

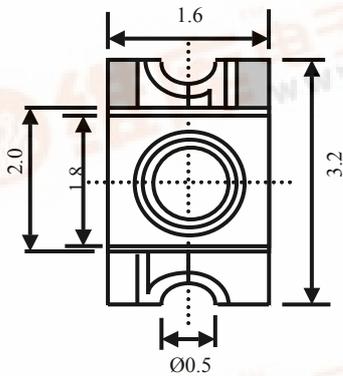
# A-BRIGHT A-BRIGHT INDUSTRIAL CO., LTD.

## SURFACE MOUNT LED LAMPS

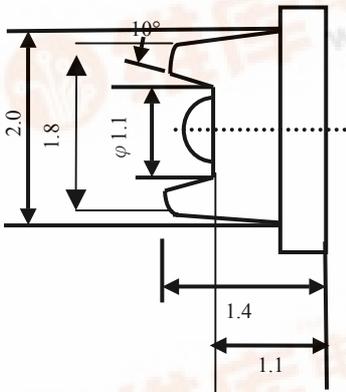
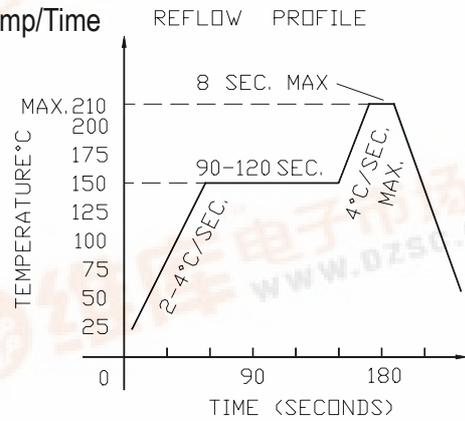
### 1206 YELLOW GREEN SMD Chip LED Lamps

Part Number: AL-HG033A

### Package outlines & Re-flow Profile



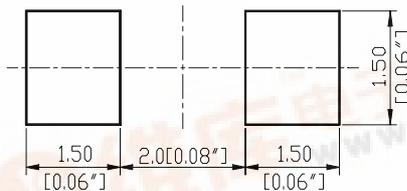
#### Reflow Temp/Time



#### Soldering iron

Basic spec is  $\leq 5\text{sec}$  when  $260^\circ\text{C}$ . If temperature is higher, time should be shorter ( $+10^\circ\text{C} \rightarrow -1\text{sec}$ ). Power dissipation of iron should be smaller than 15W, and temperatures should be controllable. Surface temperature of the device should be under  $230^\circ\text{C}$ .

RECOMMEND PAD LAYOUT



ITEM	MATERIALS
Resin (mold)	Epoxy
Lens color	Water Clear
Printed circuit board	BT
Dice	GaP/GaP
Emitted color	Yellow/Green

#### NOTES:

- All dimensions are in millimeters (inches);
- Tolerances are  $\pm 0.1\text{mm}$  (0.004inch) unless otherwise noted.
- Polarity referring onto the cathode mark is reversed on the red.

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Part Number: AL-HG033A

**ELECTRO-OPTICAL CHARACTERISTICS****(T<sub>A</sub>=25°C)**

Parameter	Test Condition	Symbol	Value	Unit
Viewing angle at 50% I <sub>v</sub>	I <sub>f</sub> =10mA	$\theta$	60	Deg
Forward voltage (Typ.)	I <sub>f</sub> =20mA	V <sub>f</sub>	2.10	V
(Max.)			2.60	
CIE Coordinates X (Typ.)	I <sub>f</sub> =20mA	--		--
Y (Typ.)				
Luminous intensity (Typ.)	I <sub>f</sub> =20mA	I <sub>v</sub>	25	mcd
WAVELENGTH	I <sub>f</sub> =20mA		568 571	nm
$\lambda$ p(nm)				
$\lambda$ d(nm)				

**Absolute maximum ratings****(T<sub>A</sub>=25°C)**

Parameter	Symbol	Value	Unit
Forward current	I <sub>f</sub>	30	mA
Reverse voltage	V <sub>r</sub>	5	V
Operating temperature range	T <sub>op</sub>	-20 ~+80	°C
Storage temperature range	T <sub>stg</sub>	-20 ~+100	°C
Peak pulsing current (1/8 duty f=1kHz)	I <sub>fp</sub>	100	mA

