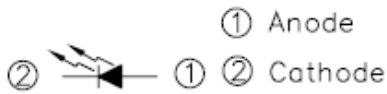
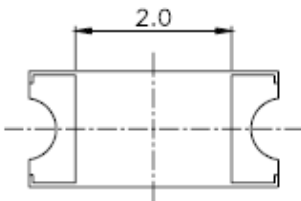
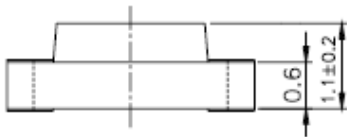
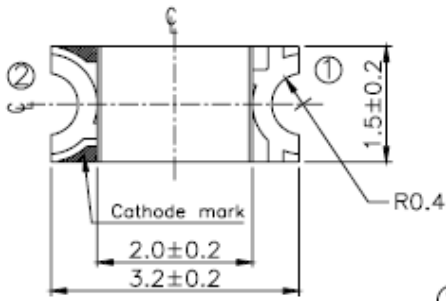


**SURFACE MOUNT CHIP LED LAMPS**

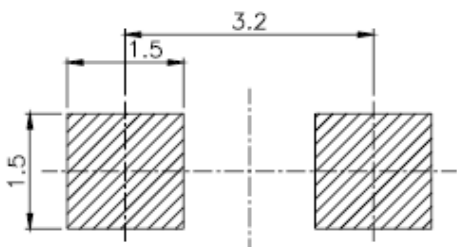
**1206 Package Chip Infrared LED**

**Part Number: IR15-21C/L10**

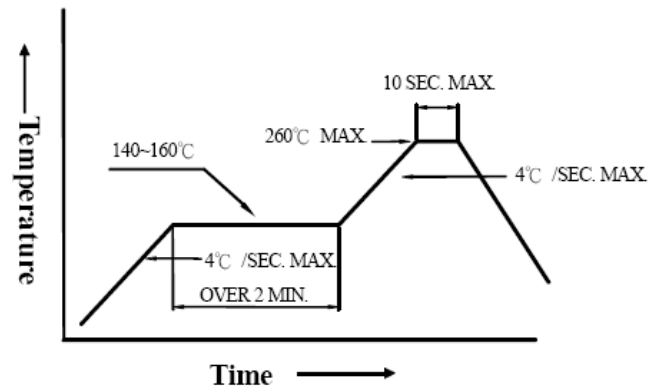
**Package outlines & Re-flow Profile**



For Reflow Soldering



■Reflow Temp/Time



■Soldering iron

Basic spec is  $\leq 5$ sec when  $260^{\circ}\text{C}$ . 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  $230^{\circ}\text{C}$ .

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  $\pm 0.1$ mm (0.004inch) unless otherwise noted.

**SURFACE MOUNT CHIP LED LAMPS**

Part Number: IR15-21C/L10

**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	2 θ 1/2	160	Deg
Forward voltage (Typ.)	I <sub>F</sub> =20mA	V <sub>F</sub>	1.20	V
(Max.)			1.50	
Radiant Intensity (Min.)	I <sub>F</sub> =20mA	I <sub>v</sub>	0.20	mW/sr
			(Typ.)	
Wavelength	I <sub>F</sub> =20mA	λ p	940	nm
Spectral Line Half-Width	I <sub>F</sub> =20mA	Δλ	45	nm
Peak pulsing current (1/10 duty f=1kHz)		I <sub>FP</sub>	1.0	A

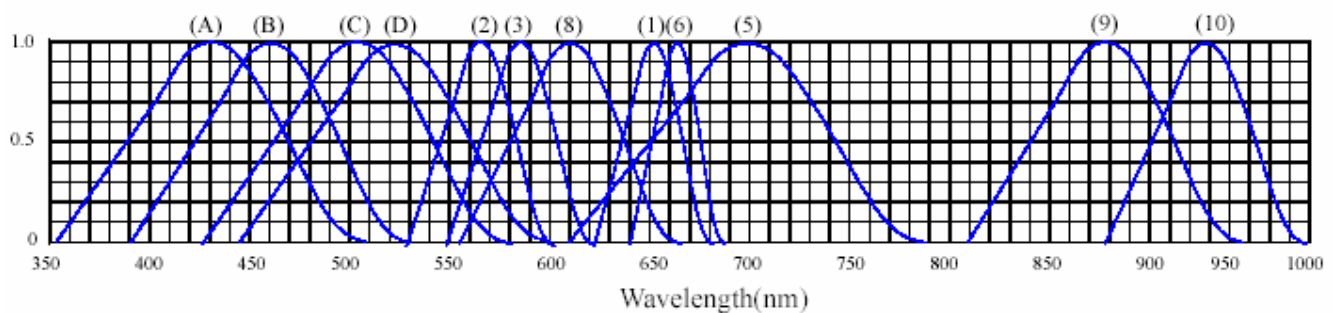
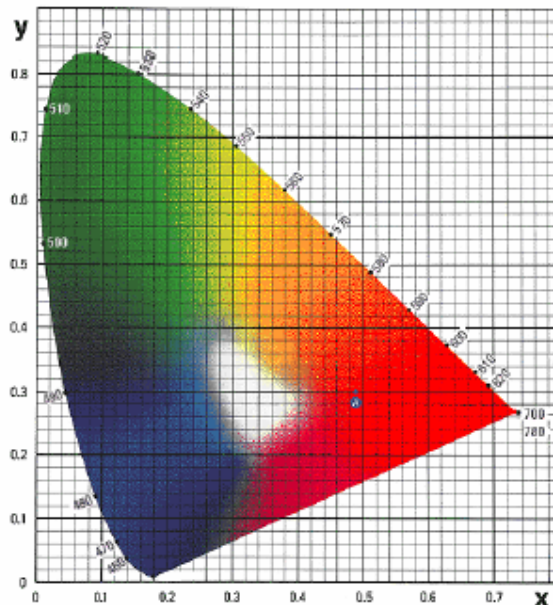
**Absolute maximum ratings****(T<sub>A</sub>=25°C)**

