

*1 I_{FRM} Measurement condition : Pulse Width≦1ms., Duty≦1/20.

Electro-Optical Characteristics

(Ta=25℃)

Item	Conditions	Symbol	Characteristics		Unit
Luminous Intensity	I_F=20mA	I_v	min.	7.0	mcd
			typ.	15	
Forward Voltage	I_F=20mA	V_F	typ.	1.7	V
			max.	2.3	
Reverse Current	V_R=4V	I_R	max.	100	μA
Peak Wavelength	I_F=20mA	λ_p	typ.	656	nm
Dominant Wavelength	I_F=20mA	λ_d	typ.	641	nm
Spectral Line Half Width	I_F=20mA	$\Delta\lambda$	typ.	22	nm
Half Intensity Angle	I_F=20mA	2θ 1/2	typ.	150(θ x)	deg.
				150(θ y)	
Chromaticity Coordinates	I_F=20mA	X	typ.	0.72	
		Y	typ.	0.28	

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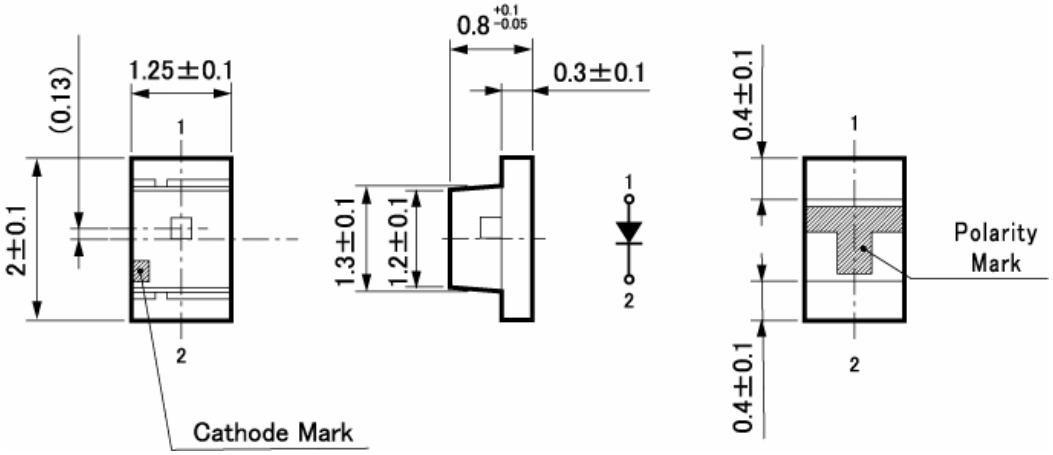
Package Dimensions

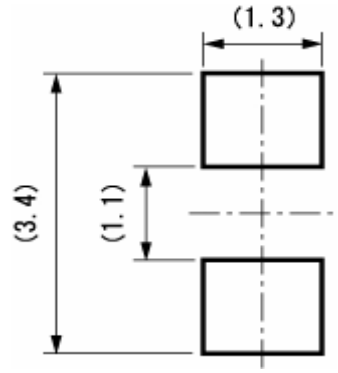
(Unit: mm)

Weight: (2.84)mg



Recommended Soldering Pattern

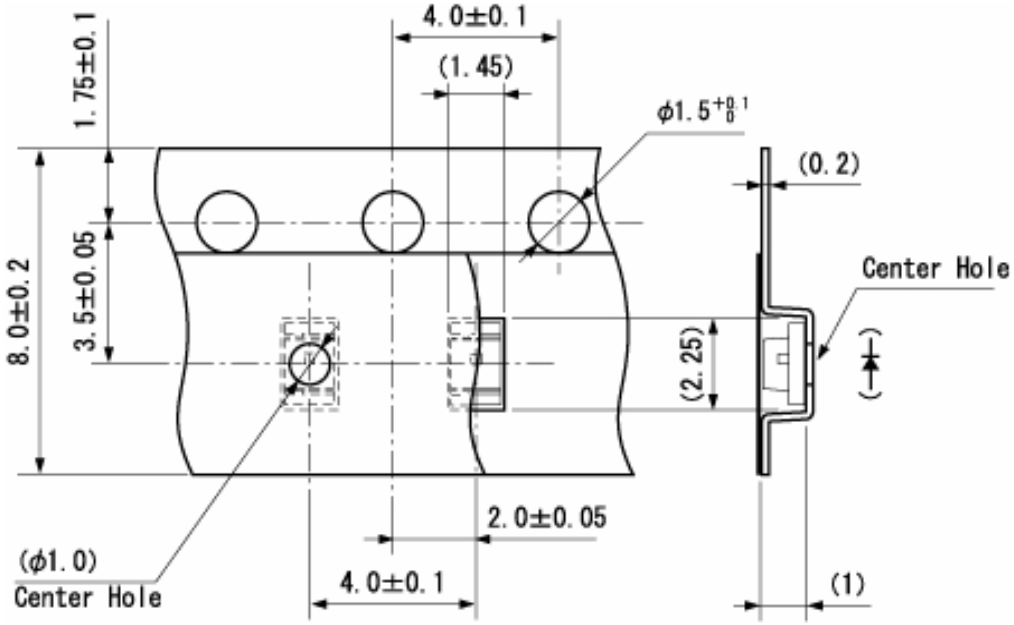
(Unit: mm)



Taping Specification

(Unit: mm)

Quantity : 4,000pcs/ reel (standard)



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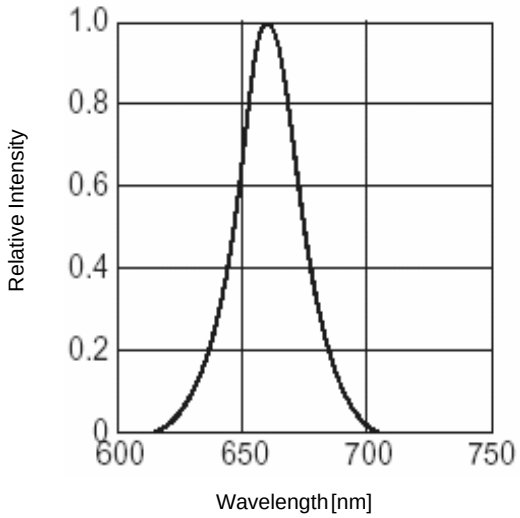
Spectral Distribution

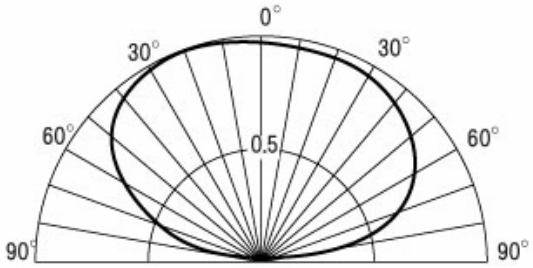
Relative Intensity vs. Wavelength

Condition : Ta = 25℃ , I_F = 20mA



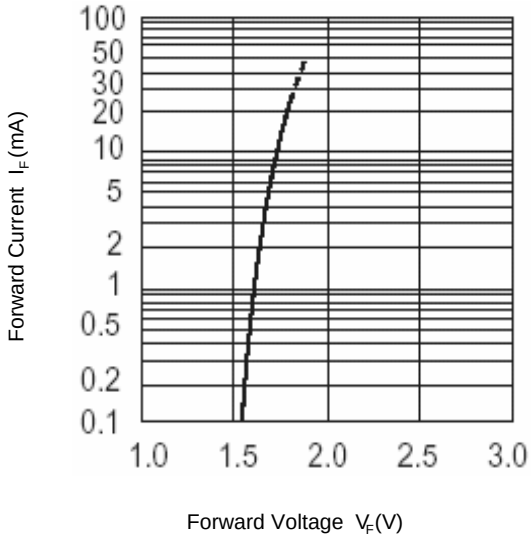
Spatial Distribution Example

Condition : Ta = 25℃



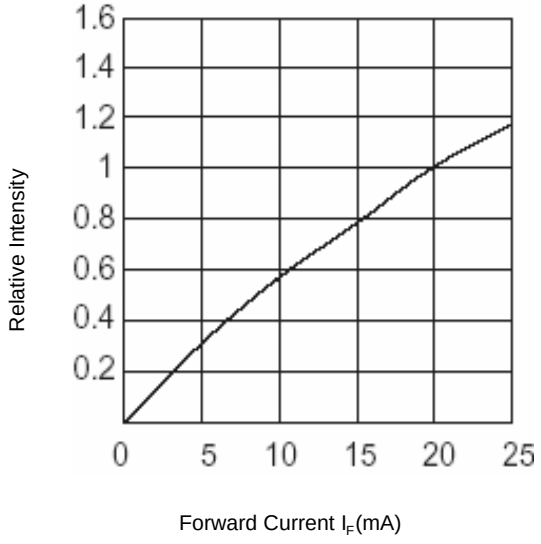
Forward Voltage vs. Forward Current

Condition : Ta = 25℃



Forward Current vs. Relative Intensity

Condition : Ta = 25℃



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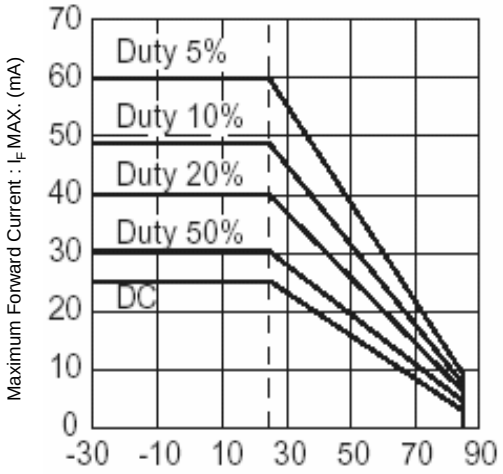
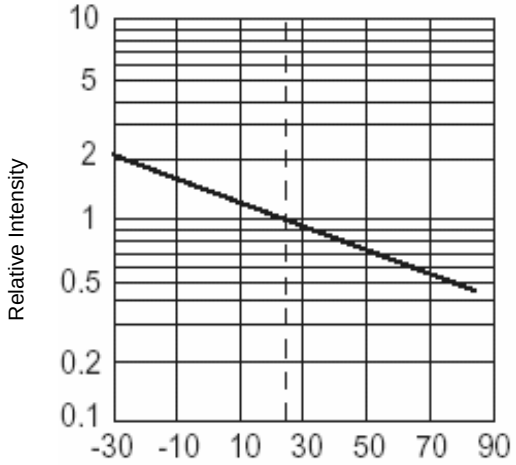
Derating

Ambient Temperature vs. Maximum Forward Current
Repetition Frequency : f ≧ 50Hz

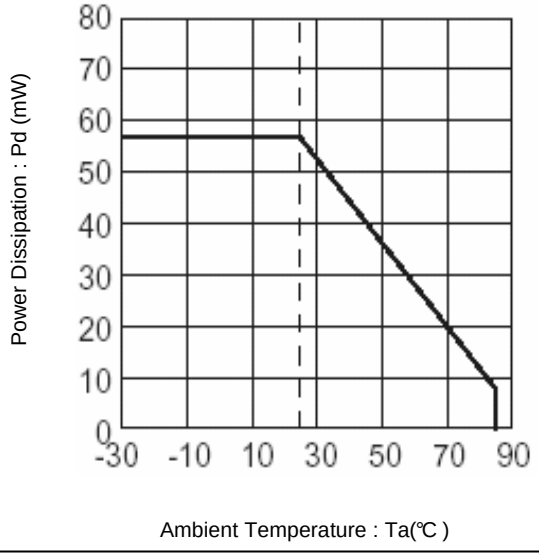


Ambient Temperature vs. Relative Intensity

Condition : I_F=20mA

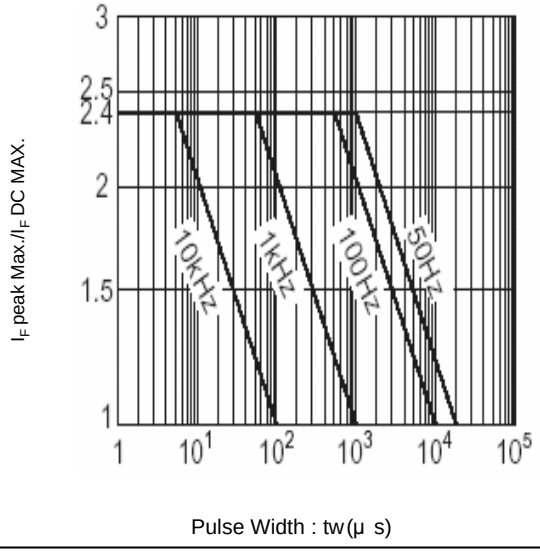


Power Dissipation vs. Ambient Temperature



Pulse Width vs. Maximum Tolerable Peak Current

Condition : Ta = 25℃



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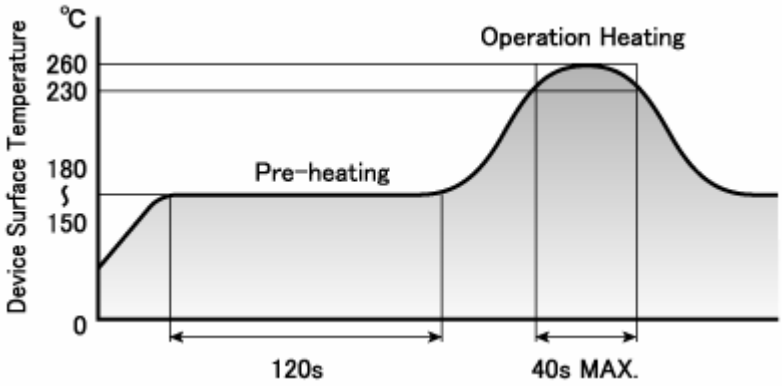
Reflow Soldering Conditions



1) The above profile temperature gives the maximum temperature of the LED resin surface. Please set the temperature so as to avoid exceeding this range.

2) Total times of reflow soldering process shall be no more than 2 times. When the second reflow soldering process is performed, intervals between the first and second reflow should be short as possible (while allowing some time for the component to return to normal temperature after the first reflow) in order to prevent the LED from absorbing moisture.

3) Temperature fluctuation to the LED during the pre-heating process shall be minimized.

Manual Soldering Conditions

Iron tip temp.	350 ℃	(MAX.)
Soldering time and frequency	3 s 1 time	(MAX.) (MAX.)