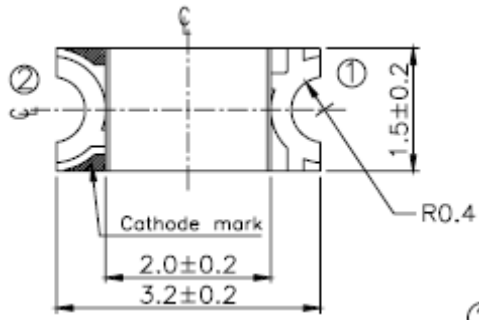
A-BRIGHT INDUSTRIAL CO., LTD.

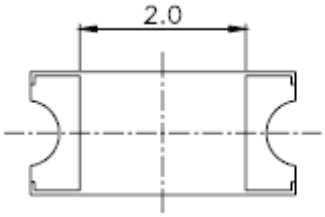
SURFACE MOUNT CHIP LED LAMPS

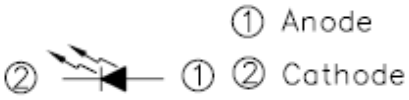
1206 Package Chip Infrared LED

Part Number: IR15-21C/L10

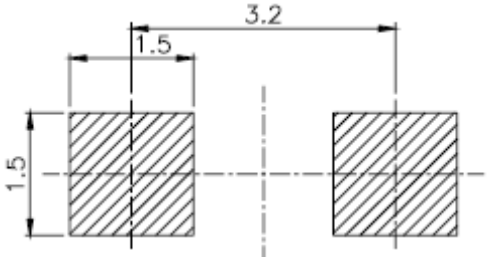
Package outlines & Re-flow Profile



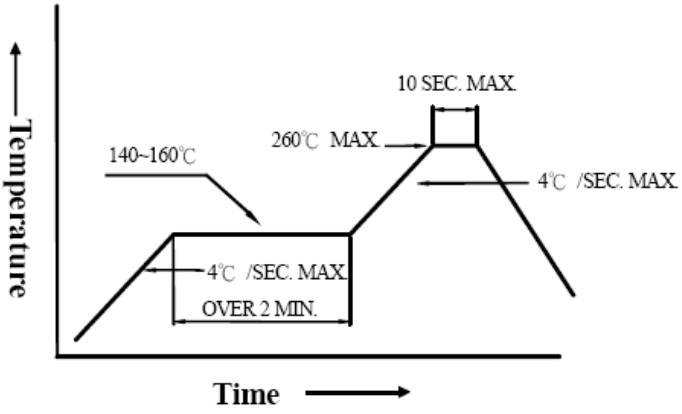




For Reflow Soldering



■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	Water Clear
Printed circuit board	BT
Dice	GaAlAs
Emitted color	Infrared

NOTES:

1. All dimensions are in millimeters (inches);
2. Tolerances are ±0.1mm (0.004inch) unless otherwise noted.

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Part Number: IR15-21C/L10

ELECTRO-OPTICAL CHARACTERISTICS (T_A=25℃)

Parameter	Test Condition	Symbol	Value	Unit
Viewing angle at 50% I_V	I_F=10mA	2 θ 1/2	160	Deg
Forward voltage (Typ.) (Max.)	I_F=20mA	V_F	1.20 1.50	V
Radiant Intensity (Min.) (Typ.)	I_F=20mA	I_V	0.20 0.80	mW/sr
Wavelength	I_F=20mA	λ p	940	nm
Spectral Line Half-Width	I_F=20mA	$\triangle\lambda$	45	nm
Peak pulsing current (1/10 duty f=1kHz)		I_{FP}	1.0	A

Absolute maximum ratings (T_A=25℃)

Parameter	Symbol	Value	Unit
Forward current	I_F	65	mA
Reverse voltage	V_R	5	V
Reverse current	I_R	100	μA
Power Dissipation	P_D	130	mW
Operating temperature range	Top	-25 ~+85	℃
Storage temperature range	Tstg	-40 ~+100	℃
Lead soldering temperature	260℃ For 5 Seconds		

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SURFACE MOUNT CHIP LED LAMPS

Part Number: IR15-21C/L10

Test items and results of reliability

NO.	Item	Test Conditions	Test Hours/ Cycles	Sample Sizes	Failure Judgement Criteria	Ac/Re
1	REFLOW Soldering	TEMP. : 260℃±5℃ 5secs	6Mins	22pcs	$I_R \geqq U \times 2$	0/1
2	Temperature Cycle	H : +100℃ 15mins ↕ 5mins L : -40℃ 15mins	50Cycles	22pcs	$Ee \leqq L \times 0.8$ $V_F \geqq U \times 1.2$	0/1
3	Thermal Shock	H :+100℃ 5mins ↕ 10secs L :-10℃ 5mins	50Cycles	22pcs	U : Upper Specification Limit	0/1
4	High Temperature Storage	TEMP. : +100℃	1000hrs	22pcs	L : Lower Specification Limit	0/1
5	Low Temperature Storage	TEMP. : -40℃	1000hrs	22pcs		0/1
6	DC Operating Life	I_F=20mA	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	85℃ / 85% R.H	1000hrs	22pcs		0/1

