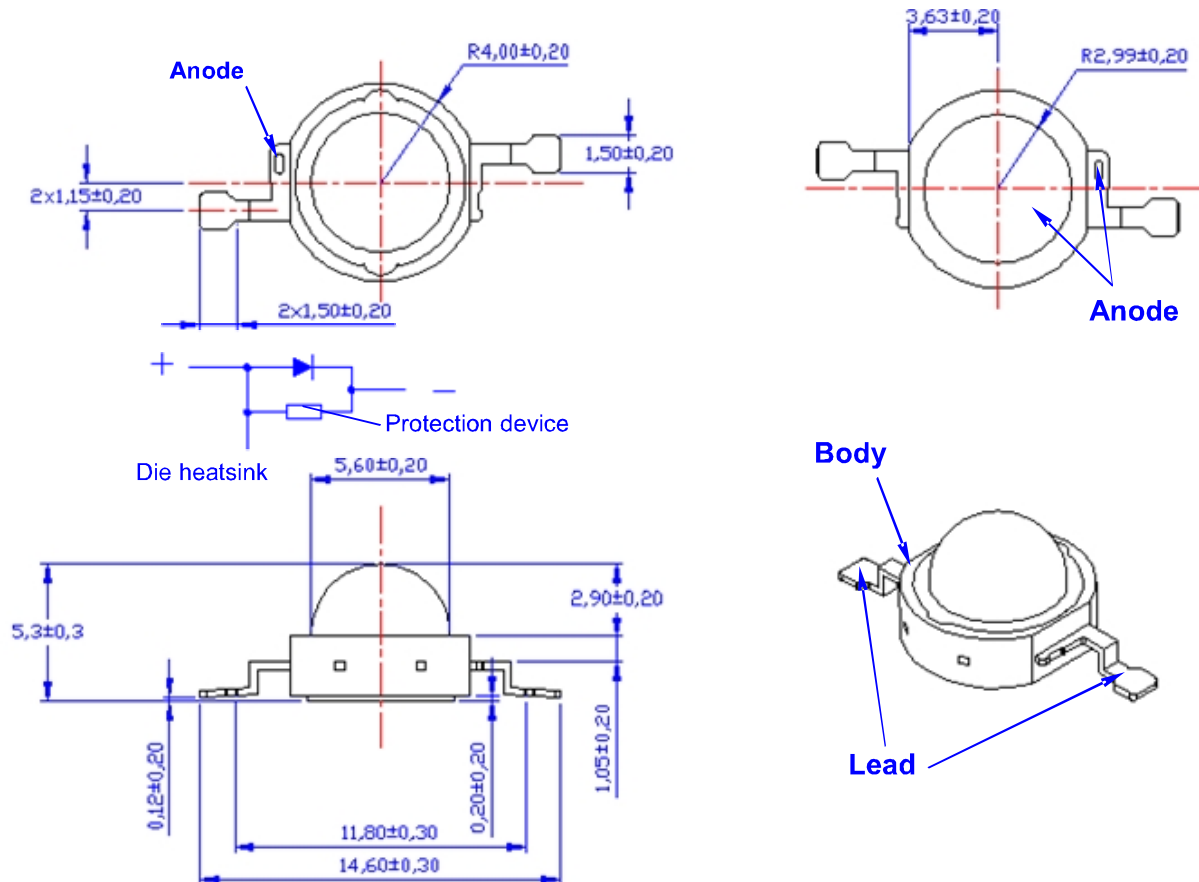


**Feature :**

Excellent Operating Life  
High Efficiency  
Silicone lens technology  
Specially designed to fit secondary optics  
Low Thermal Resistance  
Fully Dimmable  
Superior ESD Protection  
100% RoHS Compliant  
The light output decay is less than 10% at crucial  
test condition (700mA, ambient 85°C and 85%RH).

## 1. Mechanical Dimensions



### Notes:

1. Drawings are not to scale.
2. All dimensions are in millimeter.
3. General tolerance is 0.2mm.
4. The polarity of slug at bottom is anode.
5. It is important that the slug to be isolated on MCPCB or heat-sink. For isolation it is strongly recommended that there should a coating of uniform electrically isolated heat dissipation film on the aluminum/metallic surface.

## 2. Absolute Ratings

Parameter	Rating
	White Series
Typical DC Forward Current (mA)	700mA
LED Junction Temperature	125 °C
LED Operating Temperature	-40°C~110°C
Storage Temperature	-40°C~110°C
Soldering Temperature	Max. 260°C / Max. 10sec. (JEDEC 020c)
ESD Sensitivity	2,000 V HBM (JESD-22A-114-B)
Reverse Voltage	Not design to be driven in reverse bias (VR ≅5V)

## 3. General Characteristics

### 3.1 Luminous Flux and Forward Voltage at 700mA

Part number	Color	Luminous Flux(lm) or Radiometric Power*(mW) @700mA		Forward Voltage VF @700mA	
		Min	Typ	Min	Max
VAOP-EWS-3	Daylight	128	153	3.0	4.1
	Neutral White	119	136	3.0	4.1
	Warm White	85	102	3.0	4.1

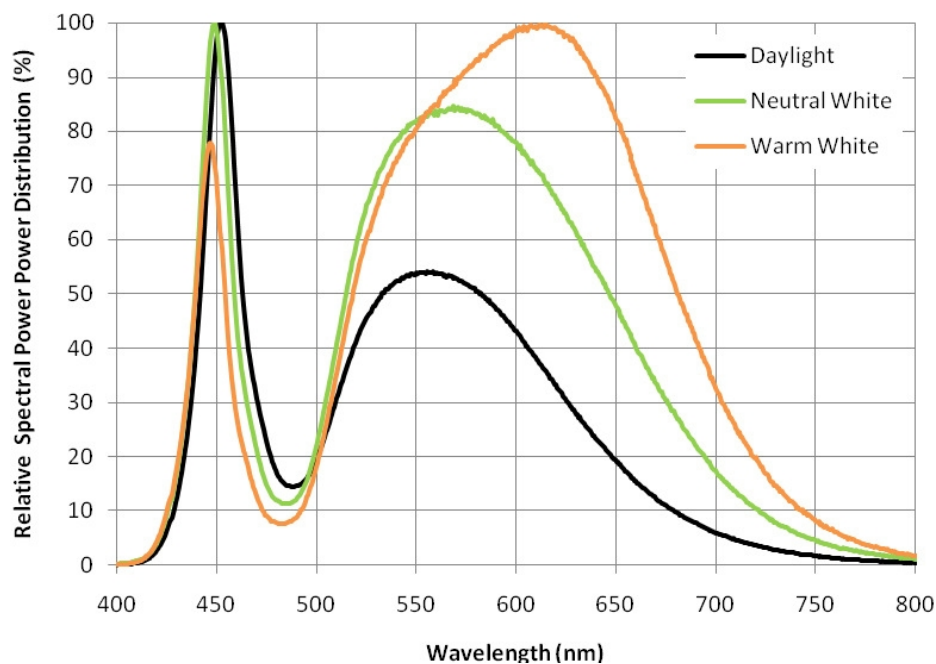
### 3.2 Dominant Wavelength $\lambda_d$ or Peak Wavelength $\lambda_p$ at 700mA

Part number	Color	Typ CRI	Correlated Color Temperature CCT		2 $\theta$ 1/2	Temp rature Coefficient of Vf (mV/°C)
			Min	Max		$\Delta V_F / \Delta T_J$
VAOP-EWS-3	Daylight	70	4750K	7000K	135	-3
	Neutral White	75	3700K	4750K	125	-3
	Warm White	80	2600K	3700K	125	-3

