



YRP160803-CTC3

Dual Wavelength SMD Type Emitter

Features

- Top view 0603 package
- Viewing Angle = $\pm 65^\circ$
- Compatible with infrared and vapor phase reflow solder process
- High reliability
- Dual dominant wavelength
(Y=590nm , R=621nm)
- RoHS compliance

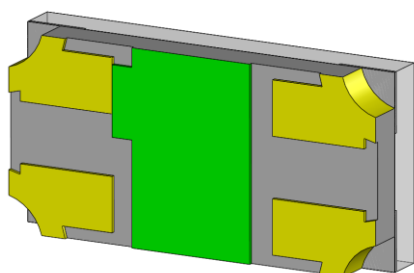
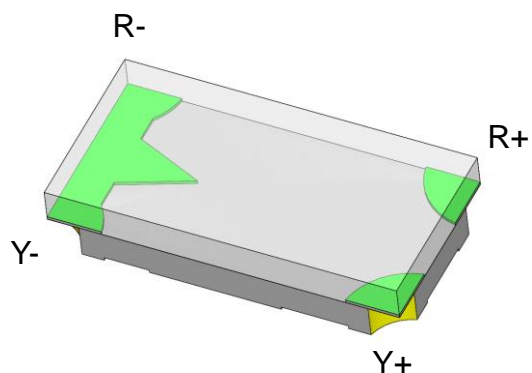
Description

The YRP160803-CTC3 is a double LED housed in a miniature SMD package. The device has a dominant wavelength of 590nm and 621nm LED.

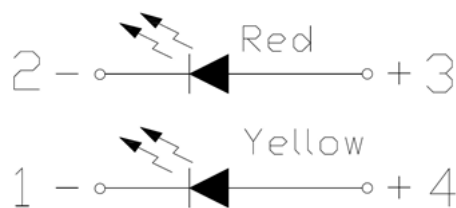
Applications

- Optical indicator.
- Switch and Symbol Display.

Package Outline



Schematic



**YRP160803-CTC3****Dual Wavelength SMD Type Emitter****Absolute Maximum Rating at 25°C**

Symbol	Parameters		Ratings	Units	Notes
I _F	Continuous Forward Current	Y	25	mA	
		R	25		
I _{FP}	Peak Forward Current	Y	60	mA	1
		R	60		
V _R	Reverse Voltage		5	V	
T _{opr}	Operating Temperature		-40 ~ +85	°C	
T _{stg}	Storage Temperature		-40 ~ +100	°C	
T _{sol}	Soldering Temperature		260	°C	2
P _D	Power Dissipation at(or below) 25°C Free Air Temperature	Y	60	mW	
		R	60		

Electro-Optical Characteristics *TA = 25°C (unless otherwise specified)***Optical Characteristics (Yellow)**

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _v	Luminous Intensity	I _F =5mA	18.0	-	45.0	mcd	3
λ _p	Peak Wavelength	I _F =5mA	-	599	-	nm	
λ _D	Dominant Wavelength	I _F =5mA	585.5	-	594.5	nm	4
θ _{1/2}	Angle of Half Intensity	I _F =5mA	-	±65	-	deg	

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
V _F	Forward Voltage	I _F =5mA	1.6	-	2.2	V	
I _R	Reverse Current	V _R =5V	-	-	1	μA	

**YRP160803-CTC3****Dual Wavelength SMD Type Emitter****Optical Characteristics (Red)**

<i>Symbol</i>	<i>Parameters</i>	<i>Test Conditions</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>	<i>Notes</i>
I _v	Luminous Intensity	I _F =5mA	22.5	-	57.0	mcd	3
λ _p	Peak Wavelength	I _F =5mA	-	632	-	nm	
λ _d	Dominant Wavelength	I _F =5mA	-	621	-	nm	
θ _{1/2}	Angle of Half Intensity	I _F =5mA	-	±65	-	deg	

Electrical Characteristics

<i>Symbol</i>	<i>Parameters</i>	<i>Test Conditions</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>	<i>Notes</i>
V _F	Forward Voltage	I _F =5mA	1.6	-	2.2	V	
I _R	Reverse Current	V _R =5V	-	-	1	μA	

Notes:

1. I_{FP} Conditions--Pulse Width ≤ 100μs and Duty ≤ 10%.
2. Soldering time ≤ 10 seconds.
3. Bin Range of Luminous Intensity

Yellow				
Bin Code	Min	Max	Unit	Condition
M	18.0	28.5	mcd	I _F =5mA
N	28.5	45.0		
Red				
Bin Code	Min	Max	Unit	Condition
MA	22.5	36.0	mcd	I _F =5mA
NA	36.0	57.0		

Tolerance of: Luminous Intensity ±10%

4. Bin Range of Dominant Wavelength

Yellow				
Bin Code	Min	Max	Unit	Condition
Y3	585.5	588.5	nm	I _F =5mA
Y4	588.5	591.5		
Y5	591.5	594.5		

