

APTFD3535VBDSEJ3ZGGC

3.5 x 3.5 mm Surface Mount SMD Chip LED



DESCRIPTIONS

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

- 3.5 mm x 3.5 mm SMD LED, 1.25 mm thickness
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Halogen-free
- RoHS compliant

APPLICATIONS

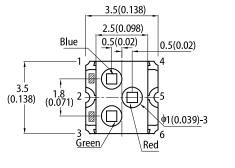
- Backlight
- Status indicator
- · Home and smart appliances
- · Wearable and portable devices
- · Healthcare applications

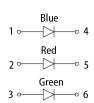
ATTENTION

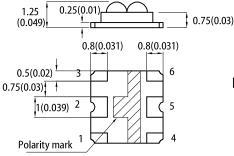
Observe precautions for handling electrostatic discharge sensitive devices

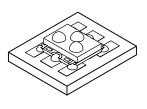


PACKAGE DIMENSIONS



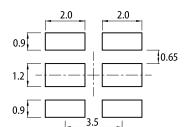






RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes

1. All dimensions are in millimeters (inches).

Tolerance is ±0.1(0.004") unless otherwise noted.
The specifications, characteristics and technical data described in the datasheet are subject to

change without prior notice. The device has a single mounting surface. The device must be mounted according to the specifications 4.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	lv (mcd) @ 20mA ^[2]		Viewing Angle ^[1]
			Min.	Тур.	201/2
	Blue (InGaN)	Water Clear	300	500	
APTFD3535VBDSEJ3ZGGC	Hyper Red (AlGaInP)		1000	1600	50°
	Green (InGaN)		1300	1900	

Notes

41/2 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

Devenator	Cumph of	Emitting Octor	Value		11-14	
Parameter	Symbol	Emitting Color	Тур.	Max.	Unit	
Wavelength at Peak Emission I_F = 20mA	λ_{peak}	Blue Hyper Red Green	465 640 520	-	nm	
Dominant Wavelength I _F = 20mA	λ_{dom} ^[1]	Blue Hyper Red Green	470 625 525	-	nm	
Spectral Bandwidth at 50% Φ REL MAX I _F = 20mA	Δλ	Blue Hyper Red Green	22 25 35	-	nm	
Capacitance	С	Blue Hyper Red Green	100 27 100	-	pF	
Forward Voltage I _F = 20mA	V _F ^[2]	Blue Hyper Red Green	3.3 2.2 3.2	4.0 2.8 4.0	V	
Reverse Current (V _R = 5V)	I _R	Blue Hyper Red Green	-	50 10 50	μA	

Notes:

The dominant wavelength (λd) above is the setup value of the sorting machine. (Tolerance λd: ±1nm.)
Forward voltage: ±0.1V.
Wavelength value is traceable to CIE127-2007 standards.
Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Demonster		Value			
Parameter	Symbol	Blue Hyper Red		Green	Unit
Power Dissipation	P _D	120	84	120	mW
Reverse Voltage	V _R	5	5	5	V
Junction Temperature	Tj	115	115	115	°C
Operating Temperature	T _{op}	-40 to +85			°C
Storage Temperature	T _{stg}	-40 to +85			°C
DC Forward Current	IF	30	30	30	mA
Peak Forward Current	I _{FM} ^[1]	100	150	100	mA
Electrostatic Discharge Threshold (HBM)	-	250	3000	450	V

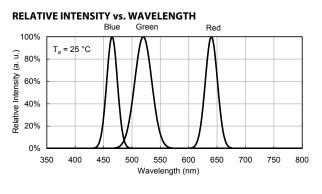
ABSOLUTE MAXIMUM RATINGS at T₄=25°C

Notes: 1. 1/10Duty 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.

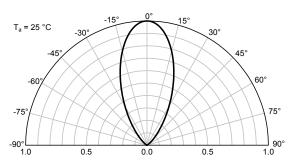
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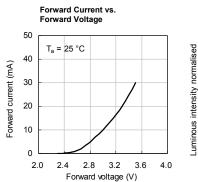
TECHNICAL DATA

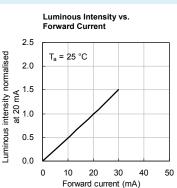


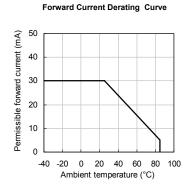
SPATIAL DISTRIBUTION



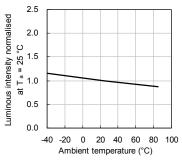
BLUE



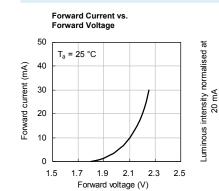




Luminous Intensity vs. Ambient Temperature



HYPER RED



50

40

30

20

10

0

2.0 2.5

Forward current (mA)

T_a = 25 °C

3.0

Luminous Intensity vs. Forward Current

> 20 30

Forward current (mA)

T_a = 25 °C

2.5

2.0

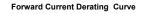
1.5

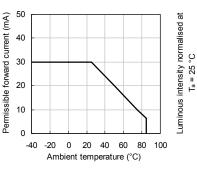
1.0

0.5

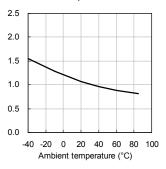
0.0

0 10





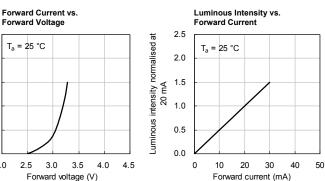
Luminous Intensity vs. Ambient Temperature

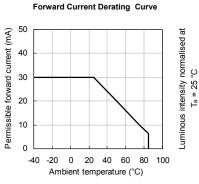


GREEN

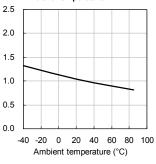
50

40





Luminous Intensity vs. Ambient Temperature



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0.25±0.1

 1.53 ± 0.1

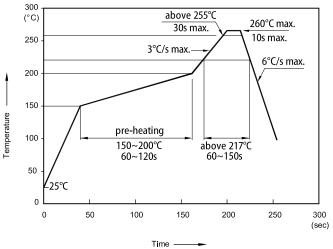
3.75±0.1

2

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REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS



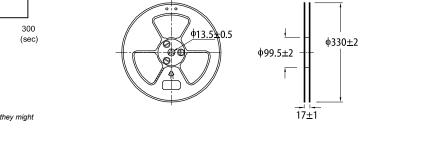
User Direction of Feed

Notes

cause damage to the product.

PACKING & LABEL SPECIFICATIONS

Label



TAPE SPECIFICATIONS (units : mm)

1.75±0.1

5±0.1

3.7±0.1

REEL DIMENSION (units : mm)

5

12±0.2

TAPE

 8 ± 0.1

φ1.<u>5±</u>0.1

-\$1.5 Typ.

13 + 1

- Φ-

2±0.1

4±0.1

A-A Section

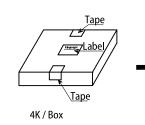
₼ -0-

2,000pcs / Reel



Label

1 Reel / Bag





PRECAUTIONARY NOTES

- The information included in this document reflects representative usage scenarios and is intended for technical reference only.
- 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. 2
- 3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening
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- 5
- 6 Votes

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