PRODUCT SPECIFICATION

Part No.: SRH-22IR42G-940GK
High Power LED

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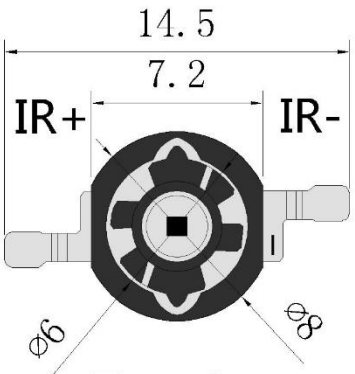
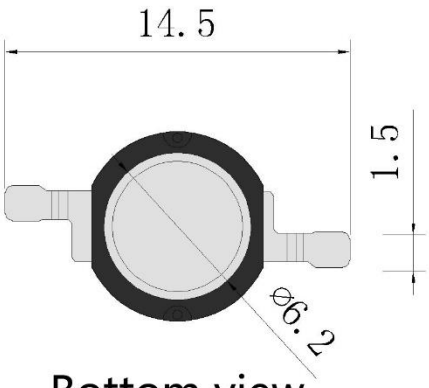
1. Product Features

- High Power IR Infrared LED
- Copper Lead Frame
- Clear Silicone Dome Lens
- Viewing Angle: 140 °
- Die Material: AlGaAs
- Low Voltage DC Operated
- Lead-Free Reflow Soldering (J-STD-020 Compliant)

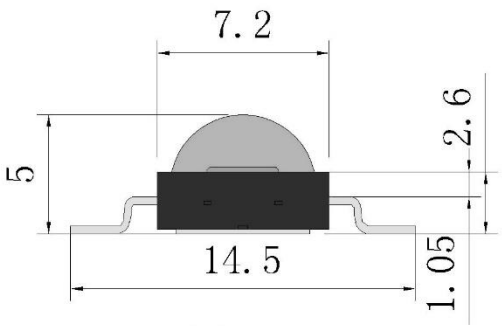
2. Mechanical Dimensions



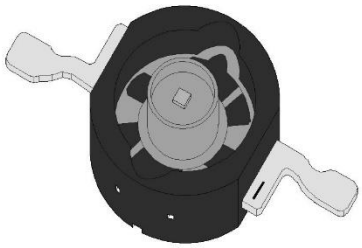
Top view

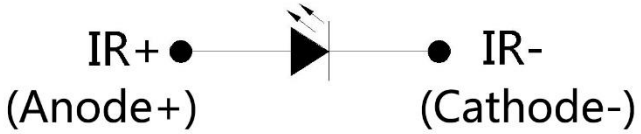


Bottom view



Side view


Perspective view



Circuit diagram

Notes:

1. Dimensions in millimeters (mm)

2. Dimension Tolerance: ± 0.1 mm

3. Absolute Maximum Rating @ Ta = 25 ℃

Parameter	Symbol	Maximum Rating	Unit
Continuous Forward Current	IF	700	mA
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	IFP	1000	mA
Reverse Voltage	VR	5	V
Power Dissipation	PD	3	W
Electrostatic Discharge	ESD	1000	V
Operating Temperature Range	TOPR	-25°C to +85°C	
Storage Temperature Range	TSTG	-35°C to +100°C	
Lead Soldering Temperature	TSOL	260°C	

