

## SMD LED

BL-LS7020A0S1

### Features:

- SMD LED , 7.0mmx2.0mm SMD, 0.8mm THICKNESS
- Longer service and less luminosity loss, 50,000hours
- Different emitting colors are available Working current: 100-150mA
- With or without heat sink are both available
- PACKAGE: 3000PCS/REEL

### Applications:

Commercial lighting  
Residential lighting  
Decorative lighting



### Electrical-optical characteristics: (Ta=25°C) (Test Condition: IF=)

Part Number	Chip		Lens Type	Forward Voltage(VF) Unit:V		Flux Unit:lm		Viewing Angle 2θ1/2 (deg)
	Emitted Color	current		Typ	Max	Min.	Typ.	
BL-LS7020A1S1UWC-1W	Ultra White	300MA	yellow	3.1	4.0	80	110	120

### Absolute maximum ratings (Ta=25°C)

Parameter	Rating	Unit
Forward Current I <sub>F</sub>	150/350	mA
LED Junction Temperature	120	°C
Peak Forward Current I <sub>PF</sub> (Duty 1/10 @1KHZ)	400/500	mA
Operation Temperature T <sub>OPR</sub>	-40 to +80	°C
Storage Temperature T <sub>STG</sub>	-40 to +100	°C
Aluminum-Core Pcb Temperature	105	°C

**SMD LED**
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**BIN CODE SYSTEM  
SELECTION CODE FOR Luminous Flux**

Group	brightness(lm)		Group	brightness(lm)	
	min	max		min	max
C1	30	40	C6	80	90
C2	40	50	C7	90	100
C3	50	60	D0	100	120
C4	60	70	D1	120	140
C5	70	80			

tolerance of measurement of luminous intensity is  $\pm 15\%$

**forward voltage Ranks**

Group	Voltage (V)		Group	Voltage (V)	
	min	max		min	max
F	2.8	3	K	3.6	3.8
G	3	3.2	L	3.8	4
H	3.2	3.4			
J	3.4	3.6			

**forward voltage Ranks**

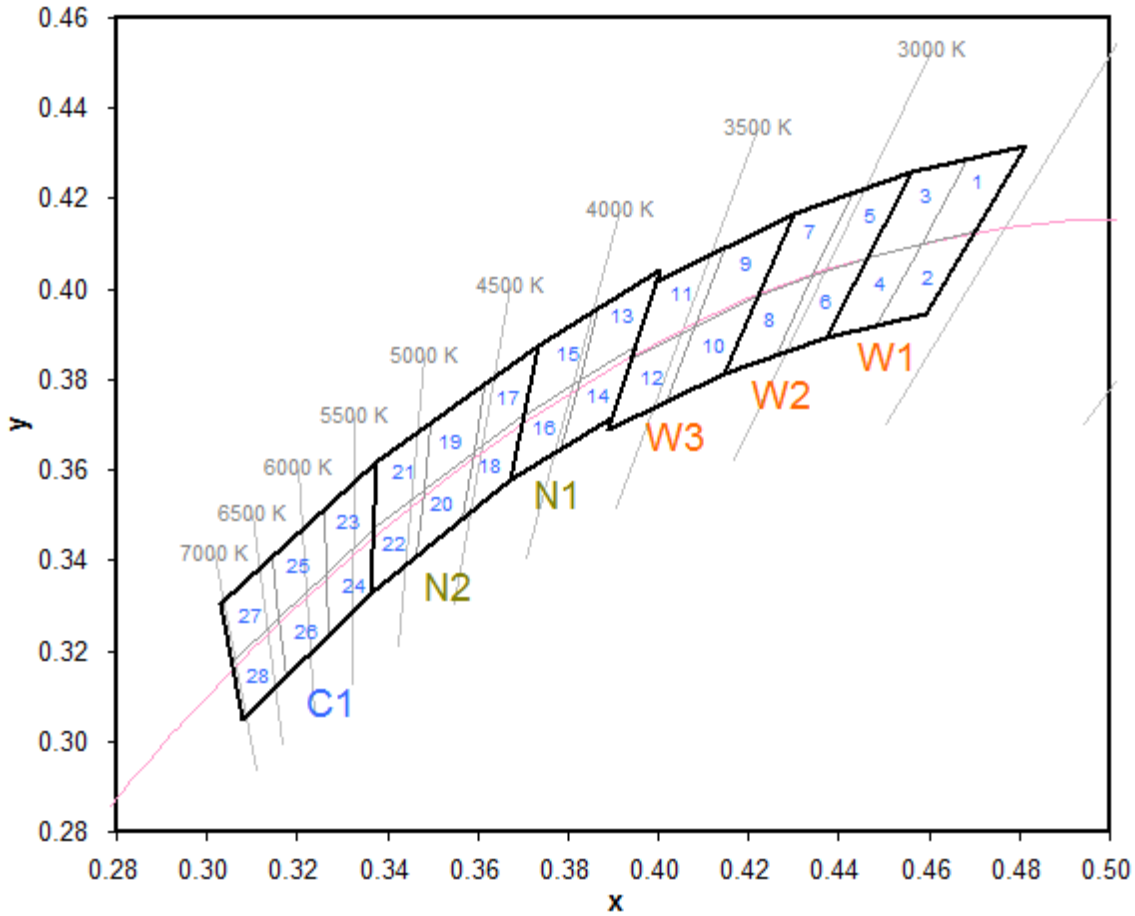
Group	Voltage (V)		Group	Voltage (V)	
	min	max		min	max
F0	2.8	2.9	K0	3.6	3.7
F1	2.9	3	K1	3.7	3.8
G0	3	3.1	L0	3.8	3.9
G1	3.1	3.2	L1	3.9	4
H0	3.2	3.3			
H1	3.3	3.4			
J0	3.4	3.5			
J1	3.5	3.6			

tolerance of measurement of forward voltage is  $\pm 0.05v$

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**Color Temperature BIN**



	x	
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

	x	
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

**SMD LED**

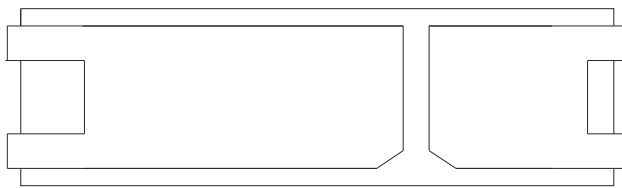
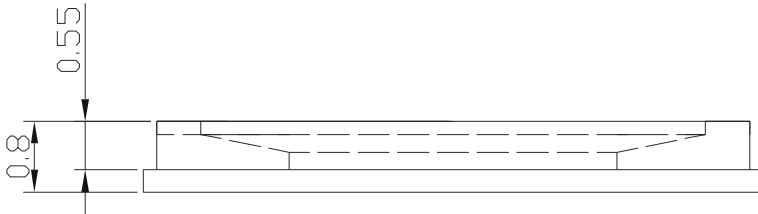
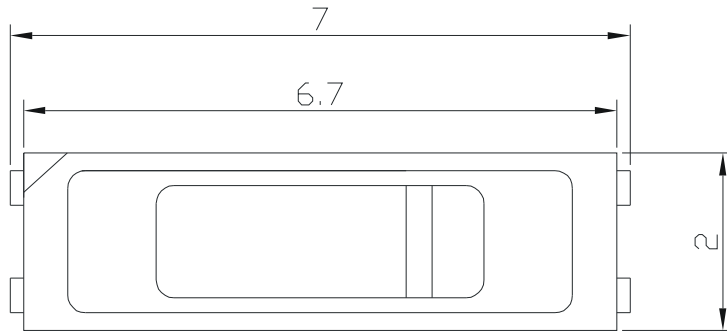
BL-LS7020A0S1

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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**Package configuration & Internal circuit diagram**



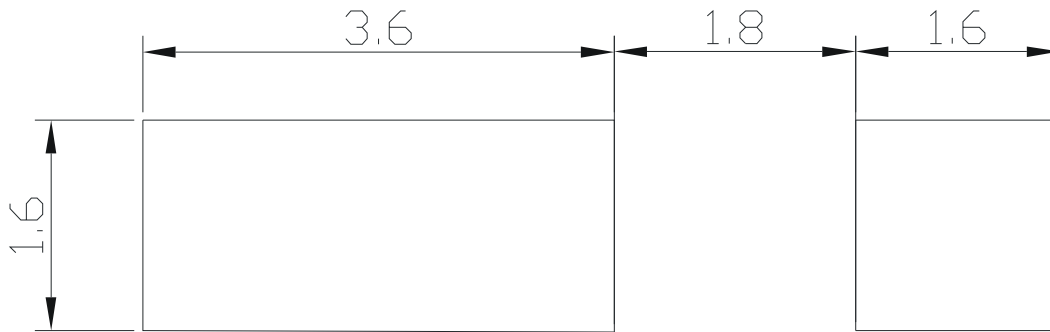
**Notes:**

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.

