SMD LED LAMP

BL-LS5050A1S3

Features:

- 5.5mmx5.0mm SMD, 1.8mm THICKNESS PLCC6 package
- Mono-color type, Ultra brightness, with 3 chips
- Compatible with automatic placement equipment
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- PACKAGE: 500PCS/REEL
- RoHs Compliance

RoHs Compliance

ATTENTION
OBSERVE PRECAUTIONS ELECTROSTATIC SENSITIVE DEVICES

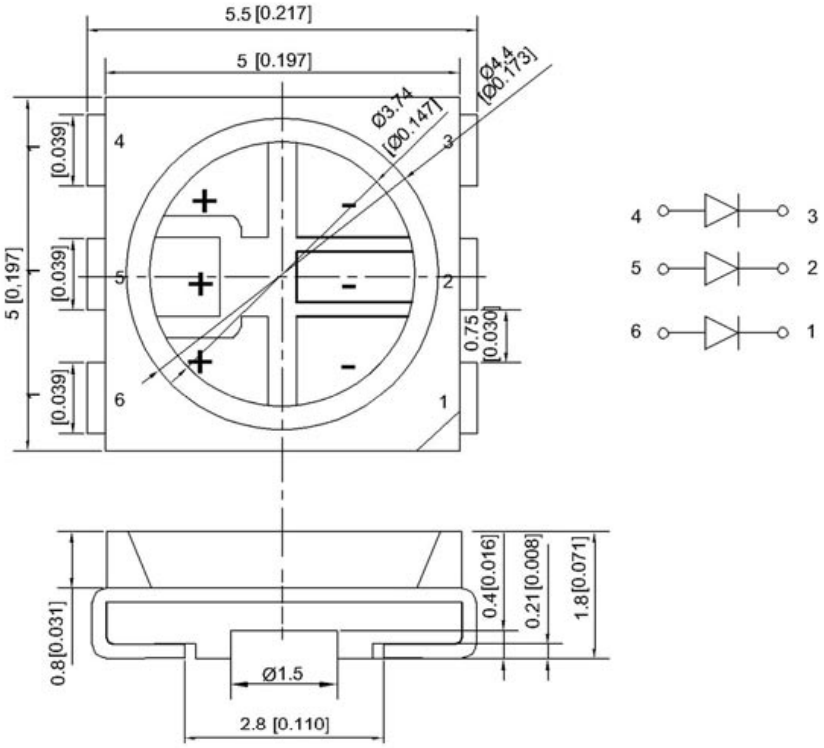
■ **Electrical-optical characteristics: (Ta=25°C)** (Test Condition: IF=60mA)

Part Number	Chip			Lens Type	Forward Voltage(VF) Unit:V		Luminous Intensity (Iv) Unit:mcd		Viewing Angle 2θ1/2 (deg)
	Emitted Color	Material	λP (nm)		Typ	Max	Min.	Typ.	
BL-LS5050A1S3UEC	Ultra Red	AlGaAs	630	Water Clear	2.10	2.50	2250	3000	120
BL-LS5050A1S3UYO	Ultra Amber	AlGaInP	610		2.10	2.60	2000	2800	
BL-LS5050A1S3UYC	Ultra Yellow	AlGaInP	593		2.10	2.60	2000	2800	
BL-LS5050A1S3UGC	Ultra Green	AlGaInP	575		2.20	2.70	800	1000	
BL-LS5050A1S3PGC	Ultra Pure Green	InGaN	525		3.50	4.20	3900	4500	
BL-LS5050A1S3UBC	Ultra Blue	InGaN	470		3.50	4.20	3000	4500	
BL-LS5050A1S3UWC	Ultra White	InGaN	/		3.50	4.20	5500	6200	

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

Parameter	UE	UYO	UY	UG	PG	UB	UW	Unit
Forward Current I_F	30	30	30	30	30	30	30	mA
Power Dissipation P_d	78	78	78	78	78	78	78	mW
Reverse Voltage V_R	5	5	5	5	5	5	5	V
Peak Forward Current I_{PF} (Duty 1/10 @1KHZ)	100	100	100	100	100	100	100	mA
Operation Temperature T_{OPR}	-30 to +80							°C
Storage Temperature T_{STG}	-40 to +85							°C
Lead Soldering Temperature T_{SOL}	Max.260±5°C for 3 sec Max. (1.6mm from the base of the epoxy bulb)							°C

■ Package configuration & Internal circuit diagram

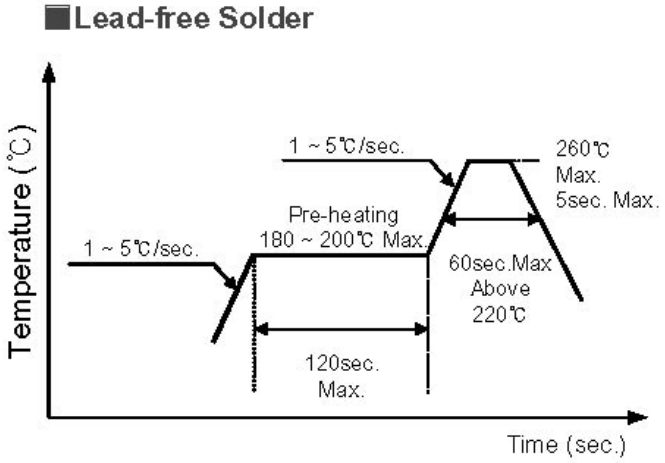


Notes:
1. All dimensions are in millimeters (inches)
2. Tolerance is ±0.25(0.01")unless otherwise noted.
3. Specifications are subject to change without notice.

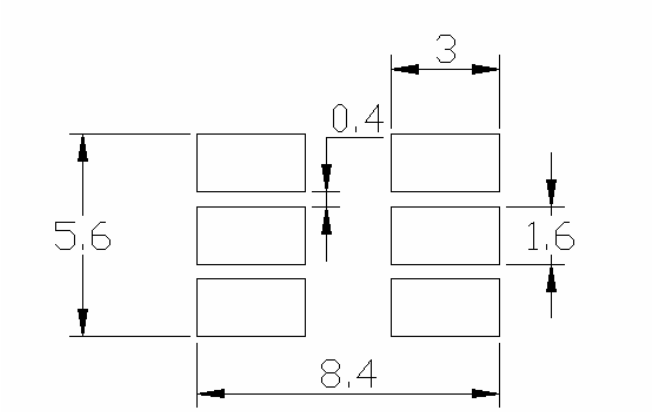
■ Tape Specifications

Smt Reflow Solding Instructions

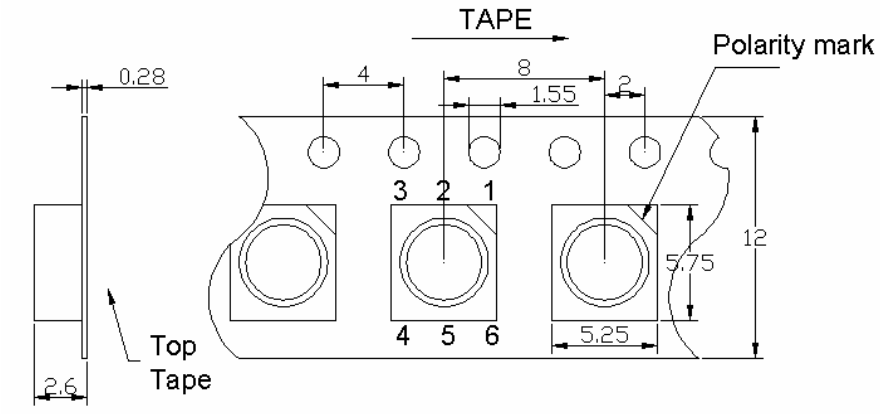
Number of reflow process shall be less than 2 times and cooling process to normai temperature is required between first and second soldering process



Recommended Soldering Pattern
(Units:mm)



Tape Specifications
(Units:mm)



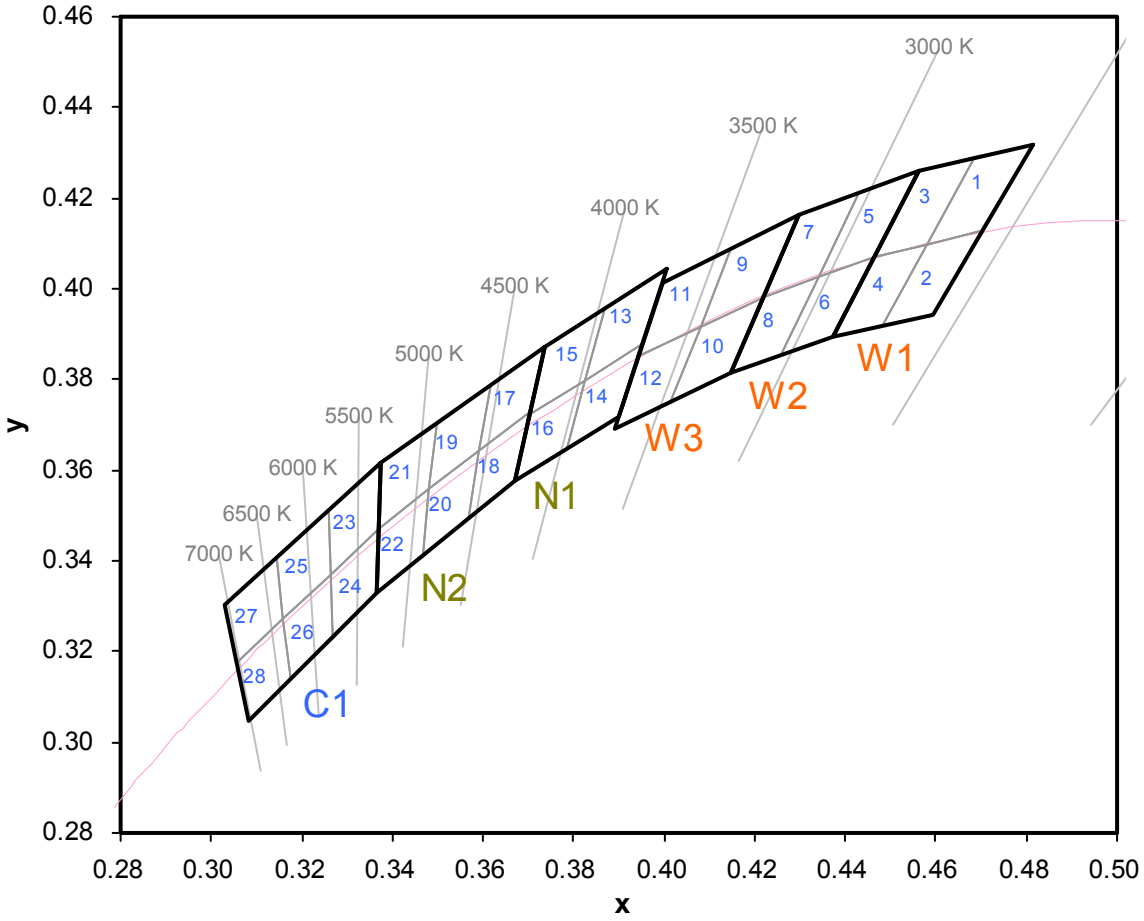
SELECTION CODE FOR SUPER BRIGHT LEDS

Group	brightness(MCD)		Group	brightness(MCD)	
	min	max		min	max
H	230	300	R	2200	3000
J	300	400	S	3000	4000
K	400	550	T	4000	5000
L	550	750	U	5000	7000
M	750	1000	V	7000	9000
N	1000	1300	W	9000	11000
P	1300	1700			
Q	1700	2200			

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

Color Temperature Bin

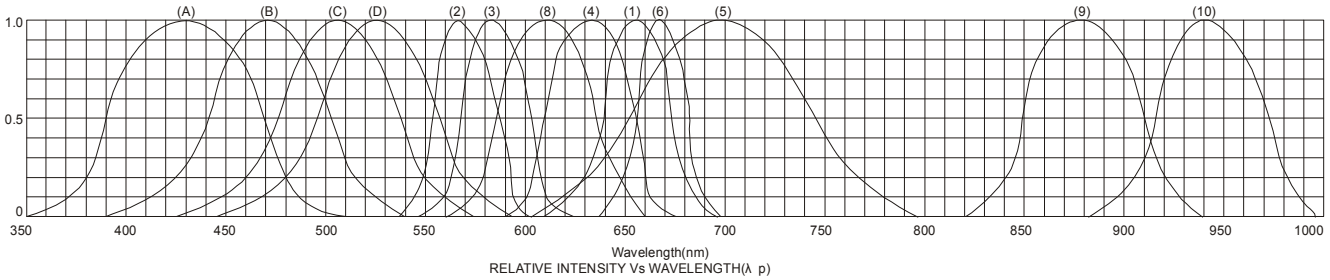


CODE	x	y
W1	0.4373	0.3893
	0.4562	0.4260
	0.4813	0.4319
	0.4593	0.3944
	X	Y
W2	0.4147	0.3814
	0.4299	0.4165
	0.4562	0.4260
	0.4373	0.3893
	X	Y
W3	0.3889	0.3690
	0.3996	0.4015
	0.4299	0.4165
	0.4147	0.3814

