



SAMPLE APPROVAL SHEET

DESCRIPTIONS:

- 2.0x1.2x0.8mm SMD LED
- Emitting Color: RED
- Lens Color:Water Clear

CUSTOMER:_____

MASON P/N:KGK-2012SURC/S530-A3/TR8

CUSTOMER P/N:_____

CUSTOMER APPROVED SIGNATURES

APPROVRD BY	CHECKED BY

PRELIMINARY SPEC

2.0x1.2X0.8mm SMD CHIP LED

PART NO: KGK-2012SURC/S530-A3/TR8

RED

ATTENTION

OBSERVE PRECAUTIONS
FOR HANDLING

LECTROSTATIC ISCHARGE
SENSITIVE DEVICES

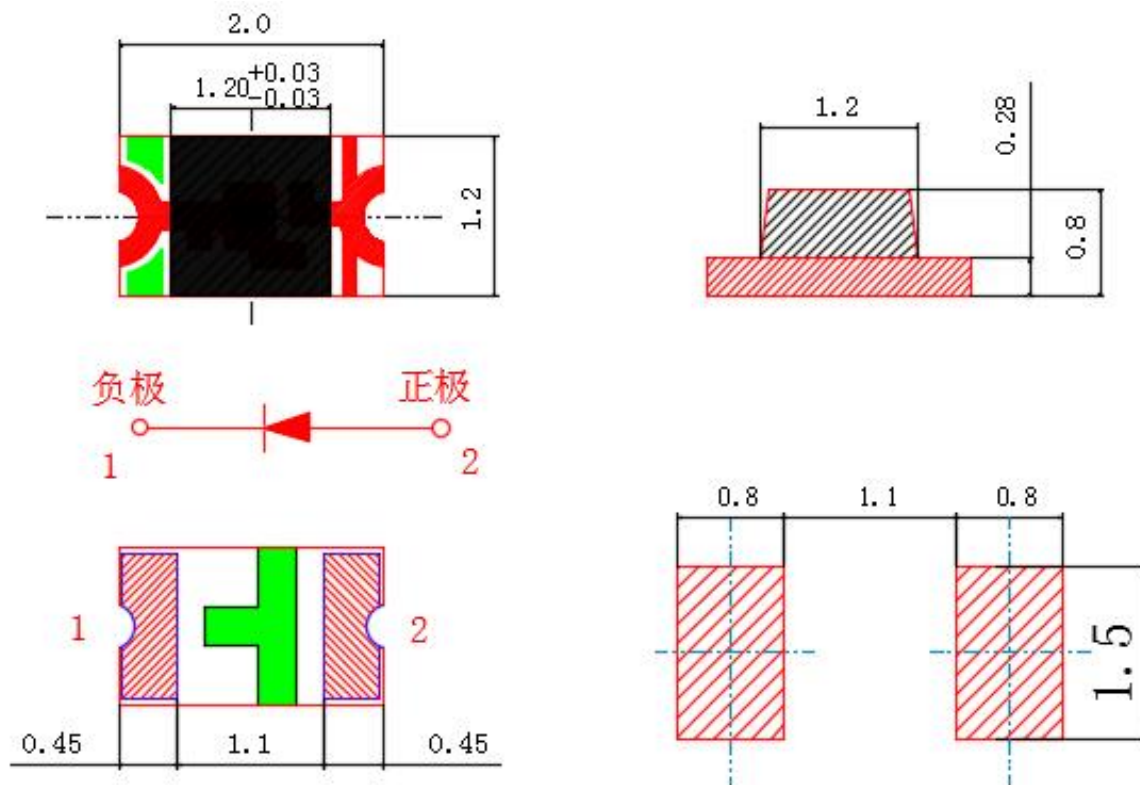
Features

- 2.0mmx1.2mm SMT LED, 0.8mm THICKNESS.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- PACKAGE : 3000PCS / REEL.
- RoHS COMPLIANT.

Applications

- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and back-lighting in telephone and fax.
- Flat backlight for LCD switch and symbol.

◆ Package Dimensions



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.15 unless otherwise noted.
3. Specifications are subject to change without notice.



