

DEMASLED

SPECIFICATION FOR APPROVAL

Customer:

Technical Data Sheet

PN: HP1

For: IF= 350mA

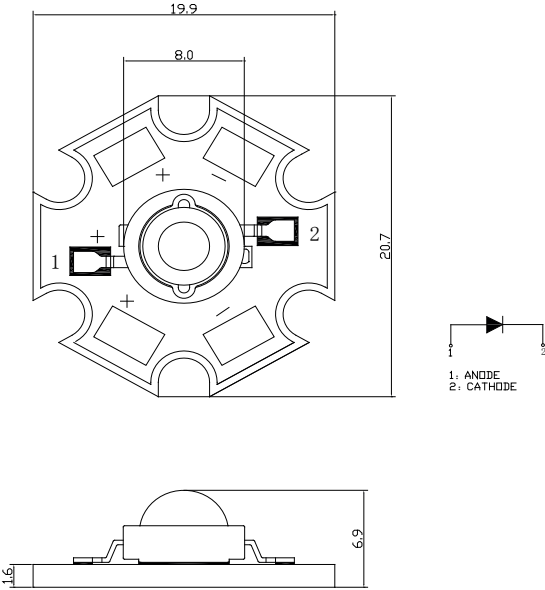
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Customer confirm	Approved by	Checked by	Issued by

■ Mechanical Dimensions:

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Note:

- 1. All dimensions are in millimeters.
- 2. All dimensions without tolerances are for reference only.
- 3. Material as follows:
 - Package: Heat-Resistant Polymer
 - Electrodes: Cu Plating Copper Alloy

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■ Absolute Maximum Ratings (Ta = 25°C) :

Items	Symbol	Absolute maximum Rating		Unit
		Blue/Green/White	Red/Yellow	
Power Dissipation *	P _D	1100	850	mW
DC Forward Current	I _F	350	350	mA
Peak Pulse Forward Current*	I _{FP}	700	700	mA
Average Forward Current	I _{avg}	400	400	mA
Reverse Voltage	V _R	5	5	V
LED Junction Temperature	T _j	125	125	°C
Operating Temperature	T _{op}	-30 ~ +80	-30~+80	°C
Storage Temperature	T _{stg}	-40 ~ +100	-40 ~ +100	°C
Soldering Temperature	T _{sol}	Max.180°C for 10 sec Max (4mm from the base of the lens)		

*Pulse width \cong 0.1msec duty \cong 1/10

■ Typical Electrical & Optical Characteristics (Ta = 25°C):

Part No	Color Temperature	Forward Voltage(V)			Test Condition	Viewing Angle (Typ.)	Luminous Flux (lm)
		Min.	Typ.	Max.			
HP1	5500-6500K	3.0	3.2	3.4	I _F = 350mA	140	110-130

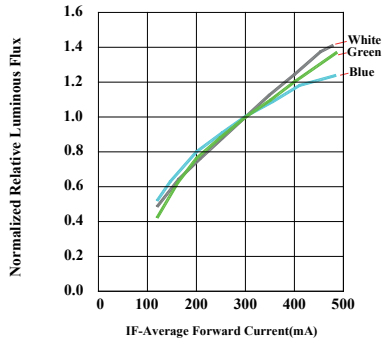
■ Notes:

- 1.Absolute maximum ratings Ta=25°C
- 2.Tolerance of measurement of forward voltage \pm 0.1V.
- 3.Tolerance of measurement of Luminous Flux \pm 15%.

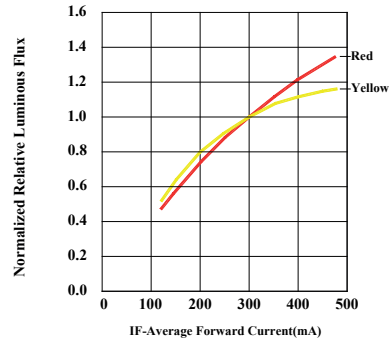
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■ Typical Electrical/ Optical Characteristics Curves (Ta=25°C Unless Otherwise Noted) :

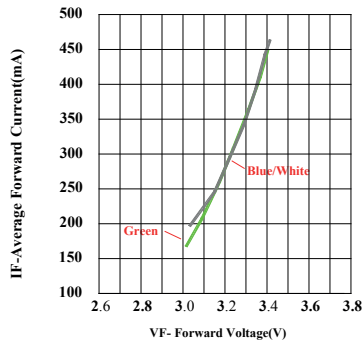
Forward Current Characteristics



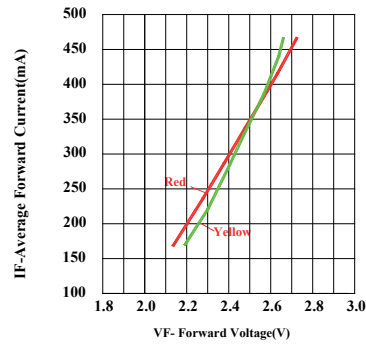
Relative Luminous Flux vs. Forward Current for White/Green/Blue



Relative Luminous Flux vs. Forward Current for Red/Yellow

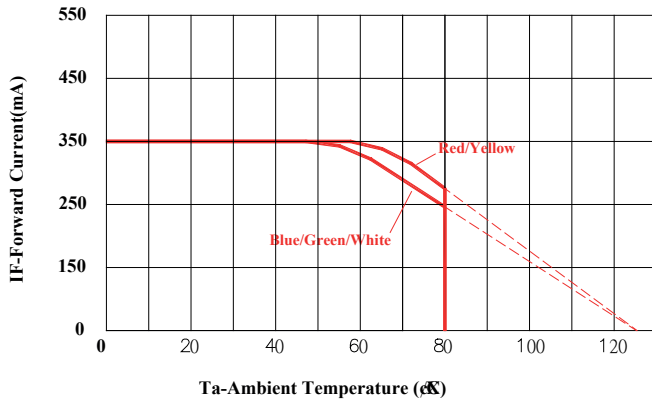


Forward Current vs. Forward Voltage for White/Green/Blue



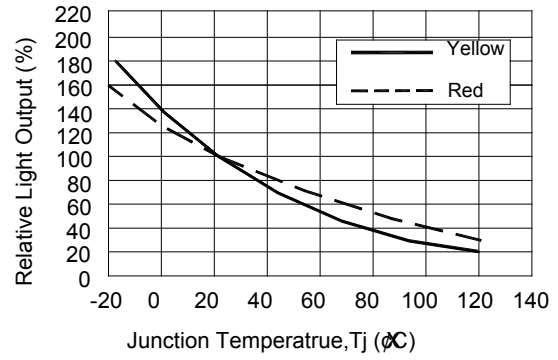
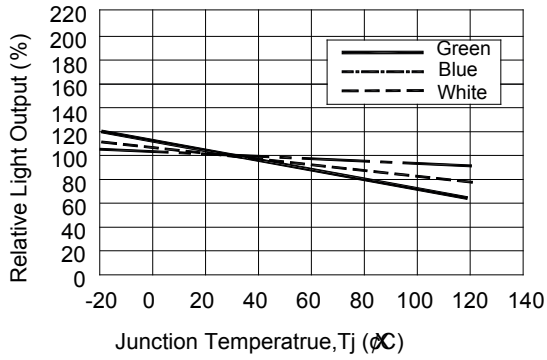
Forward Current vs. Forward Voltage for Red/Yellow

Current Derating Curves

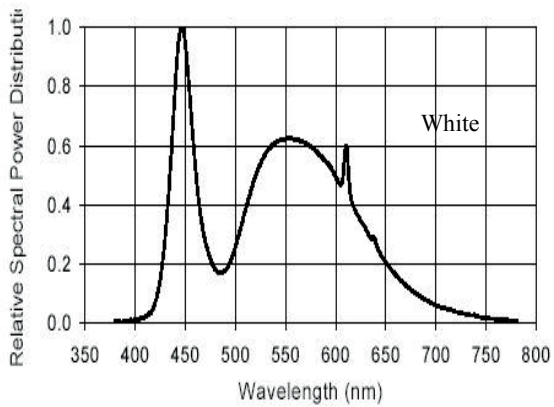


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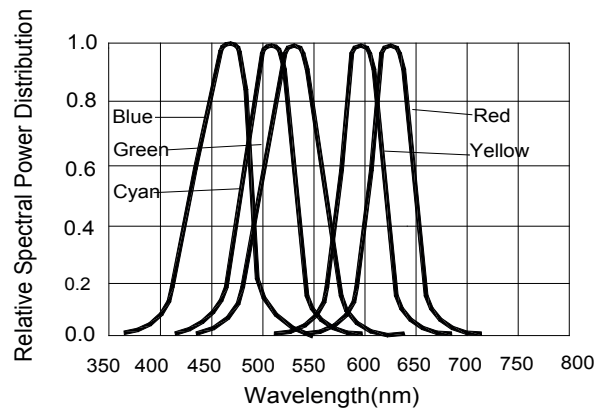
Light Output Characteristics



Wavelength Characteristics

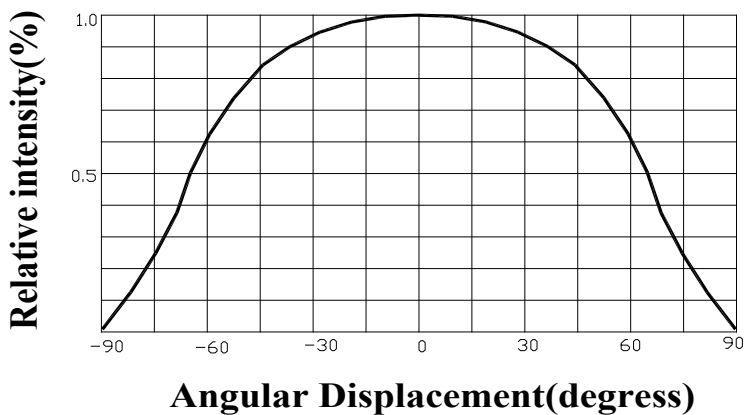


Relative Intensity vs Wavelength (nm)



Relative Intensity vs. Wavelength(nm)

Typical Representative Spatial Radiation Pattern of single LED



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■ Reliability

1. Test Items And Results

Classification	Test Item	Reference Standard	Test Conditions	Duration	Units Tested	Number of Damaged
Operation Test	Operating Life Test		$T_A=25^{\circ}\text{C}\pm 5^{\circ}\text{C}$, IF=350mA	1000 Hrs	22	0/22
Environment Test	High Temperature Storage	JEITA ED-4701 200 201	$T_A=100^{\circ}\text{C}\pm 5^{\circ}\text{C}$	1000 Hrs	22	0/22
	Low Temperature Storage	JEITA ED-4701 200 201	$T_A= - 40^{\circ}\text{C}\pm 5^{\circ}\text{C}$	1000 Hrs	22	0/22
	Temperature. & Humidity Storage		$T_A=85^{\circ}\text{C}\pm 5^{\circ}\text{C}$, RH=85% $\pm 5\%$ RH	1000 Hrs	22	0/22
	Thermal Shock	JEITA ED-4701 300 307	$-40^{\circ}\pm 5^{\circ}\text{C} \leftrightarrow +85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 30min dwell / 5 min transfer	50 Cycles	22	0/22
Soldering Test	Solder ability		$160\pm 5^{\circ}\text{C}$, 30 ± 1 sec	1 time Over 95%Wetting	22	0/22
	Resistance to Soldering Heat		$180\pm 5^{\circ}\text{C}$, 10 ± 1 sec	1 time	22	0/22

2. Failure criteria

- Electrical Failures:
 - V_F shift% >10%
 - $IR(VR=5V)>100\mu\text{A}$
- Light Output Degradation:
 - Flux Degradation% > 50% max ;> 35% average
- Visual Failures:
 - Broken or damaged package or lead
 - Solder ability < 95% Wetting
 - Dimension out of tolerance
 - Discolor of lens

■ Note : It is required that the LEDs should be attached heat-sink when these LEDs are Operating.