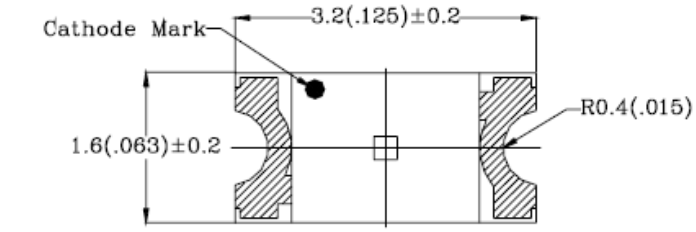
A-BRIGHT INDUSTRIAL CO., LTD.

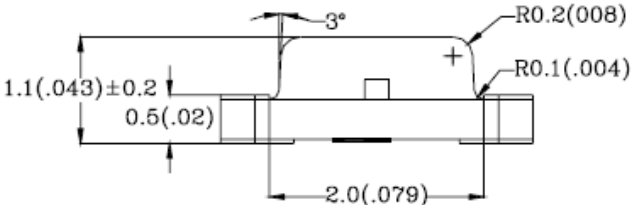
SURFACE MOUNT LED LAMPS

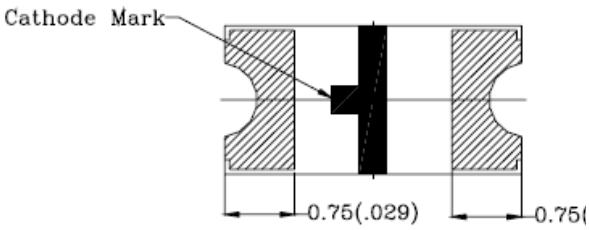
1206 Package White SMD Chip LED Lamps

Part Number: AL-HW433

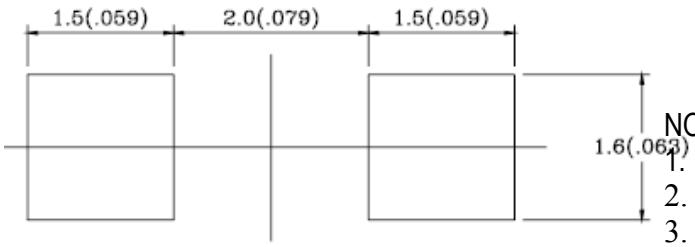
Package outlines & Re-flow Profile



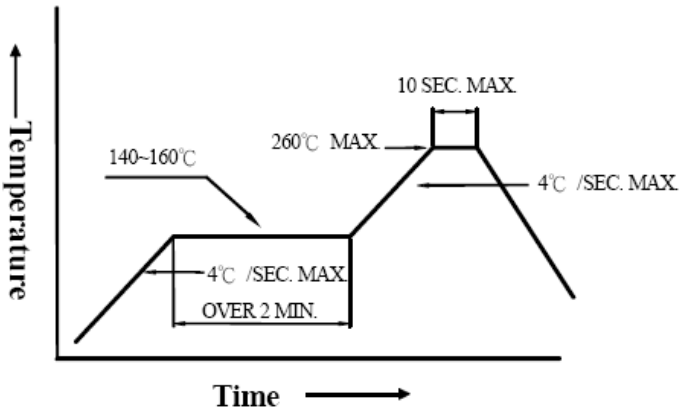




For Reflow Soldering



■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	Yellow Diffused
Printed circuit board	BT
Dice	InGaN
Emitted color	White

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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SURFACE MOUNT LED LAMPS

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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	2θ 1/2		120		Deg
Forward voltage	I_F=20mA	V_F	--	3.5	4.0	V
Luminous intensity	I_F=20mA	I_V	80	150	--	mcd
Chromaticity Coordinates	I_F=20mA	X	--	0.31	--	--
		Y	--	0.32	--	
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	65	mW
Electrostatic Discharge	ESD	150	V
Operating temperature range	Top	-30 ~+80	℃
Storage temperature range	Tstg	-40 ~+85	℃

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Test items and results of reliability

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS-C-7021 :B-1	Connect with a power If=20mA Ta=Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	Ta=+65℃±5℃ RH=90%-95% Test time=240hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High Ta=+85℃±5℃ Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta=-35℃±5℃ Test time=1,000hrs	0/20
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS-C-7021 :A-4	-35℃ ~ +25℃ ~ +85℃ ~ +25℃ 60min 20min 60min 20min Test Time=5cycle	0/20
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	-35℃±5℃ ~+85℃±5℃ 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS-C-7021 :A-1	Preheating： 140℃-160℃,within 2 minutes. Operation heating： 260℃(Max.), within 10seconds. (Max.)	0/20