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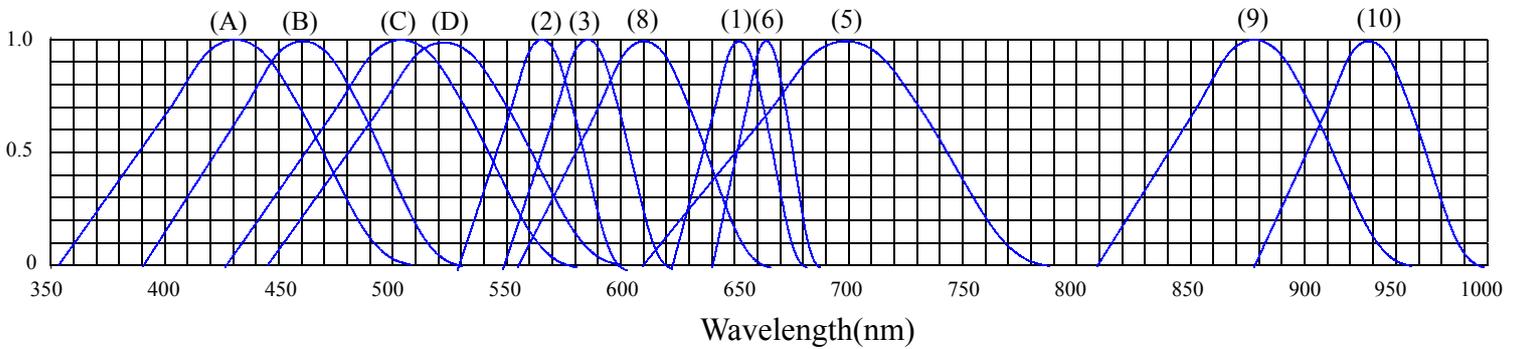
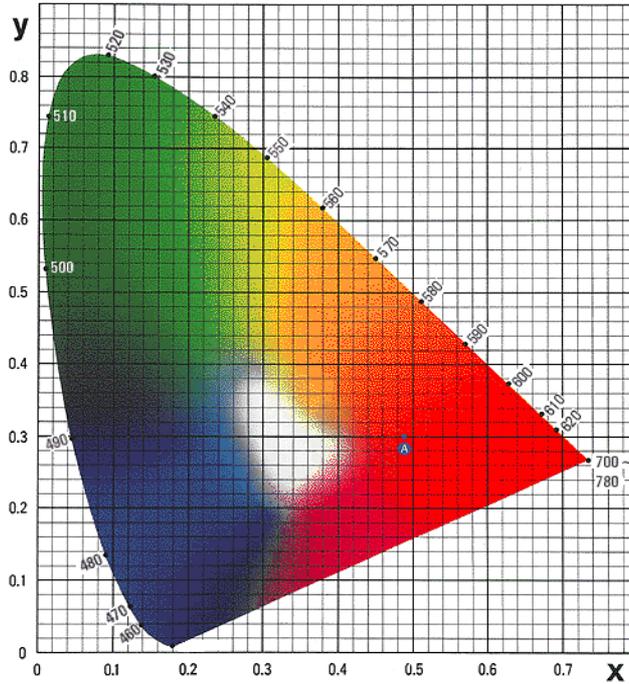
Part Number: AL-HG033A

**Test items and results of reliability**

Type	Test Item	REF. Standard	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	JIS C 7021 (1977)A-4	-20°C ⇒ 25°C ⇒ 80°C ⇒ 25°C 30mins, 5mins, 30mins, 5mins	100 cycle	0/100
	Thermal Shock	MIL-STD-107D	-20°C ⇒ 80°C 15mins, 15mins	100 cycle	0/100
	High Humidity Heat Cycle	JIS C 7021 (1977)A-5	30°C ⇒ 65°C 90%RH 24hrs/1cycle	10 cycle	0/100
	High Temperature Storage	JIS C 7021 (1977)B-10	T <sub>a</sub> =80°C	1000 hrs	0/100
	Humidity Heat Storage	JIS C 7021 (1977)B-11	T <sub>a</sub> =60°C RH=90%	1000 hrs	0/100
	Low Temperature Storage	JIS C 7021 (1977)B-12	T <sub>a</sub> =-30°C	1000 hrs	0/100
Operation Sequence	Life Test	JIS C 7035 (1985)	T <sub>a</sub> =25°C I <sub>F</sub> =20mA	1000 hrs	0/100
	High Humidity Heat Life Test	*	60°C RH=90% I <sub>F</sub> =20mA	500 hrs	0/100
	Low Temperature Life Test	*	T <sub>a</sub> =-20°C I <sub>F</sub> =20mA	1000 hrs	0/100

\* Refer to reliability test standard specification for in this line.

◆ TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES



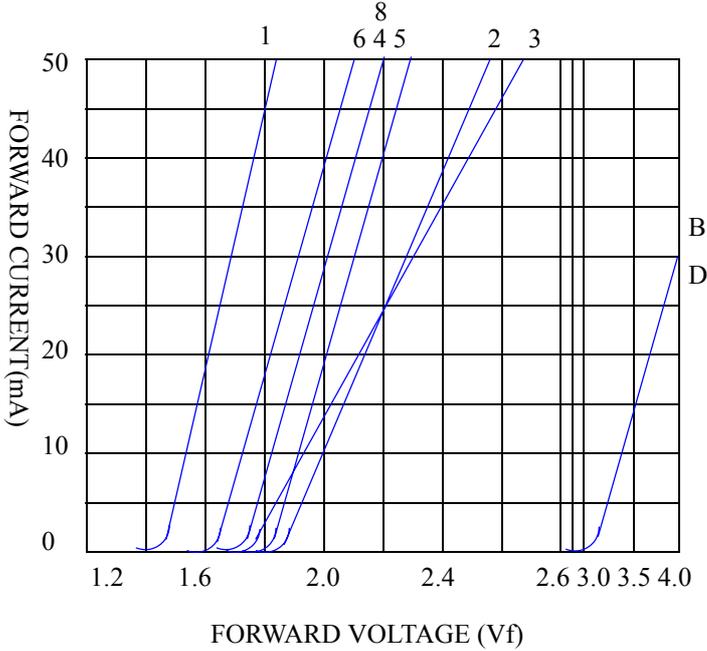
RELATIVE INTENSITY VS. WAVELENGTH( $\lambda d$ )

- (1) wGaAsP/GaAs 655nm/Red
- (2) wGaP 568nm/ Yellow Green
- (3) wGaAsP/GaP 585nm/Yellow
- (4) wGaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) wGaP 700nm/Bright Red
- (6) wGaAlAs/GaAs 660nm/Super Red
- (8)wGaAsP/GaP 610nm/Super Red

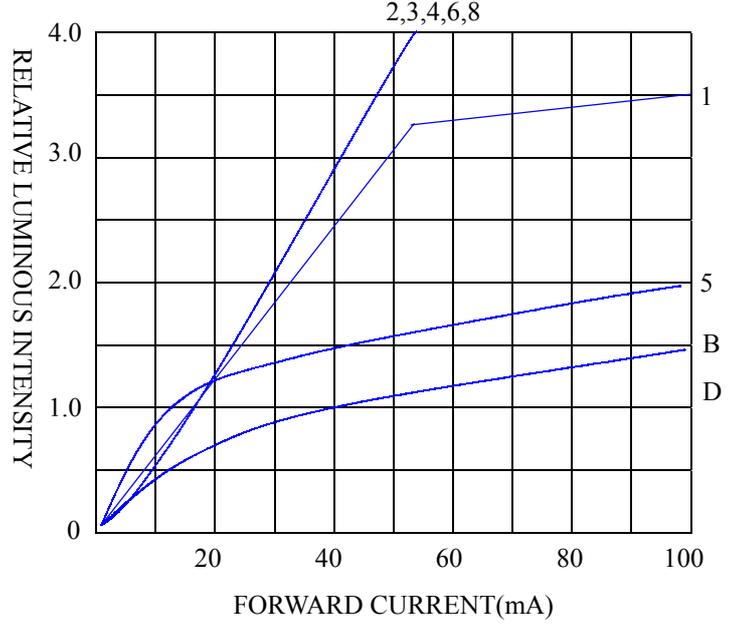
- (9)- GaAlAs 880nm
- (10)-GaAs/GaAs&GaAlAs/GaAs 940nm
- (A)- GaN 430nm/Blue
- (B)- InGaN 470nm/Blue
- (C)- InGaN 502nm/Ultra Green
- (D)- InGaAl 523nm/Ultra Green

◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE

