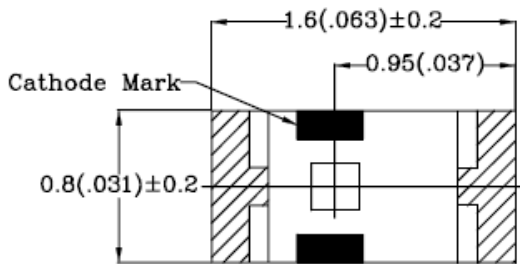


A-BRIGHT A-BRIGHT INDUSTRIAL CO., LTD. SURFACE MOUNT LED LAMPS

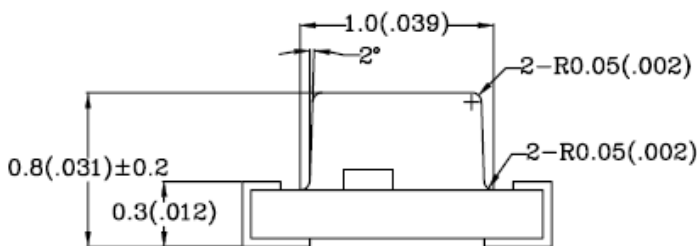
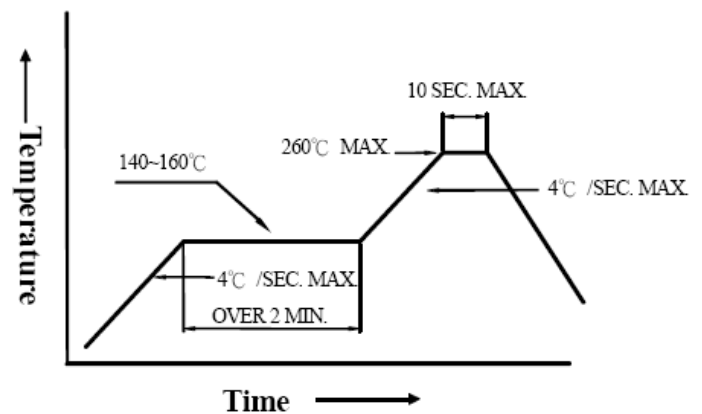
0603 Package White SMD Chip LED Lamps (0.8mm Height)

Part Number: AL-HW436D

Package outlines & Re-flow Profile

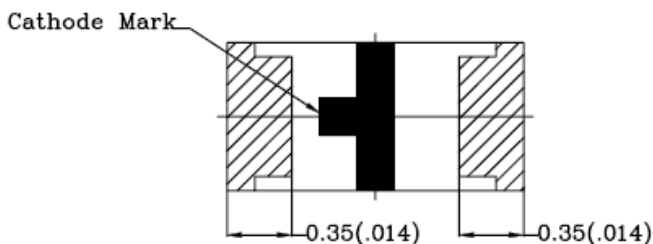


■Reflow Temp/Time



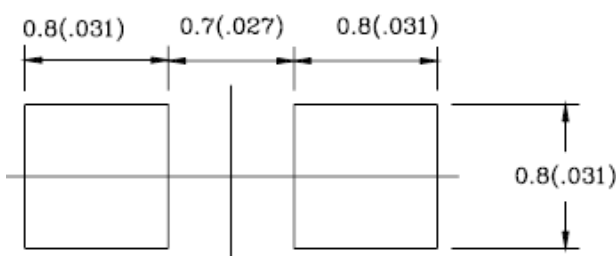
■Soldering iron

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



For Reflow Soldering

ITEM	MATERIALS
Resin (mold)	Epoxy
Lens color	Yellow Diffused
Printed circuit board	BT
Dice	InGaN
Emitted color	White



NOTES:

- All dimensions are in millimeters (inches);
- Tolerances are $\pm 0.1\text{mm}$ (0.004inch) unless otherwise noted.
- Soldering terminal may shift in x, y direction.
- Polarity referring on to the Cathode mark is reversed on the red.

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SURFACE MOUNT LED LAMPS

Part Number: AL-HW436D

ELECTRO-OPTICAL CHARACTERISTICS

(T_A=25°C)

Parameter	Test Condition	Symbol	Value			Unit
			Min.	Typ.	Max.	
Viewing angle at 50% I _v	I _F =20mA	2 θ 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°C)

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	°C
Storage temperature range	Tstg	-40 ~+85	°C

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

Part Number: AL-HW436D

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 $I_f=20\text{mA}$ T_a =Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	$T_a=+65^{\circ}\text{C}\pm 5^{\circ}\text{C}$ RH=90%-95% Test time=240hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High $T_a=+85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low $T_a=-35^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Test time=1,000hrs	0/20
	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS-C-7021 :A-4	$-35^{\circ}\text{C} \sim +25^{\circ}\text{C} \sim +85^{\circ}\text{C} \sim +25^{\circ}\text{C}$ 60min 20min 60min 20min Test Time=5cycle	0/20
Environmental Test	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	$-35^{\circ}\text{C}\pm 5^{\circ}\text{C} \sim +85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS-C-7021 :A-1	Preheating : 140°C -160°C ,within 2 minutes. Operation heating : 260°C (Max.), within 10seconds. (Max.)	0/20

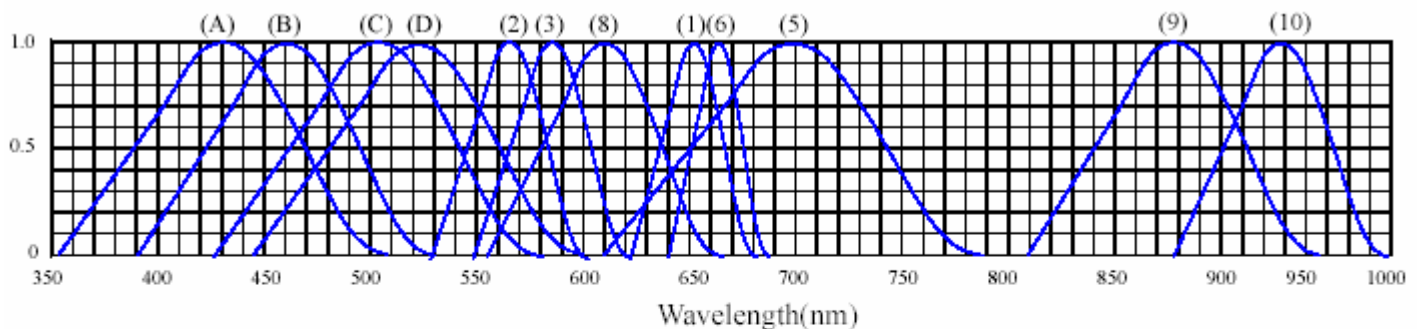
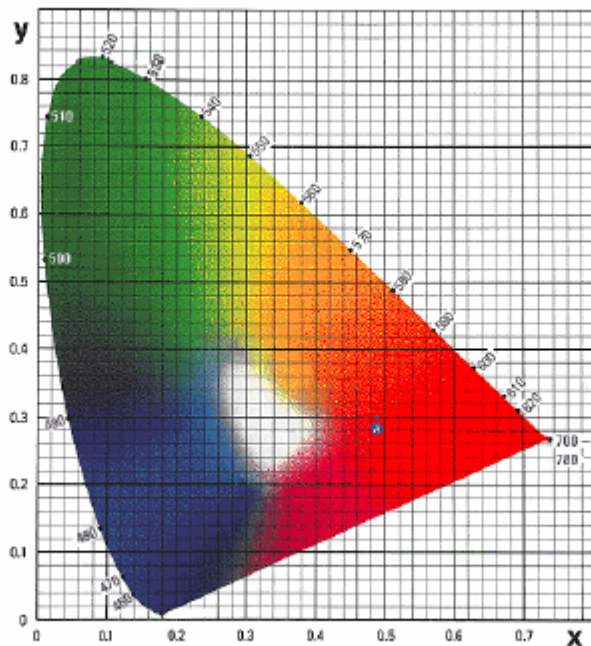
* Refer to reliability test standard specification for in this line.