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

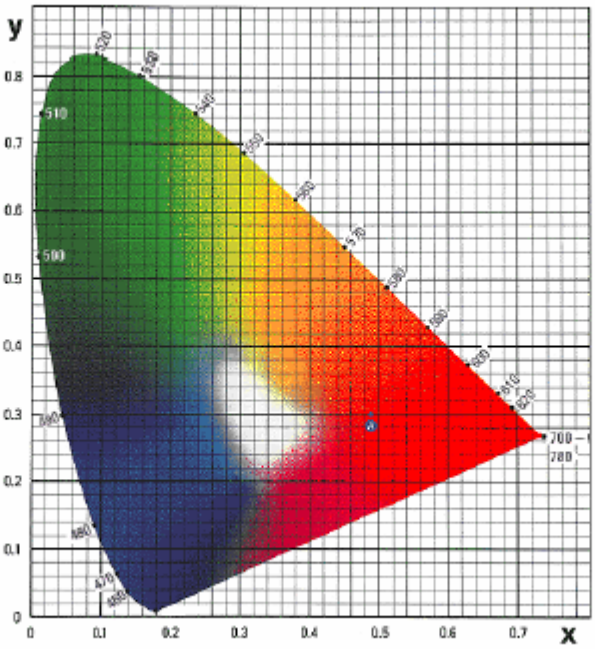
2006/10/18

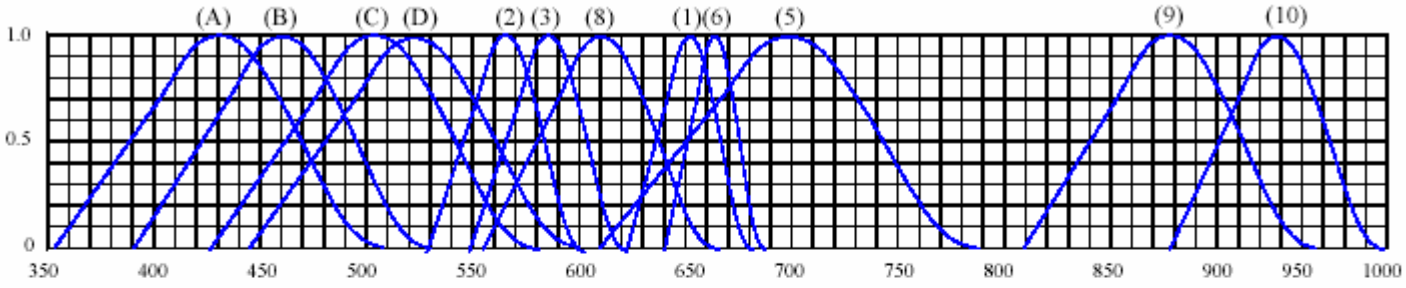
A-BRIGHT INDUSTRIAL CO., LTD.
SURFACE MOUNT LED LAMPS

Part Number: AL-HW433

Typical Optical-Electrical Characteristic Curves

◆ 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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SURFACE MOUNT LED LAMPS

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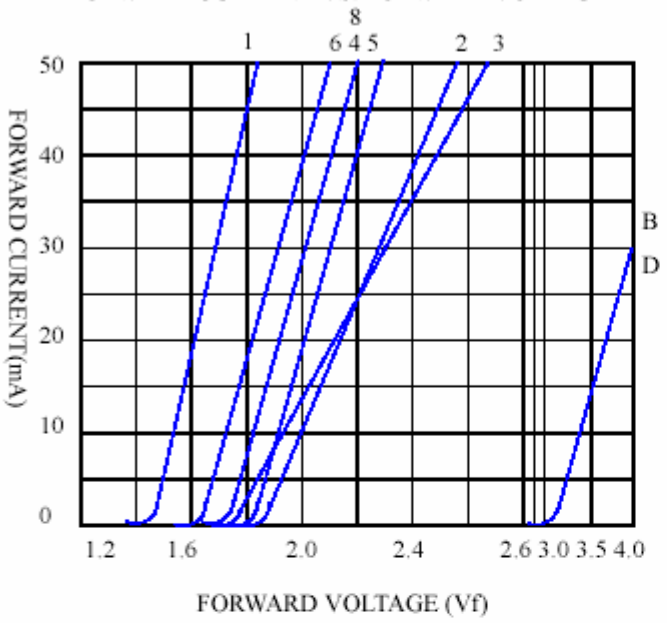
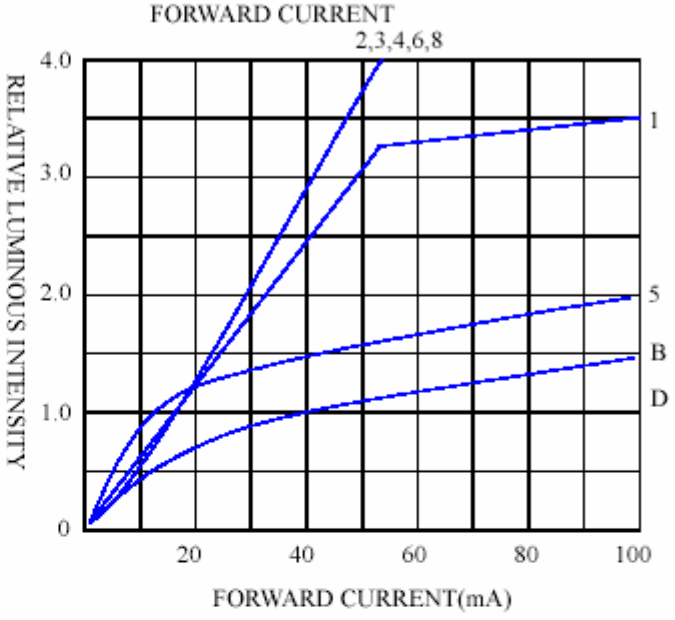
Typical Optical-Electrical Characteristic Curves

◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE