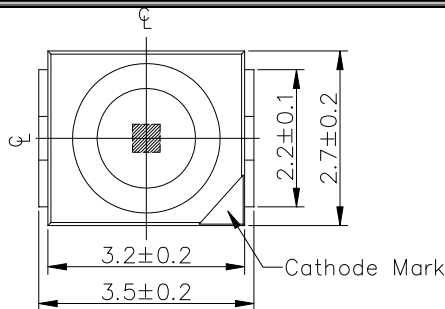


## SURFACE MOUNT CHIP LED LAMPS

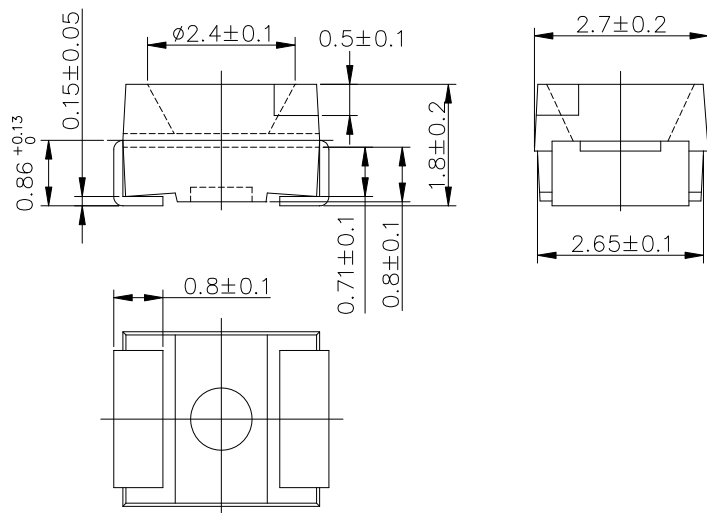
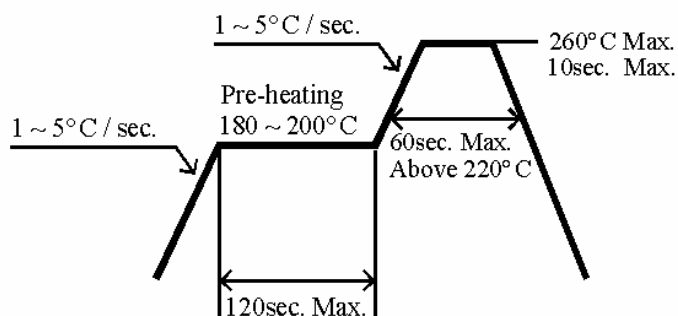
### TOP View LEDs

Part Number: 67-21UWC

### Package outlines & Re-flow Profile

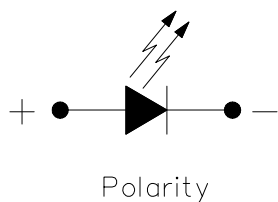


#### Reflow Temp/Time



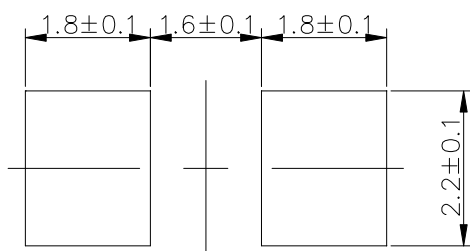
#### Soldering iron

Basic spec is ≤ 5sec when 260°C. If temperature is higher, time should be shorter (+10°C → -1sec). 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 (Propose)

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



#### NOTES:

- All dimensions are in millimeters (inches);
- Tolerances are ±0.1mm (0.004inch) unless otherwise noted.
- Polarity referring onto the cathode mark is reversed on the red.

**SURFACE MOUNT CHIP LED LAMPS**

Part Number: 67-21UWC

**ELECTRO-OPTICAL CHARACTERISTICS (SDR)****(T<sub>A</sub>=25°C)**

Parameter	Test Condition	Symbol	Value			Unit
			MIN.	TYP.	MAX.	
Viewing angle at 50% I <sub>v</sub>	I <sub>F</sub> =10mA	2θ 1/2	120			Deg
Forward voltage	I <sub>F</sub> =20mA	V <sub>F</sub>	–	3.2	3.5	V
Luminous intensity	I <sub>F</sub> =20mA	I <sub>v</sub>	–	290	–	mcd
Chromaticity	I <sub>F</sub> =20mA	X	–	0.31	–	–
		Y	–	0.32	–	
Peak pulsing current (1/10 duty f=1kHz)		I <sub>FP</sub>	100			mA

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

Parameter	Symbol	Value	Unit
Forward current	I <sub>F</sub>	25	mA
Reverse voltage	V <sub>R</sub>	5	V
Reverse current	I <sub>R</sub>	50	μA
Electrostatic Discharge	ESD	150	V
Power Dissipation	P <sub>D</sub>	110	mW
Operating temperature range	Top	-40 ~+85	°C
Storage temperature range	Tstg	-40 ~+100	°C

