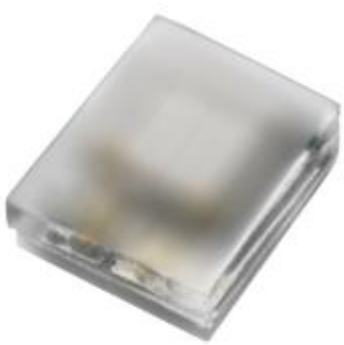
2016 UV LED

0.08W Series



Introduction

The 2016 product series is a ceramic based LED with high quality and reliability that suitable for UV application.

Features

- Low power UVA LED
- Dimension 2.0mm*1.6mm*0.75mm
- ESD protection up to 8KV
- RoHS compliant
- Pb free
- EU REACH compliant
- Halogen Free compliant
- (Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)

Applications

- UV Sterilization System
- UV Photo-catalyst
- UV Sensor Light

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Max. DC Forward Current (mA)	I_F	20	mA
Power Dissipation	Pd	0.08	W
Max. ESD Resistance	V_B	8000	V
Max. Junction Temperature	T_J	125[5]	°C
Operating Temperature	T_{Opr}	-40 ~ +110	°C
Storage Temperature	T_{Stg}	-40 ~ +110	°C

Notes:

1. Maximum forward current is 20mA (Thermal Pad=25°C).
2. Duty cycle = 1/10@1KHZ
3. The 2016 series LEDs are not designed for reverse bias use.
4. Thermal Resistance is from junction to backside of component.
5. Maximum junction temperature of UV is 125°C.

Electro-Optical Characteristic

Parameter	Symbol	Min.	Typ.	Max	Unit	Condition
Radiant Flux	Φ e	---	15	---	mW	IF=20mA
Forward Voltage	VF	3.4	---	4	V	
Peak Wavelength	λp	---	368	---	nm	
Viewing Angle	2θ 1/2	---	125	----	deg	

Parameter	Symbol	Min.	Typ.	Max	Unit	Condition
Radiant Flux	Φ e	---	25	---	mW	IF=20mA
Forward Voltage	VF	3.2	---	3.8	V	
Peak Wavelength	λp	---	385	---	nm	
Viewing Angle	2θ 1/2	---	125	----	deg	

Parameter	Symbol	Min.	Typ.	Max	Unit	Condition
Radiant Flux	Φ e	---	25	---	mW	IF=20mA
Forward Voltage	VF	3	---	3.6	V	
Peak Wavelength	λp	---	395	---	nm	
Viewing Angle	2θ 1/2	---	125	----	deg	

Parameter	Symbol	Min.	Typ.	Max	Unit	Condition
Radiant Flux	Φ e	---	25	---	mW	IF=20mA
Forward Voltage	VF	3	---	3.6	V	
Peak Wavelength	λp	---	405	---	nm	
Viewing Angle	2θ 1/2	---	125	----	deg	

Notes:

1. Radiant flux measurement tolerance: ±10%.
2. The data of luminous flux measured at thermal pad=25℃
3. Typical radiant flux or light output performance is operated within the condition guided by this datasheet.

PN of the 2016 series: UVA LEDs

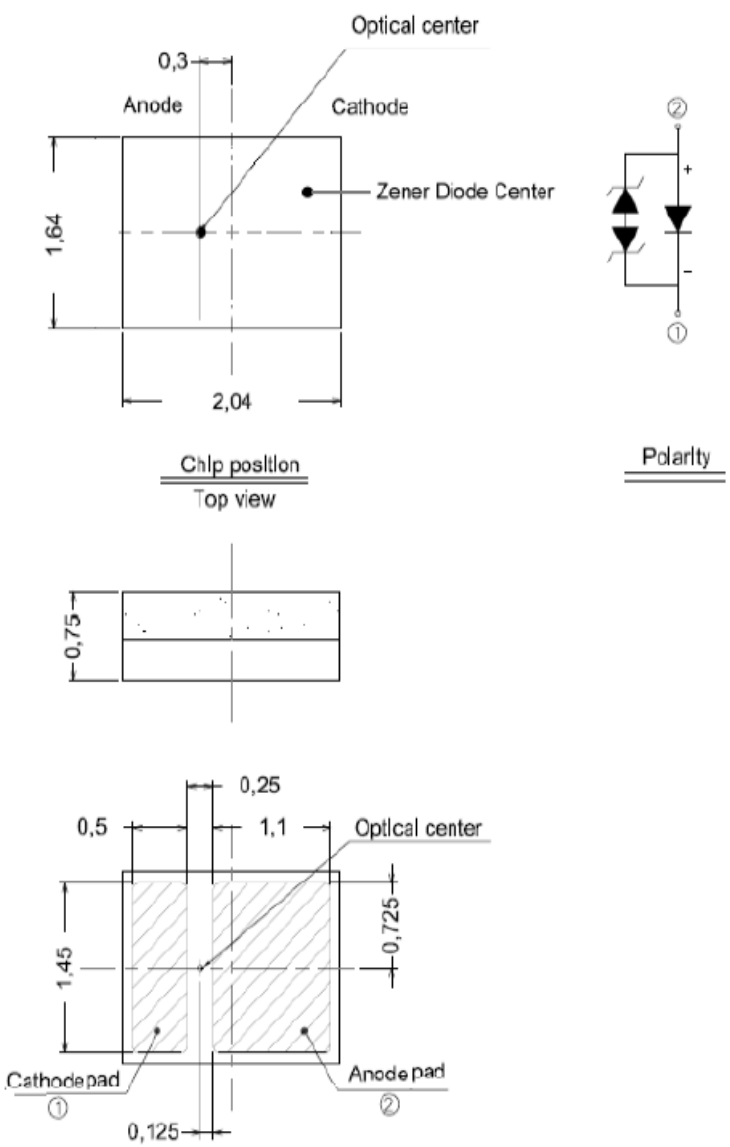
The table below is a list of part numbers for the 2016 0.08W series UVA LED. Typical view angle is 125°. These clearly listed binning options allow for proper design and implementation into UV applications.

Color	Typ. Peak Wavelength (nm)	Forward Voltage (V)	Minimum Radiant Flux (mW)
UV	368	3.6	15

UV, 2016 series LEDs at 20mA are listed below

Color	Order Code of 2016	Minimum Radiant Flux (mW)	Peak Wavelength (nm)	Forward Voltage (V)
Ultraviolet	YL-2016F-365nM(A)	15	365~375	3.4-4
	YL-2016F-365nM(B)	20	365~375	3.4-4
	YL-2016F-380nM(A)	25	380-390	3.2-3.8
	YL-2016F-390nM(A)	25	390-400	3-3.6
	YL-2016F-400nM(A)	25	400-410	3-3.6

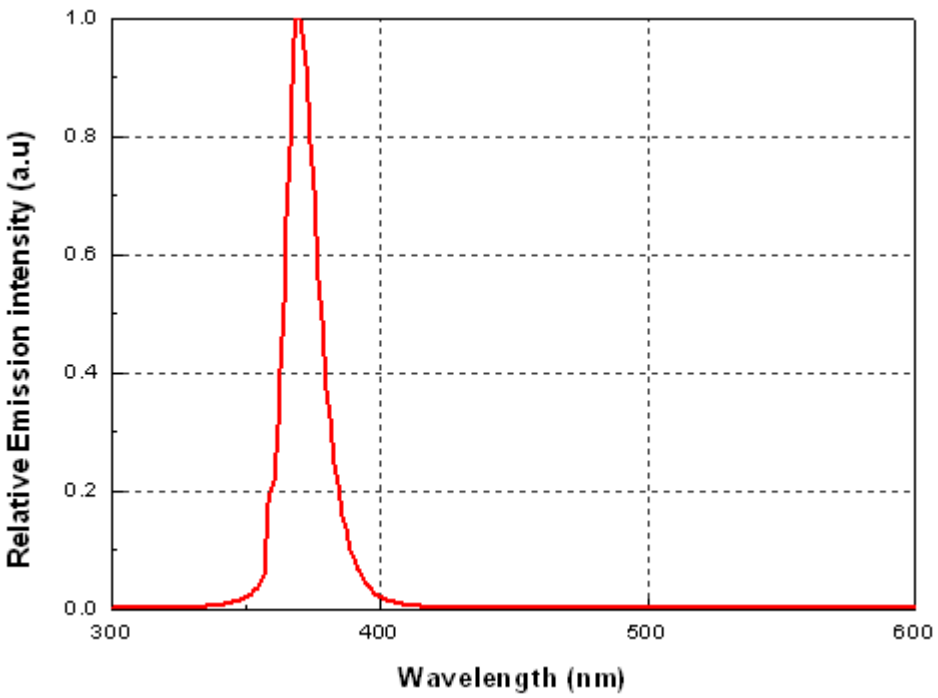
Mechanical Dimension



1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ± 0.1mm

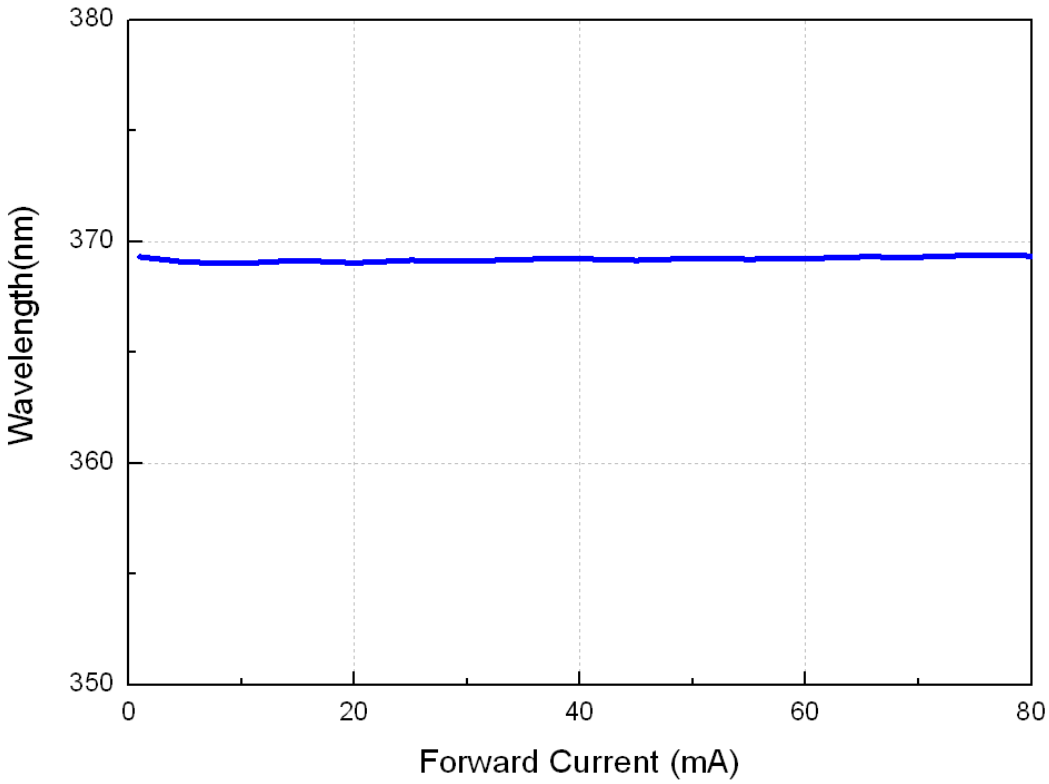
Typical Characteristics Curves