◆ Device Selection Guide

Part No.	Chip		Lens color
KGK-2012SURC/S530-A3/TR8	Material	Emitted color	Water Clear
	(AlGaInP)	RED	

◆ Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	PD	60	mW
Forward Current	IF	20	mA
Peak Forward Current*1	IFP	100	mA
Reverse Voltage	VR	5	V
Operating Temperature	Topr	-40°C To +85°C	
Storage Temperature	Tstg	-40°C To +85°C	

Notes:

*1: Pulse width≤0.1ms, Duty cycle≤1/10

◆ Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Min	typ	Max	Unit	Test Conditions
Forward Voltage	VF	1.7	—	2.4	V	IF=20mA
Reverse Current	IR	—	—	10	μA	VR=5V
Peak Wave Length	λp	—	625	—	nm	IF=20mA
Dominant Wave Length	λd	615	—	630	nm	
Luminous Intensity	IV	70	—	200	mcd	IF=20mA
Viewing Angle	2θ1/2	—	120	—	Deg.	IF=20mA

Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or chromaticity), the typical accuracy of the sorting process is as follows:

1. Chromaticity Coordinates: ±0.01
2. Luminous Intensity: ±15%
3. Forward Voltage: ±0.1V

◆ Typical Electrical/Optical Characteristics Curves

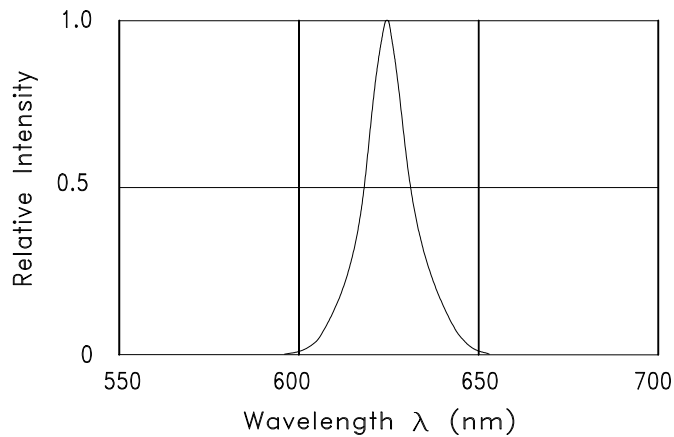


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

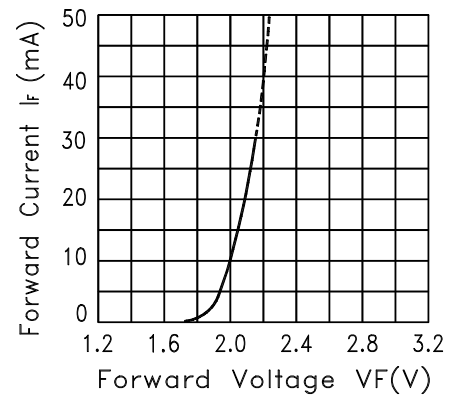


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

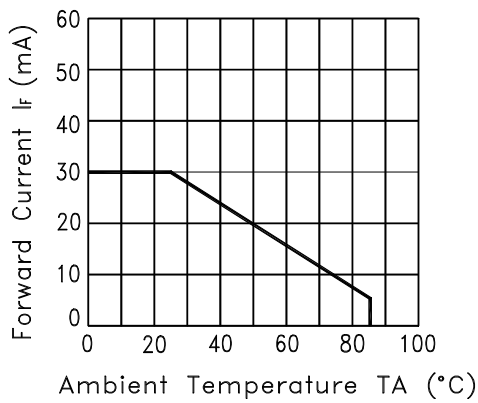


Fig.3 FORWARD CURRENT DERATING CURVE

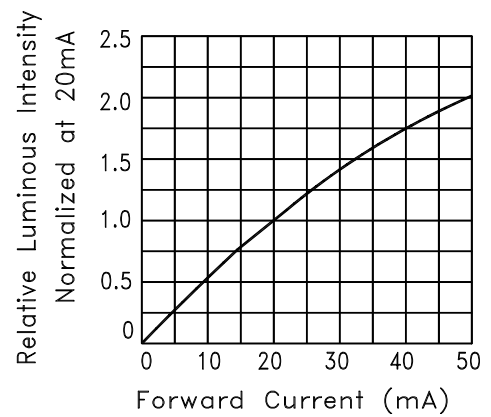


Fig.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

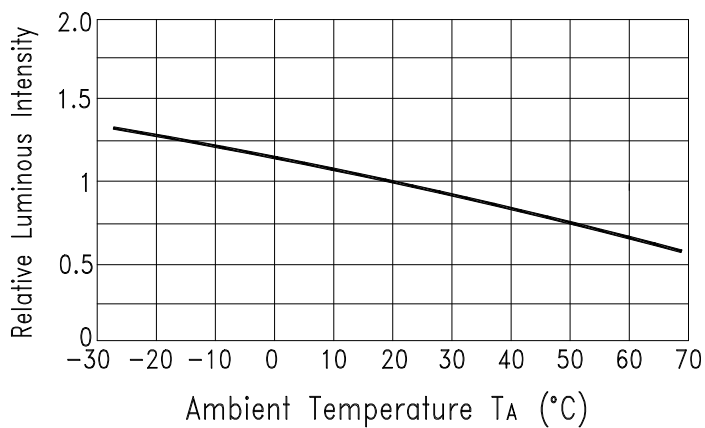


Fig.5 Luminous Intensity vs. Ambient Temperature

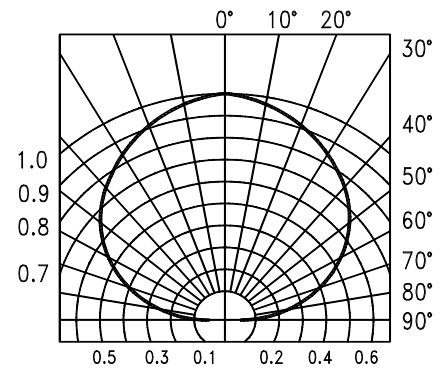
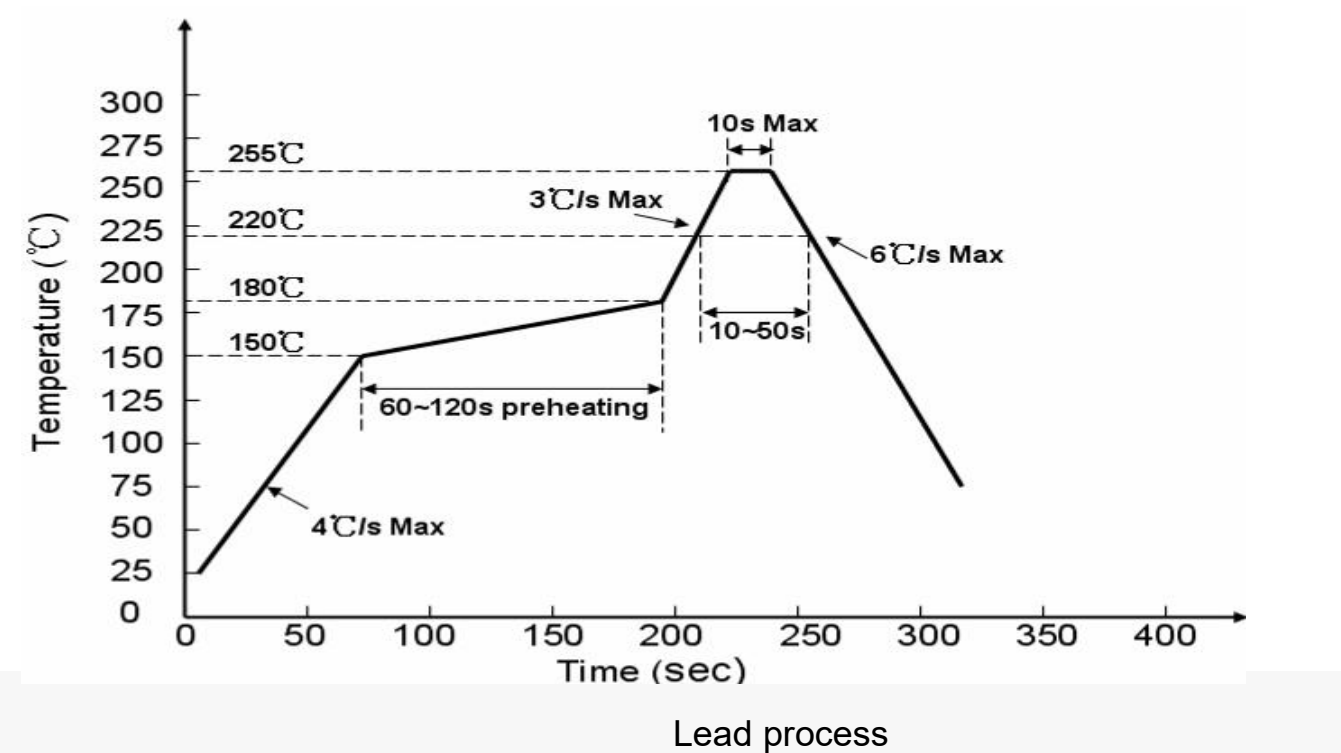
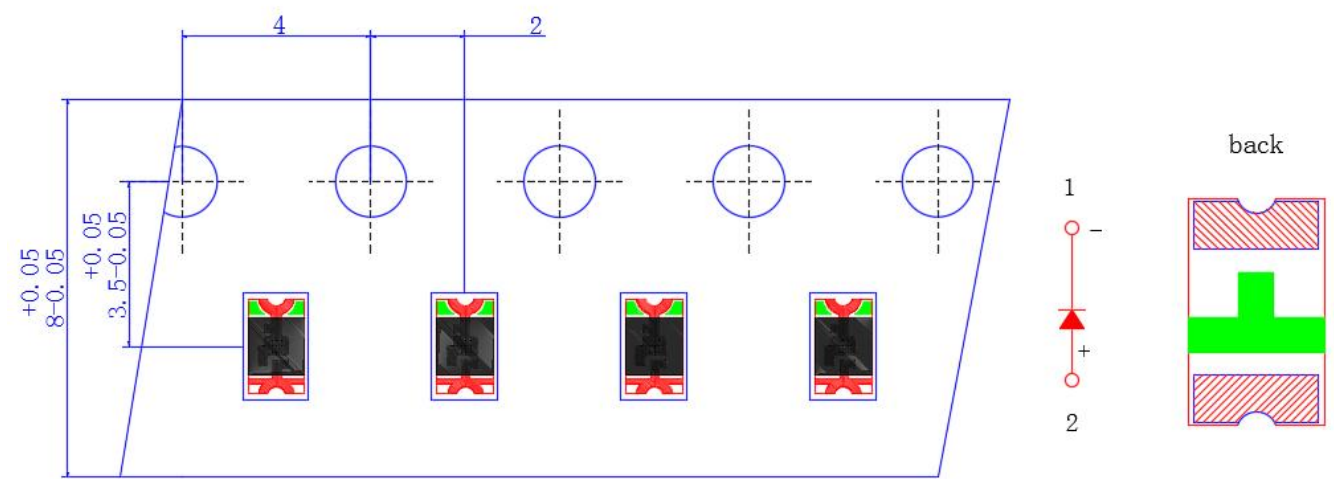


Fig.6 SPATIAL DISTRIBUTION

◆ Soldering Profile



◆ Tape specifications (Units:mm)



◆ VF Rank

Rank		VF		Condition
		MIN	MAX	
a	a2	1.7	1.9	IF=20mA
	a3	1.9	2.1	
	a4	2.1	2.3	
	a5	2.3	2.5	

Tolerance:±0.05V

◆ IV Rank

Rank		IV		Condition
		MIN	MAX	
m		62	89	IF=20mA
n		89	130	
o		130	200	

olerance:±15%

◆ WLD Rank

Rank		WLD		Condition
		MIN	MAX	
J	J1	617	625	IF=20mA
	J2	625	630	
	J3			

Tolerance:±1nm

◆ Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgement criteria for failure
Forward voltage	$V_F(V)$	$I_F=5mA$	Initial Level*1.1
Reverse current	$I_R(UA)$	$V_R=5V$	Over U*2
Luminous intensity	$IV(mcd)$	$I_F=5mA$	Initial Level*0.7

Note: 1.U means the upper limit of specified characteristics.

2.Measurment shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.

◆ CAUTIONS:

1.Storage

• In order to avoid the absorption of moisture, it is recommended to store in the dry box (or desicca tor) with a desiccant. Otherwise, to store them in the following environment is recommended.

Temperature: $5^{\circ}C \sim 30^{\circ}C$

Humidity: 60%HR max.

• Attention after opened

However LED is corresponded SMD, when LED be soldered dip, interfacial separation may affect The light transmission efficiency, causing the light intensity to drop. Attention in followed.

a. After opened and mounted, the soldering shall be quickly.

b. Keeping of a fraction

Temperature: $5^{\circ}C \sim 40^{\circ}C$

Humidity: less than 30%

• In case or more than 1 week passed after opening or change color of indicator on desiccant compo nents shall be dried 10-12hr. at $60^{\circ}C \pm 3^{\circ}C$.

• In case of supposed the components is humid, shall not be dried dip-solder just before. 100Hr at $80^{\circ}C \pm 3^{\circ}C$ or 12Hr at $100^{\circ}C \pm 3^{\circ}C$

2.ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the LED.

The following procedures may decrease the possibility of ESD damage.

- All production machinery and test instruments must be electrically grounded.
- Use a conductive wrist band or anti-electrostatic glove when handling these LEDs.
- Maintain a humidity level of 50% or higher in production areas.
- Use anti-static packaging for transport and storage.