**SURFACE MOUNT CHIP LED LAMPS**

Part Number: 67-21UWC

**Test items and results of reliability**

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260±5°C	6 min.	22 PCS	0/1
2	Temperature Cycle	H : +100°C 30min ┆ 5min L : -40°C 30min	300 CYCLES	22 PCS	0/1
3	Thermal Shock	H : +100°C 5min ┆ 10set L : -10°C 5min	300 CYCLES	22 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	22 PCS	0/1
5	Low Temperature Storage	TEMP : -40°C	1000 HRS	22 PCS	0/1
6	DC Operating Life	I <sub>F</sub> =20mA	1000 HRS	22 PCS	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 HRS	22 PCS	0/1

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

**SURFACE MOUNT CHIP LED LAMPS**

Part Number: 67-21UWC

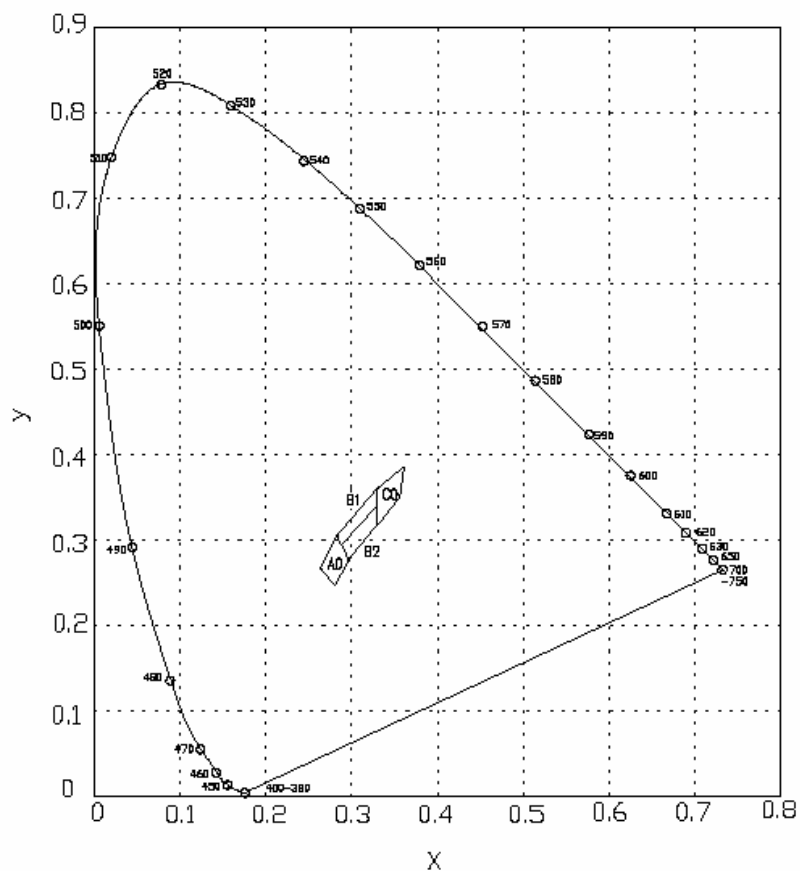
**Color Ranks****Color Ranks**

	Rank A0			
x	0.280	0.264	0.283	0.296
y	0.248	0.267	0.305	0.276

	Rank B1			
x	0.287	0.283	0.330	0.330
y	0.295	0.305	0.360	0.339

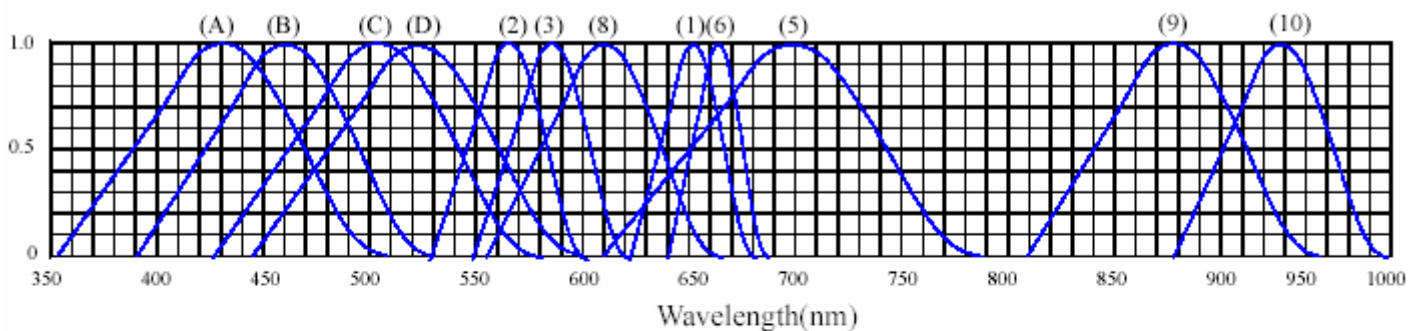
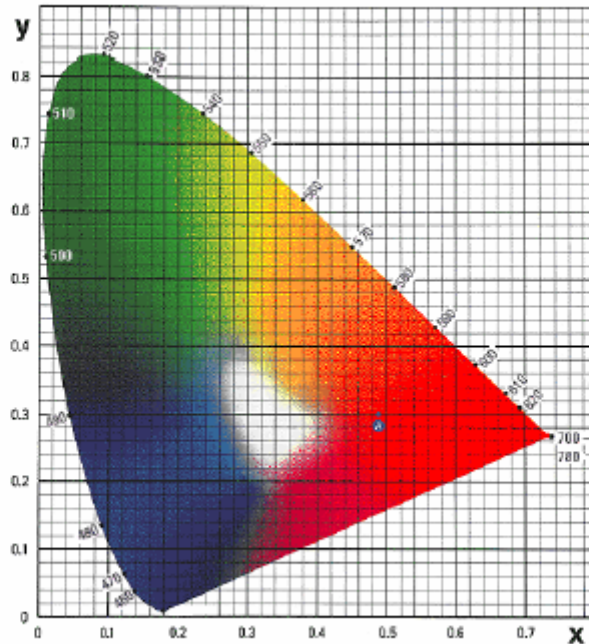
	Rank B2			
x	0.296	0.287	0.330	0.330
y	0.276	0.295	0.339	0.318

	Rank C0			
x	0.330	0.330	0.361	0.356
y	0.318	0.360	0.385	0.351

**CIE Chromaticity Diagram**

**SURFACE MOUNT CHIP LED LAMPS**

Part Number: 67-21UWC

**Typical Electro-Optical Characteristics**◆ **TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES**RELATIVE INTENSITY VS. WAVELENGTH( $\lambda_p$ )

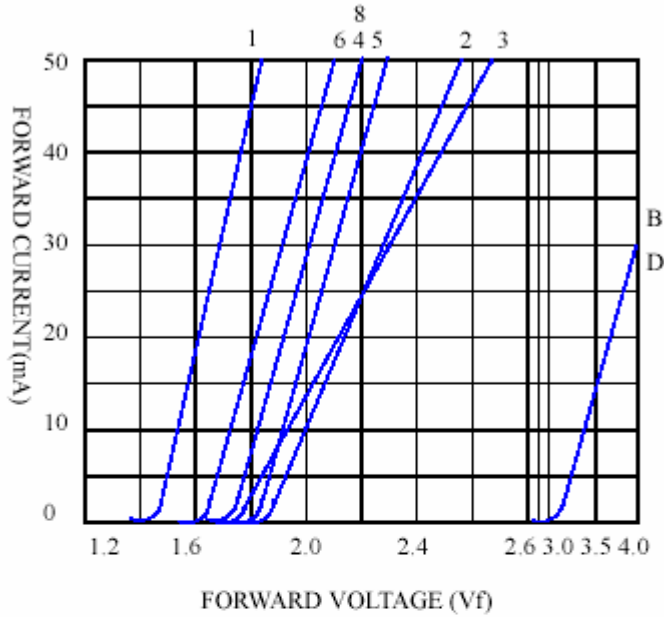
- |   |                                  |
|---|----------------------------------|
| (1) GaAsP/GaAs 655nm/Red                | (9)- GaAlAs 880nm                |
| (2) GaP 568nm/ Yellow Green             | (10)-GaAs/GaAs&GaAlAs/GaAs 940nm |
| (3) GaAsP/GaP 585nm/Yellow              | (A)- GaN 430nm/Blue              |
| (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**

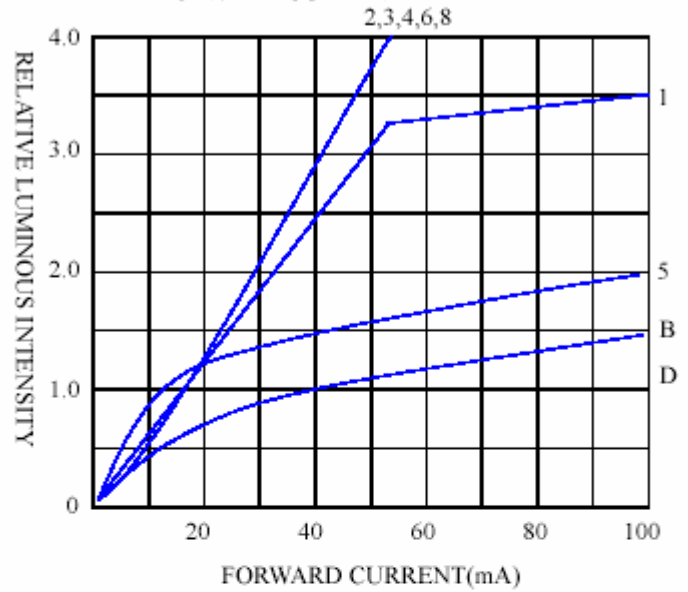
Part Number: 67-21UWC

**Typical Electro-Optical Characteristics**◆ **CHARACTERISTICS DIAGRAMS**

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE

