1W High Power LED

Features

- Highest flux per LED family in the world
- Very long operating life (up to 100k hours)
- Available in Red, Yellow, Green, Blue, White
- 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 Rth
- RoHS compliant — Lead-free
- Instant light (less than 100ns)

1W Blue LED

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)

1W White LED & Aluminum PCB

Catalog

1. Red 1W High Power LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-P1-D-Red	GaAlInP	Red ■	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute Maximum Rating	Unit
Forward Current	IF	0.35	A
Peak Forward Current*	IFP	0.8	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	1	W
Electrostatic discharge	ESD	±2000	V
Operation Temperature	TOPR	-40~+80	℃
Storage Temperature	TSTG	-40~+100	℃
Lead Soldering Temperature*	TSOL	Max. 260℃ for 3sec Max.	

*IFP Conditions：Pulse Width≤10msec duty≤1/10

* Our MCPCB is usual use for installation and connection during application, but the ability of heat dissipation is not enough. If lighted, our high power stars will need better another type heat dissipation equipment. So we recommend the working time is not over 5 -10 seconds without any heat dissipation equipment.

*Reflow, wave peak and soak stannum soldering etc. is not suitable for this products.

*Suggest to solder it by professional high power LED soldering machine.

*Can use in variable temperature searing iron with soldering condition :≤260 degree less than 3 seconds.

Typical Electrical & Optical Characteristics (Ta = 25℃)

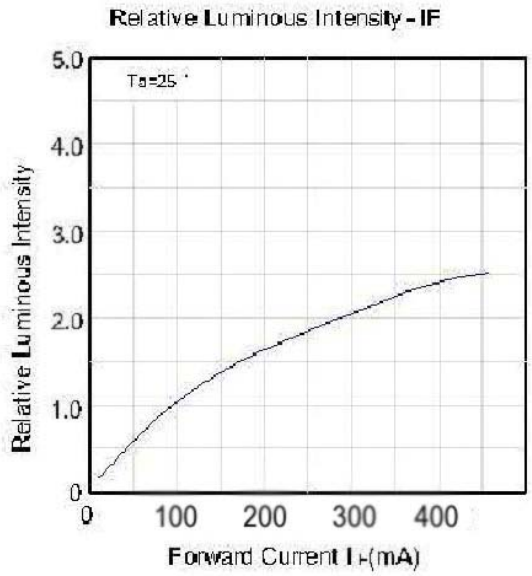
Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF=0.35A	2.0		2.6	V
Reverse Current	IR	VR=5V			50	uA
50% Power Angle	2θ1/2	IF=0.35A	110		140	deg
Luminous Intensity	φV	IF=0.35A	20		50	lm
Recommend Forward Current	IF			0.35		A
Wave Length	λd	IF=0.35A	620		630	nm

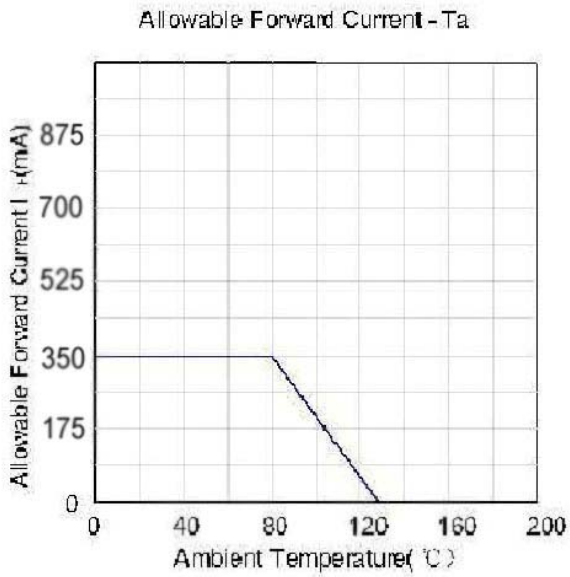
Notes:1.Tolerance of measurement of forward voltage ±0.1V.

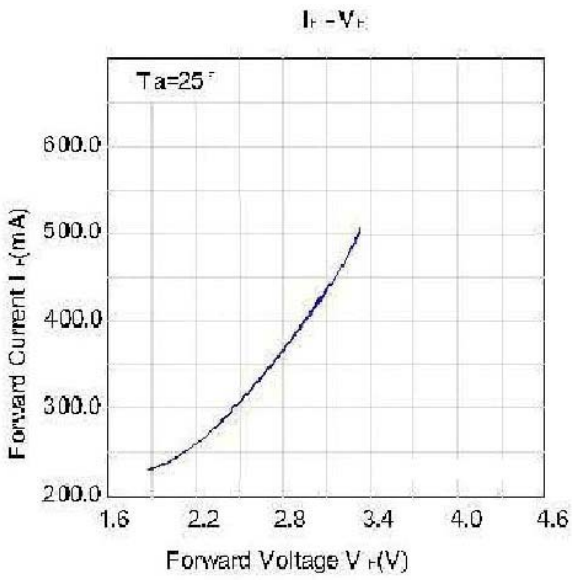
2.Tolerance of measurement of peak Wavelength ±2.0nm.

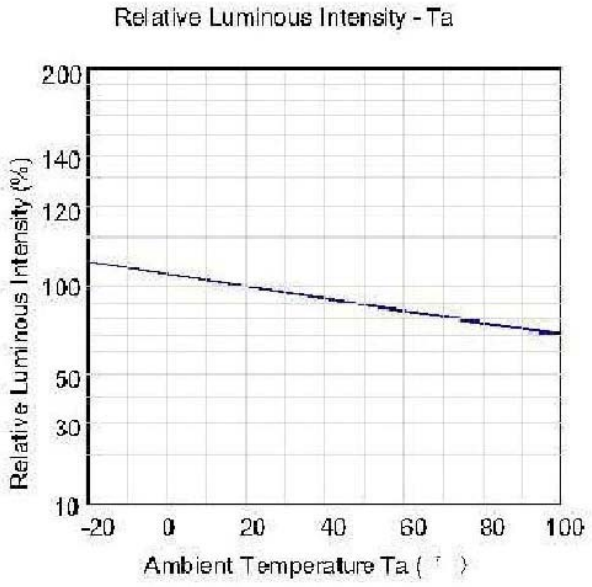
3.Tolerance of measurement of luminous intensity ±15%.

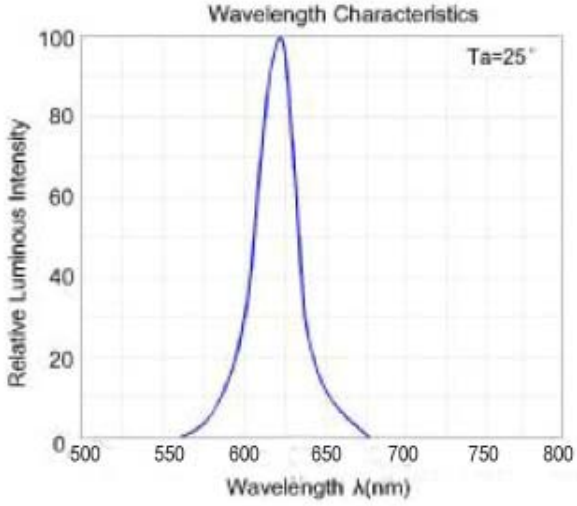
Typical Electrical/Optical Characteristics Curves (Ta=25° Unless Otherwise Noted)



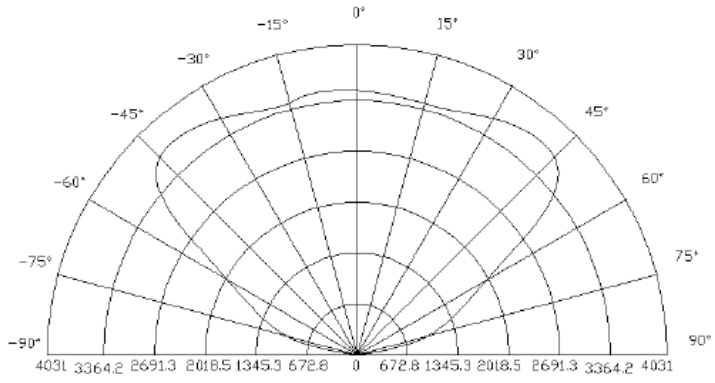


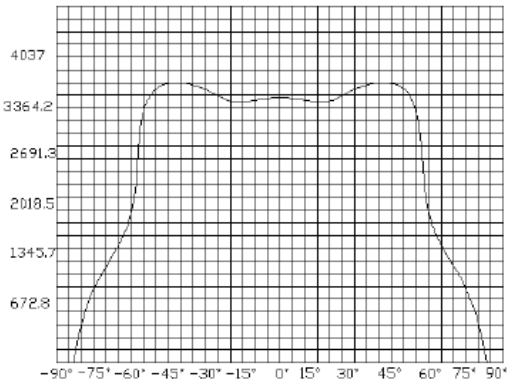






Radiation Pattern





2. Yellow 1W High Power LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-P1-D-Yellow	GaAlInP	Yellow	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute Maximum Rating	Unit
Forward Current	IF	0.35	A
Peak Forward Current*	IFP	0.8	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	1	W
Electrostatic discharge	ESD	±2000	V
Operation Temperature	TOPR	-40~+80	℃
Storage Temperature	TSTG	-40~+100	℃
Lead Soldering Temperature*	TSOL	Max. 260℃ for 3sec Max.	

*IFP Conditions：Pulse Width≤10msec duty≤1/10

* Our MCPCB is usual use for installation and connection during application, but the ability of heat dissipation is not enough. If lighted, our high power stars will need better another type heat dissipation equipment. So we recommend the working time is not over 5 -10 seconds without any heat dissipation equipment.

*Reflow, wave peak and soak stannum soldering etc. is not suitable for this products.

*Suggest to solder it by professional high power LED soldering machine.

*Can use in variable temperature searing iron with soldering condition :≤260 degree less than 3 seconds.

Typical Electrical & Optical Characteristics (Ta = 25℃)

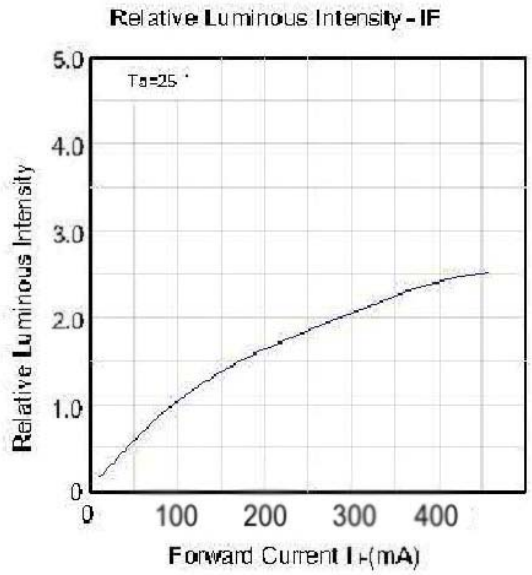
Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF=0.35A	2.0		2.6	V
Reverse Current	IR	VR=5V			50	uA
50% Power Angle	2θ1/2	IF=0.35A	110		140	deg
Luminous Intensity	φV	IF=0.35A	20		50	lm
Recommend Forward Current	IF			0.35		A
Wave Length	λd	IF=0.35A	580		595	nm

