



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

**HL-PSC-2012S9AC**

**RED**



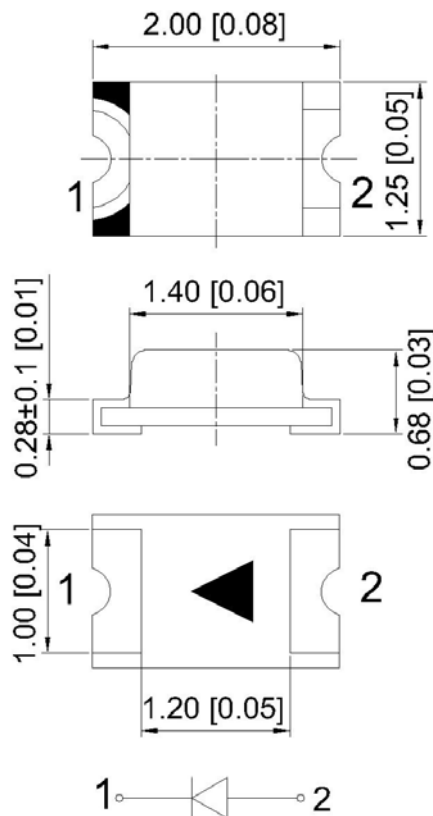
**Features**

- 2.0mmX1.25mm SMT LED, 0.68mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE: 3000PCS / REEL .

**Description**

The Red source color devices are made with AlGaInP on substrate Light Emitting Diode.

**Package Dimensions**



Notes:

1. All dimension units are millimeters.
2. All dimension tolerance is  $\pm 0.2\text{mm}$  unless otherwise noted.
3. An epoxy meniscus may extend about 1.5mm down the leads.

**Selection Guide**

Part No.	Dice	Lens Type	Iv (mcd) @ 20mA		Viewing Angle
			Min.	Typ.	θ1/2
HL-PSC-2012S9AC	RED (AlGaInP)	WATER CLEAR	70	110	120°

Note:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

**Electrical / Optical Characteristics at TA=25°C**

Symbol	Parameter	Device	Min.	Typ.	Units	Test Conditions
λD	Dominant Wavelength	Red	630	635	nm	IF=20mA
C	Capacitance	Red		15	pF	VF=0V;f=1MHz
VF	Forward Voltage	Red	1.6	1.9	V	IF=20mA
IR	Reverse Current	Red	—	5	uA	VR= 5V

**Absolute Maximum Ratings at TA=25°C**

Parameter	Red	Units
Power dissipation	90	mW
DC Forward Current	30	mA
Peak Forward Current [1]	160	mA
Reverse Voltage	5	V
Operating / Storage Temperature	-40°C To +85°C	

Note:

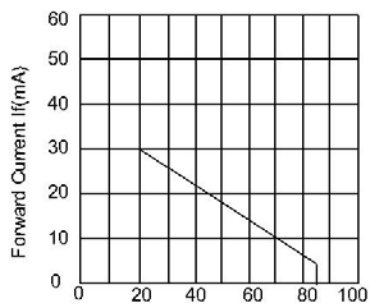
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

**RED**
**HL-PSC-2012S9AC**
**Reliability Test Items And Conditions**

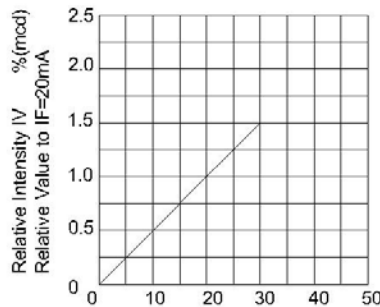
The reliability of products shall be satisfied with items listed below.  
 Confidence level :90% LTPD :10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Rc
1	Reflow	Temp:260°Cmax T=5 sec max.	1times.	22Pcs.	0/1
2	Temperature Cycle	100°C±5°C 30 min. ↑↓5 min -40°C±5°C 30 min.	100 Cycles	22Pcs.	0/1
3	Thermal Shock	100°C±5°C 5 min. ↑↓ -40°C±5°C 5 min.	100 Cycles	22Pcs.	0/1
4	High Temperature Storage	Temp.:100°C±5°C	1000Hrs.	22Pcs.	0/1
5	Low Temperature Storage	Temp.: -40°C±5°C	1000Hrs.	22Pcs.	0/1
6	DC Operating Life	Ta=25°C±5°C IF=20mA	1000Hrs.	22Pcs.	0/1
7	High Temperature/High Humidity	85°C±5°C/ 85%RH IF=5mA	1000Hrs.	22Pcs.	0/1

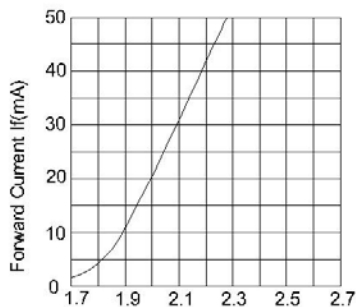
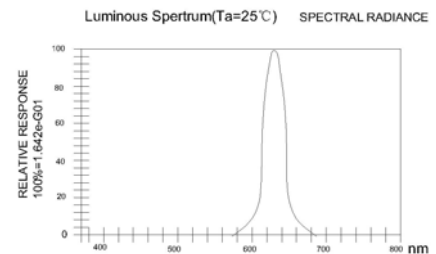
\*The technical information shown in the data sheets are limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license.



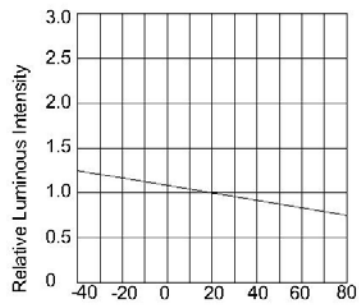
Ambient Temperature TA(°C)  
 Forward current  
 Derating Curve



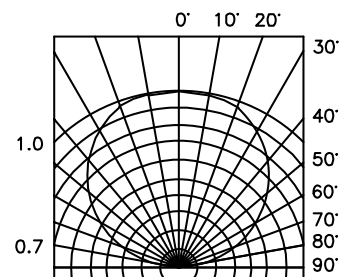
IF-Forward Current (mA)  
 Luminous Intensity vs.  
 Forward Current



Forward Voltage (V)  
 Forward Current VS.  
 Forward Voltage



Ambient Temperature Ta(°C)  
 Luminous Intensity  
 Ambient Temperature

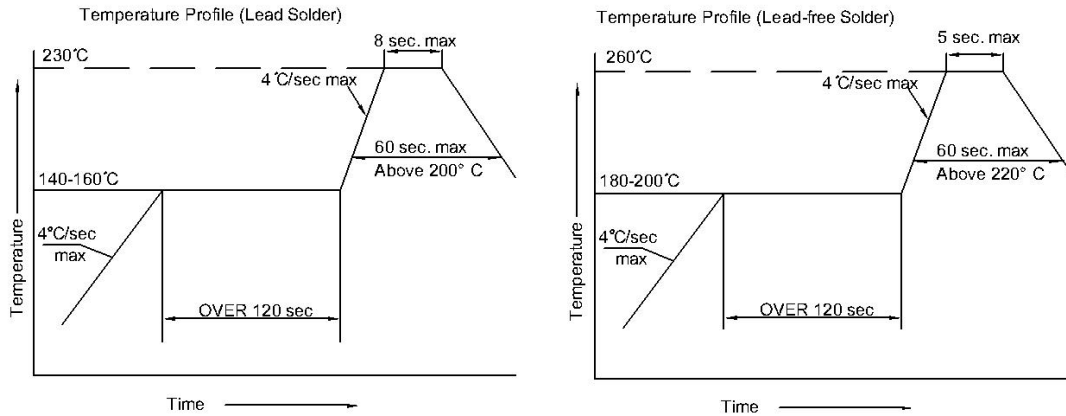


SPATIAL DISTRIBUTION

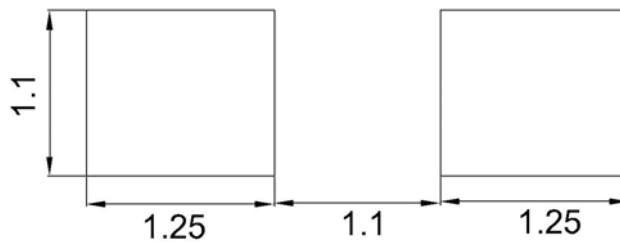
### HL-PSC-2012S9AC

#### SMT Reflow Soldering Instructions

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and second soldering process.



#### Recommended Soldering Pattern (Units : mm)



#### Tape Specifications (Units : mm)