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

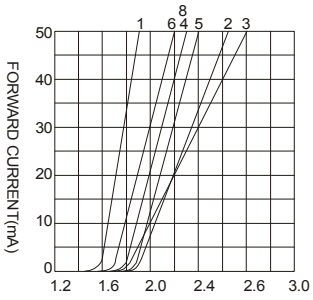
CODE	x	y	CODE	x	y	CODE	x	y	CODE	x	y
1	0.4582	0.4099	8	0.4147	0.3814	15	0.3702	0.3722	22	0.3481	0.3557
	0.4687	0.4289		0.4221	0.3984		0.3736	0.3874		0.3370	0.3472
	0.4813	0.4319		0.4342	0.4028		0.3869	0.3958		0.3364	0.3328
	0.4700	0.4126		0.4259	0.3853		0.3825	0.3798		0.3466	0.3411
2	0.4483	0.3919	9	0.4080	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

Typical electrical-optical characteristics curves:

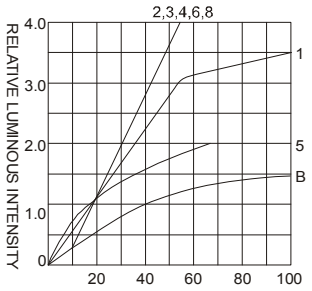


RELATIVE INTENSITY Vs WAVELENGTH(λ p)

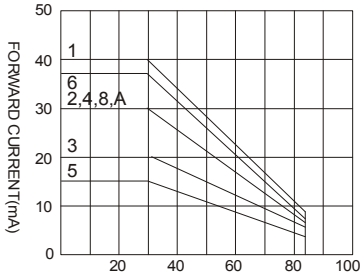
(1) - GaAsP/GaAs 655nm/Red
(2) - GaP 570nm/Yellow Green
(3) - GaAsP/GaP 585nm/Yellow
(4) - GaAsp/GaP 635nm/Orange & Hi-Eff Red
(5) - GaP 700nm/Bright Red
(6) - GaAlAs/GaAs 660nm/Super Red
(8) - GaAsP/GaP 610nm/Super Red
(9) - GaAlAs 880nm
(10) - GaAs/GaAs & GaAlAs/GaAs 940nm
(A) - GaN/SiC 430nm/Blue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



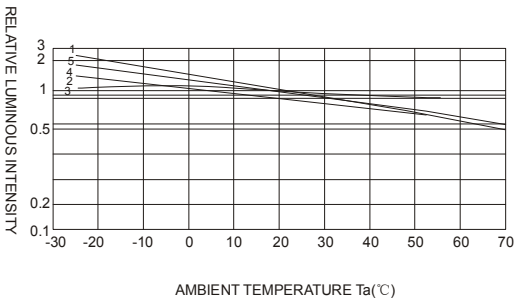
FORWARD VOLTAGE (Vf)
FORWARD CURRENT VS.
FORWARD VOLTAGE



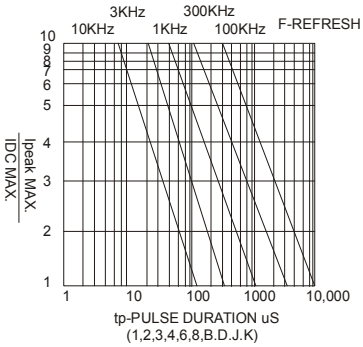
FORWARD CURRENT (mA)
RELATIVE LUMINOUS
INTENSITY VS. FORWARD
CURRENT



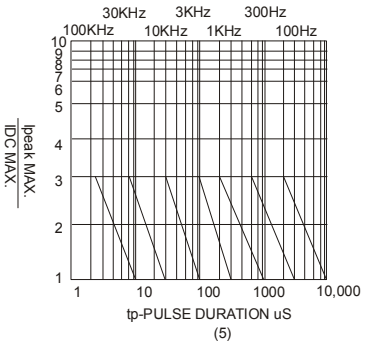
AMBIENT TEMPERATURE Ta(℃)
FORWARD CURRENT VS. AMBIENT
TEMPERATURE



AMBIENT TEMPERATURE Ta(℃)



tp-PULSE DURATION uS
(1,2,3,4,6,8,B.D.J.K)



tp-PULSE DURATION uS
(5)

NOTE:25℃ free air temperature unless otherwise specified

■ Packing and weighting