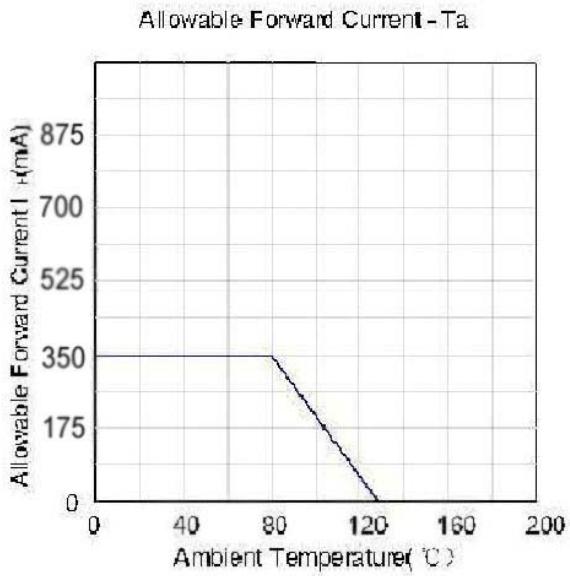
Notes:1.Tolerance of measurement of forward voltage ±0.1V.

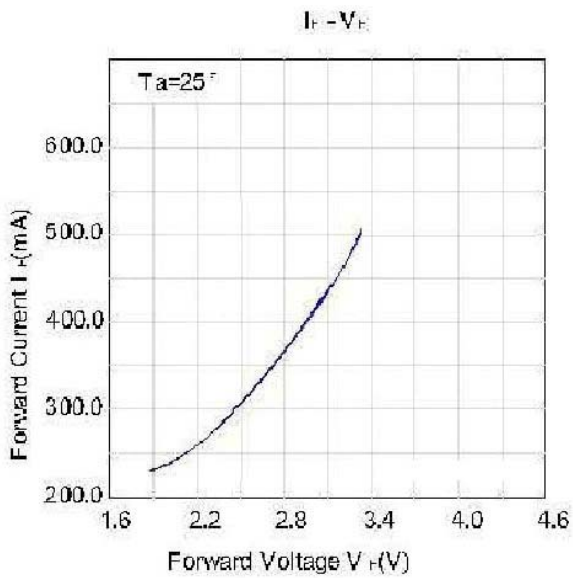
2.Tolerance of measurement of peak Wavelength ±2.0nm.

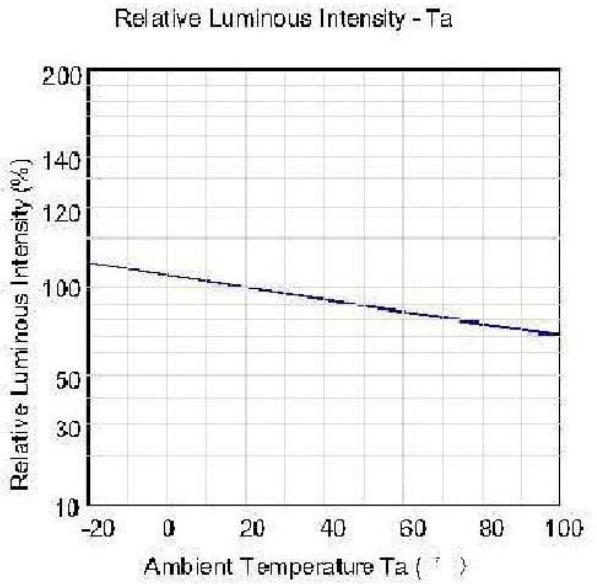
3.Tolerance of measurement of luminous intensity ±15%.

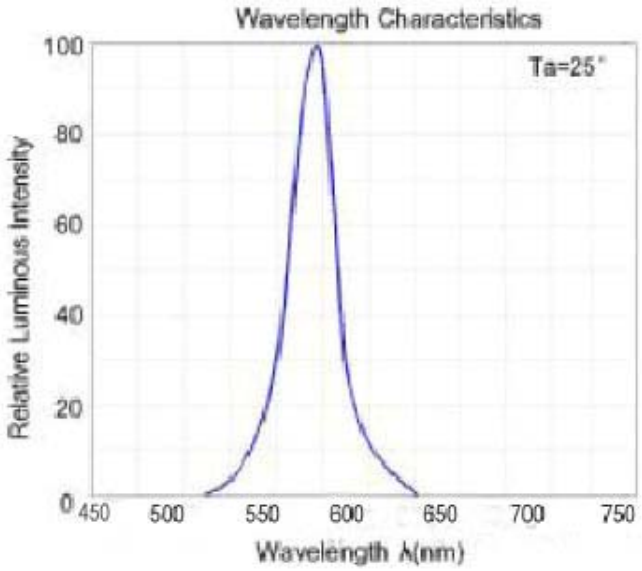
Typical Electrical/Optical Characteristics Curves **(Ta=25° Unless Otherwise Noted)**