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

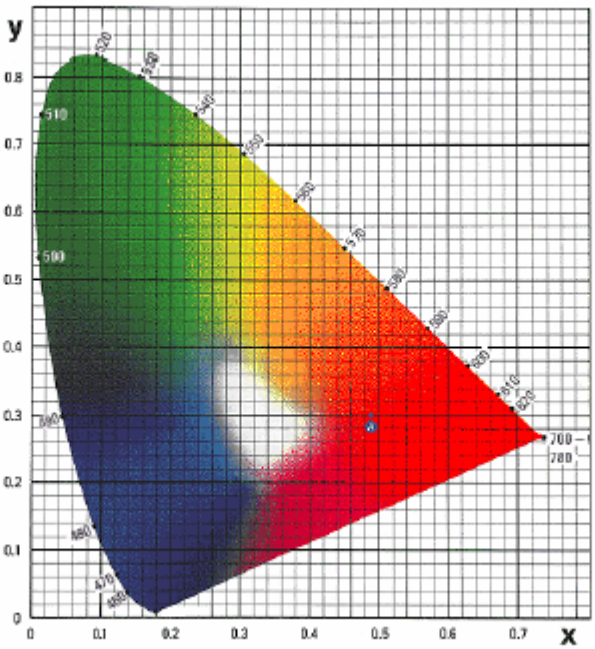
2006/9/28

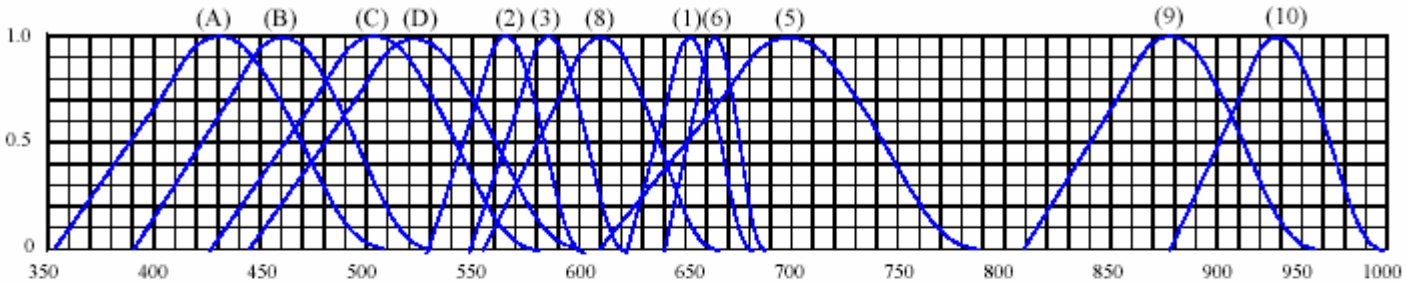
A-BRIGHT INDUSTRIAL CO., LTD.
SURFACE MOUNT CHIP LED LAMPS

Part Number: IR15-21C/L10

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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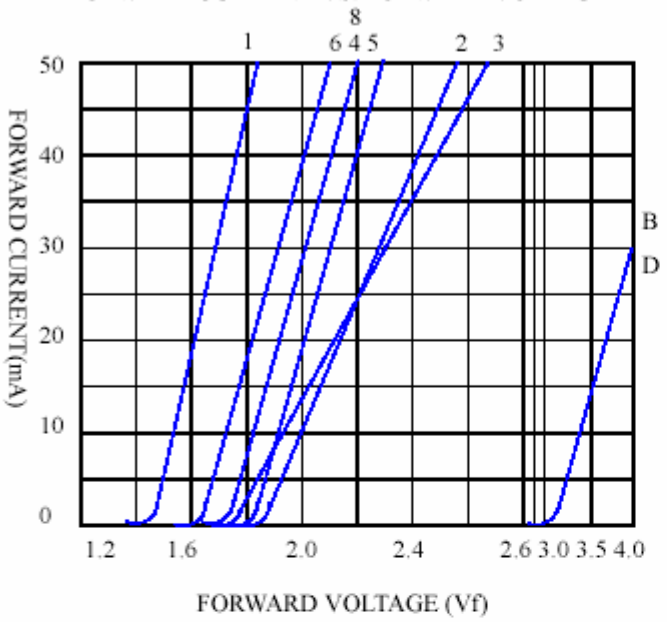
SURFACE MOUNT CHIP LED LAMPS

Part Number: IR15-21C/L10

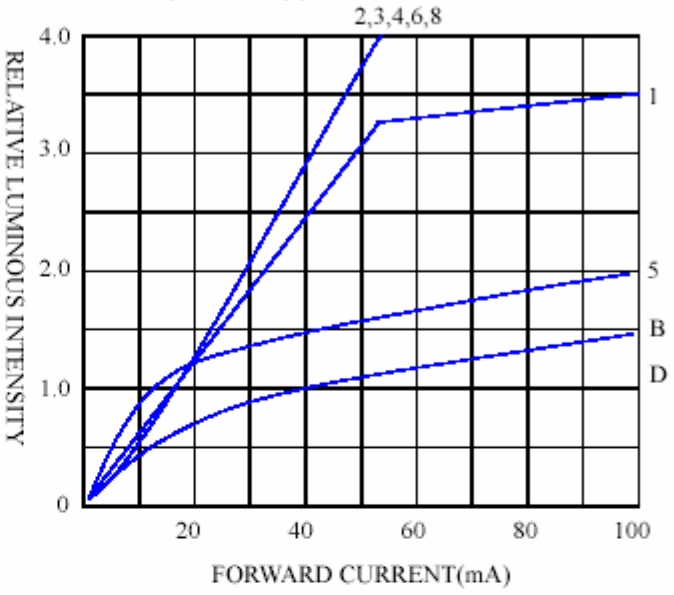
Typical Optical-Electrical Characteristic Curves

◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE