

### ●Features

- Side view RGB LEDs
- High brightness, superior color mixing

### ●Size

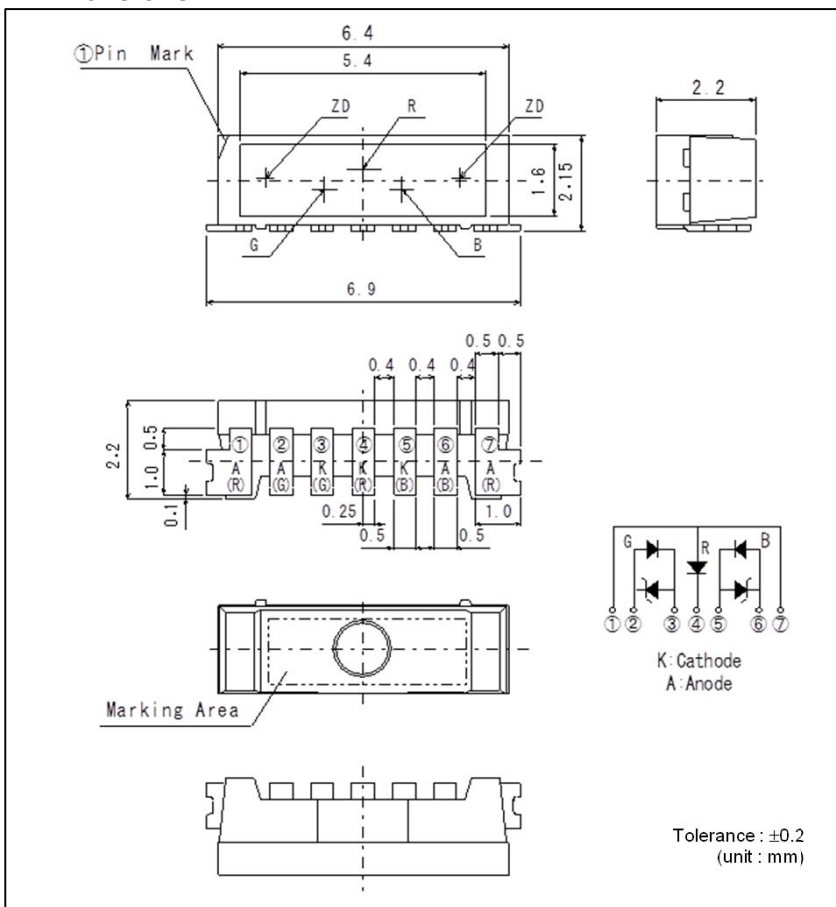
6922 (2709)  
6.9 × 2.2mm (t=2.15mm)



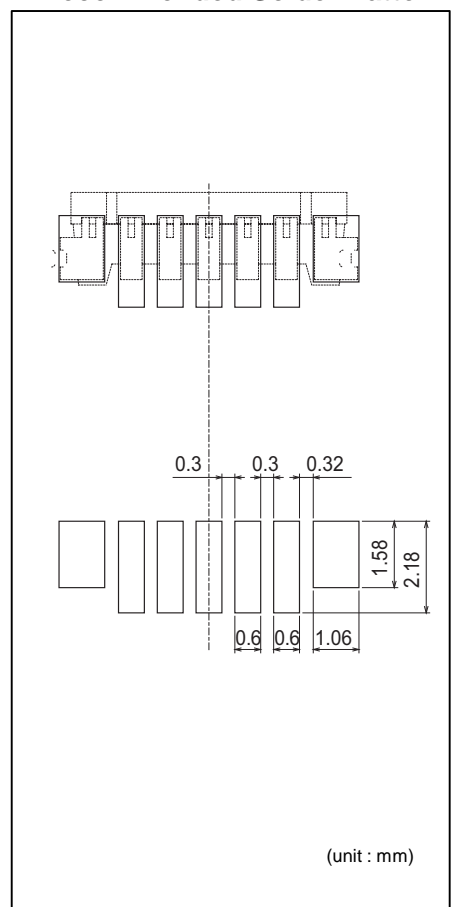
### ●Outline



### ●Dimensions



### ●Recommended Solder Pattern



### ●Specifications

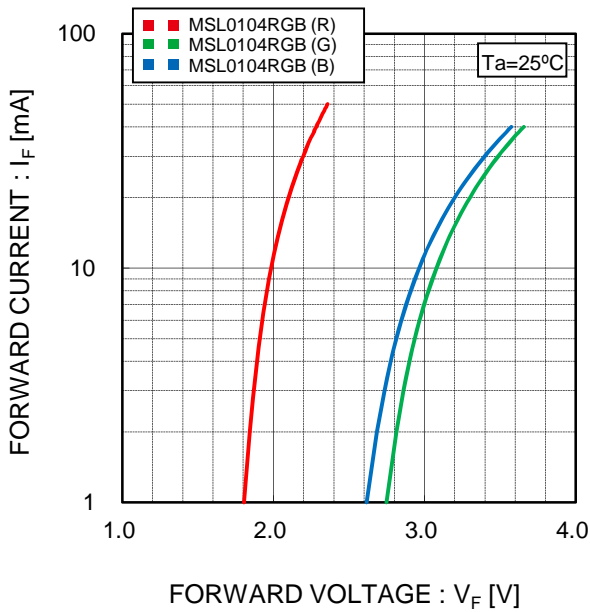
Part No.	Chip Structure	Emitting Color	Absolute Maximum Ratings (Ta=25°C)					Electrical and Optical Characteristics (Ta=25°C)											
			Power Dissipation P <sub>D</sub> (mW)	Forward Current I <sub>F</sub> (mA)	Peak Forward Current I <sub>FP</sub> (mA)	Reverse Voltage V <sub>R</sub> (V)	Operating Temp. Topr(°C)	Storage Temp. Tstg(°C)	Forward Voltage V <sub>F</sub>		Reverse Current I <sub>R</sub>		Dominant Wavelength λ <sub>D</sub>			Luminous Intensity I <sub>v</sub>			
									Typ. (V)	I <sub>F</sub> (mA)	Max. (μA)	V <sub>R</sub> (V)	Min. (nm)	Typ. (nm)	Max. (nm)	I <sub>F</sub> (mA)	Min. (mcd)	Typ. (mcd)	I <sub>F</sub> (mA)
MSL0104RGBU	AlGaInP	Red	400	50	100*	5	-40 to +85	-40 to +100	2.1	20	10	5	619	624	629	20	450	700	20
		InGaN		Green					40		3.3	-	520	527	535		710	1200	
	Blue			40					3.2		-	465	470	475	220		400		
MSL0104RGBW	AlGaInP	Red	50	10	5	619	624	629	450	700									
		InGaN	Green	40	3.3	-	520	527	535	710	1200								
	Blue		40	3.2	-	465	470	475	220	400									

\*:Duty1/20, 1ms or less

●Electrical Characteristics Curves

reference

Fig.1 Forward Current - Forward Voltages



\*The dotted line is direct current driven, above absolute maximum rating.

Fig.2 Luminous Intensity - Atmosphere Temperature

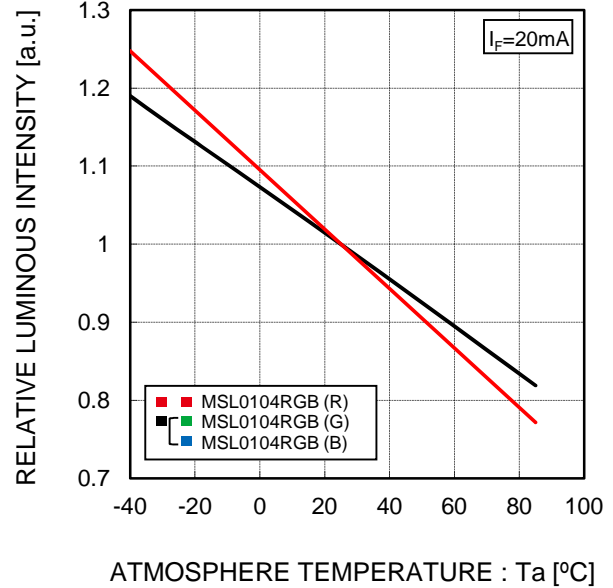


Fig.3 Luminous Intensity - Forward Current

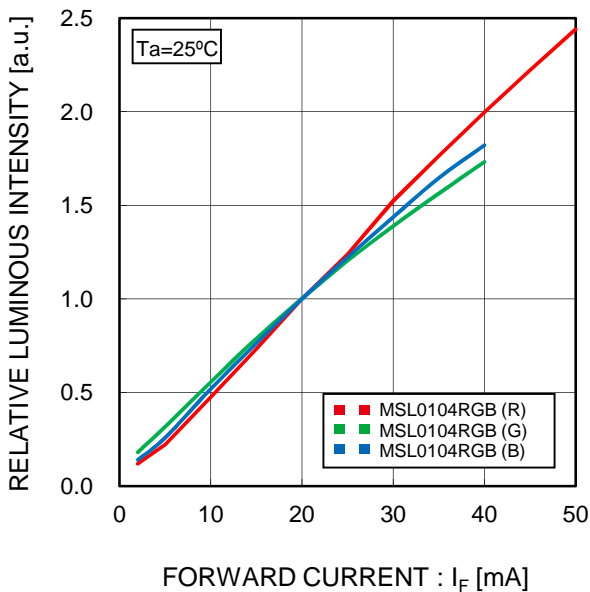
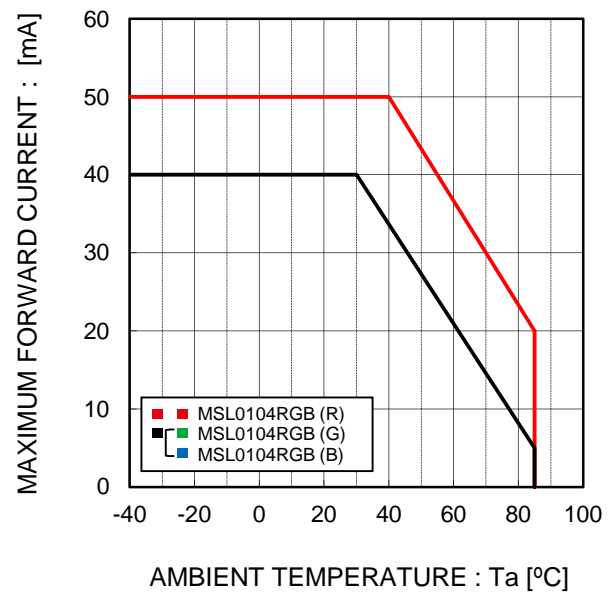


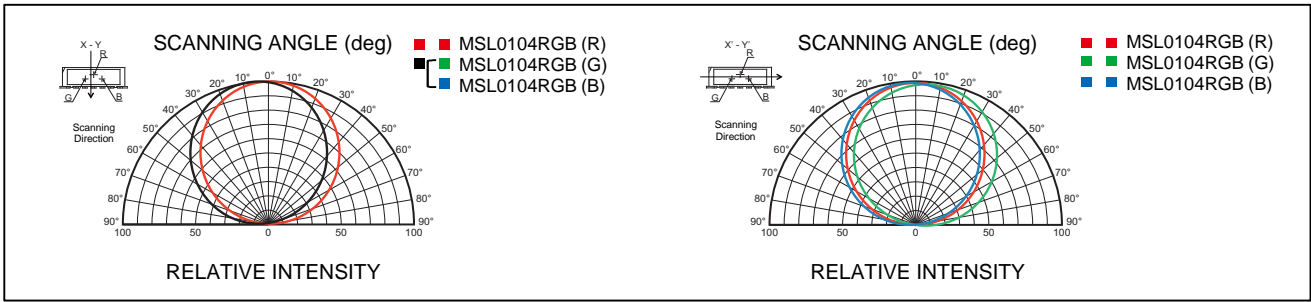
Fig.4 Derating



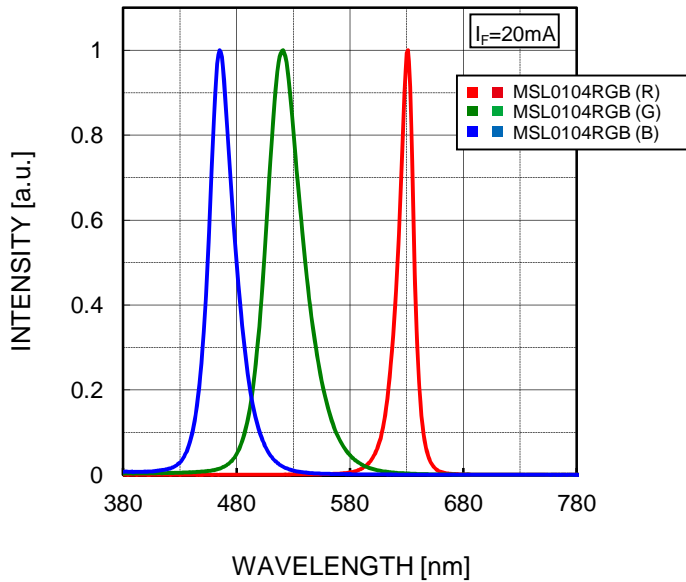
(Note) In case of lighting a single color.  
 \*30mm × 10mm, Substrate FR4:  $t=1.0\text{mm}$  Cu foil:  $t=0.035\text{mm}$   
 \*The value is based on the die destruction endurance;  
 optical characteristics are NOT considered..

●Viewing Angle

reference



●Spectrum Data

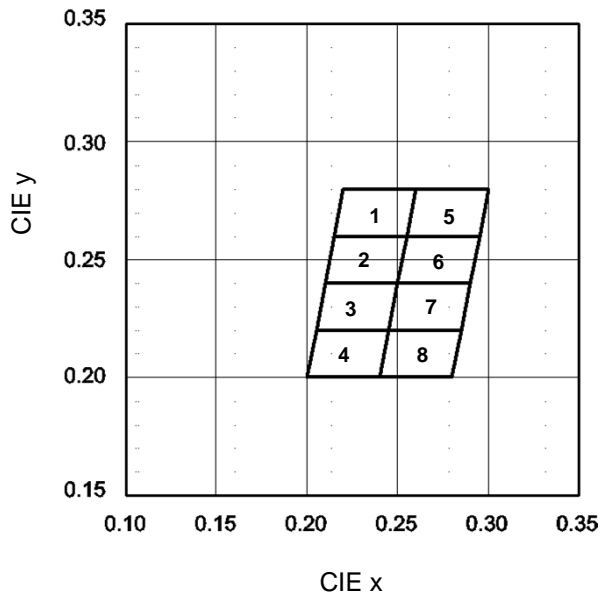


\* Please take this data as a reference data for the samples are measured randomly.  
 \* The data is relativized for each color. It is NOT to show the spectrum peaks are equal.

●Chromaticity Diagram

reference

MSL0104RGB



[Chromaticity Coordinates]

Ta=25°C Lighting simultaneously  
 I<sub>F</sub>=8mA (Red)  
 I<sub>F</sub>=14mA (Green)  
 I<sub>F</sub>=18mA (Blue)

1		2		3		4	
x	y	x	y	x	y	x	y
0.220	0.280	0.215	0.260	0.210	0.240	0.205	0.220
0.215	0.260	0.210	0.240	0.205	0.220	0.200	0.200
0.255	0.260	0.250	0.240	0.245	0.220	0.240	0.200
0.260	0.280	0.255	0.260	0.250	0.240	0.245	0.220

5		6		7		8	
x	y	x	y	x	y	x	y
0.260	0.280	0.255	0.260	0.250	0.240	0.245	0.220
0.255	0.260	0.250	0.240	0.245	0.220	0.240	0.200
0.295	0.260	0.290	0.240	0.285	0.220	0.280	0.200
0.300	0.280	0.295	0.260	0.290	0.240	0.285	0.220

Measurement tolerance : ±0.02

\*If rank shift occur, we may ask for re-approval of new rank when necessary.

●Rank Reference of Brightness

Triple Color

Emitting Color	Rank lv (mcd)	Y*												
		140 to 180	180 to 220	220 to 280	280 to 360	360 to 450	450 to 560	560 to 710	710 to 900	900 to 1100	1100 to 1400	1400 to 1800	1800 to 2200	2200 to 2800
MSL0104RGB	Red* <sup>1</sup>													
	Green* <sup>1</sup>													
	Blue* <sup>1</sup>													
	White* <sup>2</sup>													

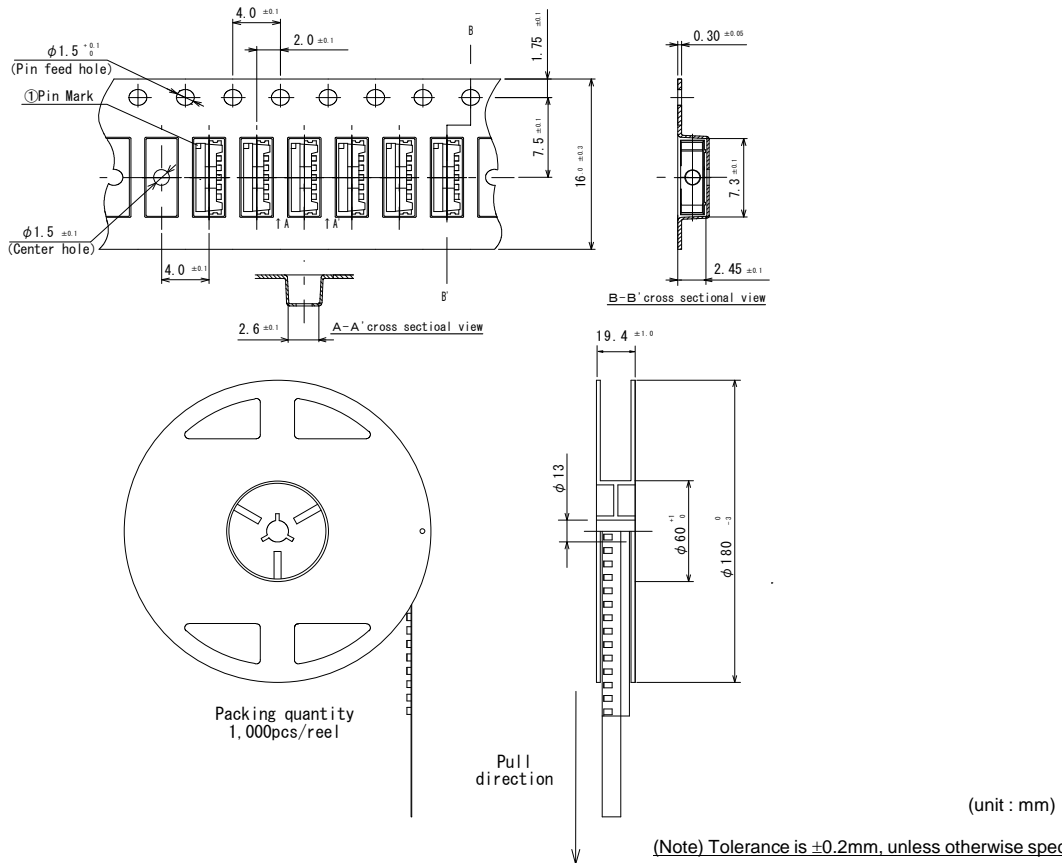
\* : When lighting three colores simultaneously <to express white light>

\*1 : Reference value of each colors

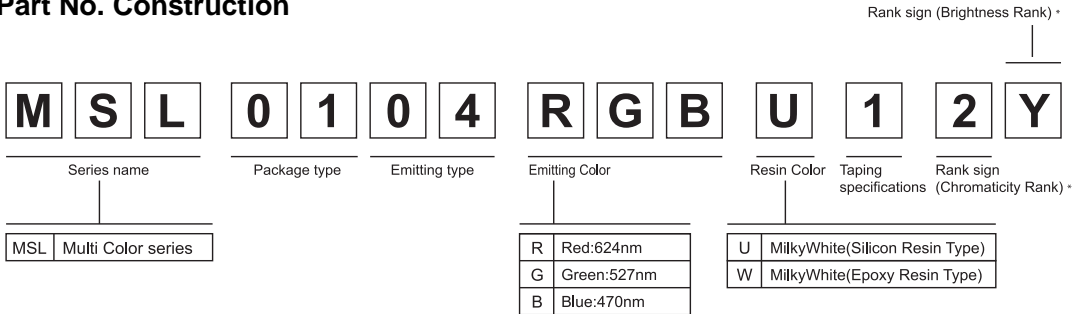
\*2 : Rank of Mixing white color

Y Rank  $\left( \begin{array}{l} I_F=8\text{mA (Red)} \\ I_F=14\text{mA (Green)} \\ I_F=18\text{mA (Blue)} \end{array} \right)$

●Taping



●Part No. Construction



- \* Concerning the rank
  - At three color lighting simultaneously <for white LED>
  - Please refer to the rank chart above for luminous intensity classification.
  - Please refer to the Specification sheet for color classification.
  - Part name is individual for each rank.
  - When shipped as sample, the part name will be a representative part name.
  - General products are free of ranks. Please contact sales if rank appointment is needed.
- \* Please refer to the Specification sheet about Taping specification.

●Packing Specification

ROHM LED products are being shipped with desiccant (silica gel) concluded in moisture-proof bags. Pasting the moisture sensitive label on the outer surface of the moisture-proof bags or enclosing the humidity indication card inside the bag is available upon request. Please contact the nearest sales office or distributor if necessary.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[ROHM Semiconductor:](#)

[MSL0104RGBU1](#)