

1.6x1.6mm FULL-COLOR SURFACE MOUNT **LED**



ATTENTION

OBSERVE PRECAUTIONS FOR HANDLING **ELECTROSTATIC** DISCHARGE SENSITIVE **DEVICES**

Part Number: APTF1616QBDSURKCGKC

Blue Hyper Red Green

Features

- 1.6mmX1.6mm SMT LED, 0.7mm thickness.
- Low power consumption.
- One blue, one red and one green chips in one package.
- Can produce any color in visible spectrum, including white light.
- Package: 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Description

The Blue source color devices are made with InGaN on Sapphire Light Emitting Diode.

The Hyper Red source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

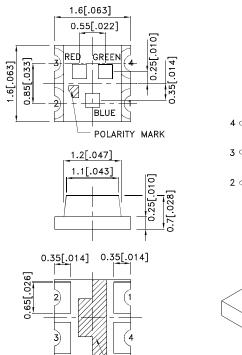
The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

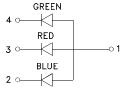
Static electricity and surge damage the LEDS.

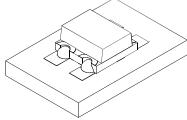
It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

Package Dimensions











- 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.

POLARITY MARK

SPEC NO: DSAJ8753 **REV NO: V.2** DATE: DEC/31/2009 PAGE: 1 OF 7 APPROVED: WYNEC CHECKED: Allen Liu DRAWN: J.Yu ERP: 1203008662

Selection Guide

Part No.	Dice	Lens Type	lv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Тур.	201/2
APTF1616QBDSURKCGKC	Blue (InGaN)		36	100	120°
	Hyper Red (AlGaInP)	WATER CLEAR	110	230	
	Green (AlGaInP)		18	50	

- 1. 01/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value. 2. Luminous intensity/ luminous Flux: +/-15%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Blue Hyper Red Green	468 650 574		nm	IF=20mA
λD [1]	Dominant Wavelength	Blue Hyper Red Green	470 630 570		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Blue Hyper Red Green	25 28 20		nm	IF=20mA
С	Capacitance	Blue Hyper Red Green	100 35 15		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Blue Hyper Red Green	3.3 1.95 2.1	4 2.5 2.5	V	IF=20mA
lr	Reverse Current	Blue Hyper Red Green		10 10 10	uA	V _R =5V

Notes:

- 1.Wavelength: +/-1nm. 2. Forward Voltage: +/-0.1V.

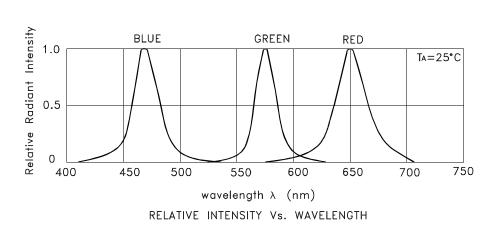
Absolute Maximum Ratings at TA=25°C

Parameter	Blue	Hyper Red	Green	Units		
Power dissipation	120	75	75	mW		
DC Forward Current	30	30	30	mA		
Peak Forward Current [1]	150	185	150	mA		
Reverse Voltage	5					
Operating Temperature	-40°C To +85°C					
Storage Temperature	-40°C To +85°C					

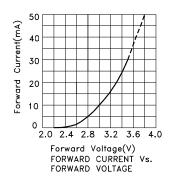
Notes:

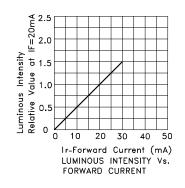
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

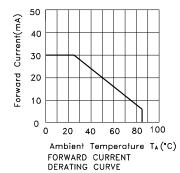
SPEC NO: DSAJ8753 **REV NO: V.2** DATE: DEC/31/2009 PAGE: 2 OF 7 APPROVED: WYNEC **CHECKED: Allen Liu** DRAWN: J.Yu ERP: 1203008662

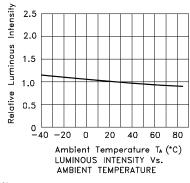


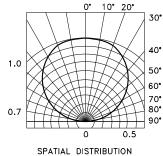
APTF1616QBDSURKCGKC Blue









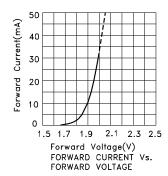


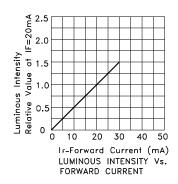
SI ATIAL DISTRIBUTION

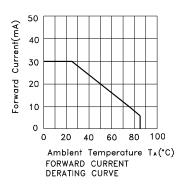
 SPEC NO: DSAJ8753
 REV NO: V.2
 DATE: DEC/31/2009
 PAGE: 3 OF 7

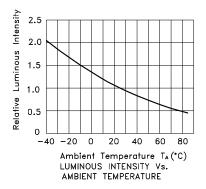
 APPROVED: WYNEC
 CHECKED: Allen Liu
 DRAWN: J.Yu
 ERP: 1203008662