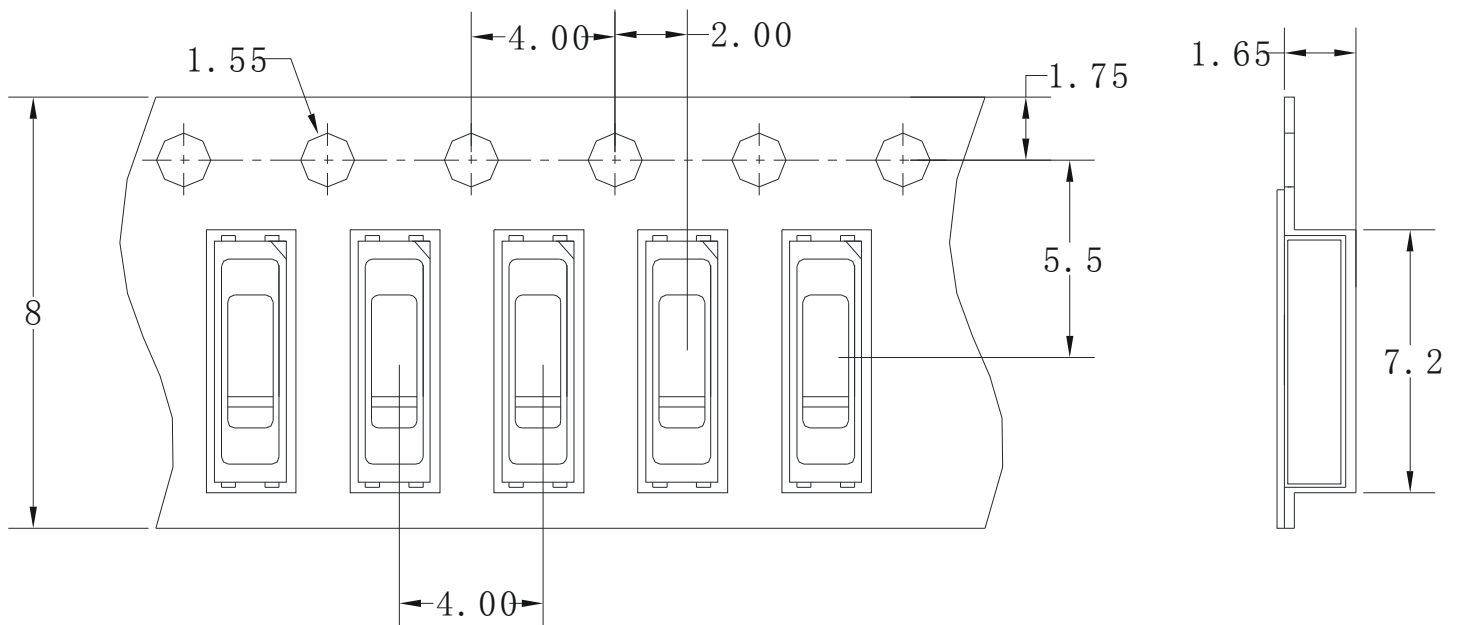
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■ Recommended Soldering Pad Dimensions:



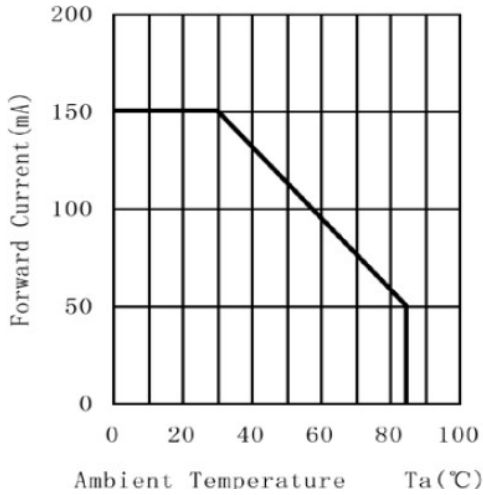
■ Tape Specifications



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■ **Typical electrical-optical characteristics curves:**



Forward Voltage VS. Forward Current

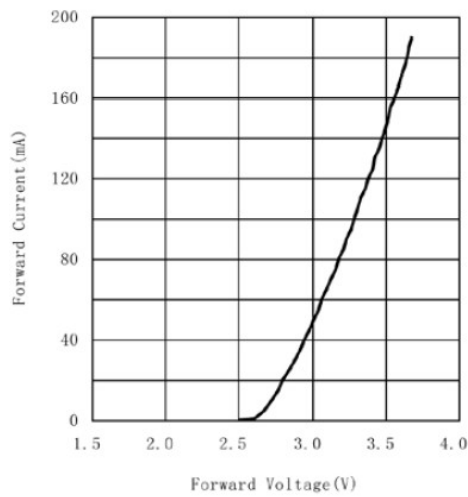
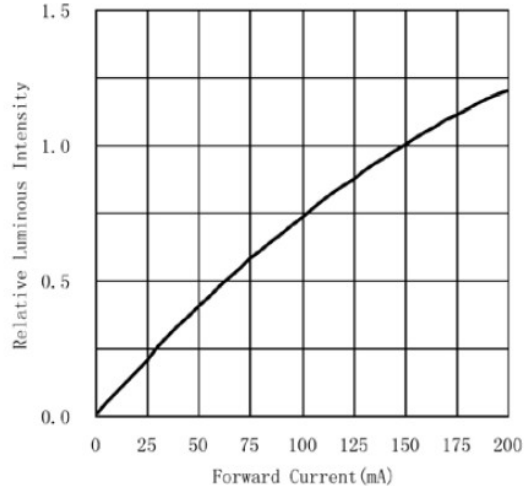
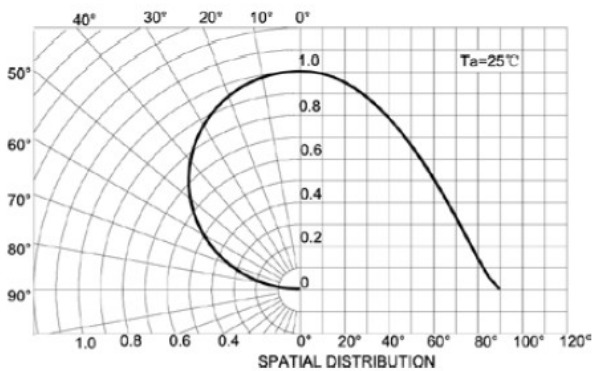
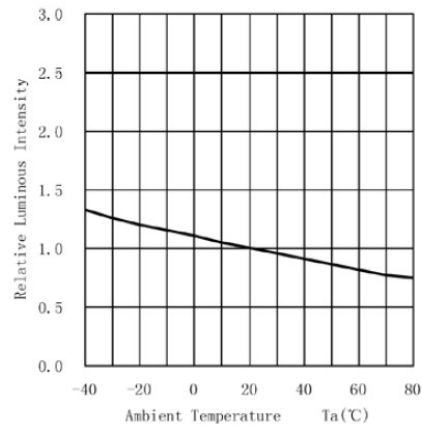


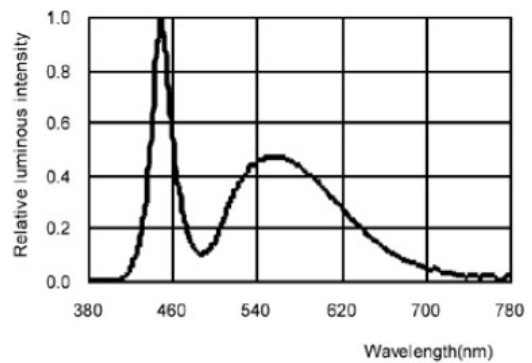
Diagram characteristics of radiation



Ambient Temperature VS. Relative Intensity



Relative spectral emission



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**Packing and weighting**