Spectrum @ Thermal Pad Temperature = 25℃



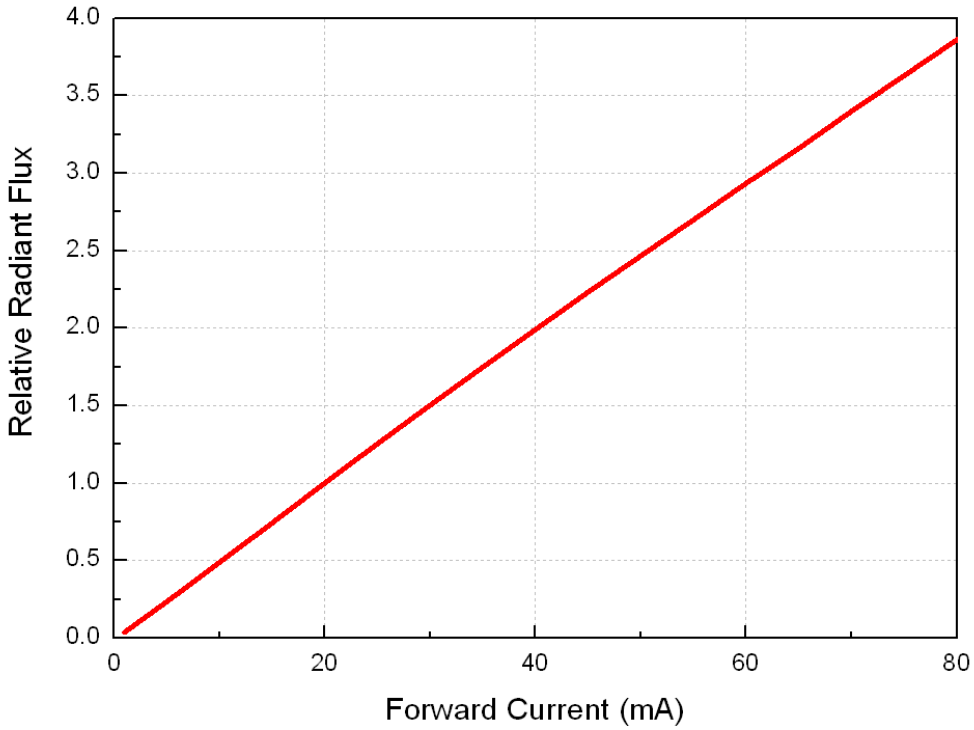
Forward Current V.S. Peak Wavelength

@ Thermal Pad Temperature = 25℃



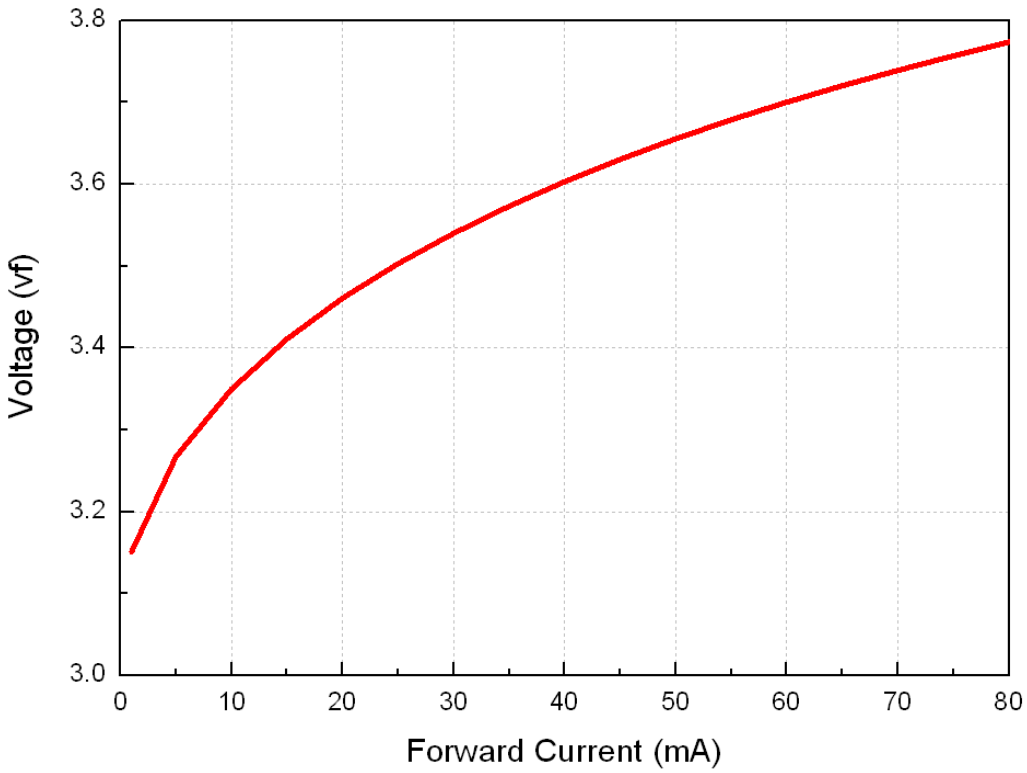
Forward Current vs. Relative Radiant Flux