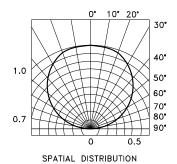
Hyper Red







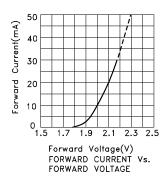


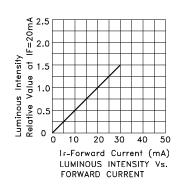


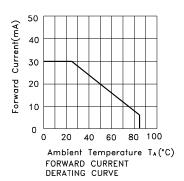
SPEC NO: DSAJ8753
APPROVED: WYNEC

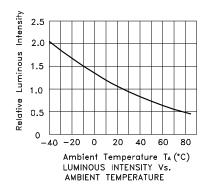
REV NO: V.2 CHECKED: Allen Liu DATE: DEC/31/2009 DRAWN: J.Yu PAGE: 4 OF 7 ERP: 1203008662

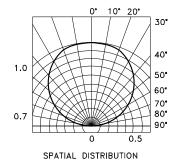
Green











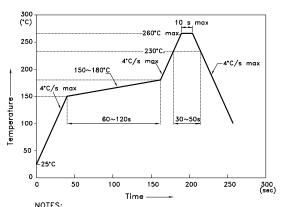
 SPEC NO: DSAJ8753
 REV NO: V.2
 DATE: DEC/31/2009
 PAGE: 5 OF 7

 APPROVED: WYNEC
 CHECKED: Allen Liu
 DRAWN: J.Yu
 ERP: 1203008662

APTF1616QBDSURKCGKC

Reflow soldering is recommended and the soldering profile is shown below. Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.



- NOTES:

 1.We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.

 2.Don't cause stress to the epoxy resin while it is exposed to high temperature.
 - to high temperature.

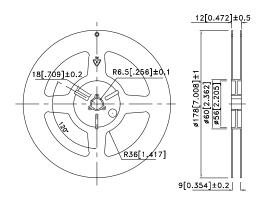
 3.Number of reflow process shall be 2 times or less.

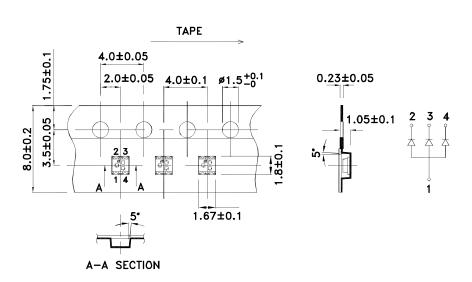
Recommended Soldering Pattern (Units: mm; Tolerance: ± 0.1)

9. 0.9 0.9 2.6

Tape Dimensions (Units : mm)

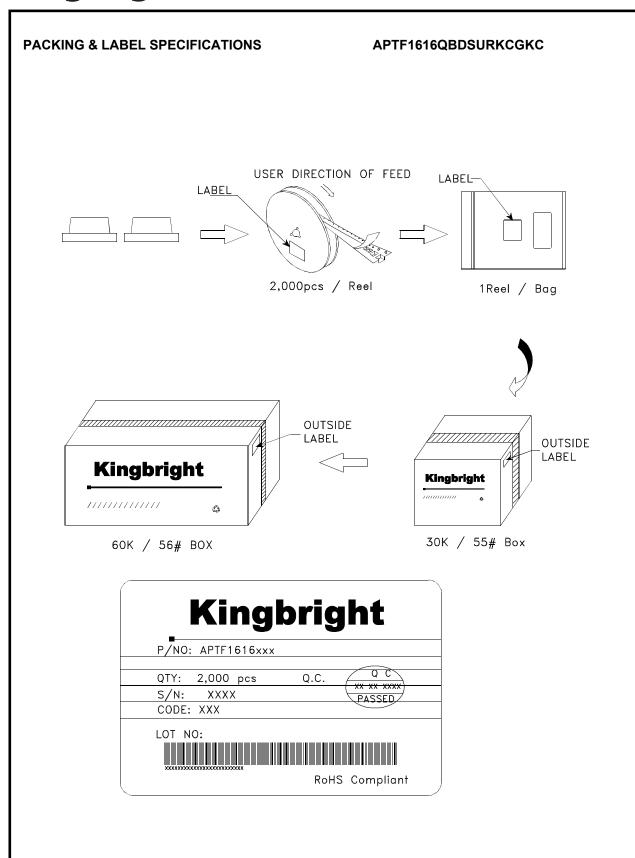
Reel Dimension





SPEC NO: DSAJ8753 REV NO: V.2 DATE: DEC/31/2009 PAGE: 6 OF 7

APPROVED: WYNEC CHECKED: Allen Liu DRAWN: J.Yu ERP: 1203008662



SPEC NO: DSAJ8753 APPROVED: WYNEC REV NO: V.2 CHECKED: Allen Liu DATE: DEC/31/2009 DRAWN: J.Yu PAGE: 7 OF 7 ERP: 1203008662