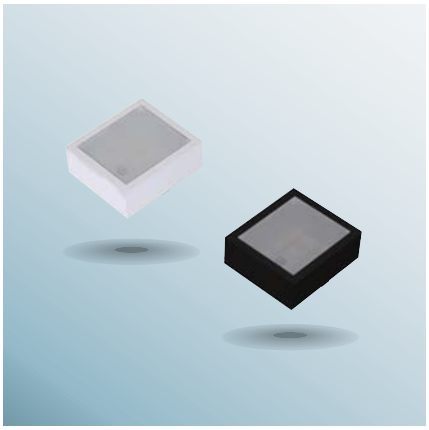
ROHM SEMICONDUCTOR

New Product Bulletin

Compact High Brightness 3-Color RGB LEDs

MSL0301RGBW / MSL0401RGBW (GC-RGB Series)



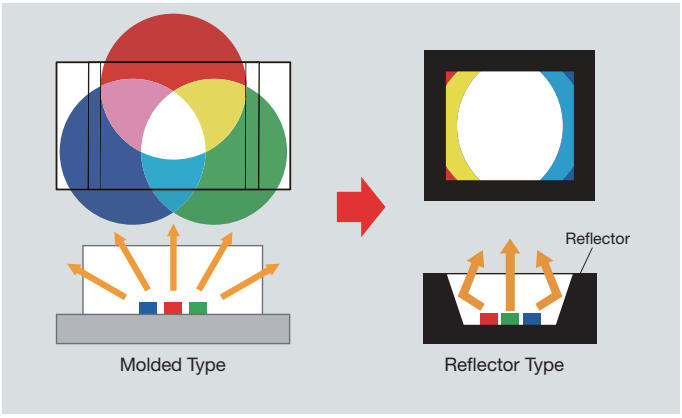
Compact RGB LED with reflector ensures excellent color mixing

Product Outline

The industry's smallest reflector-type RGB LED, ROHM's new GC-RGB series minimize chip distances for optimum color mixing. In addition, VIA contruction results in a compact form factor, reducing surface mount area considerably.
Both 4- and 6-pin types are available in a black reflector configuration for wide applicability.

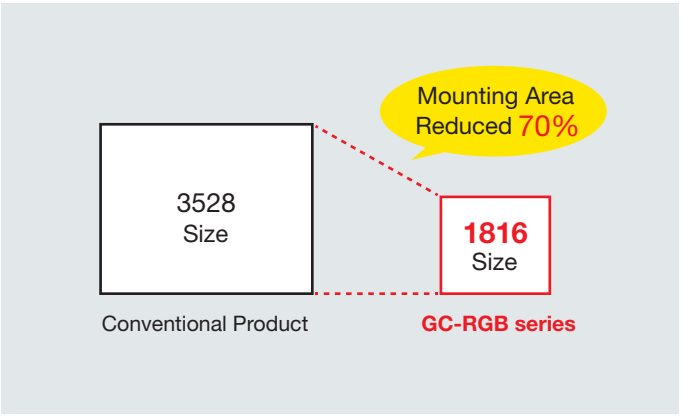
High brightness + Excellent color mixing

The reflector case prevents lateral light leakage, significantly improving the luminous intensity towards the front. In addition, the compact package reduces the distance between elements for superior mixing characteristics, while the black package increases contrast over conventional models for vivid color reproduction.



Industry's smallest reflector-type RGB LED

The GC-RGB series represent the smallest reflector-type RGB LED on the market (1816 size). This reduces surface mount area significantly, ensuring compatibility with a wide number of applications.



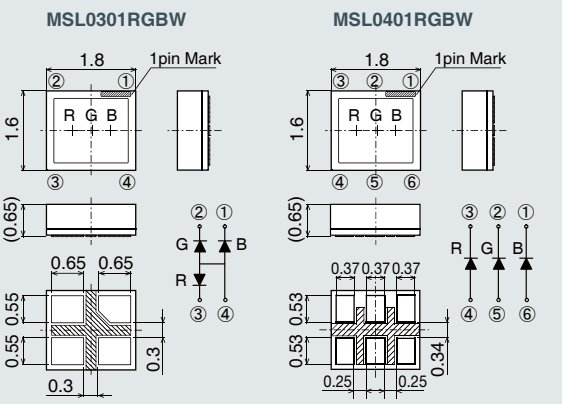
Lineup

Part No.	Element Structure	Emitted Color	Absolute Maximum Ratings (Ta=25°C)						Electric Optical Characteristics (Ta=25°C)										
			Permissible Loss Po(mW)	Forward Current IF(mA)	Peak Forward Current IFP(mA)	Reverse Voltage VR(V)	Operating Temperature Topr(°C)	Storage Temperature Tsg(°C)	Forward Voltage VF Typ. (V)	VF IF (mA)	Reverse Current IR Max. (μA)	IR VR (V)	Dominant Wavelength λD Min. (nm)	λD Typ. (nm)	λD Max. (nm)	λD IF (mA)	Luminous Intensity Iv Min. (mcd)	Iv Typ. (mcd)	Iv IF (mA)
	AlGaInP	Red	104	40					2.1		10		618	624	630		220	400	
MSL0301RGBW (4-pin)	InGaN	Green	120	30	100*	5	-40 to +85	-40 to +100	3.4	20	100	5	519	527	536	20	360	550	20
		Blue	114						3.3				464	470	476		90	180	
	AlGaInP	Red	104	40					2.1		10		618	624	630		220	400	
MSL0401RGBW (6-pin)	InGaN	Green	120	30	100*	5	-40 to +85	-40 to +100	3.4	20	100	5	519	527	536	20	360	550	20
		Blue	114						3.3				464	470	476		90	180	

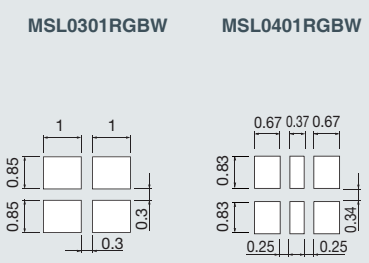
* : Duty1/5, 1kHz

MSL0301RGBW / MSL0401RGBW (GC-RGB Series)

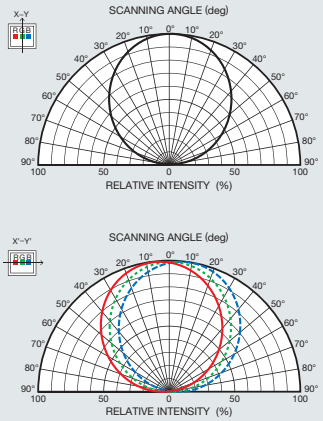
Dimensions



Recommended Solder Pattern

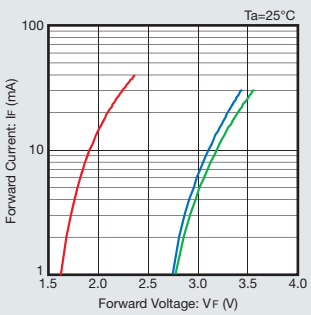


Directivity



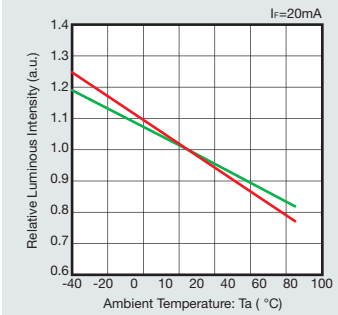
Electrical Characteristics Curves

Forward Current - Forward Voltage



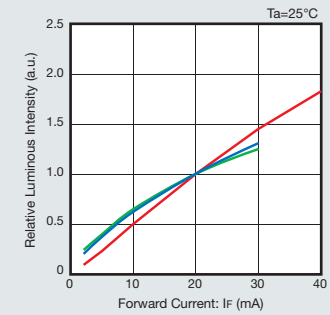
- MSL0301RGBW(R)
- MSL0401RGBW(R)
- MSL0301RGBW(G)
- MSL0401RGBW(G)
- MSL0301RGBW(B)
- MSL0401RGBW(B)

Luminous Intensity - Ambient Temp.



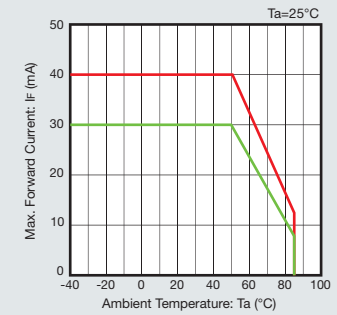
- MSL0301RGBW(R)
- MSL0401RGBW(R)
- MSL0301RGBW(G)
- MSL0401RGBW(G)
- MSL0301RGBW(B)
- MSL0401RGBW(B)

Luminous Intensity - Forward Current



- MSL0301RGBW(R)
- MSL0401RGBW(R)
- MSL0301RGBW(G)
- MSL0401RGBW(G)
- MSL0301RGBW(B)
- MSL0401RGBW(B)

Derating Curve



- MSL0301RGBW(R)
- MSL0401RGBW(R)
- MSL0301RGBW(G)
- MSL0401RGBW(G)
- MSL0301RGBW(B)
- MSL0401RGBW(B)

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