@ Thermal Pad Temperature = 25℃



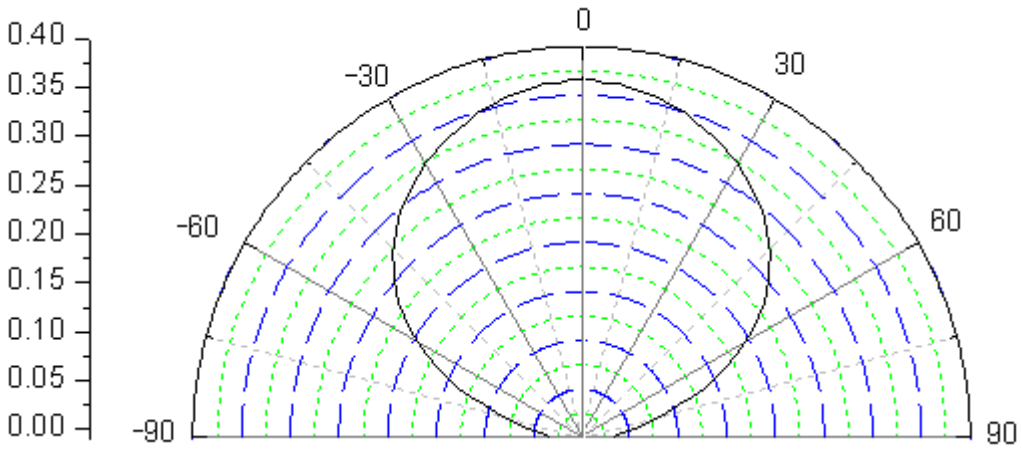
Forward Voltage vs. Forward Current

@ Thermal Pad Temperature = 25℃



Typical Radiation Patterns

Typical Diagram Characteristics of Radiation for **2016**



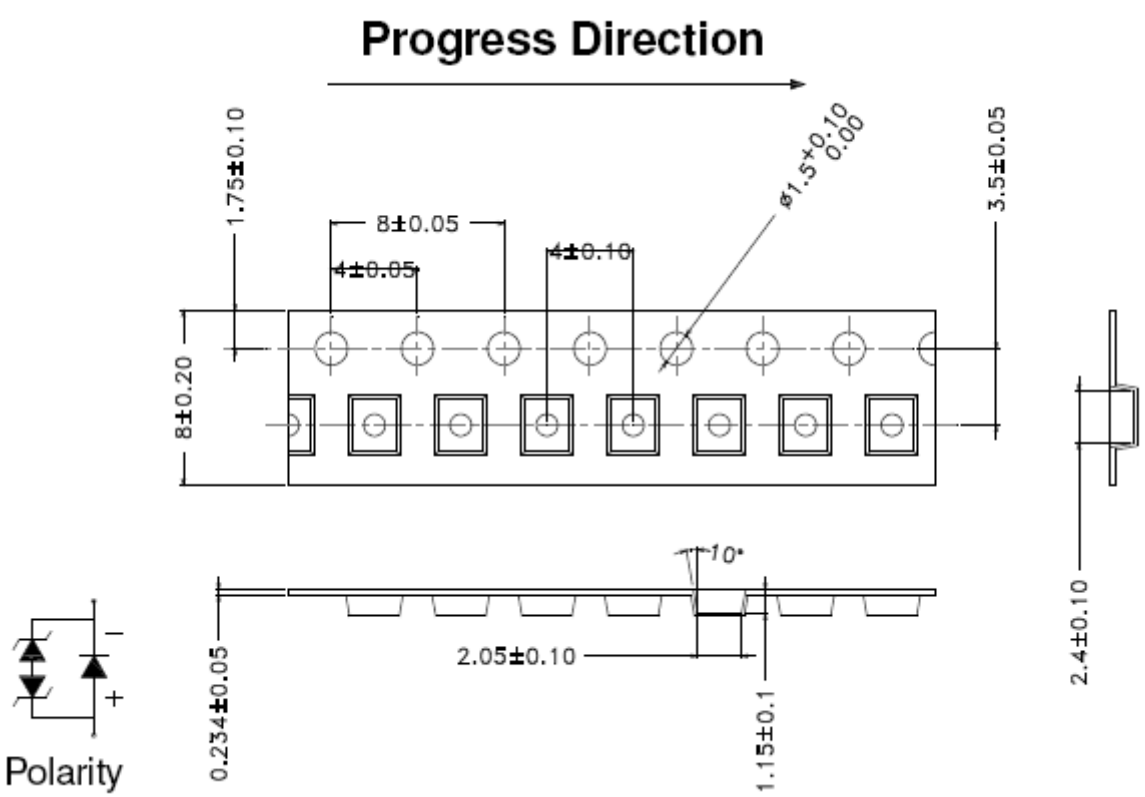
Notes:

1. $2\theta_{1/2}$ is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is ± 5° .

Emitter Tape Packaging

Carrier Tape Dimensions as the following:

Reel: 2000pcs

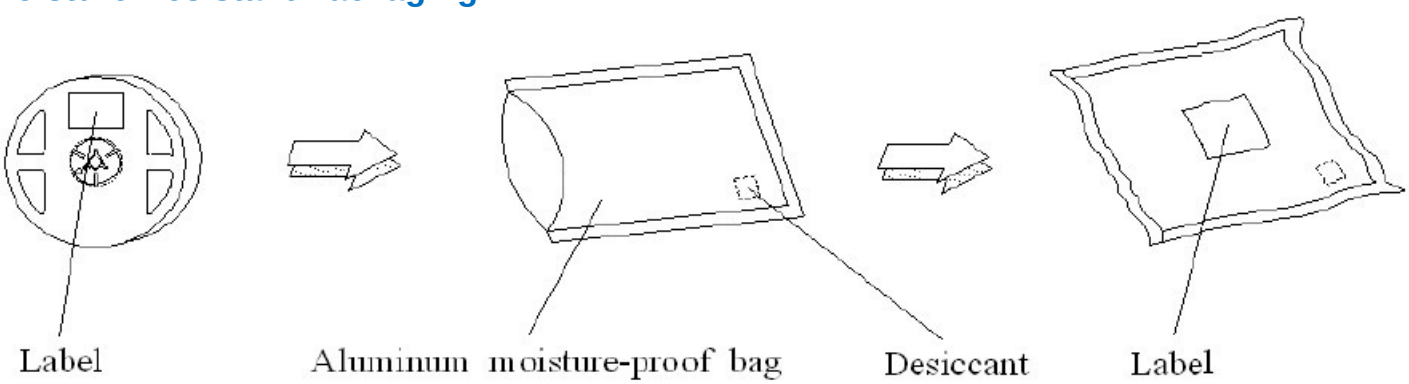


Unit = mm

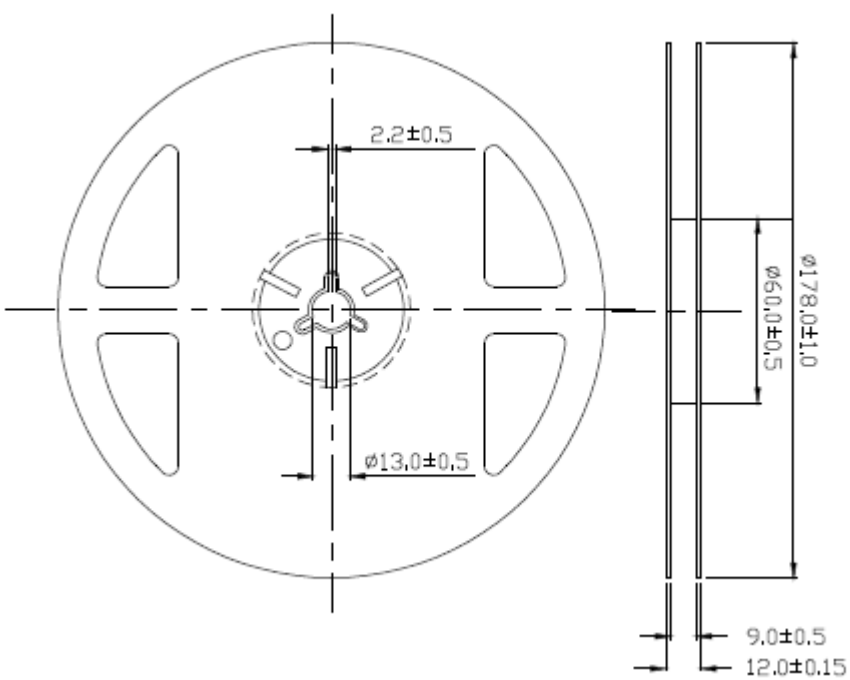
Notes:

1. Tolerance unless mentioned is ±0.1mm;

Moisture Resistant Packaging



Emitter Reel Dimensions



Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ±0.1mm.

Storage Conditions

- Before the package is opened :The LEDs should be stored at 30°C or less and 85%RH or less after being shipped from YesLED and the storage life limits are 1 year. The LEDs can be stored up to 3 years if in a sealed container with a nitrogen atmosphere and moisture absorbent material.
- After opening the package: The LED's floor life is 168hrs when environment is 30℃ or less and 60%RH or less. The LED should be soldered within 168hrs (7days) after opening the package. If unused LEDs remain, it should be stored in moisture proof packages.
- If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions. Baking treatment: 60±5℃ for 24 hours.