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

Part Number: AL-HW436D

Typical Optical-Electrical Characteristic Curves

◆ TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES



RELATIVE INTENSITY VS. WAVELENGTH(λ_p)

- | | |
|---|----------------------------------|
| (1) GaAsP/GaAs 655nm/Red | (9)- GaAlAs 880nm |
| (2) GaP 568nm/ Yellow Green | (10)-GaAs/GaAs&GaAlAs/GaAs 940nm |
| (3) GaAsP/GaP 585nm/Yellow | (A)- GaN 430nm/Blue |
| (4) GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B)- InGaN 470nm/Blue |
| (5) GaP 700nm/Bright Red | (C)- InGaN 502nm/Ultra Green |
| (6) GaAlAs/GaAs 660nm/Super Red | (D)- InGaN 523nm/Ultra Green |
| (8) GaAsP/GaP 610nm/Super Red | |

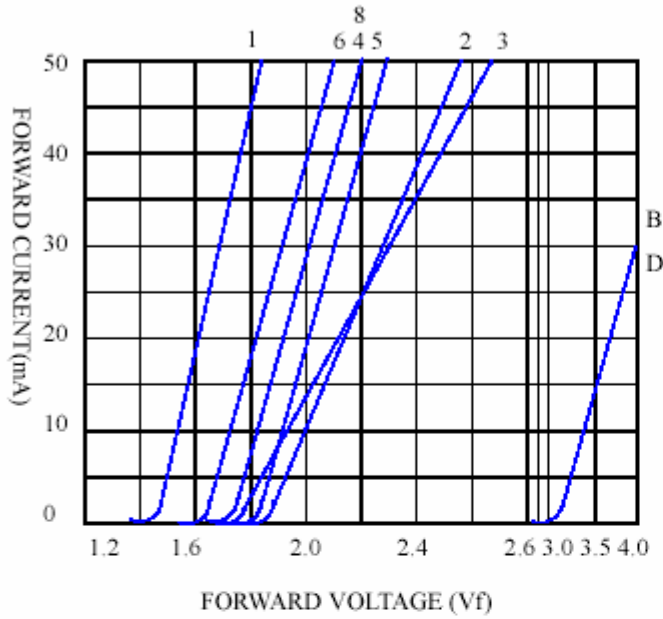
A-BRIGHT A-BRIGHT INDUSTRIAL CO., LTD. SURFACE MOUNT LED LAMPS

Part Number: AL-HW436D

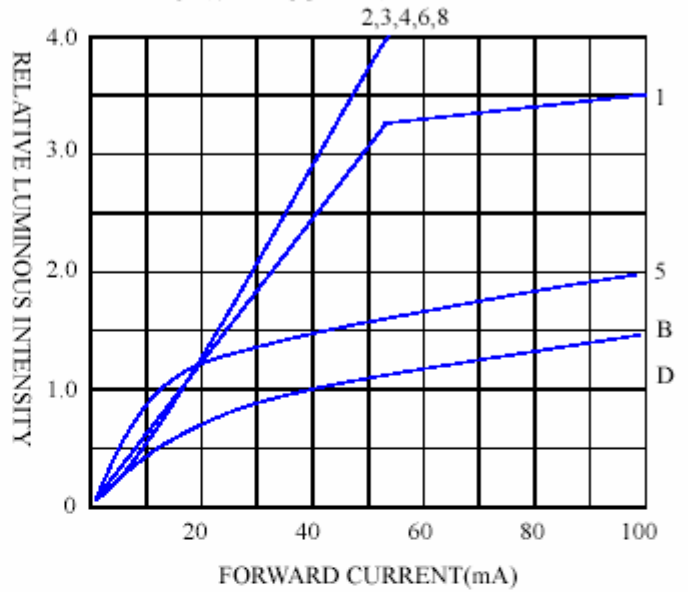
Typical Optical-Electrical Characteristic Curves

◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE

