

APHCM2012ZGC/G-F01 2.0 x 1.25 mm SMD CHIP LED LAMP

DESCRIPTIONS

- The Green source color devices are made with InGaN Light Emitting Diode
- Electrostatic discharge and power surge could damage the LEDs
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs
- All devices, equipments and machineries must be electrically grounded

FEATURES

- 2.0 x 1.25mm SMD LED, 0.5mm max. thickness
- Low power consumption
- Wide viewing angle
- Ideal for backlight and indicator
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- RoHS compliant

APPLICATIONS

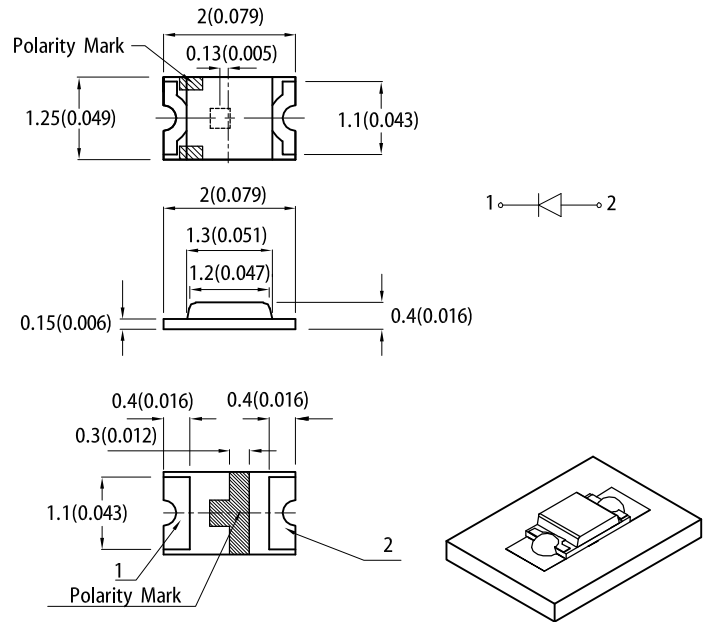
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

ATTENTION

Observe precautions for handling electrostatic discharge sensitive devices

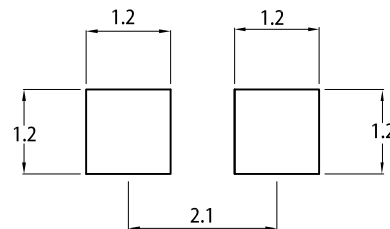


PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.1(0.004)$ unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	Iv (mcd) @ 20mA ^[2]		Viewing Angle ^[1]
			Min.	Typ.	2θ1/2
APHCM2012ZGC/G-F01	■ Green (InGaN)	Water Clear	500	800	140°

Notes:
 1. $\theta 1/2$ is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
 2. Luminous intensity / luminous flux: $\pm 15\%$.
 3. Luminous intensity value is traceable to CIE127-2007 standards.

ELECTRICAL / OPTICAL CHARACTERISTICS at $T_A=25^{\circ}\text{C}$

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission $I_F = 20\text{mA}$	λ_{peak}	Green	520	-	nm
Dominant Wavelength $I_F = 20\text{mA}$	$\lambda_{\text{dom}}^{[1]}$	Green	525	-	nm
Spectral Bandwidth at 50% Φ REL MAX $I_F = 20\text{mA}$	$\Delta\lambda$	Green	35	-	nm
Capacitance	C	Green	100	-	pF
Forward Voltage $I_F = 20\text{mA}$	$V_F^{[2]}$	Green	3.2	4	V
Reverse Current ($V_R = 5\text{V}$)	I_R	Green	-	50	uA

Notes:

1. The dominant wavelength (λ_d) above is the setup value of the sorting machine. (Tolerance $\lambda_d : \pm 1\text{nm}$.)
2. Forward voltage: $\pm 0.1\text{V}$.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

ABSOLUTE MAXIMUM RATINGS at $T_A=25^{\circ}\text{C}$

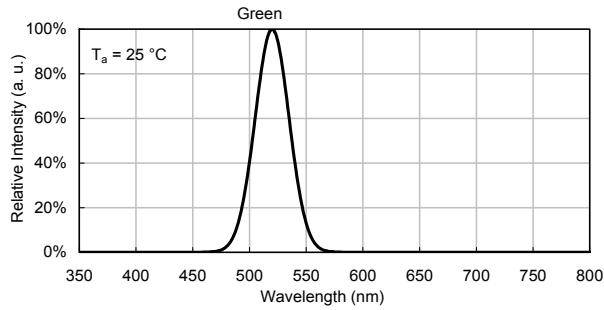
Parameter	Symbol	Value	Unit
Power Dissipation	P_D	120	mW
Reverse Voltage	V_R	5	V
Junction Temperature	T_j	115	$^{\circ}\text{C}$
Operating Temperature	T_{op}	-40 to +85	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40 to +85	$^{\circ}\text{C}$
DC Forward Current	I_F	30	mA
Peak Forward Current	$I_{\text{FM}}^{[1]}$	100	mA
Electrostatic Discharge Threshold (HBM)	-	450	V

Notes:

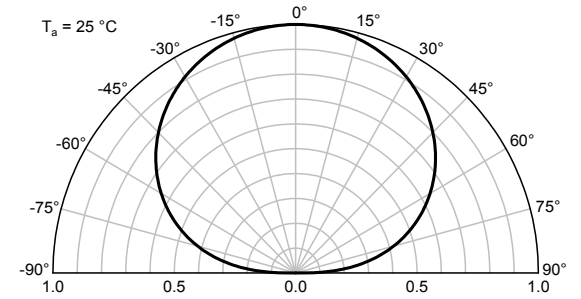
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

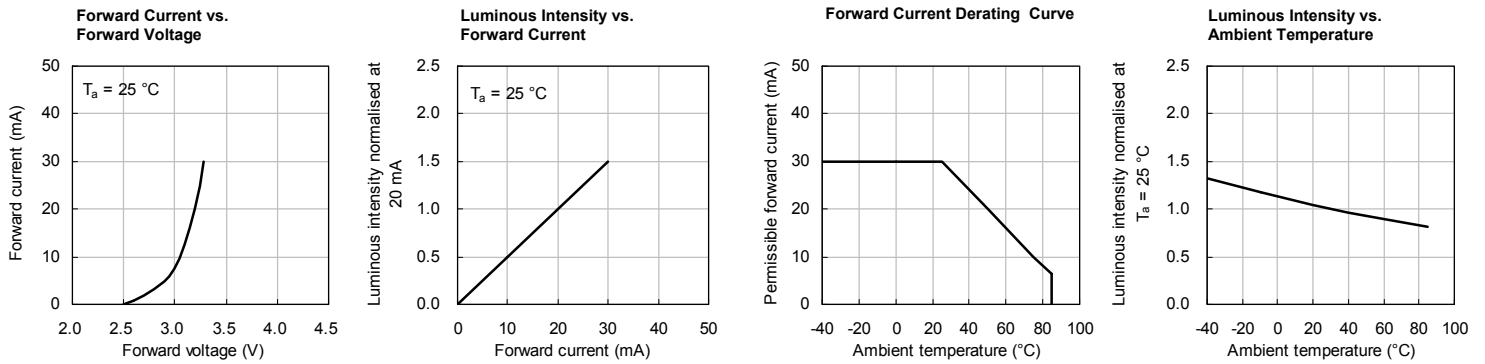
RELATIVE INTENSITY vs. WAVELENGTH



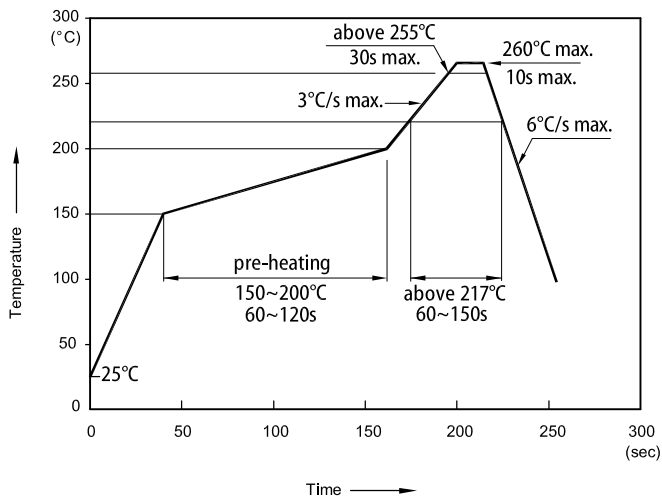
SPATIAL DISTRIBUTION



GREEN

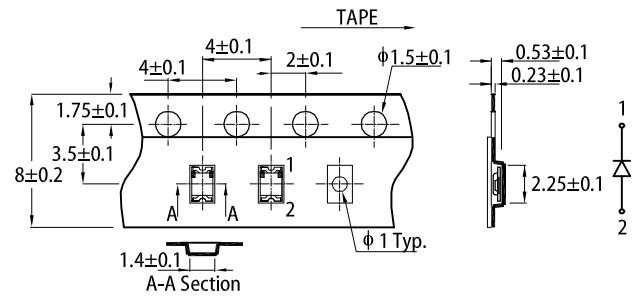


REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

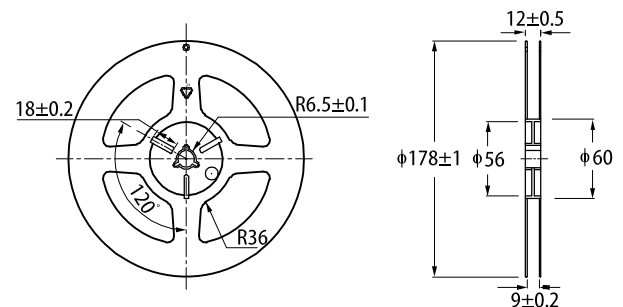


- Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
 2. The maximum number of reflow soldering passes is 2 times.
 3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

TAPE SPECIFICATIONS (units : mm)



REEL DIMENSION (units : mm)



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