Parameter	Symbol	Value	Unit
Forward current	I <sub>F</sub>	65	mA
Reverse voltage	V <sub>R</sub>	5	V
Reverse current	I <sub>R</sub>	100	μA
Power Dissipation	P <sub>D</sub>	130	mW
Operating temperature range	Top	-25 ~+85	°C
Storage temperature range	Tstg	-40 ~+100	°C
Lead soldering temperature	260°C For 5 Seconds		

**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. : $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 5secs	6Mins	22pcs	$I_R \geq U \times 2$ $E_e \leq L \times 0.8$ $V_F \geq U \times 1.2$ U : Upper Specification Limit L : Lower Specification Limit	0/1
2	Temperature Cycle	H : $+100^{\circ}\text{C}$ 15mins ↑ 5mins ↓ L : $-40^{\circ}\text{C}$ 15mins	50Cycles	22pcs		0/1
3	Thermal Shock	H : $+100^{\circ}\text{C}$ 5mins ↑ 10secs ↓ L : $-10^{\circ}\text{C}$ 5mins	50Cycles	22pcs		0/1
4	High Temperature Storage	TEMP. : $+100^{\circ}\text{C}$	1000hrs	22pcs		0/1
5	Low Temperature Storage	TEMP. : $-40^{\circ}\text{C}$	1000hrs	22pcs		0/1
6	DC Operating Life	$I_F = 20\text{mA}$	1000hrs	22pcs		0/1
7	High Temperature/ High Humidity	$85^{\circ}\text{C}$ / 85% R.H	1000hrs	22pcs		0/1

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

**SURFACE MOUNT CHIP LED LAMPS****Part Number: IR15-21C/L10****Typical Optical-Electrical Characteristic Curves**◆ **TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES**RELATIVE INTENSITY VS. WAVELENGTH( $\lambda_p$ )

- |   |                                  |
|---|----------------------------------|
| (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           |                                  |

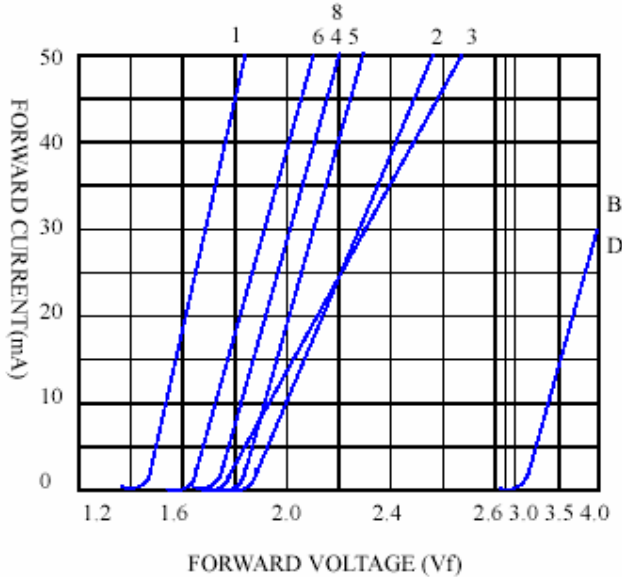
**SURFACE MOUNT CHIP LED LAMPS**

**Part Number: IR15-21C/L10**

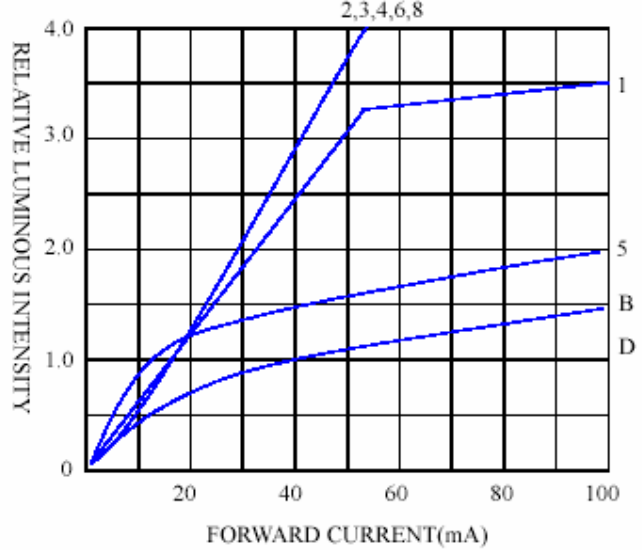
**Typical Optical-Electrical Characteristic Curves**

◆ **CHARACTERISTICS DIAGRAMS**

**FORWARD CURRENT VS. FORWARD VOLTAGE**



**RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT**



**FORWARD CURRENT VS. AMBIENT TEMPERATURE**

