

Under Development	
Mass Production	●



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Features

- Highest flux per LED family in the world
- Very long operating life (up to 100k hours)
- Available in White:2800K-25000K
- Lambertian radiation pattern
- More energy efficient than incandescent and most halogen lamps
- Low voltage DC operated
- Cool beam, safe to the touch
- Fully dimmable
- No UV
- Superior ESD protection
- lower R_{th}
- RoHS compliant—lead-free
- Instant light (less than 100ns)

Applications

- Portable (flashlight, bicycle)
- Reading lights(car, bus, aircraft)
- Orientation
- Mini-accent
- Decorative
- Fiber optic alternative
- Appliance
- Sign and channel letter
- Architectural detail
- Cove lighting
- Automotive exterior
(Stop-Tail-turn, CHMSL,
Mirror side repeat)
- Edge-lit signs(Exit, point of sale)

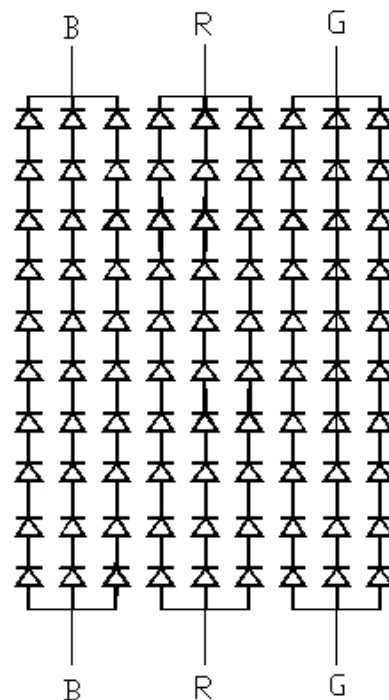
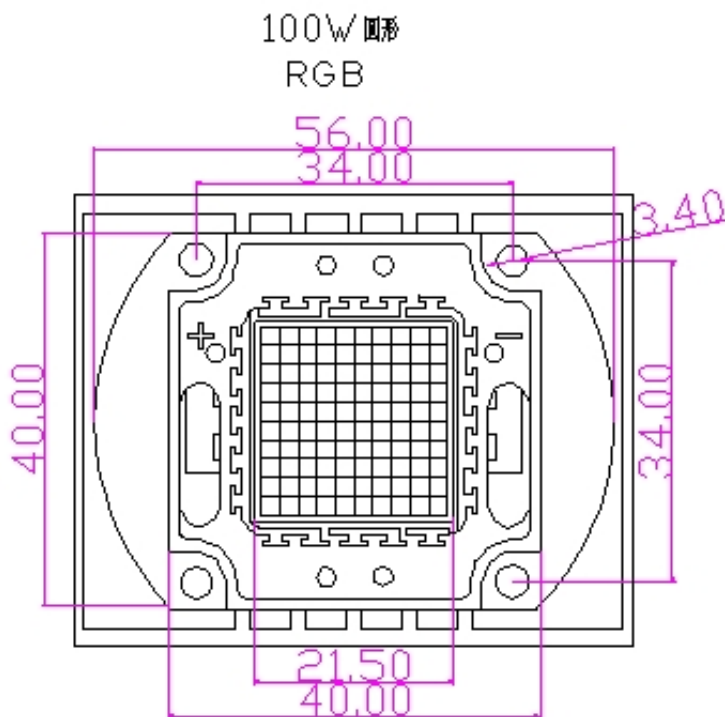


High-Power LED: GP-100WRGB

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SPECS NO: GM-20101109-02

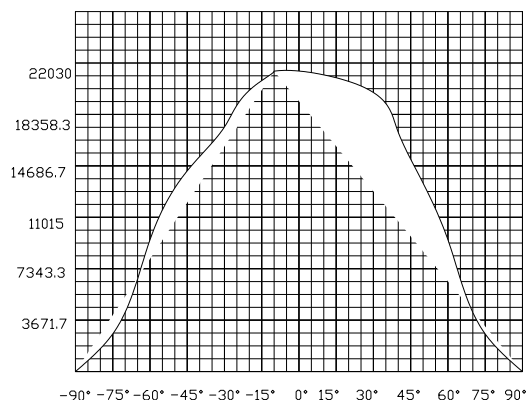
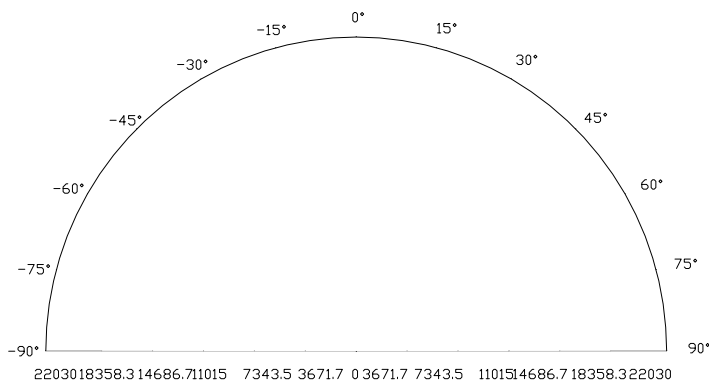
Package Dimensions



Notes:

All dimensions in mm tolerance is ± 0.1 mm unless otherwise noted.

Radiation Pattern





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■ Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Items	Symbol	Absolute maximum Rating		Unit
		R	G/B	
DC Forward Current	I_F	1050	1050	mA
Peak Forward Current*	I_{FP}	500	500	mA
Power Dissipation	P_D	11	8	mW
Reverse Voltage	V_R	50		V
LED Junction Temperature	T_J	120		$^\circ\text{C}$
Operation Temperature	T_{opr}	-20 ~ +75		$^\circ\text{C}$
Storage Temperature	T_{stg}	-30 ~ +80		$^\circ\text{C}$
Manual Soldering Temperature	T_{SOL}	350 $^\circ\text{C} \pm 10^\circ\text{C}$ For 3~5 Seconds		$^\circ\text{C}$
ESD Sensitivity	ESD	2000		V

*pulse width $\leq 0.1\text{msec}$ duty $\leq 1/10$

■ Typical Electrical & Optical Characteristics ($T_a = 25^\circ\text{C}$)

Items	Symbol	Condition	Color	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 1050\text{mA}$	R	22.00		26.00	V
			G	32.00		36.00	
			B	32.00		36.00	
Reverse Current	I_R	$V_R = 50\text{V}$	10			μA	
Luminous Flux	Φ_V	$I_F = 1050\text{mA}$	R	1200		1300	lm
			G	1700		1800	
			B	500		600	
Wave length	Wd	$I_F = 1050\text{mA}$	R	615		625	nm
			G	515		525	
			B	455		465	
50% Power Angle	$2\theta_{1/2}$	$I_F = 1050\text{mA}$	120			deg	
Thermal Resistance (Junction to Board)	R_{J-B}	$I_F = 1050\text{mA}$	8			$^\circ\text{C/W}$	

■ Important Notes:

- 1) All ranks will be included per delivery, rank ratio will be determined by GMKJ.
- 2) Tolerance of measurement of V_F is $\pm 0.1\text{V}$.
- 3) Tolerance of measurement of the Wave length is $\pm 1\text{nm}$.
- 4) Tolerance of measurement of luminous intensity is $\pm 10\%$.
- 5) As we are making continuous efforts to improve the performance of LED, Specifications are subject to change without notice.
- 6) Information is tentative and subject to change without notice.



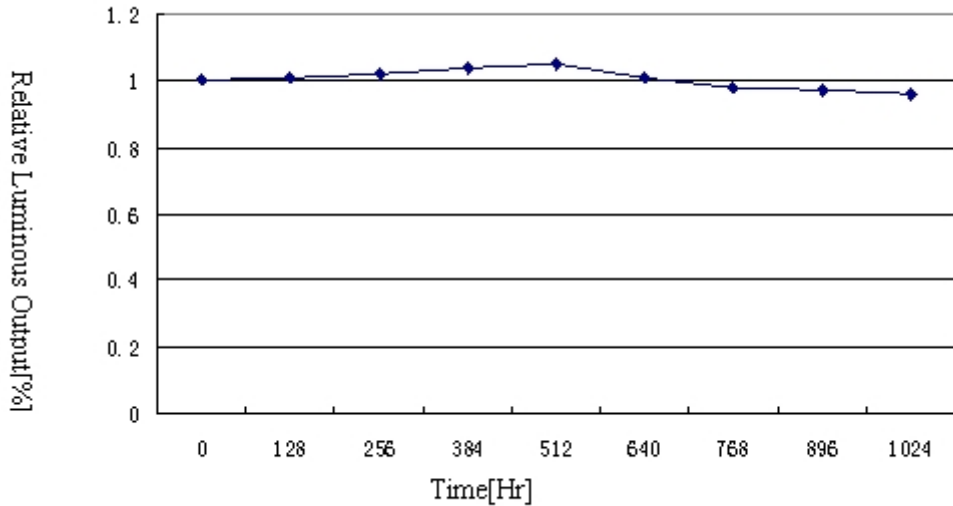
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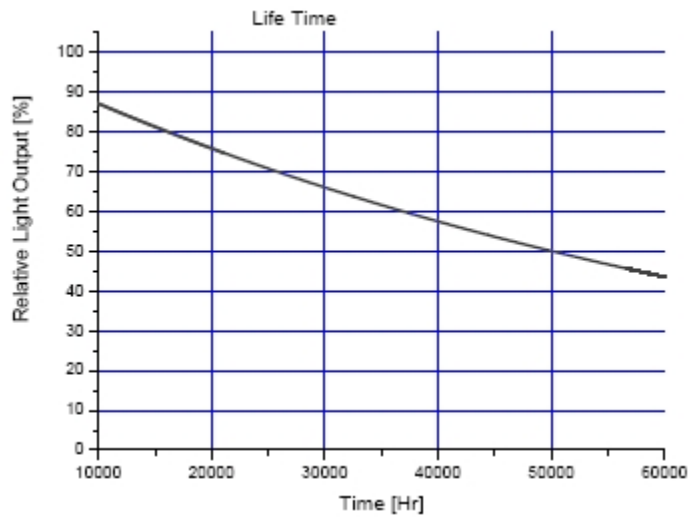
■ Room Temperature Operating Life Reliability Test Result

(Ta=25°C, If=3.5A) Use SSC circuit board & heat sink (Tj=50°C)



1000HR 3.5% degradation

■ Life Time graph



50000HR 50% degradation



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Typical Optical/Electrical Characteristics Curves

(Ta=25°C Unless Otherwise Noted)

