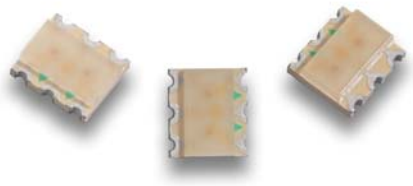
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APF3236LSEKJ3ZGKQBKC

3.2 mm x 3.6 mm Full-Color Surface Mount LED Lamp

DESCRIPTIONS

- The Hyper Red device is based on light emitting diode chip made from AlGaInP
- The Green source color devices are made with InGaN on Sapphire Light Emitting Diode
- The Blue 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

- 3.2 mm x 3.6 mm SMD LED, 1.1 mm thickness
- Low power consumption
- One red, one green and one blue chips in one package
- Package: 1000 pcs / reel
- Moisture sensitivity level: 3
- RoHS compliant

APPLICATIONS

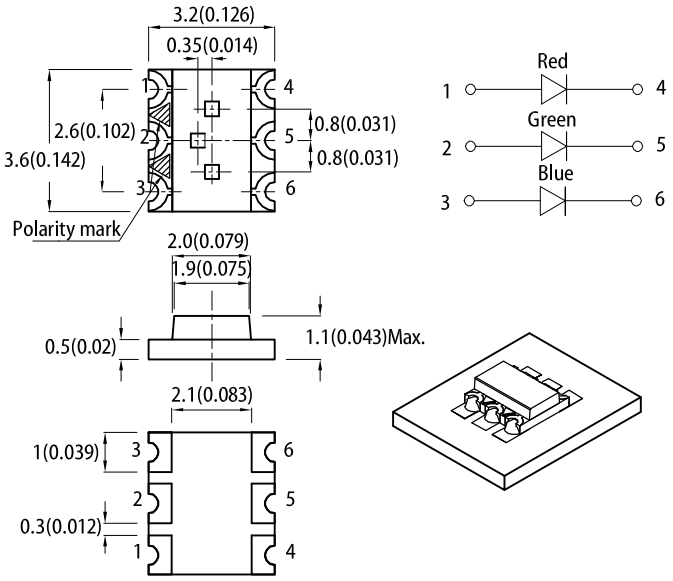
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

ATTENTION

Observe precautions for handling electrostatic discharge sensitive devices

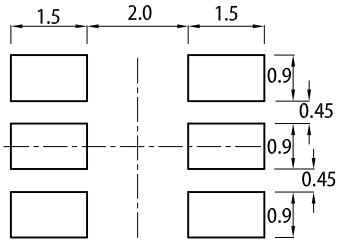


PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.008") 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) @ 2mA [2]		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APF3236LSEKJ3ZGKQBKC	Hyper Red (AlGaInP)	Water Clear	20	40	150°
	Green (InGaN)		20	60	
	Blue (InGaN)		4	10	

Notes:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity / luminous flux: +/-15%.
3. Luminous intensity value is traceable to CIE127-2007 standards.

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ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I_F = 2mA	λ_{peak}	Hyper Red Green Blue	640 515 460	-	nm
Dominant Wavelength I_F = 2mA	λ_{dom} [1]	Hyper Red Green Blue	625 525 465	-	nm
Spectral Bandwidth at 50% Φ REL MAX I_F = 2mA	Δλ	Hyper Red Green Blue	20 35 25	-	nm
Capacitance	C	Hyper Red Green Blue	27 45 100	-	pF
Forward Voltage I_F = 2mA	V_F [2]	Hyper Red Green Blue	1.8 2.65 2.65	2.1 3.1 3.1	V
Reverse Current (V_R = 5V)	I_R	Hyper Red Green Blue	-	10 50 50	μA

Notes:
1. The dominant wavelength (λd) above is the setup value of the sorting machine. (Tolerance λd: ±1nm.)
2. Forward voltage: ±0.1V.
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°C

Parameter	Symbol	Value			Unit
		Hyper Red	Green	Blue	
Power Dissipation	P_D	84	102.5	120	mW
Reverse Voltage	V_R	5	5	5	V
Junction Temperature	T_j	115	115	115	°C
Operating Temperature	T_{op}	-40 to +85			°C
Storage Temperature	T_{stg}	-40 to +85			°C
DC Forward Current	I_F	30	25	30	mA
Peak Forward Current	I_{FM} [1]	150	150	150	mA
Electrostatic Discharge Threshold (HBM)	-	3000	450	250	V

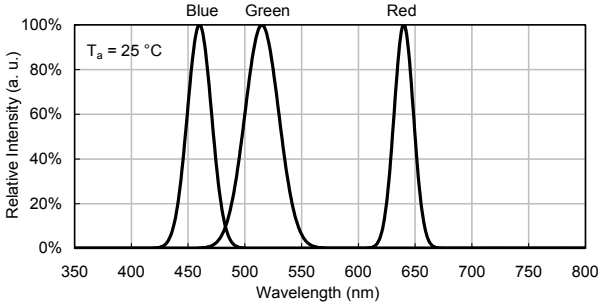
Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

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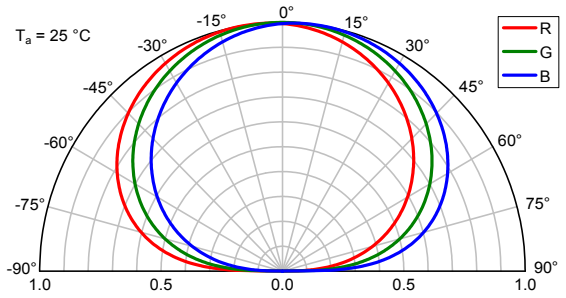
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TECHNICAL DATA

RELATIVE INTENSITY vs. WAVELENGTH

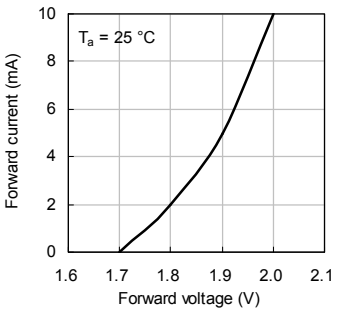


SPATIAL DISTRIBUTION

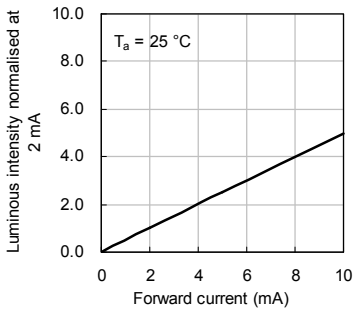


HYPER RED

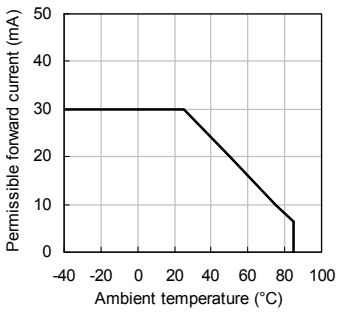
Forward Current vs. Forward Voltage



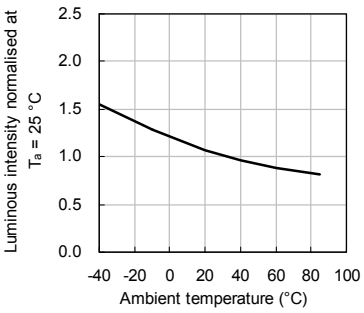
Luminous Intensity vs. Forward Current



Forward Current Derating Curve

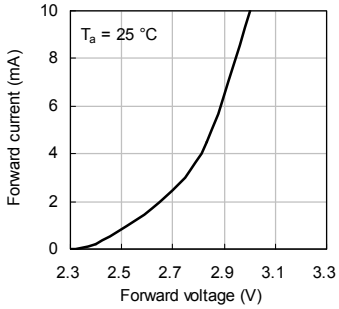


Luminous Intensity vs. Ambient Temperature

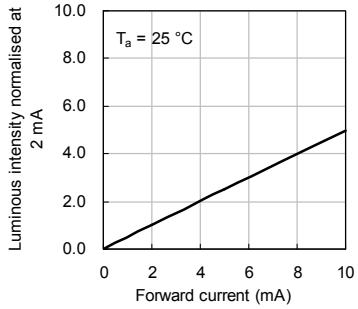


GREEN

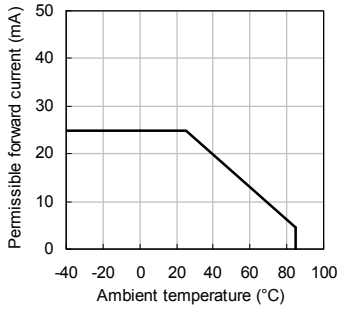
Forward Current vs. Forward Voltage



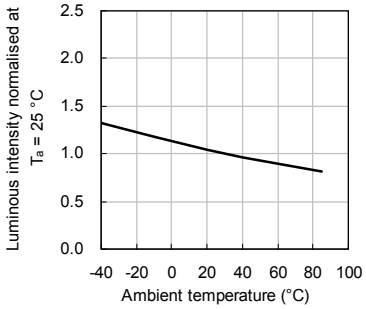
Luminous Intensity vs. Forward Current



Forward Current Derating Curve

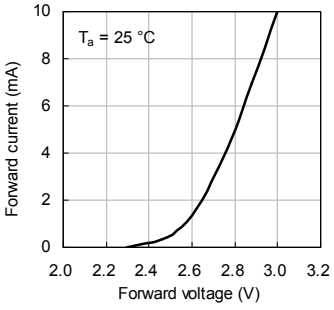


Luminous Intensity vs. Ambient Temperature

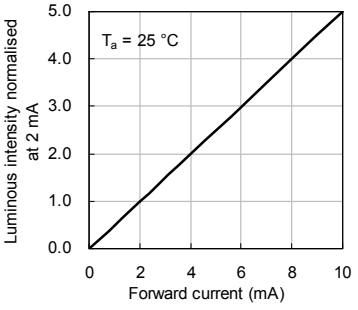


BLUE

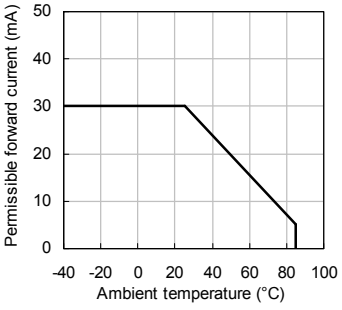
Forward Current vs. Forward Voltage



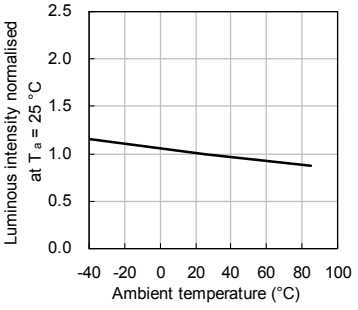
Luminous Intensity vs. Forward Current



Forward Current Derating Curve



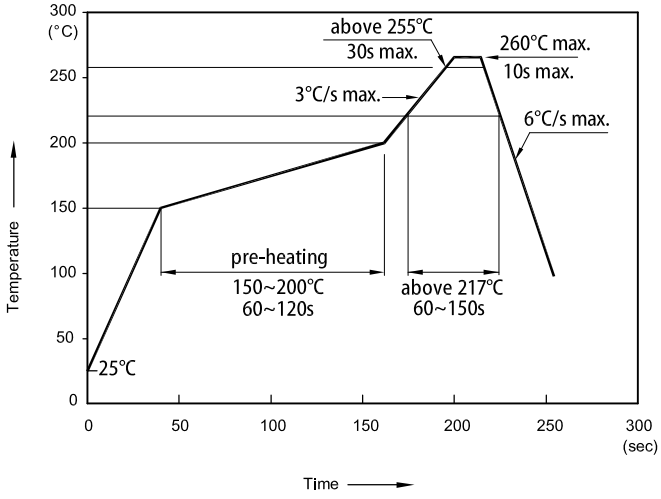
Luminous Intensity vs. Ambient Temperature



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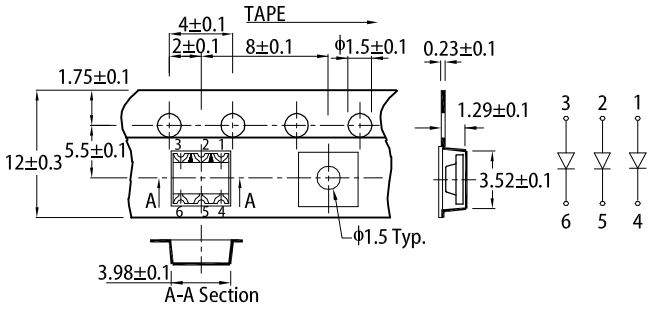
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REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

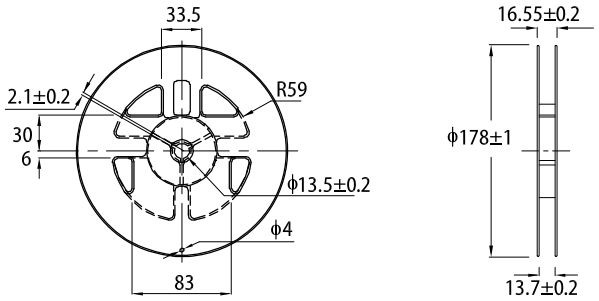


Notes:
1. *Don't cause stress to the LEDs while it is exposed to high temperature.*
2. *The maximum number of reflow soldering passes is 2 times.*
3. *Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.*

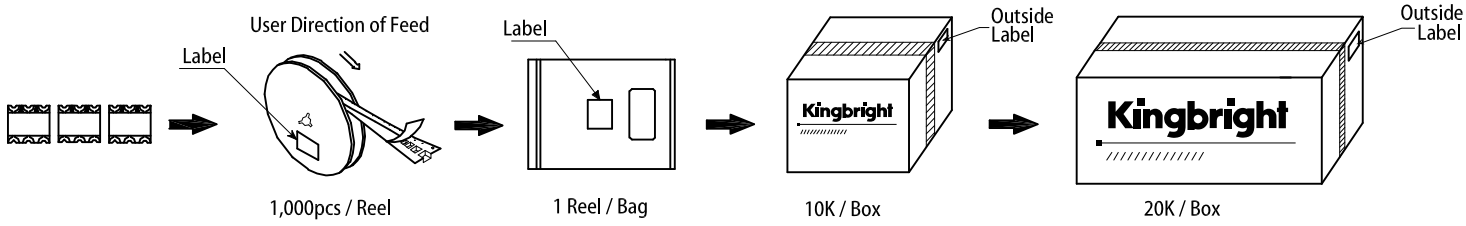
TAPE SPECIFICATIONS (units : mm)

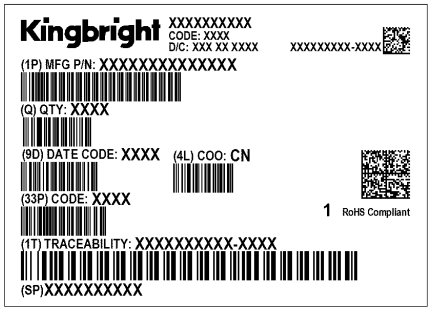


REEL DIMENSION (units : mm)



PACKING & LABEL SPECIFICATIONS





PRECAUTIONARY NOTES

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
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