



# American Opto Plus LED Corp.

## L423SRD

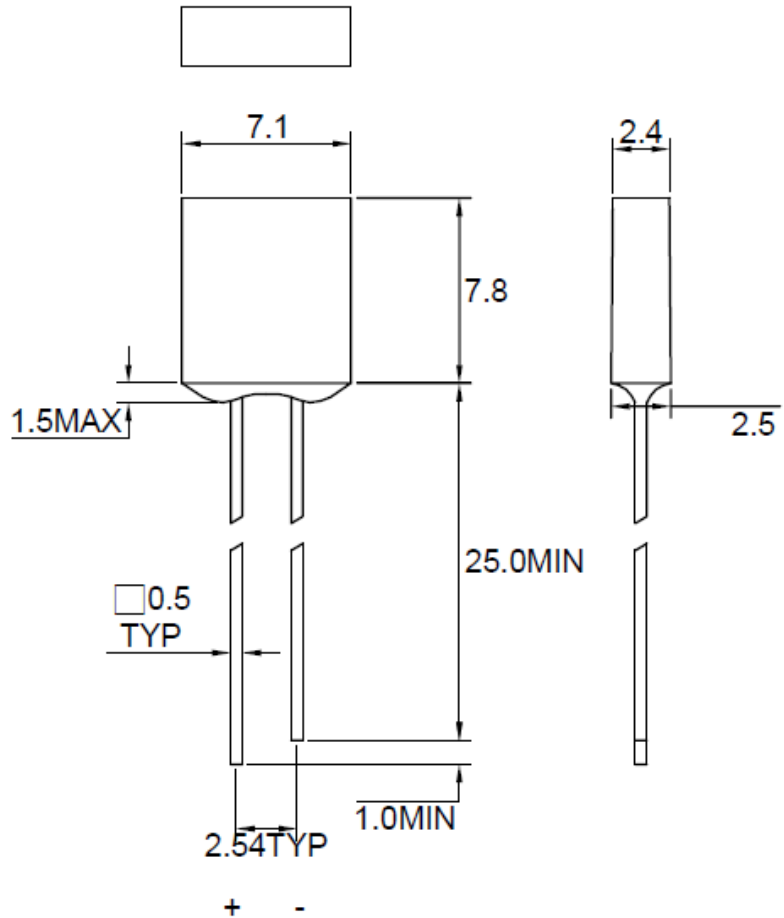
2.4 x 7.1 x 7.8mm Rectangular LED

### DESCRIPTION

- Rectangular LED
- 2.4 x 7.1 x 7.8mm
- Lens Color: Red Diffused

### FEATURES

- Emitted Color: Red
- Technology: GaAlAs Viewing angle: 122 Degrees



#### Note:

1. All dimensions are in millimeter, tolerance is  $\pm 0.25\text{mm}$  unless otherwise noted.
2. Specifications are subject to change without notice.



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### ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
Forward Current	I <sub>F</sub>	40	mA
Peak Forward Current Duty 1/10@ 10KHz	I <sub>FP</sub>	120	mA
Power Dissipation	P <sub>D</sub>	120	mW
Reverse Current @5V	I <sub>r</sub>	10	μA
Operating Temperature Range	T <sub>OPR</sub>	-40 ~ +85	°C
Storage Temperature Range	T <sub>STG</sub>	-40 ~ +100	°C

\* Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling these LED. All devices, equipment and machinery must be properly grounded.

### TYPICAL OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

PART NUMBER	CHIP	COLOR		Peak wave length λD nm	Spectral halfwidth Δλnm	Forward voltage @20mA (V)		Luminous intensity @20mA (mcd)		Viewing Angle 2θ1/2 (deg)
		Emitted	Lens			Min	Max	Min	Typ	
L423SRD	GaAlAs	Red	Red Diffused	660	20	1.7	2.4	28	50	122

Note:

1. The forward voltage data did not include ±0.1V testing tolerance
2. The luminous intensity data did not include ±15% testing tolerance