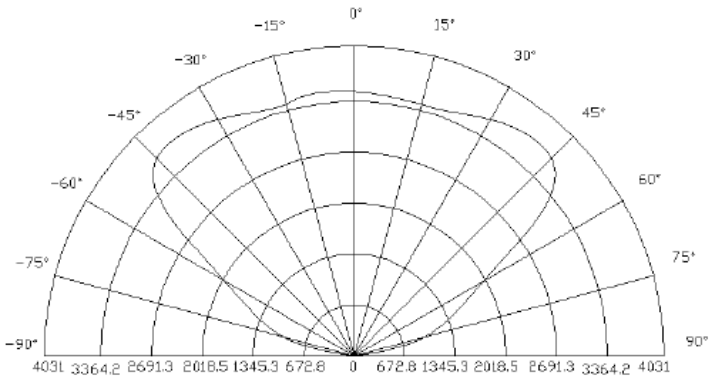


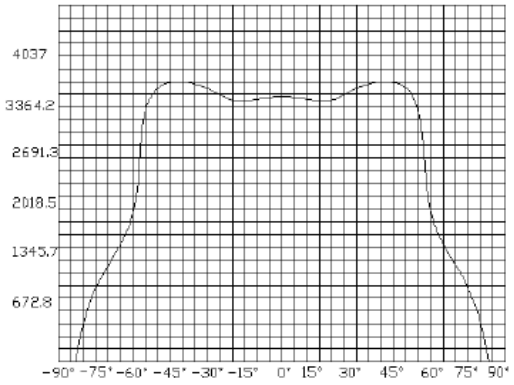






Radiation Pattern





3. Green 1W High Power LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-P1-D-Green	InGaN	Green ■	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute Maximum Rating	Unit
Forward Current	IF	0.35	A
Peak Forward Current*	IFP	0.8	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	1	W
Electrostatic discharge	ESD	±2000	V
Operation Temperature	TOPR	-40~+80	℃
Storage Temperature	TSTG	-40~+100	℃
Lead Soldering Temperature*	TSOL	Max. 260℃ for 3sec Max.	

*IFP Conditions：Pulse Width≤10msec duty≤1/10

* Our MCPCB is usual use for installation and connection during application, but the ability of heat dissipation is not enough. If lighted, our high power stars will need better another type heat dissipation equipment. So we recommend the working time is not over 5 -10 seconds without any heat dissipation equipment.

*Reflow, wave peak and soak stannum soldering etc. is not suitable for this products.

*Suggest to solder it by professional high power LED soldering machine.

*Can use in variable temperature searing iron with soldering condition :≤260 degree less than 3 seconds.

Typical Electrical & Optical Characteristics (Ta = 25℃)

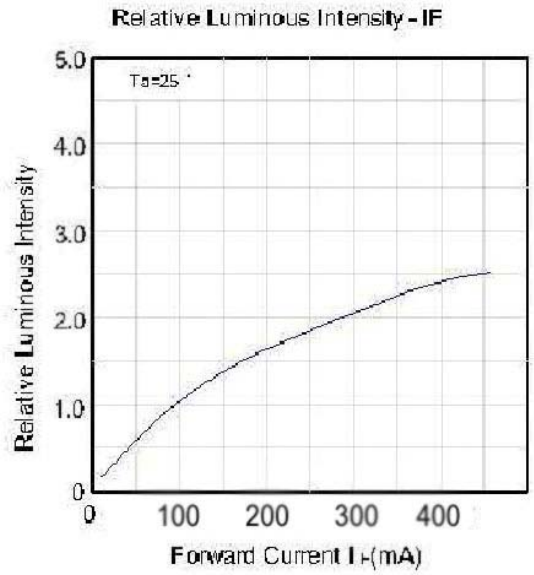
Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF=0.35A	3.0		3.6	V
Reverse Current	IR	VR=5V			50	uA
50% Power Angle	2θ1/2	IF=0.35A	110		140	deg
Luminous Intensity	φV	IF=0.35A	60		80	lm
Recommend Forward Current	IF			0.35		A
Wave Length	λd	IF=0.35A	520		530	nm

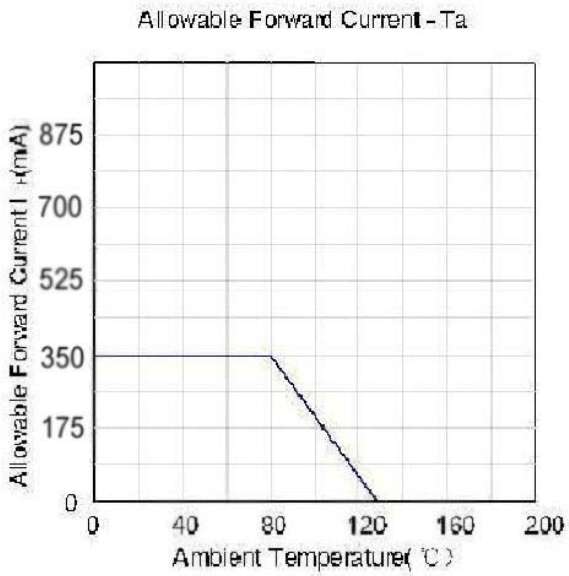
Notes:1.Tolerance of measurement of forward voltage ±0.1V.

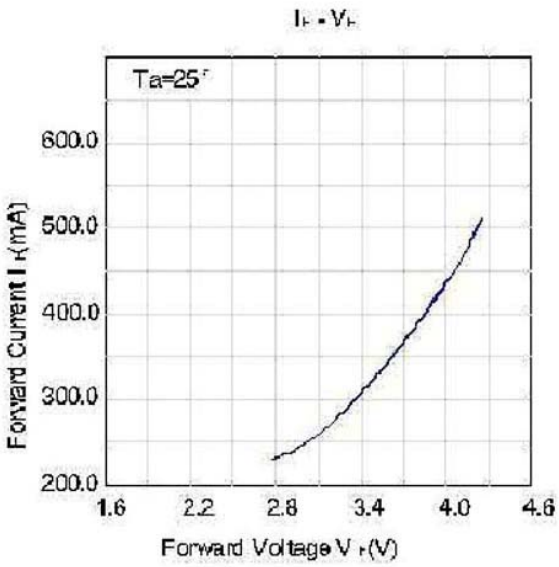
2.Tolerance of measurement of peak Wavelength ±2.0nm.