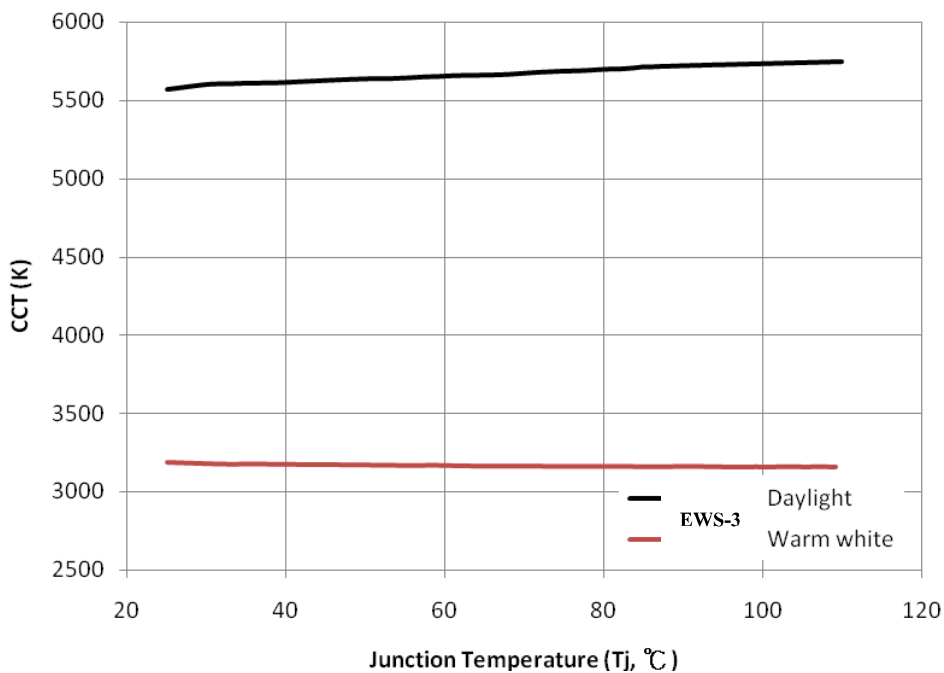
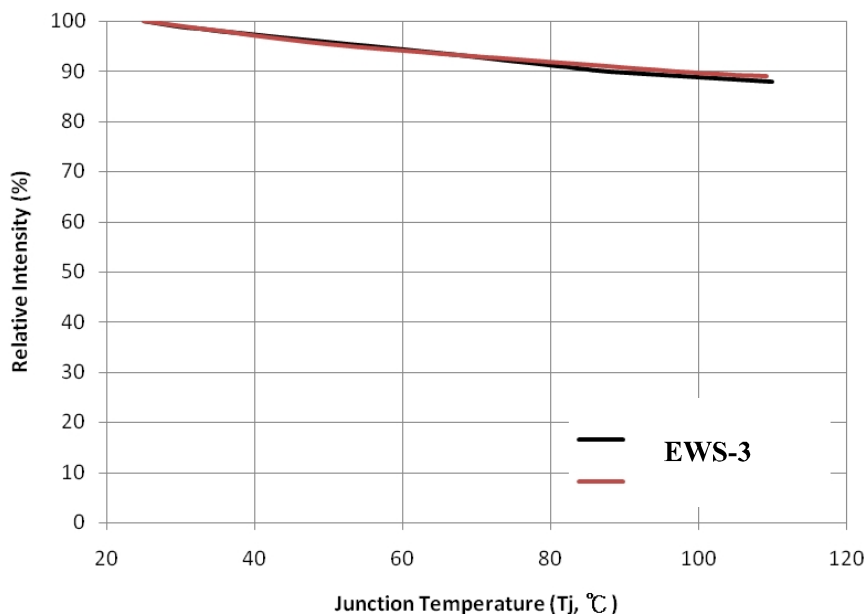
**Notes :**

1. Luminous flux is measured with an accuracy of  $\pm 10\%$
2. The CCT is measured with an accuracy of  $\pm 200K$
3. The peak/dominant wavelength is measured with an accuracy of  $\pm 1nm$
4. The forward voltage is measured with an accuracy of  $\pm 0.1V$