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## TYPICAL ELECTRO-OPTICAL CHARACTERISTICS CURVE

Fig.1 Forward current vs. Forward Voltage

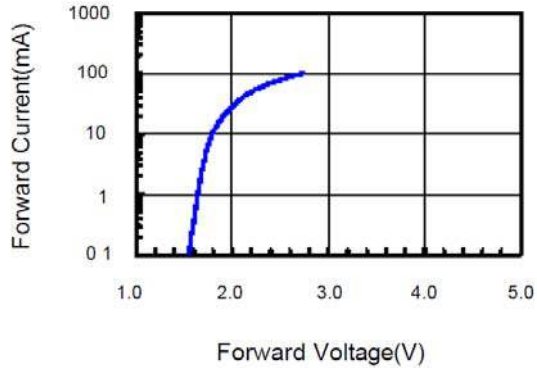


Fig.2 Relative Intensity vs. Forward Current

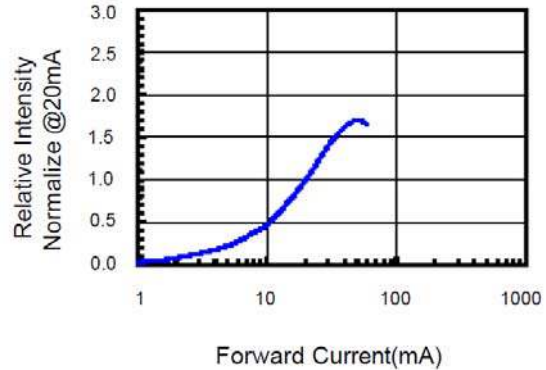


Fig.3 Forward Voltage vs. Temperature

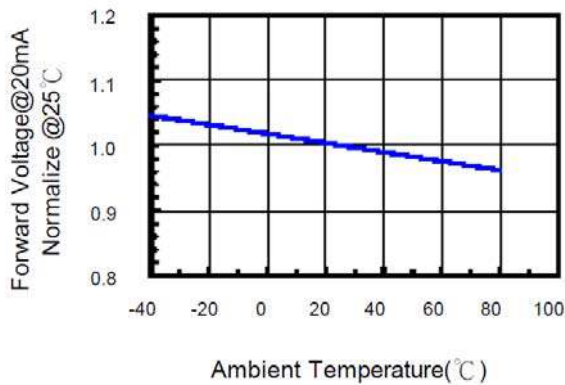


Fig.4 Relative Intensity vs. Temperature

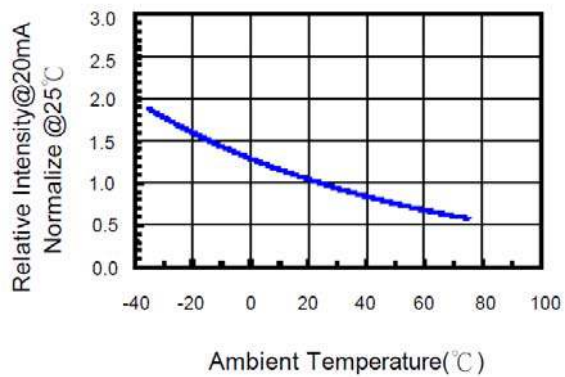


Fig.5 Relative Intensity vs. Wavelength

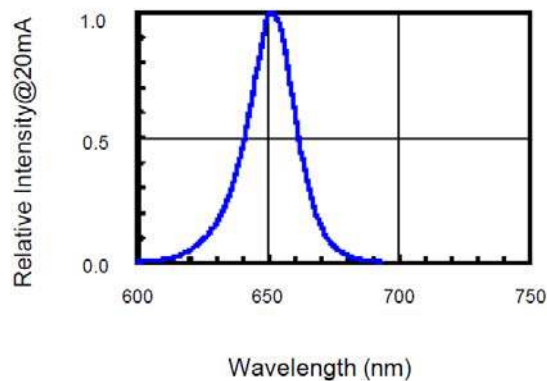
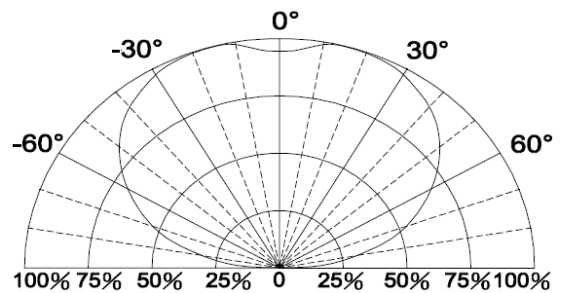


Fig.6 Directivity Radiation





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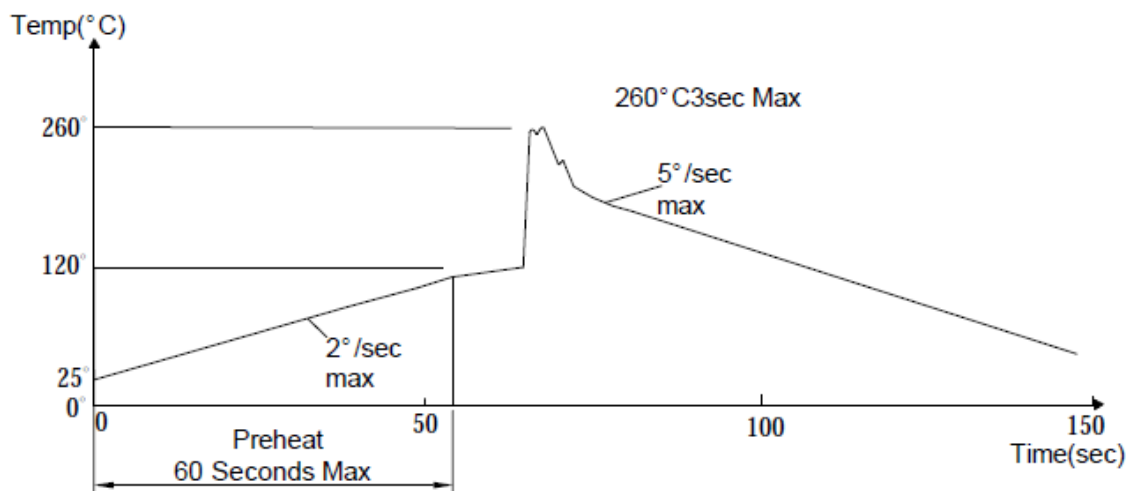
## SOLDERING CONDITION (Pb-Free)

### 1. Iron:

Soldering Iron: 30W Max  
Temperature: 350° C Max  
Soldering Time: 3 Seconds Max (One time only)  
Distance: 2mm Min (From solder joint to body)

### 2. Wave Soldering Profile

Dip Soldering  
Preheat: 120° C Max  
Preheat time: 60 seconds Max  
Ramp-up  
2° C/sec (max)  
Ramp-Down: -5° C/sec (max)  
Solder Bath: 260° C Max  
Dipping Time: 3 seconds Max  
Distance: 2mm Min (From solder joint to body)



Note:

1. Wave solder should not be made more than one time.
2. You can just only select one of the soldering conditions as above.



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### RELIABILITY TEST

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of determining the resistance of a part in electrical and thermal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 °C±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40 °C±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65 °C±5°C 2.RH=90 %~95% 3.t=240hrs ±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105 °C±5°C & -40°C±5°C (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260 °C±5°C 2.Dwell time= 10 ±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=230 °C±5°C 2.Dwell time=5 ±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2