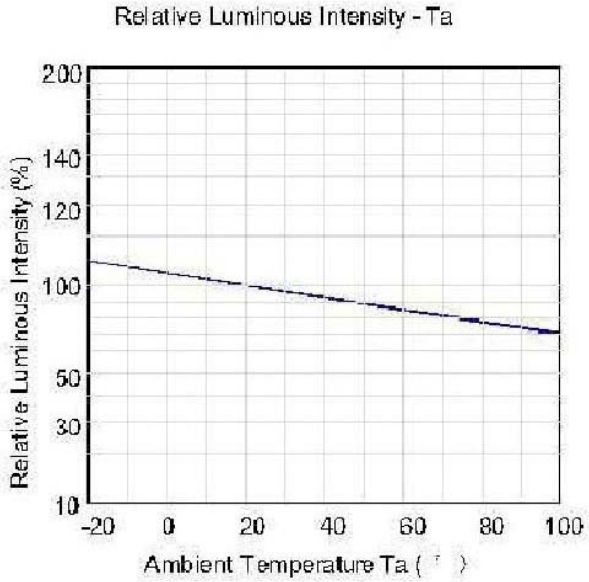
3.Tolerance of measurement of luminous intensity ±15%.

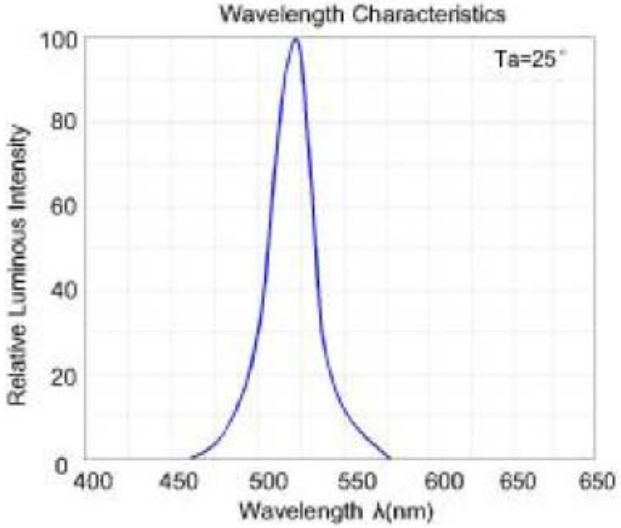
Typical Electrical/Optical Characteristics Curves (Ta=25° Unless Otherwise Noted)



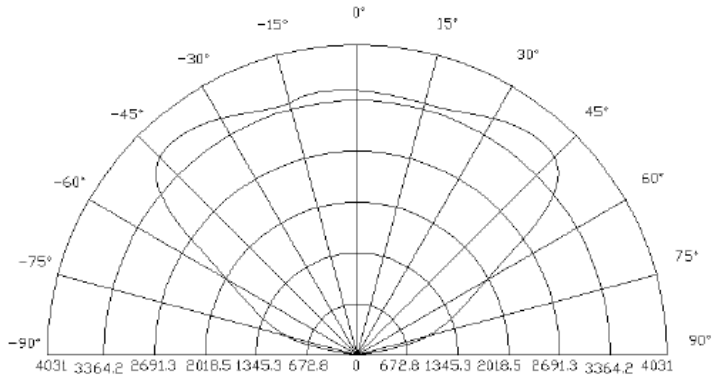


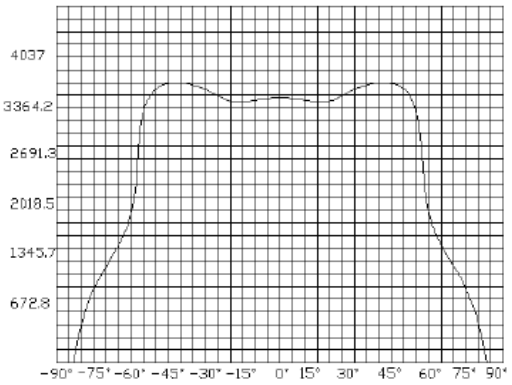






Radiation Pattern





4. Blue 1W High Power LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-P1-D-Blue	InGan	Blue ■	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute Maximum Rating	Unit
Forward Current	IF	0.35	A
Peak Forward Current*	IFP	0.8	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	1	W
Electrostatic discharge	ESD	±2000	V
Operation Temperature	TOPR	-40~+80	℃
Storage Temperature	TSTG	-40~+100	℃
Lead Soldering Temperature*	TSOL	Max. 260℃ for 3sec Max.	

*IFP Conditions：Pulse Width≤10msec duty≤1/10

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*Reflow, wave peak and soakstannum soldering etc. is not suitable for this products.

*Suggest to solder it by professional high power LED soldering machine.

*Can use in variable temperature searing iron with soldering condition :≤260 degree less than 3 seconds.

Typical Electrical & Optical Characteristics (Ta = 25℃)

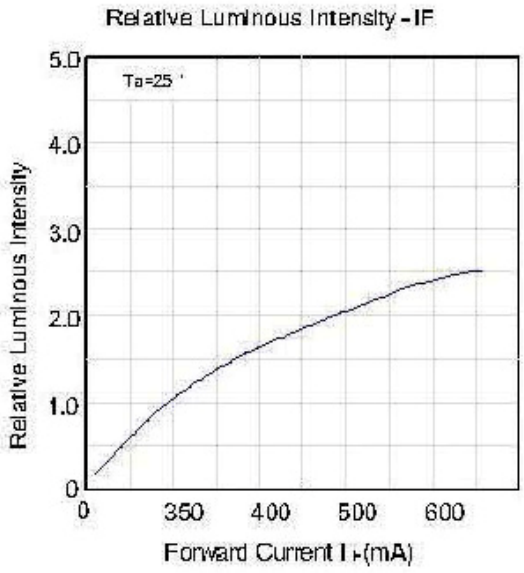
Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF=0.35A	3.0		3.6	V
Reverse Current	IR	VR=5V			50	uA
50% Power Angle	2θ1/2	IF=0.35A	110		140	deg
Luminous Intensity	φV	IF=0.35A	10		30	lm
Recommend Forward Current	IF			0.35		A
Wave Length	λd	IF=0.35A	460		470	nm

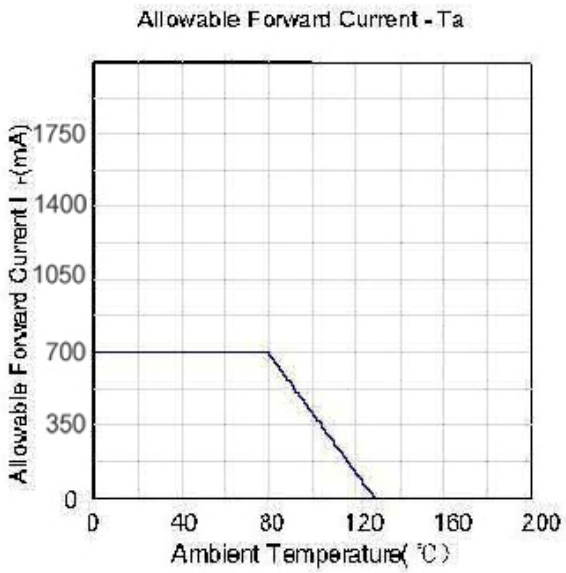
Notes:1.Tolerance of measurement of forward voltage ±0.1V.

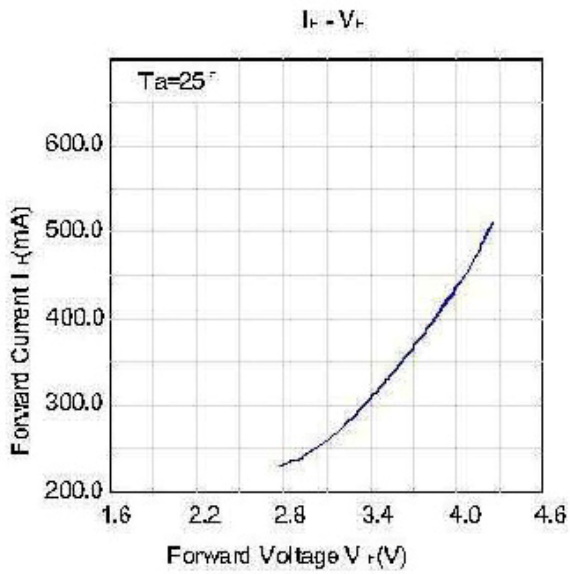
2.Tolerance of measurement of peak Wavelength ±2.0nm.

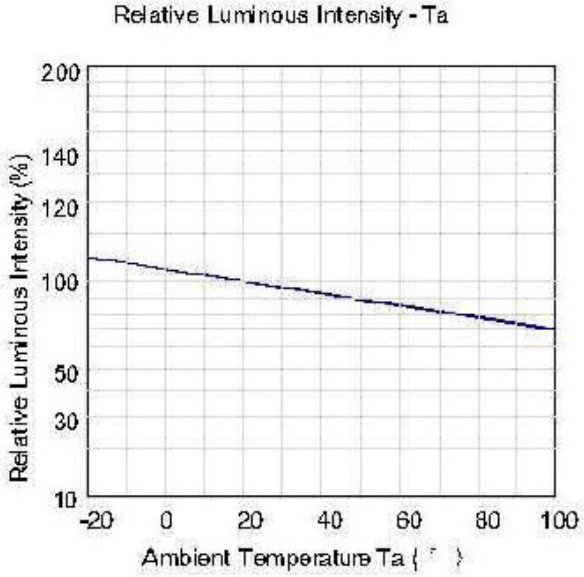
3.Tolerance of measurement of luminous intensity ±15%.

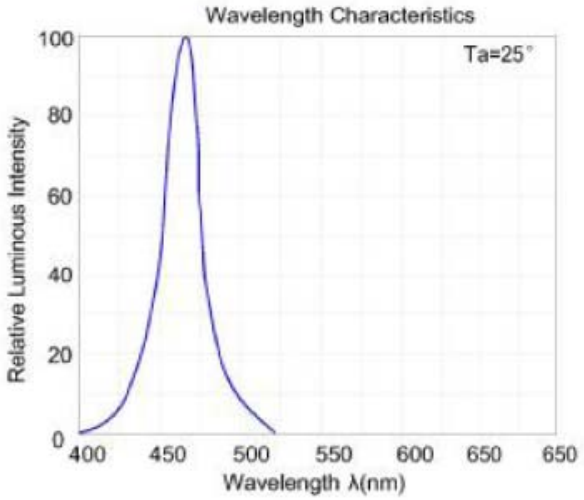
Typical Electrical/Optical Characteristics Curves **(Ta=25° Unless Otherwise Noted)**



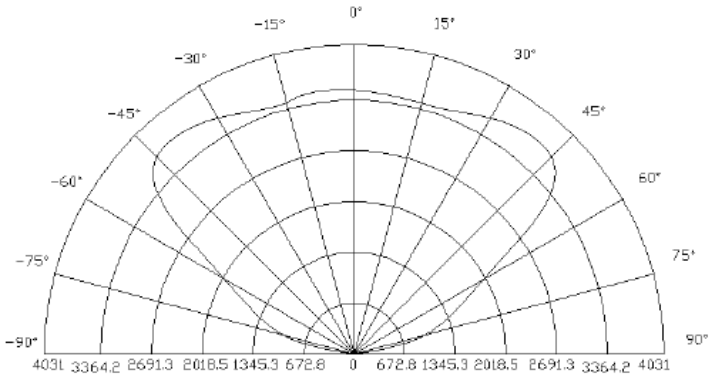


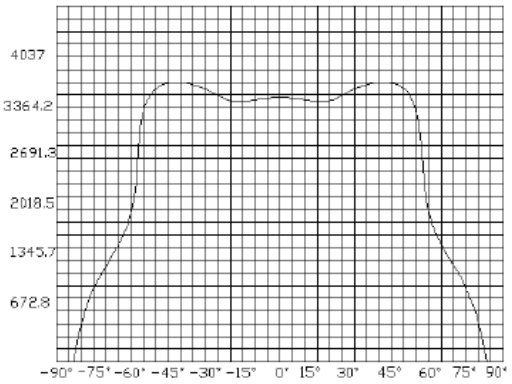






Radiation Pattern





5. White 1W High Power LED

PART NO	Chip		Lens Color
	Material	Emitted Color	
LED-P1-D-White	InGaN	White □	WATER CLEAR

Absolute Maximum Ratings (Ta = 25℃)

Items	Symbol	Absolute Maximum Rating	Unit
Forward Current	IF	0.35	A
Peak Forward Current*	IFP	0.8	A
Reverse Voltage	VR	5	V
Power Dissipation	PD	1	W
Electrostatic discharge	ESD	±4500	V
Operation Temperature	TOPR	-40~+80	℃
Storage Temperature	TSTG	-40~+100	℃
Lead Soldering Temperature*	TSOL	Max. 260℃ for 3sec Max.	

*IFP Conditions：Pulse Width≤10msec duty≤1/10

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*Suggest to solder it by professional high power LED soldering machine.

*Can use in variable temperature searing iron with soldering condition :≤260 degree less than 3 seconds.

Typical Electrical & Optical Characteristics (Ta = 25℃)

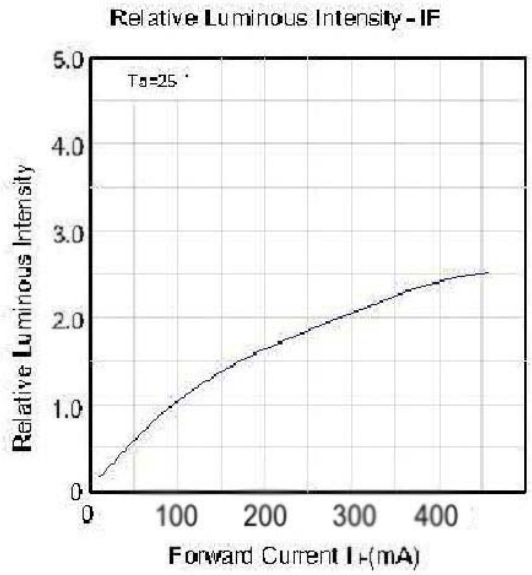
Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF=0.35A	3.2		3.6	V
Reverse Current	IR	VR=5V			50	uA
50% Power Angle	2θ1/2	IF=0.35A	110		140	deg
Luminous Intensity	φV	IF=0.35A	100		110	lm
Recommend Forward Current	IF			0.35		A
Chromaticity	Tc	IF=0.35A	6000		6500	k
White Color Region	--					
Chromaticity Coordinates	X=--		Y=--			
Thermal Resistance,Junction to Case	RJP	IF=0.35A		10		℃/W

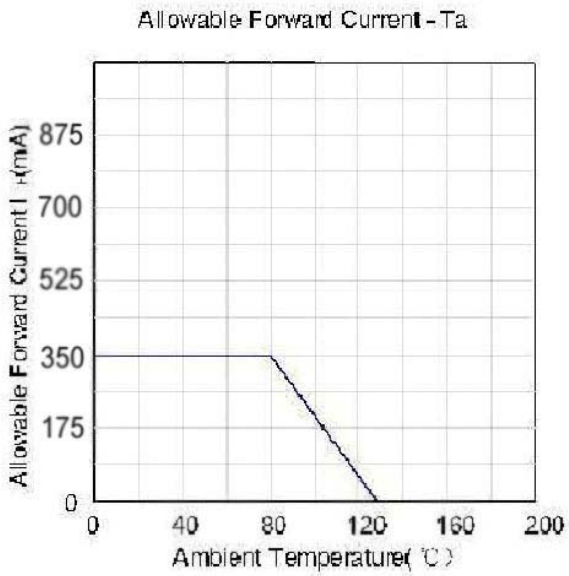
Notes:1.Tolerance of measurement of forward voltage ±0.1V.

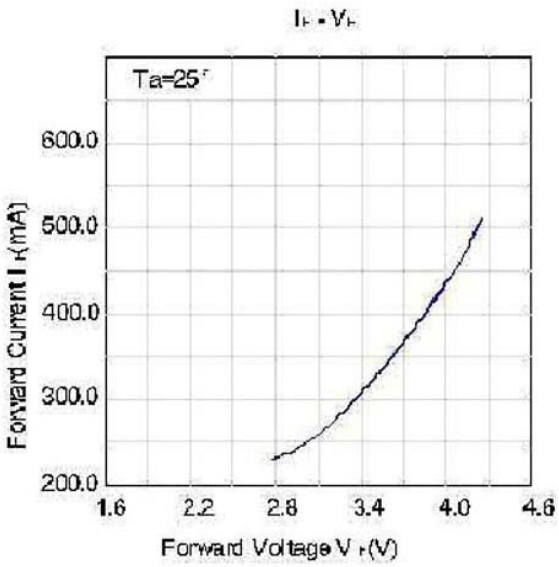
2.Tolerance of measurement of peak Wavelength ±2.0nm.

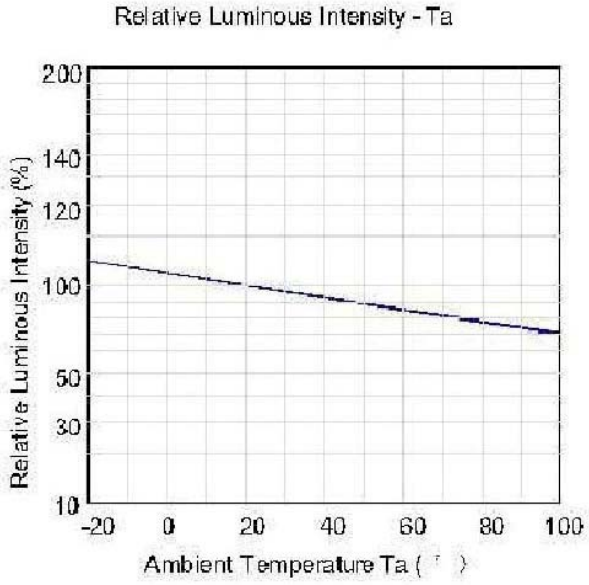
3.Tolerance of measurement of luminous intensity ±15%.

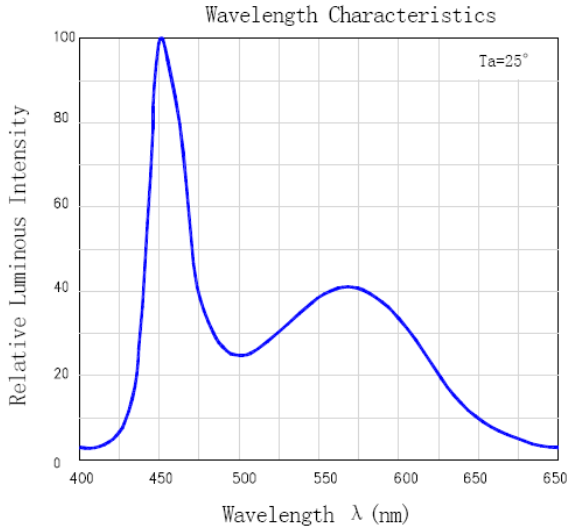
Typical Electrical/Optical Characteristics Curves (Ta=25° Unless Otherwise Noted)



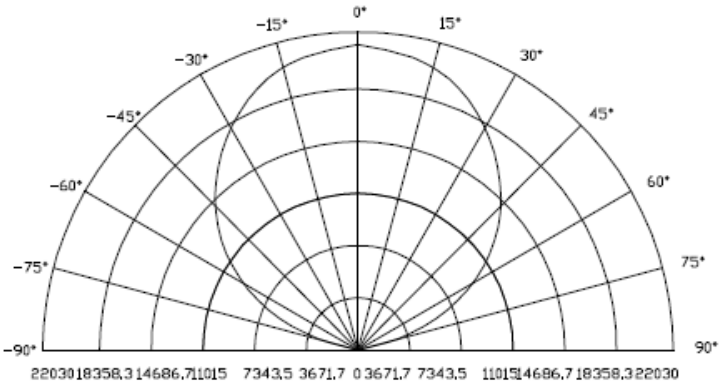


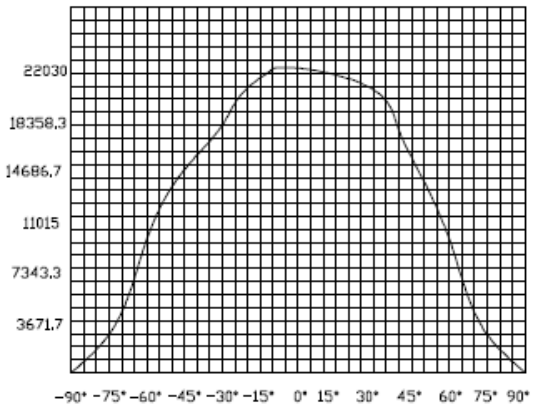




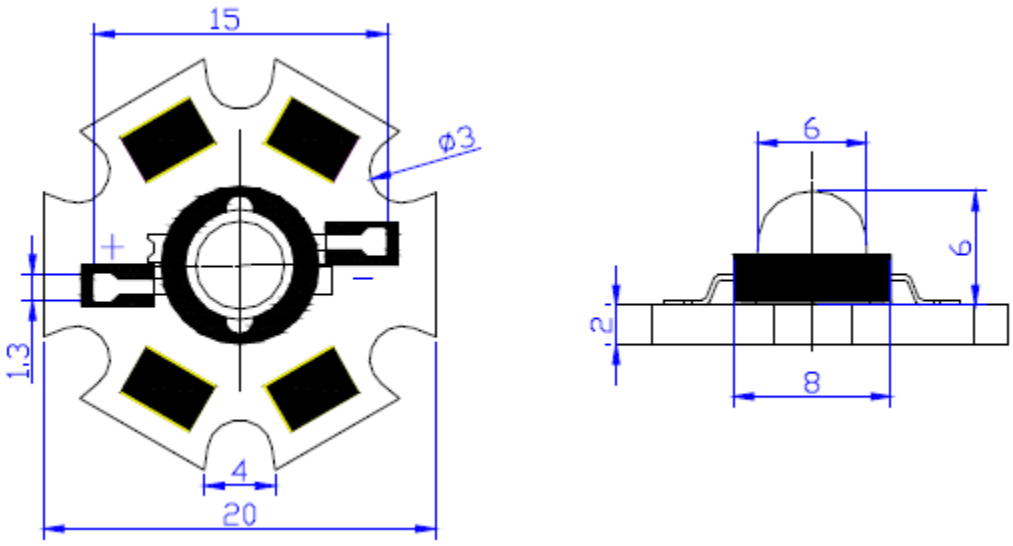


Radiation Pattern





Package Dimensions (unit:mm)



Notes:

All dimensions in mm tolerance is ±0.2mm unless otherwise noted.