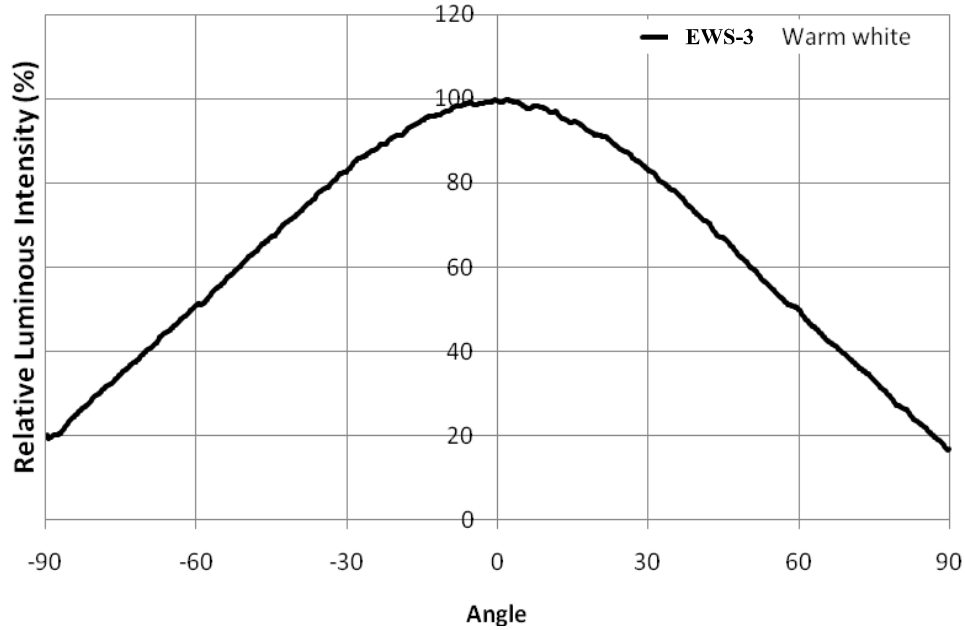
### 4. Relative Spectral Power Distribution, $T_a=25^\circ C$



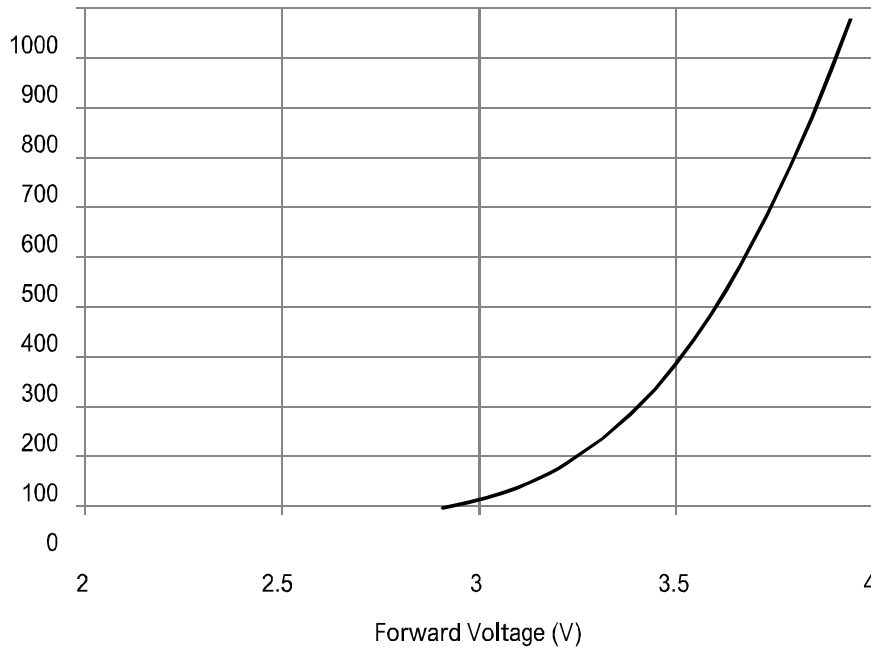
## 5. Typical Light Output Characteristics over Temperature



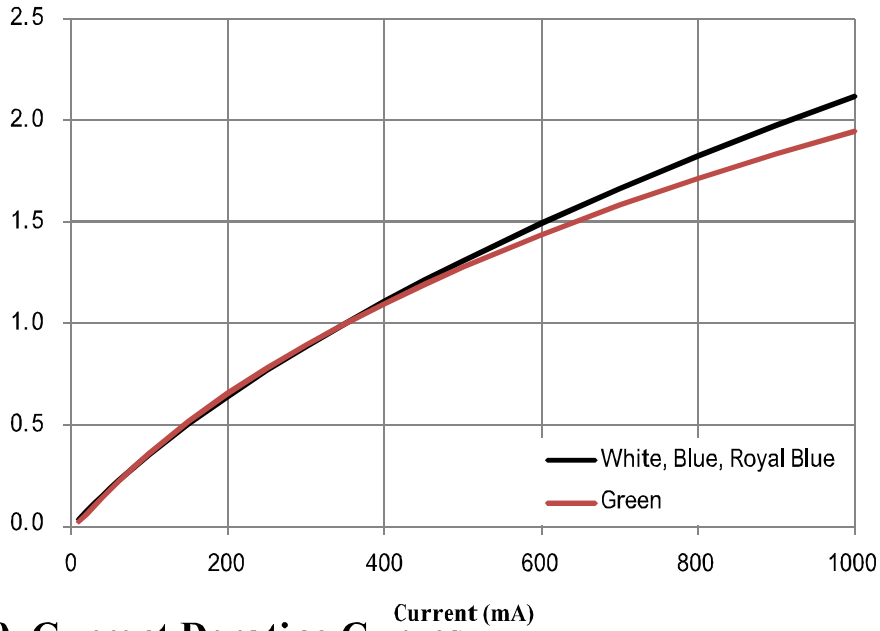
## 6. Typical Spatial Radiation Pattern



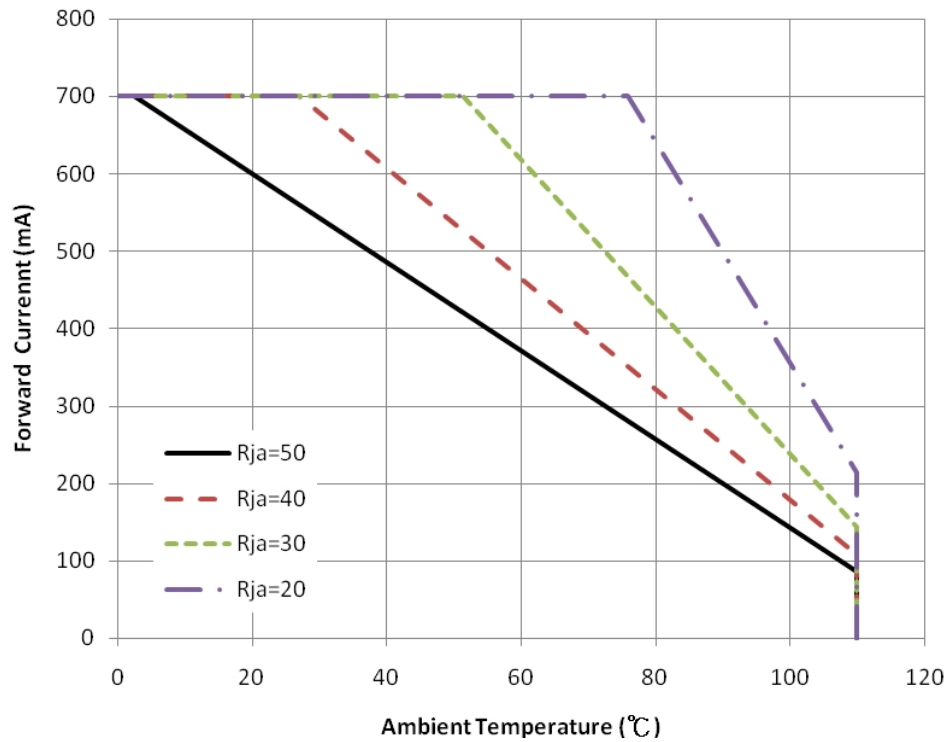
## 7. Typical Forward I-V Characteristics



