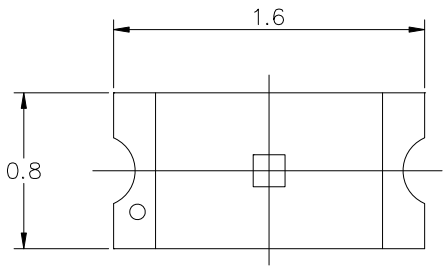
A-BRIGHT INDUSTRIAL CO., LTD.

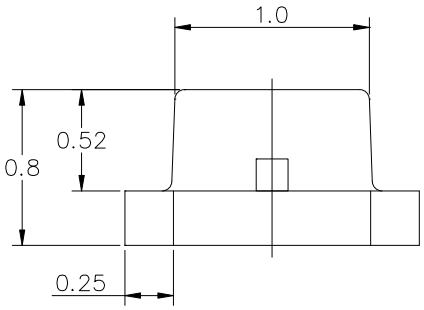
SURFACE MOUNT LED LAMPS

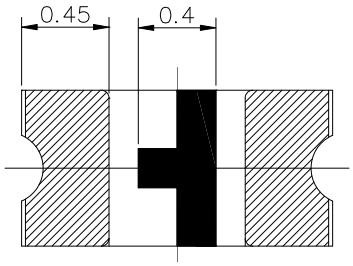
0603 Package Pure Green SMD Chip LED Lamps (0.8mm Height)

Part Number: AL-HG636D

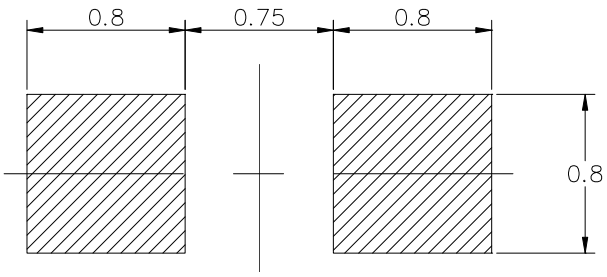
Package outlines & Re-flow Profile



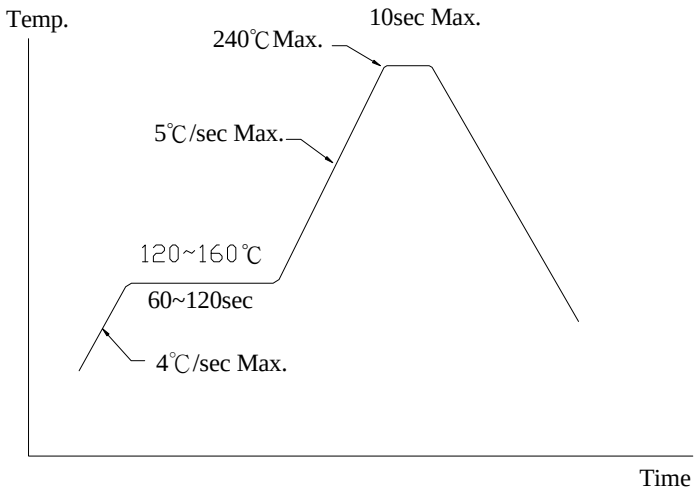




Recommend Pad Layout



■ Reflow Temp./Time



■Soldering iron

Basic spec is ≤ 5sec when 260℃. If temperature is higher, time should be shorter (+10℃→ -1sec).Power dissipation of iron should be smaller than 15W, and temperatures should be controllable .Surface temperature of the device should be under 230℃ .

ITEM	MATERIALS
Resin (mold)	Epoxy
Lens color	Water Clear
Printed circuit board	BT
Dice	InGaN
Emitted color	Pure Green

NOTES:

1. All dimensions are in millimeters (inches);
2. Tolerances are ±0.1mm (0.004inch) unless otherwise noted.
3. Soldering terminal may shift in x, y direction.
4. Polarity referring on to the Cathode mark is reversed on the red.

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ELECTRO-OPTICAL CHARACTERISTICS (T_A=25℃)

Parameter	Test Condition	Symbol	Value			Unit
			MIN.	TYP.	MAX.	
Viewing angle at 50% I_V	I_F=20mA	2 θ 1/2		130		Deg
Forward voltage	I_F=20mA	V_F	2.8	3.2	3.6	V
Luminous intensity	I_F=20mA	I_V	–	180	–	mcd
Dominant Wavelength	I_F=20mA	λ d	–	525	–	nm
Peak Emission Wavelength	I_F=20mA	λ p	–	530	–	nm
Peak pulsing current (1/10 duty f=1kHz)		I_{FP}		100		mA

Absolute maximum ratings (T_A=25℃)

Parameter	Symbol	Value	Unit
Forward current	I_F	30	mA
Reverse voltage	V_R	5	V
Reverse current	I_R	10	μA
Power Dissipation	P_D	62	mW
Operating temperature range	Top	-30 ~+80	℃
Storage temperature range	Tstg	-40 ~+90	℃

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Test items and results of reliability

No.	Items	Test Condition	Test Hours/Cycles	Sample Size
1	Solder Heat	TEMP：260℃±5℃	5 sec	48 pcs
2	Temperature Cycle	90℃~ 25℃~ -30℃ ~ 25℃ 30m 5m 30m 5m	300Cycles	48 pcs
3	Thermal Shick	100℃~ -55℃ 10m 10m	100Cycles	48 pcs
4	Operation Life	I_F=20mA	1000 Hrs	48 pcs
5	High Temperature Storage	Temp：90℃	1000Hrs	48 pcs
6	Low Temperature Storage	Temp：-30℃	1000Hrs	48 pcs
7	High Temperature / High Humidity	80℃ / R.H80%	1000Hrs	48 pcs

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

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SURFACE MOUNT LED LAMPS

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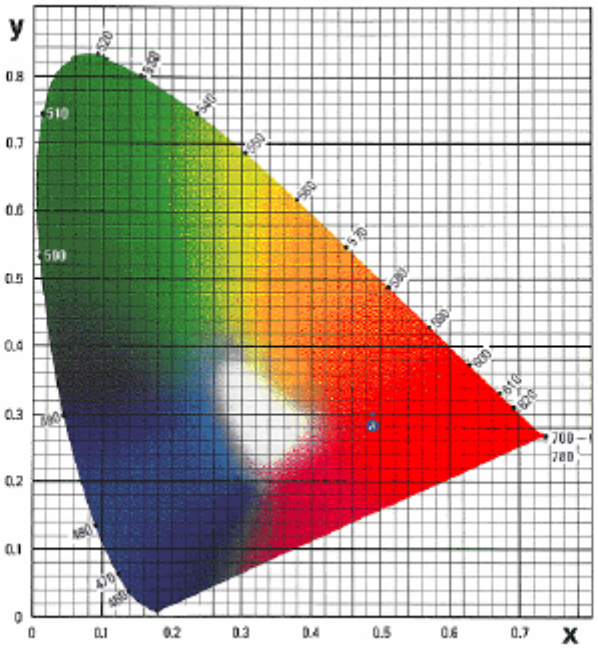
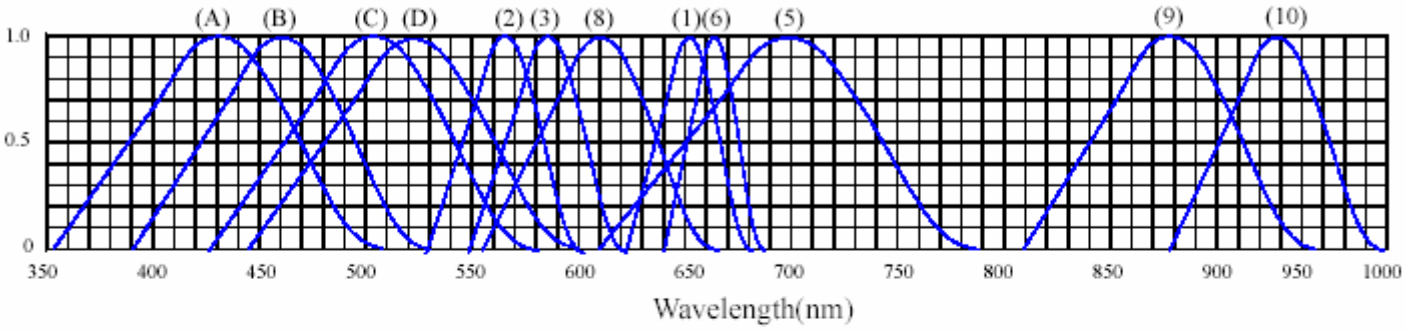
◆ TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES





RELATIVE INTENSITY VS. WAVELENGTH(λp)

(1) GaAsP/GaAs 655nm/Red
(2) GaP 568nm/ 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 430nm/Blue
(B)- InGaN 470nm/Blue
(C)- InGaN 502nm/Ultra Green
(D)- InGaN 523nm/Ultra Green

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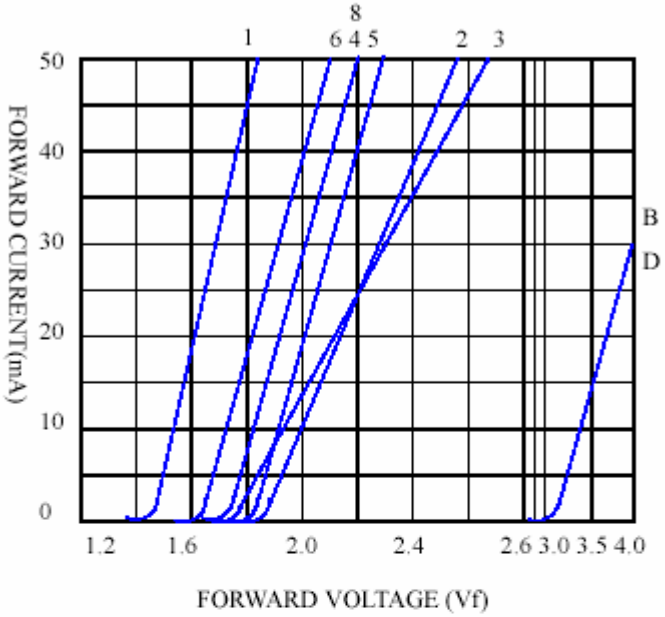
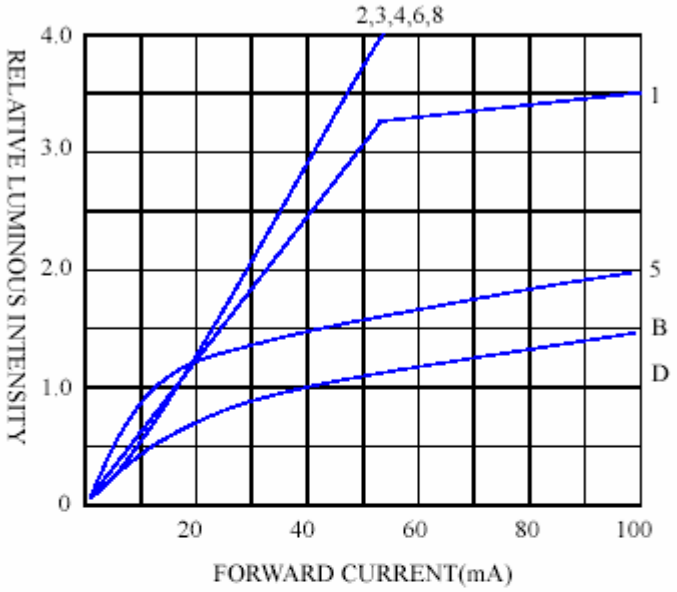
◆ **CHARACTERISTICS DIAGRAMS**

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE