

## High Power LED lamp

BL-HP20ExxxL


### Features:

- 1W and 3W, 5W LEDs suitable for illumination lamps and decorative lighting
- Longer service and less luminosity loss, 50,000hours
- Different emitting colors are available
- Working current: 200-350mA, 700mA, 1050mA
- With or without heat sink are both available
- Lambertian, batwing and side emitting are all available
- Light output from 20 to 170 lumens

### Applications:

Commercial lighting  
Residential lighting  
Decorative lighting



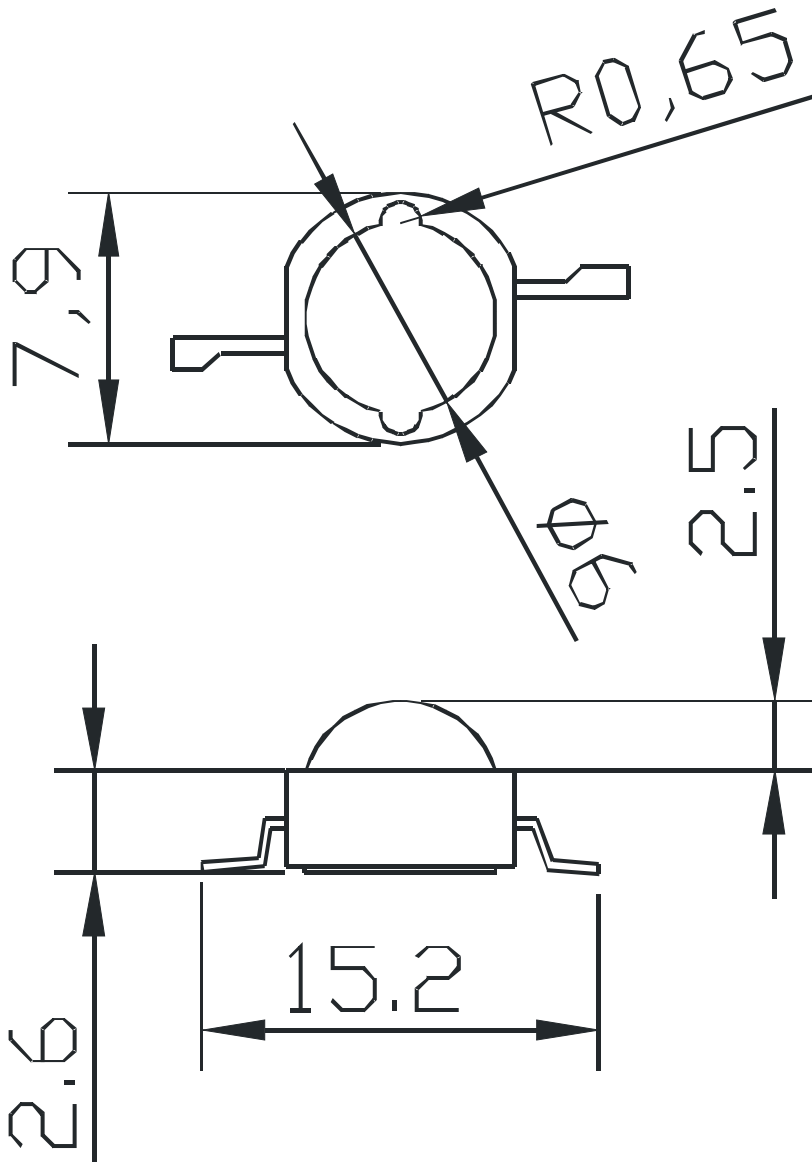
1W Lambertian Emitter    Part Number	Chip		Lens Type	Forward Voltage(VF) Unit:V		Flux Unit:lm @350mA		Viewing Angle 2θ1/2 (deg)
	Emitted Color	λ <sub>p</sub> (nm) or CTT		Typ	Max	Min.	Typ.	
BL-HP20EUECL	Ultra Red	630	Water Clear	2.2	2.75	35	45	140
BL-HP20EURCL-660	Ultra Red	660		2.2	2.75	35	40	
BL-HP20EUYCL	Ultra Yellow	590		2.2	2.75	35	45	
BL-HP20EPGCL	Ultra Pure Green	525		3.2	3.8	50	60	
BL-HP20EUVCL	Ultra Blue	420		3.5	3.8	30	40	
BL-HP20EUBCL-440	Ultra Blue	440		3.5	3.8	30	40	
BL-HP20EUBCL	Ultra Blue	460		3.5	3.8	30	40	
BL-HP20EUWCL	Ultra White	-		3.5	3.8	70	90	

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■ **Package configuration & Internal circuit diagram**

**BL-HP20E Series**



**Notes:**

1. All dimensions are in millimeters (inches)
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Specifications are subject to change without notice.

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### SELECTION CODE FOR SUPER BRIGHT LEDS

Group	brightness (LM)		Group	brightness (LM)	
	min	max		min	max
C0	20	30	D3	160	180
C1	30	40	D4	180	200
C2	40	50	E0	200	230
C3	50	60	E1	230	260
C4	60	70	E2	260	300
C5	70	80	F0	300	350
C6	80	90	F1	350	400
C7	90	100	F2	400	450
D0	100	120	F3	450	500
D1	120	140	F4	500	550
D2	140	160	F5	550	600

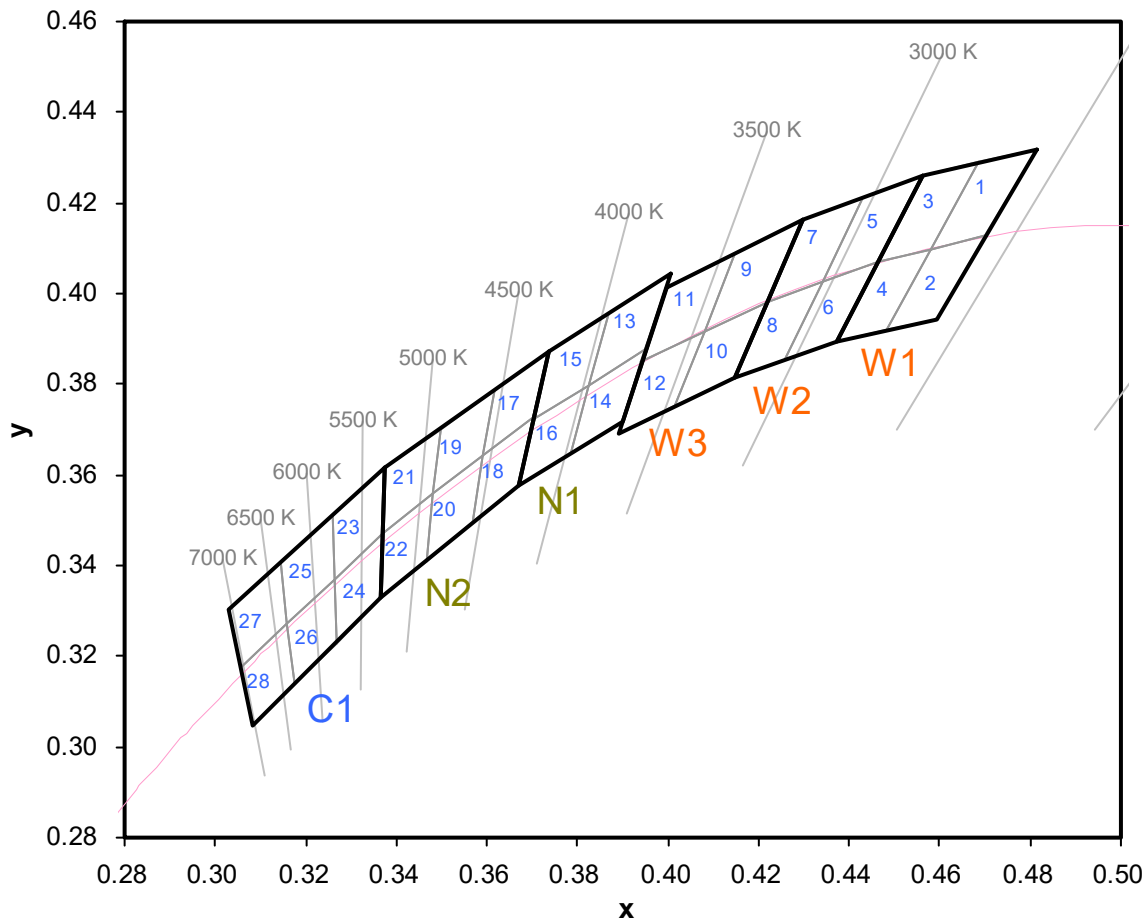
### forward voltage Ranks

Group	Voltage (V)		Group	Voltage (V)	
	min	max		min	max
A	1.7	1.9	K	3.6	3.8
B	1.9	2.1	L	3.8	4
C	2.1	2.3	M	4	4.2
D	2.3	2.5	N	4.2	4.4
E	2.5	2.8	P	4.4	4.6
F	2.8	3	Q	4.6	4.8
G	3	3.2	R	4.8	5
H	3.2	3.4	S	5	5.2
J	3.4	3.6	T	5.2	5.4

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## Color Temperature Bin



CODE	x	y
W1	0.4373	0.3893
	0.4562	0.4260
	0.4813	0.4319
	0.4593	0.3944
	X	Y
W2	0.4147	0.3814
	0.4299	0.4165
	0.4562	0.4260
	0.4373	0.3893
	X	Y
W3	0.3889	0.3690
	0.3996	0.4015
	0.4299	0.4165
	0.4147	0.3814

CODE	X	Y
N1	0.3670	0.3578
	0.3736	0.3874
	0.4006	0.4044
	0.3898	0.3716
	X	Y
N2	0.3481	0.3557
	0.3376	0.3616
	0.3592	0.3641
	0.3670	0.3578
	X	Y
C1	0.3160	0.3274
	0.3028	0.3304
	0.3265	0.3371
	0.3364	0.3328

## High Power LED lamp

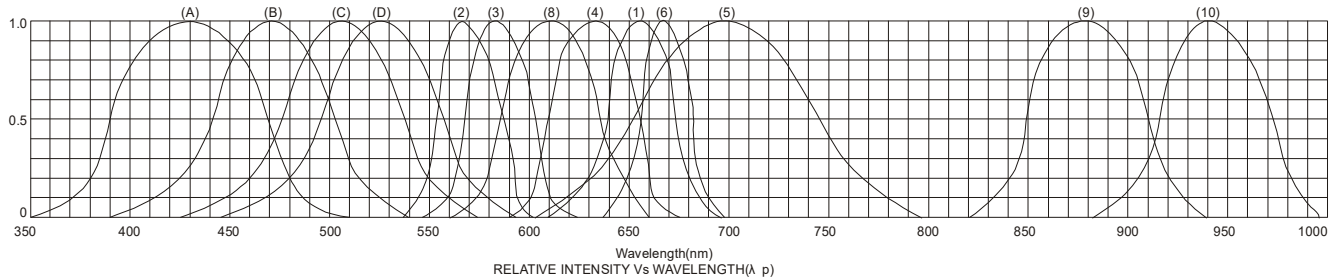
BL-HP20ExxxL

CODE	x	y	CODE	x	y	CODE	x	y	CODE	x	y
1	0.4582	0.4099	8	0.4147	0.3814	15	0.3702	0.3722	22	0.3481	0.3557
	0.4687	0.4289		0.4221	0.3984		0.3736	0.3874		0.3370	0.3472
	0.4813	0.4319		0.4342	0.4028		0.3869	0.3958		0.3364	0.3328
	0.4700	0.4126		0.4259	0.3853		0.3825	0.3798		0.3466	0.3411
2	0.4483	0.3919	9	0.4080	0.3916	16	0.3670	0.3578	23	0.3376	0.3616
	0.4582	0.4099		0.4146	0.4089		0.3702	0.3722		0.3260	0.3512
	0.4700	0.4126		0.4299	0.4165		0.3825	0.3798		0.3265	0.3371
	0.4593	0.3944		0.4221	0.3984		0.3783	0.3646		0.3370	0.3472
3	0.4465	0.4071	10	0.4017	0.3751	17	0.3736	0.3874	24	0.3370	0.3472
	0.4562	0.4260		0.4080	0.3916		0.3616	0.3788		0.3265	0.3371
	0.4687	0.4289		0.4221	0.3984		0.3592	0.3641		0.3270	0.3230
	0.4582	0.4099		0.4147	0.3814		0.3703	0.3726		0.3364	0.3328
4	0.4373	0.3893	11	0.3941	0.3848	18	0.3703	0.3726	25	0.3260	0.3512
	0.4465	0.4071		0.3996	0.4015		0.3592	0.3641		0.3144	0.3408
	0.4582	0.4099		0.4146	0.4089		0.3568	0.3495		0.3160	0.3274
	0.4483	0.3919		0.4080	0.3916		0.3670	0.3578		0.3265	0.3371
5	0.4342	0.4028	12	0.3889	0.3690	19	0.3616	0.3788	26	0.3265	0.3371
	0.4430	0.4212		0.3941	0.3848		0.3496	0.3702		0.3160	0.3274
	0.4562	0.4260		0.4080	0.3916		0.3481	0.3557		0.3175	0.3139
	0.4465	0.4071		0.4017	0.3751		0.3592	0.3641		0.3270	0.3230
6	0.4259	0.3853	13	0.3825	0.3798	20	0.3592	0.3641	27	0.3144	0.3408
	0.4342	0.4028		0.3869	0.3958		0.3481	0.3557		0.3028	0.3304
	0.4465	0.4071		0.4006	0.4044		0.3466	0.3411		0.3055	0.3177
	0.4373	0.3893		0.3950	0.3875		0.3568	0.3495		0.3160	0.3274
7	0.4221	0.3984	14	0.3783	0.3646	21	0.3496	0.3702	28	0.3160	0.3274
	0.4299	0.4165		0.3825	0.3798		0.3376	0.3616		0.3055	0.3177
	0.4430	0.4212		0.3950	0.3875		0.3370	0.3472		0.3081	0.3049
	0.4342	0.4028		0.3898	0.3716		0.3481	0.3557		0.3175	0.3139

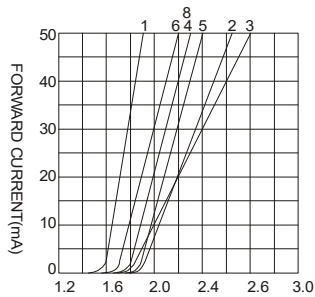
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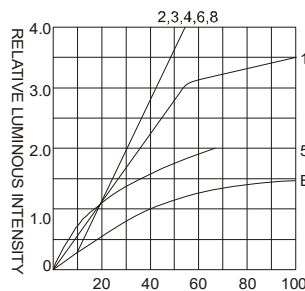
### Typical electrical-optical characteristics curves:



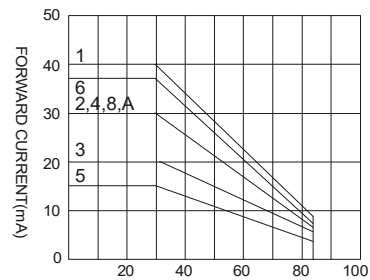
- |   |                                      |
|---|--------------------------------------|
| (1) - GaAsP/GaAs 655nm/Red                | (9) - GaAlAs 880nm                   |
| (2) - GaP 570nm/Yellow Green              | (10) - GaAs/GaAs & GaAlAs/GaAs 940nm |
| (3) - GaAsP/GaP 585nm/Yellow              | (A) - GaN/SiC 430nm/Blue             |
| (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B) - InGaN/SiC 470nm/Blue           |
| (5) - GaP 700nm/Bright Red                | (C) - InGaN/SiC 505nm/Ultra Green    |
| (6) - GaAlAs/GaAs 660nm/Super Red         | (D) - InGaAl/SiC 525nm/Ultra Green   |
| (8) - GaAsP/GaP 610nm/Super Red           |                                      |



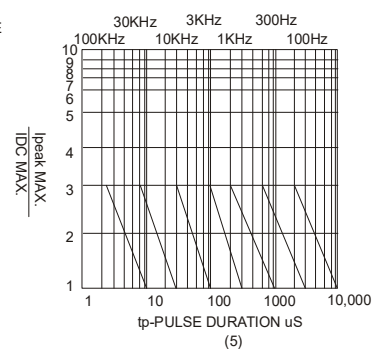
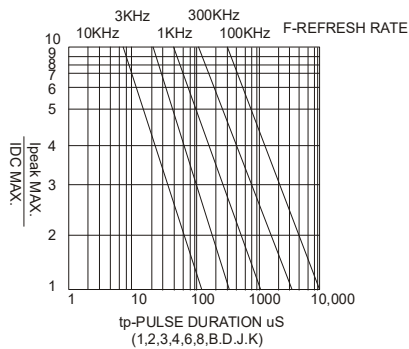
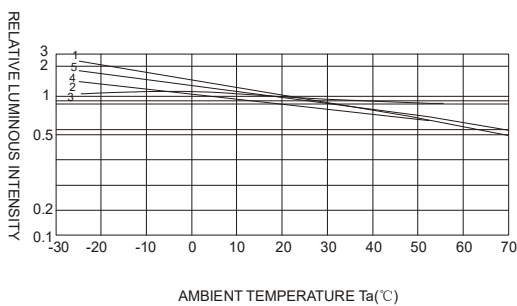
FORWARD CURRENT VS.  
FORWARD VOLTAGE



RELATIVE LUMINOUS  
INTENSITY VS. FORWARD  
CURRENT



FORWARD CURRENT VS. AMBIENT  
TEMPERATURE



NOTE:25°C free air temperature unless otherwise specified

# High Power LED lamp

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## ■ Packing and weighting