### 8. Typical Forward L-I Characteristics



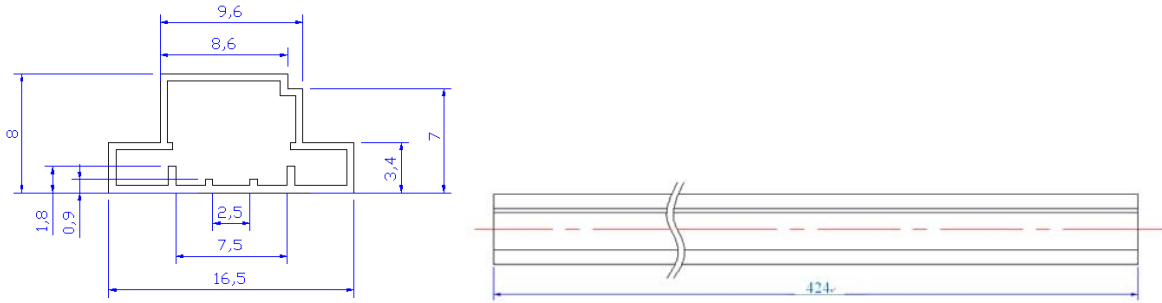
### 9. Current Derating Curves



Note :  $R_{ja}$  is thermal resistance from LED junction to ambient

## 10. Shipping Package Information

### Tube

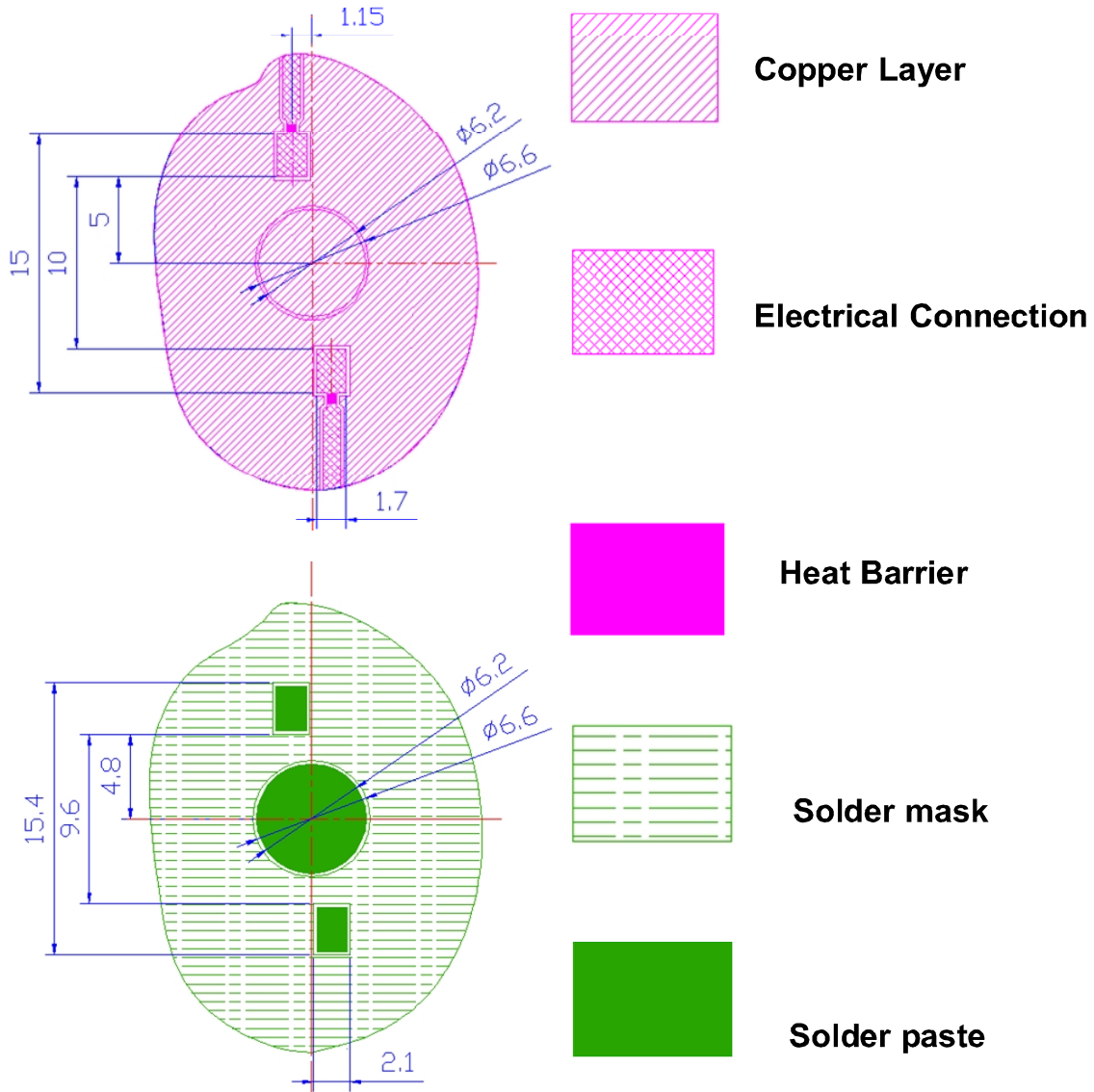


1. All dimensions are in millimeter

Level	Dimensions (L*W*H)	Emitter Quantity
Tube	424*16.7*10.0 mm	50 EA



## 11. Recommended Solder Pad Design



### Notes :

1. Drawing is not to scale
2. All dimensions are in millimeter