4. Optical Character @ Ta = 25 ℃

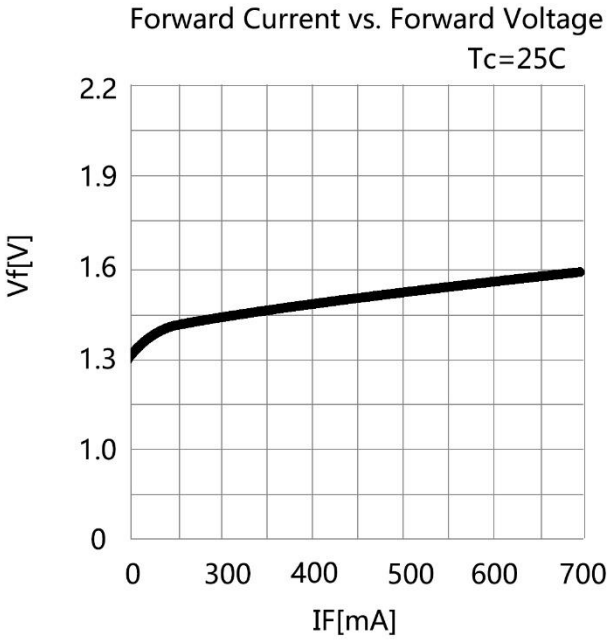
Parameter	Symbol	Color	Min.	Typ.	Max.	Unit	Test Condition
Forward Voltage	VF	IR	1.4	1.6	1.8	V	I_F=700mA
Radiant Flux	Φ	IR	400	500	600	mW	I_F=700mA
Wavelength	WL	IR	940	942.5	945	nm	I_F=700mA
Reverse Current	IR		0		10	μA	V_R=5V
Viewing Angle	$2\theta_{1/2}$				140	deg	I_F=700mA
Recommend Forward Current	IF (typ)	IR			700	mA	

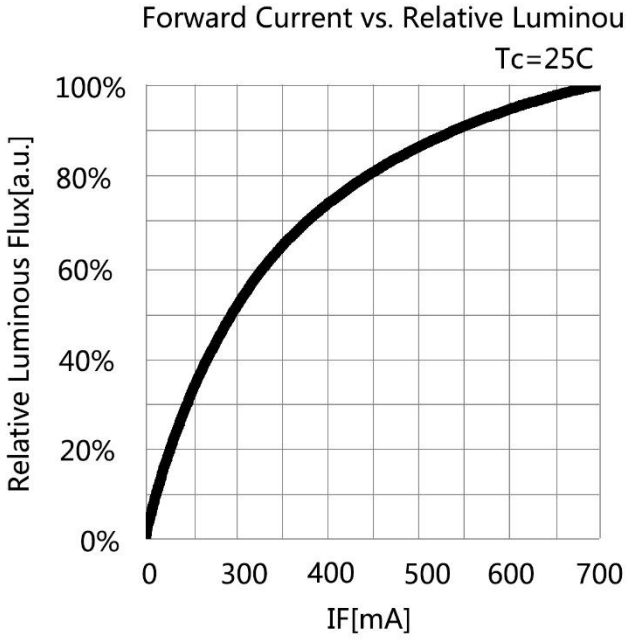
Notes:

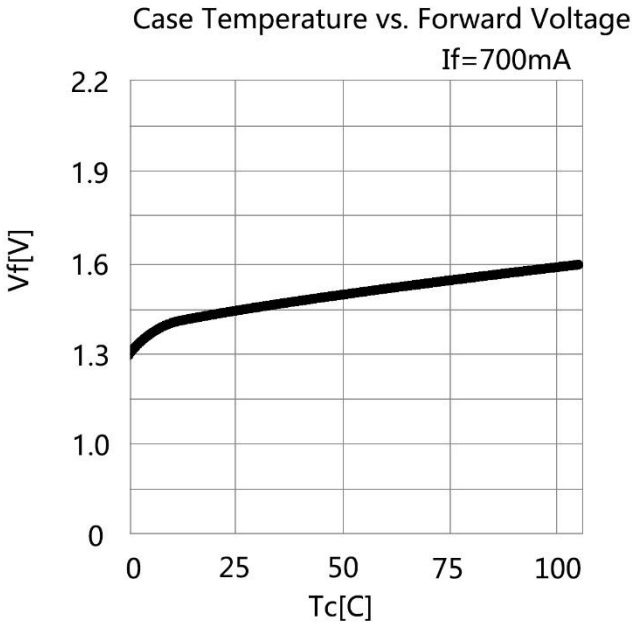
Forward Voltage Tolerance: ± 0.1 V

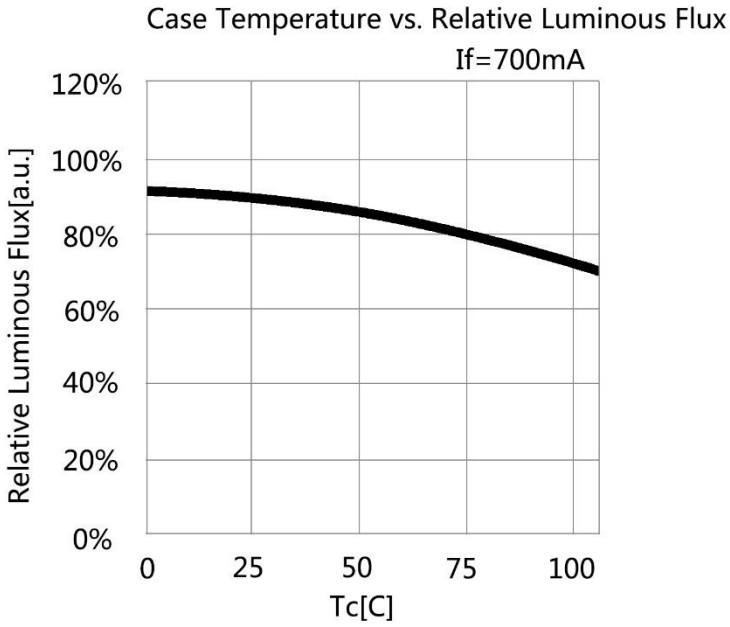
5. Optical Character Curves

(Unless otherwise specified, all values are measured at 25 ℃ ambient temperature)

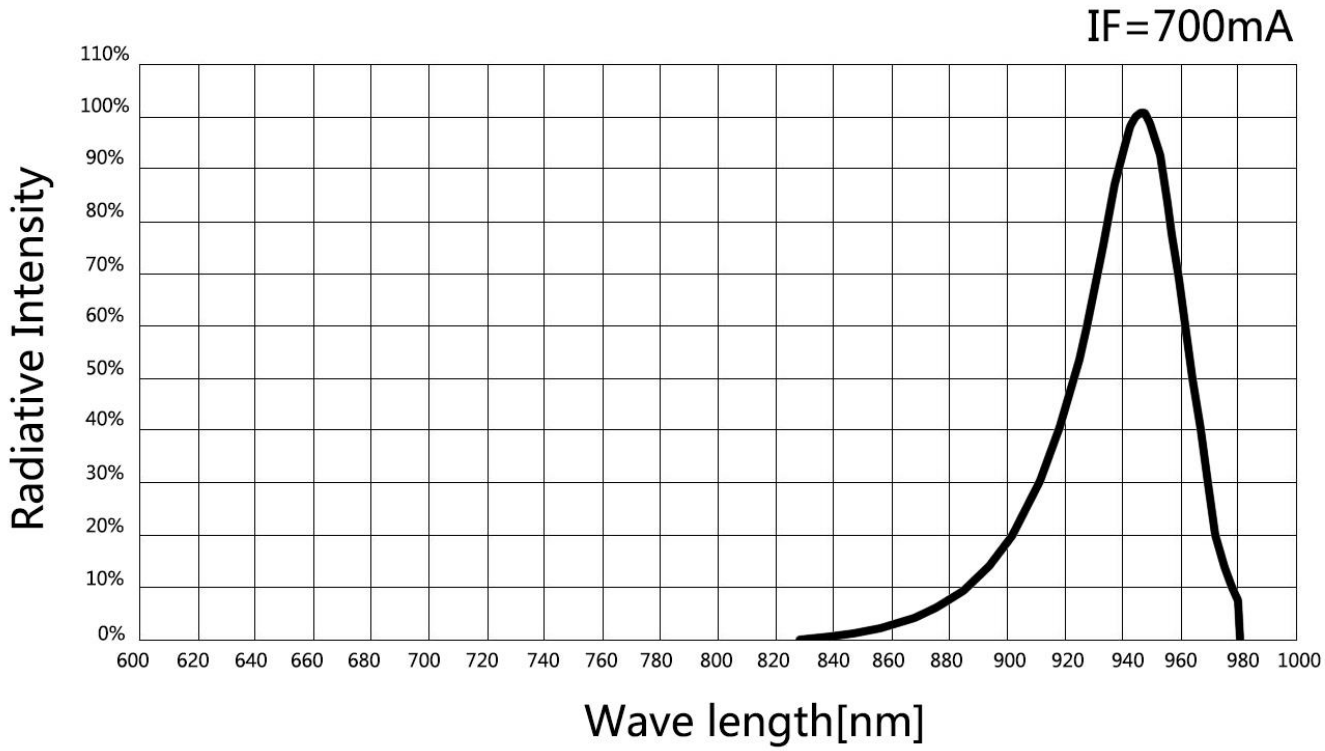




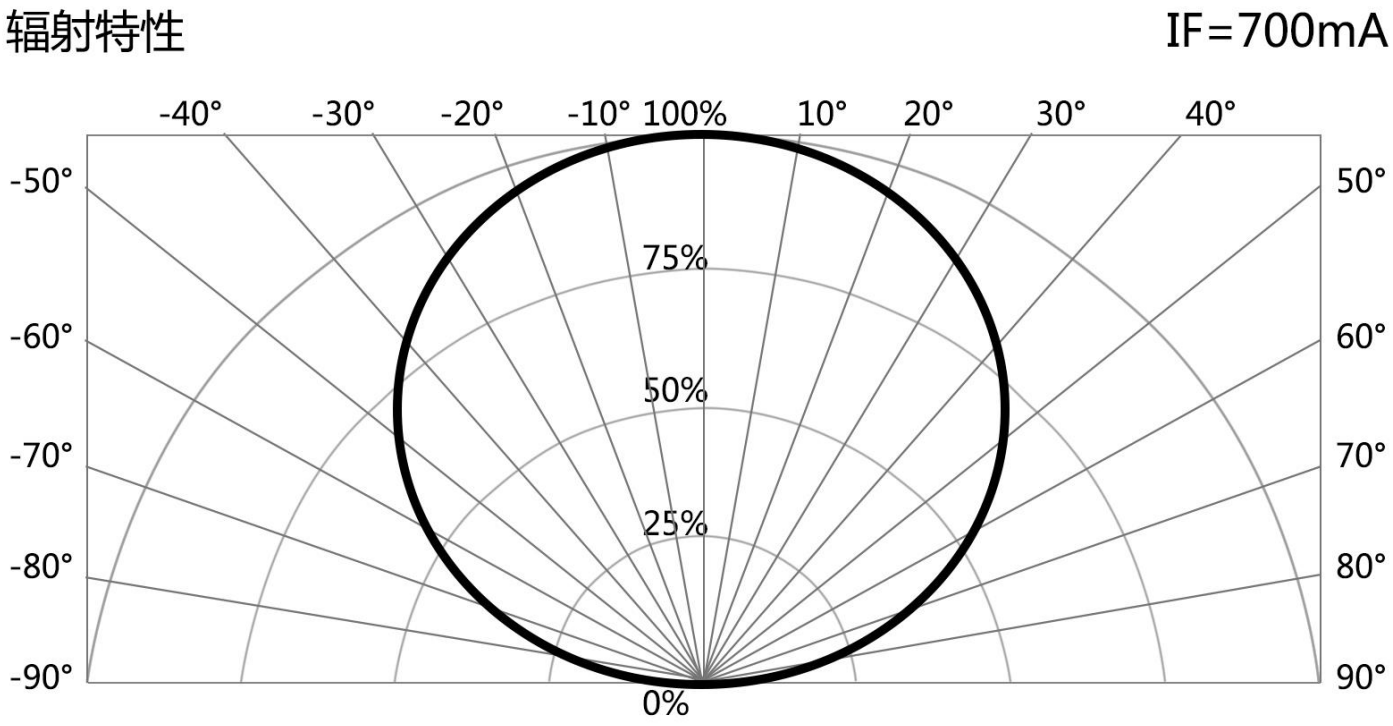




6. Spectrum Curves



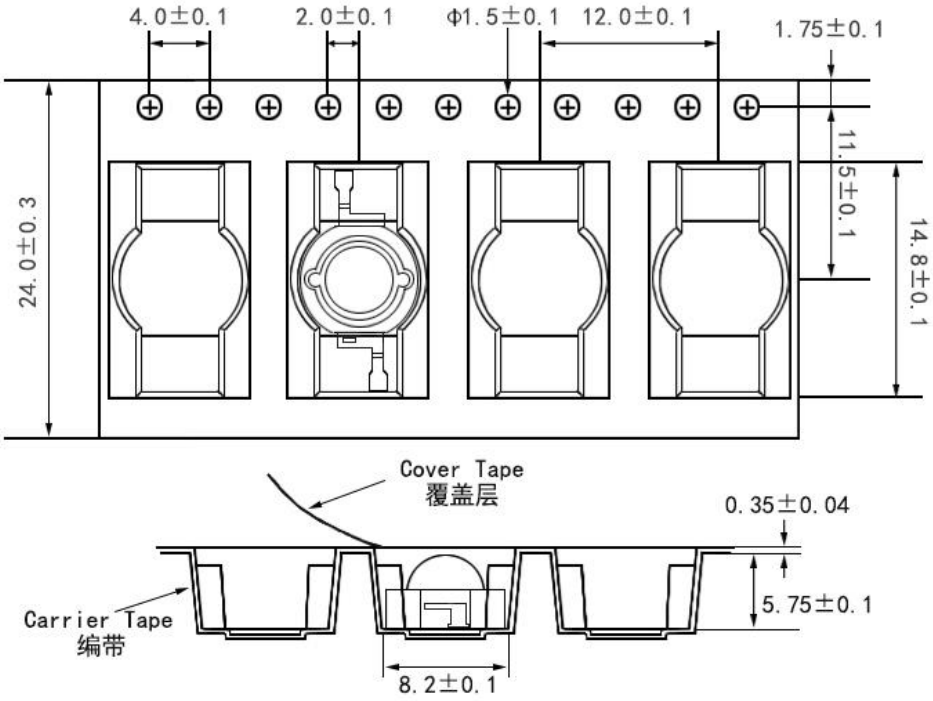
7. Viewing Angle Curves



8. Storage & Packaging

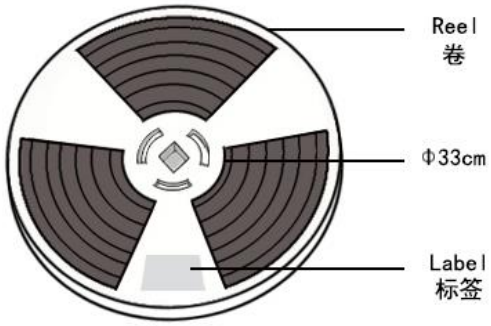
Storage & Handling Instructions for Unpacked LED Beads:

1. Immediate Use: Unpacked LED beads are recommended to be soldered within one day.
2. Short-Term Storage (Within 1 week): If not used immediately, re-vacuum seal and store in an environment with a temperature of 20-35 °C and 30-60% relative humidity. If re-vacuum sealing is not possible, store the LED beads in a moisture-proof box, maintaining 25±3 °C and 50-60% humidity.
3. Long-Term Storage / Moisture Exposure: If unpacked for more than one week, bake the LED beads at 60±5 °C for 10-12 hours prior to soldering.



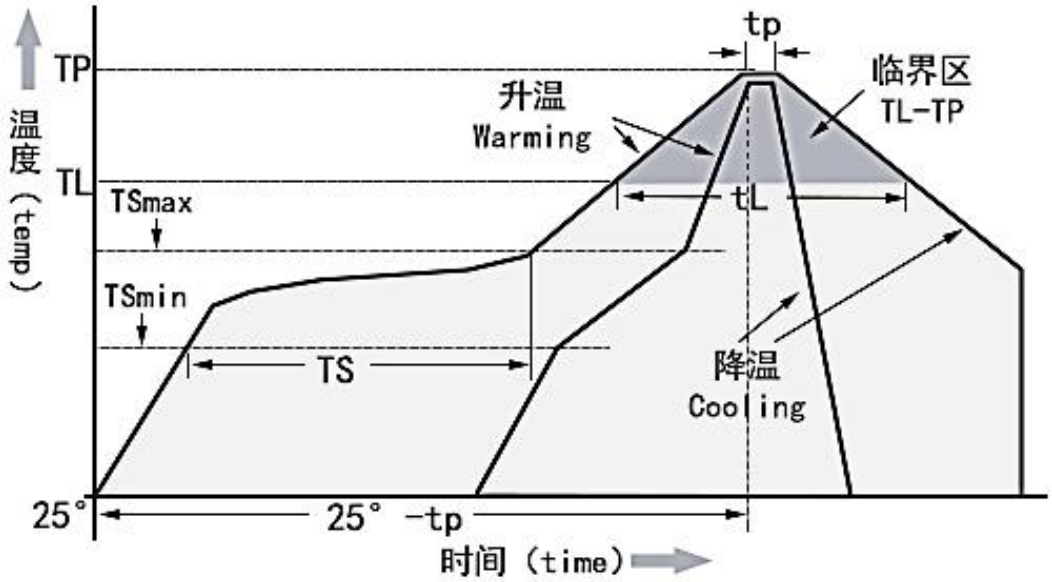
Notes:

1. Quantity: 1000pcs/Reel
2. Dimensions in millimeters (mm)
3. Dimension Tolerance: ± 0.2 mm



9. Soldering Instructions

Avoid touching the LED encapsulant during soldering to prevent damage. For reflow soldering, refer to the provided temperature profile and follow the solder paste manufacturer's recommendations.



Temperature Curve Character	Lead-free solder
Average heating rate (TSmin to Tp)	最高 3℃/秒 Top 3 ℃ / s
Preheating: Minimum temperature （TSmin）	90℃
Preheating: Maximum temperature （TSmax）	200℃
Preheating: Time （TSmin to TSmax）	60-180 s
Duration above temperature: Temperature TL	240℃
Duration above temperature: Time tL	60-150 s
Peak/classification temperature (Tp)	260℃
Time within 5℃ of actual peak temperature (tp)	20-40 s
Cooling speed	最高 6℃/秒 The highest 6 ℃ / s
Time to reach peak temperature at 25℃	最多 8 分钟 8 minutes Max

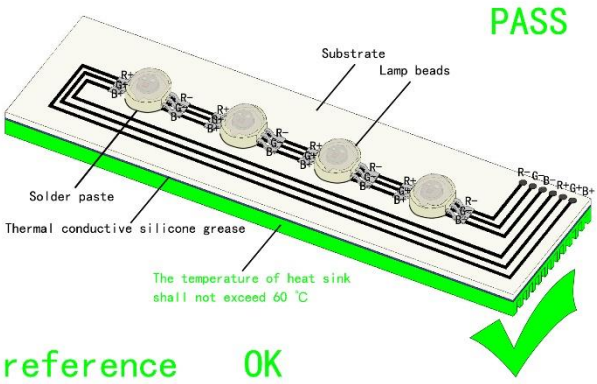
10. Important Considerations

1. ESD Handling Precautions

Implement comprehensive ESD protection measures (e.g., anti-static wrist straps, ESD-safe apparel, grounded equipment and machinery).

2. Thermal Management

Crucial for performance and reliability, proper heat dissipation is essential for LED chips. It is recommended to maintain its operating temperature within the ideal range of 40-60 °C.



3. Processing Guidelines

Avoid applying any pressure directly on the LED encapsulant during use. When using automated pick-and-place equipment, select a suction nozzle of appropriate size to prevent damage. Refer to the images below for guidance.