

**SMD LED LAMP**
**BL-LS1206xx**
**Features:**

- 3.2mmx1.6mm SMD, 1.1mm THICKNESS
- Mono-color type
- Compatible with automatic placement equipment
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- PACKAGE: 3KPCS/REEL
- RoHs Compliance


**■ Electrical-optical characteristics: (Ta=25°C) (Test Condition: IF=20mA)**

Part Number	Chip			Lens Type	Forward Voltage(VF) Unit:V		Luminous Intensity (lv) Unit:mcd		Viewing Angle 2θ1/2 (deg)
	Emitted Color	Material	λ <sub>p</sub> (nm)		Typ	Max	Min.	Typ.	
					BL-LS1206HC	Red	GaP	700	
BL-LS1206SRC	Super Red	AlGaAs	660	1.85	2.30	5	13		
BL-LS1206LRC	Super Red	AlGaAs	660	1.85	2.30	10	28		
BL-LS1206EC	Orange	GaAsP	640	2.10	2.70	1	6		
BL-LS1206YC	Yellow	GaAsP	583	2.15	2.70	1	6		
BL-LS1206GC	Green	GaP	568	2.30	2.70	6	15		

**■ Absolute maximum ratings (Ta=25°C)**

Parameter	H	SR	LR	UR	E	Y	G	Unit
Forward Current I <sub>F</sub>	30	30	30	30	30	30	30	mA
Power Dissipation P <sub>d</sub>	65	78	78	78	65	65	65	mW
Reverse Voltage V <sub>R</sub>	5	5	5	5	5	5	5	V
Peak Forward Current I <sub>PF</sub> (Duty 1/10 @1KHZ)	100	100	100	100	100	100	100	mA
Operation Temperature T <sub>OPR</sub>	-30 to +80							°C
Storage Temperature T <sub>STG</sub>	-40 to +85							°C
Lead Soldering Temperature T <sub>SOL</sub>	Max.260±5°C for 3 sec Max. (1.6mm from the base of the epoxy bulb)							°C

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	Emitted Color	Material	λ <sub>P</sub> (nm)		Typ	Max	Min.	Typ.	
					BL-LS1206UDR	Ultra Red	AlGaAs	655	
BL-LS1206UHR	Ultra Red	AlGaAs	645	Water Clear	2.10	2.60	30	80	140
BL-LS1206UEC	Ultra Orange	AlGaAs	630		2.10	2.50	30	80	
BL-LS1206UHD	Ultra Orange	AlGaAs	618		2.10	2.60	50	110	
BL-LS1206UYO	Ultra Amber	AlGaInP	610		2.10	2.60	25	65	
BL-LS1206UYC	Ultra Yellow	AlGaInP	593		2.10	2.60	25	70	
BL-LS1206UGC	Ultra Green	AlGaInP	575		2.20	2.70	15	45	
BL-LS1206PGC	Ultra Pure Green	InGaN	525		3.50	4.20	15	100	
BL-LS1206BGC	Ultra Bluish Green	InGaN	505		3.50	4.20	30	110	
BL-LS1206DNB	Blue	InGaN	470		3.50	4.20	15	40	
BL-LS1206UBC	Ultra Blue	InGaN	470		3.50	4.20	10	30	
BL-LS1206UWC	Ultra White	InGaN	/		3.50	4.20	100	270	

**■ Absolute maximum ratings (Ta=25°C)**

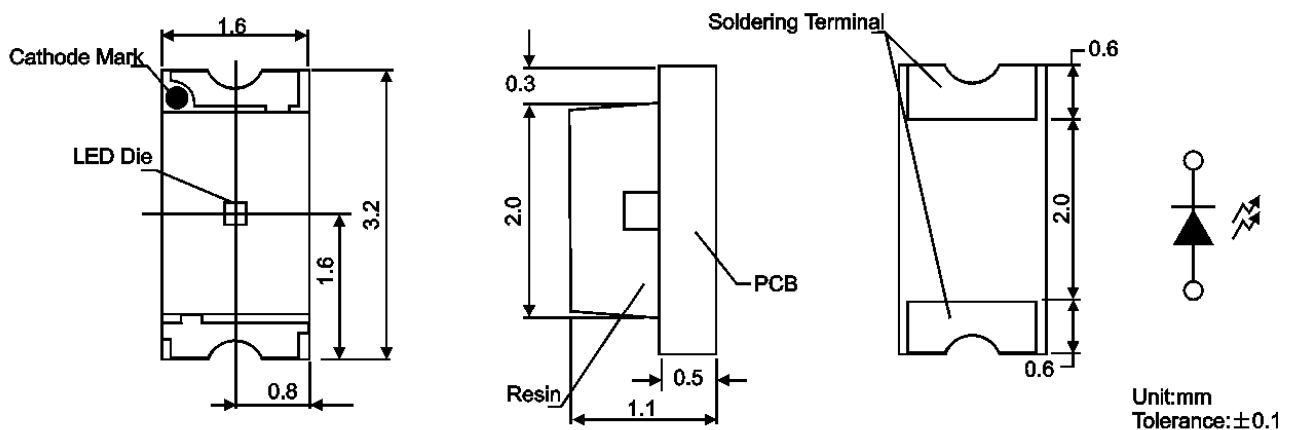
Parameter	UDR	UHR	UE	UHD	UYO	UY	UG	PG	BG	DNB	UB	UW	Unit
Forward Current I <sub>F</sub>	30	30	30	30	30	30	30	30	30	30	30	30	mA
Power Dissipation P <sub>d</sub>	78	78	78	78	78	78	78	78	78	78	78	78	mW
Reverse Voltage V <sub>R</sub>	5	5	5	5	5	5	5	5	5	5	5	5	V
Peak Forward Current I <sub>PF</sub> (Duty 1/10 @1KHZ)	100	100	100	100	100	100	100	100	100	100	100	100	mA
Operation Temperature T <sub>OPR</sub>	-30 to +80												°C
Storage Temperature T <sub>STG</sub>	-40 to +85												°C
Lead Soldering Temperature T <sub>SOL</sub>	Max.260±5°C for 3 sec Max. (1.6mm from the base of the epoxy bulb)												°C

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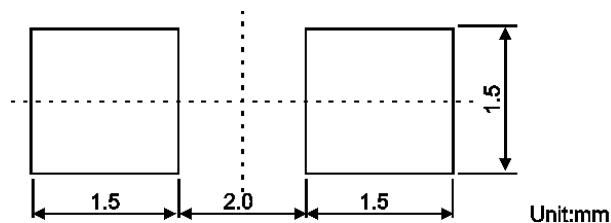
BL-LS1206xx

■ Package configuration & Internal circuit diagram

## BL-LS1206 Series Package Outline Drawing



## Recommended Soldering Pad Dimensions



**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 (MCD)		Group	brightness (MCD)	
	min	max		min	max
D3	160	180	E2	260	300
D4	180	200	F0	300	350
E0	200	230	F1	350	400
E1	230	260	F2	400	450

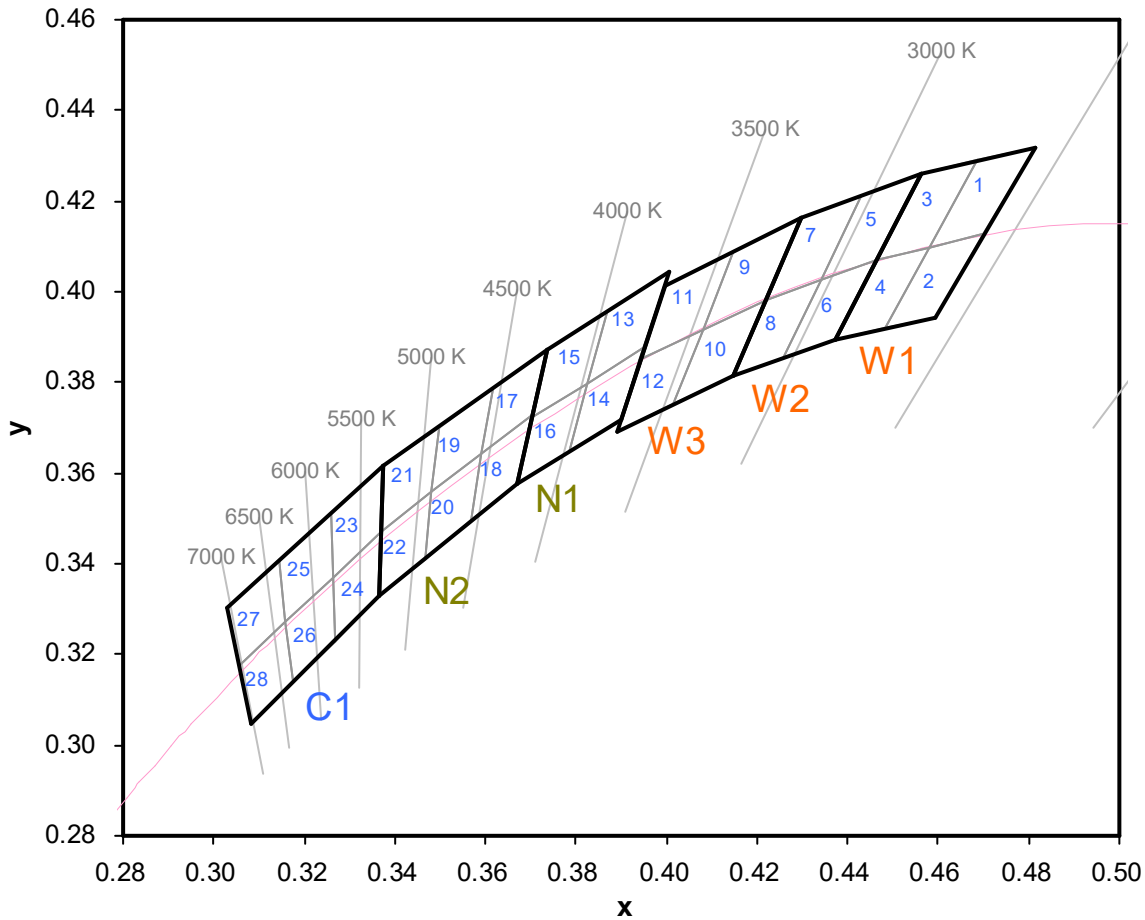
**forward voltage Ranks**

Group	Voltage (V)		Group	Voltage (V)	
	min	max		min	max
F0	2.8	2.9			
F1	2.9	3			
G0	3	3.1			
G1	3.1	3.2			
H0	3.2	3.3			
H1	3.3	3.4			
J0	3.4	3.5			

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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

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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

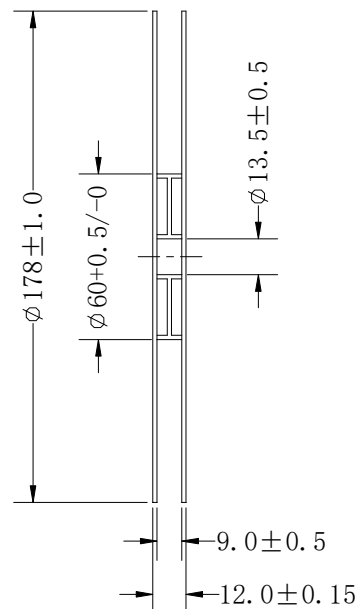
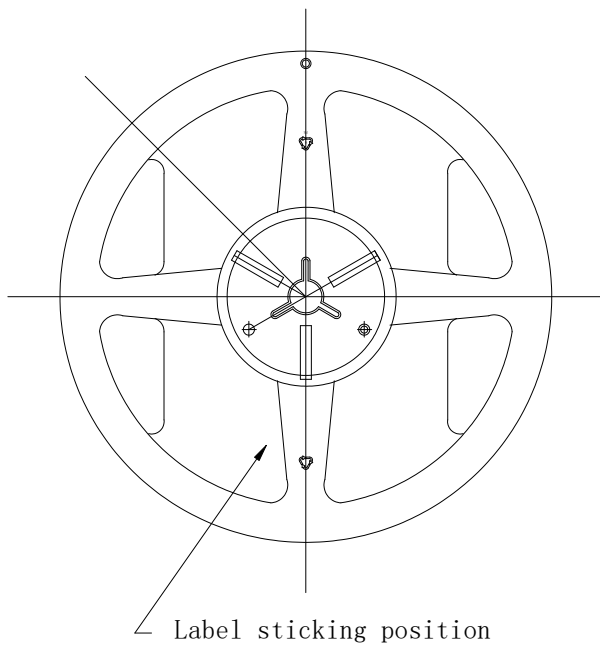
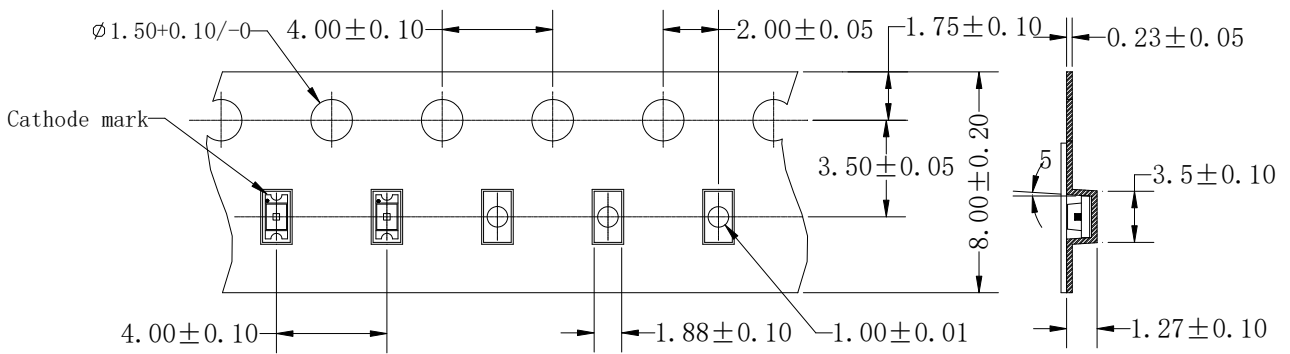
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■ **Tape Specifications**

Unit: mm

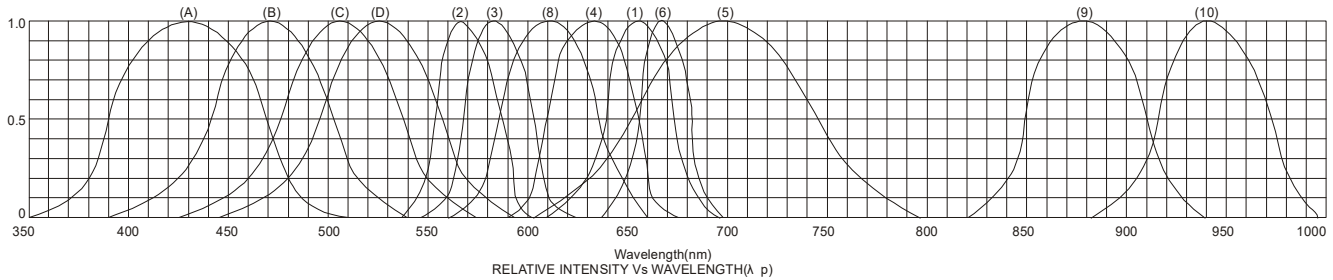
Tolerance:  $\pm 0.1$



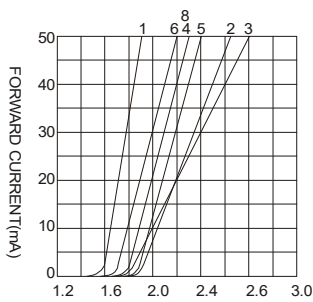
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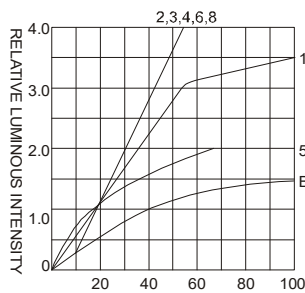
## Typical electrical-optical characteristics curves:



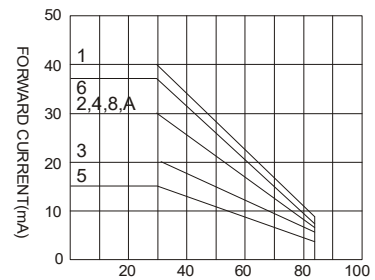
- (1) - GaAsP/GaAs 655nm/Red
- (2) - GaP 570nm/Yellow Green
- (3) - GaAsP/GaP 585nm/Yellow
- (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) - GaP 700nm/Bright Red
- (6) - GaAlAs/GaAs 660nm/Super Red
- (8) - GaAsP/GaP 610nm/Super Red
- (9) - GaAlAs 880nm
- (10) - GaAs/GaAs & GaAlAs/GaAs 940nm
- (A) -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



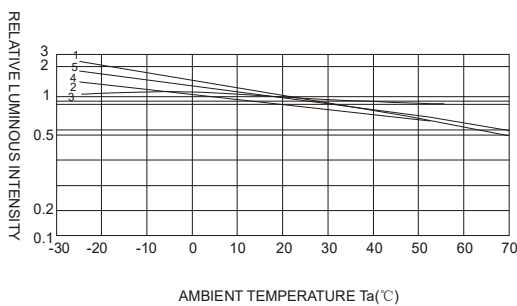
FORWARD VOLTAGE (Vf)  
FORWARD CURRENT VS.  
FORWARD VOLTAGE



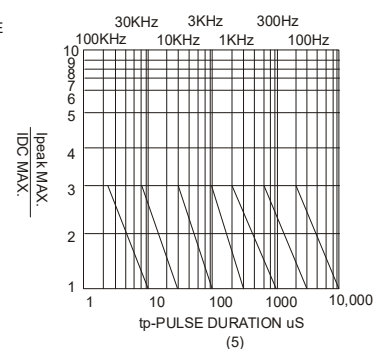
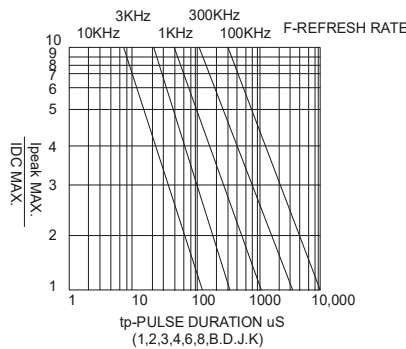
FORWARD CURRENT (mA)  
RELATIVE LUMINOUS  
INTENSITY VS. FORWARD  
CURRENT



AMBIENT TEMPERATURE Ta(°C)  
FORWARD CURRENT VS. AMBIENT  
TEMPERATURE



AMBIENT TEMPERATURE Ta(°C)



NOTE: 25°C free air temperature unless otherwise specified



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■ **Packing and weighting**