Tolerance of Dominant Wavelength: ±1nm



Typical Characteristic Curves

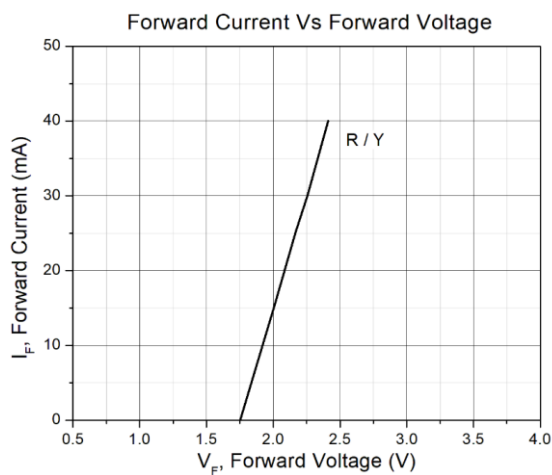


Figure 1

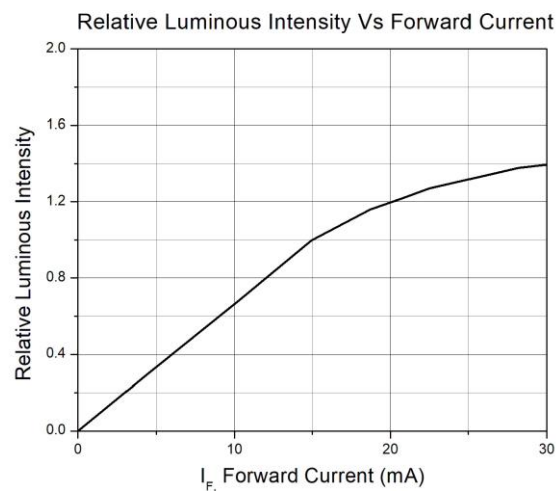


Figure 2

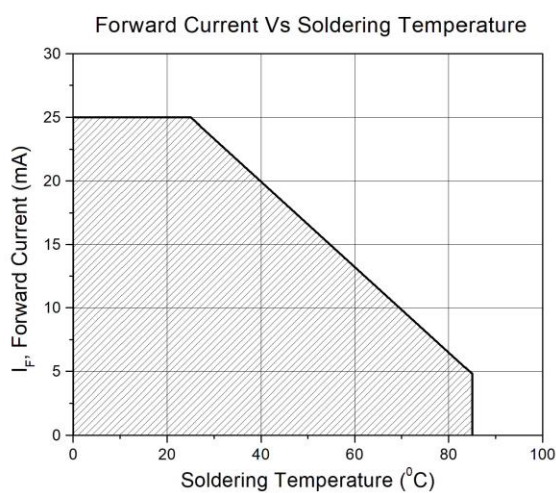


Figure 3

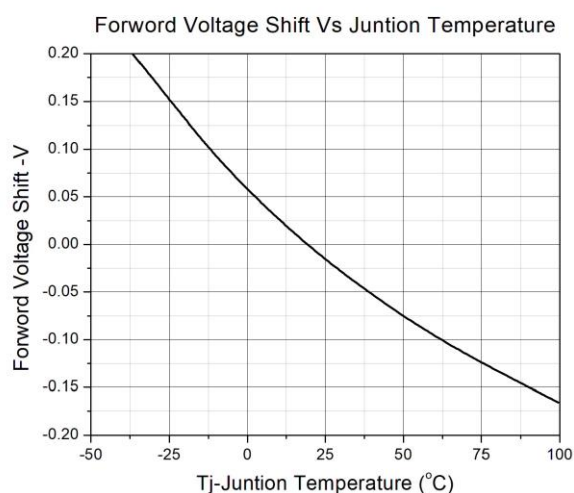


Figure 4

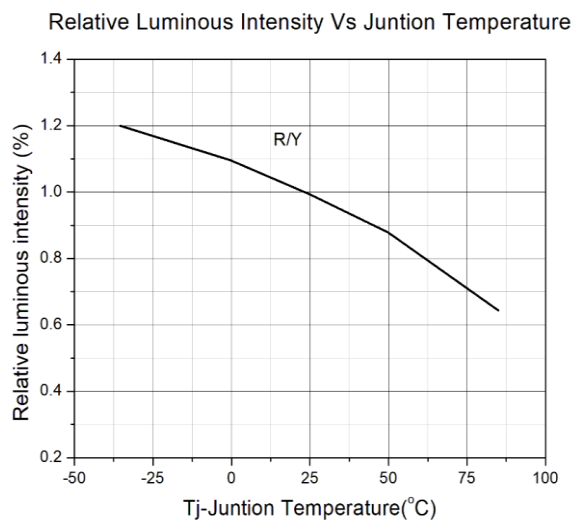
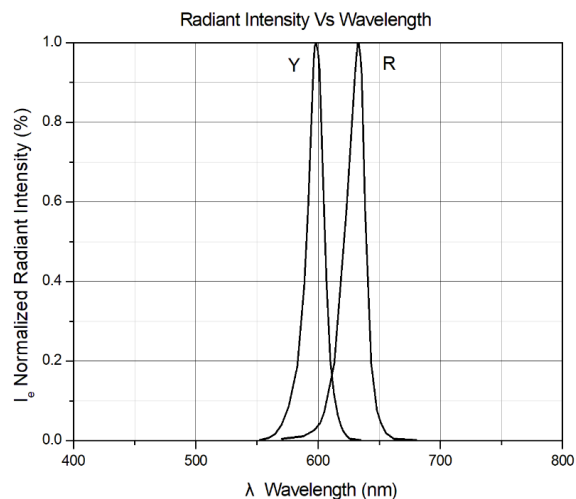
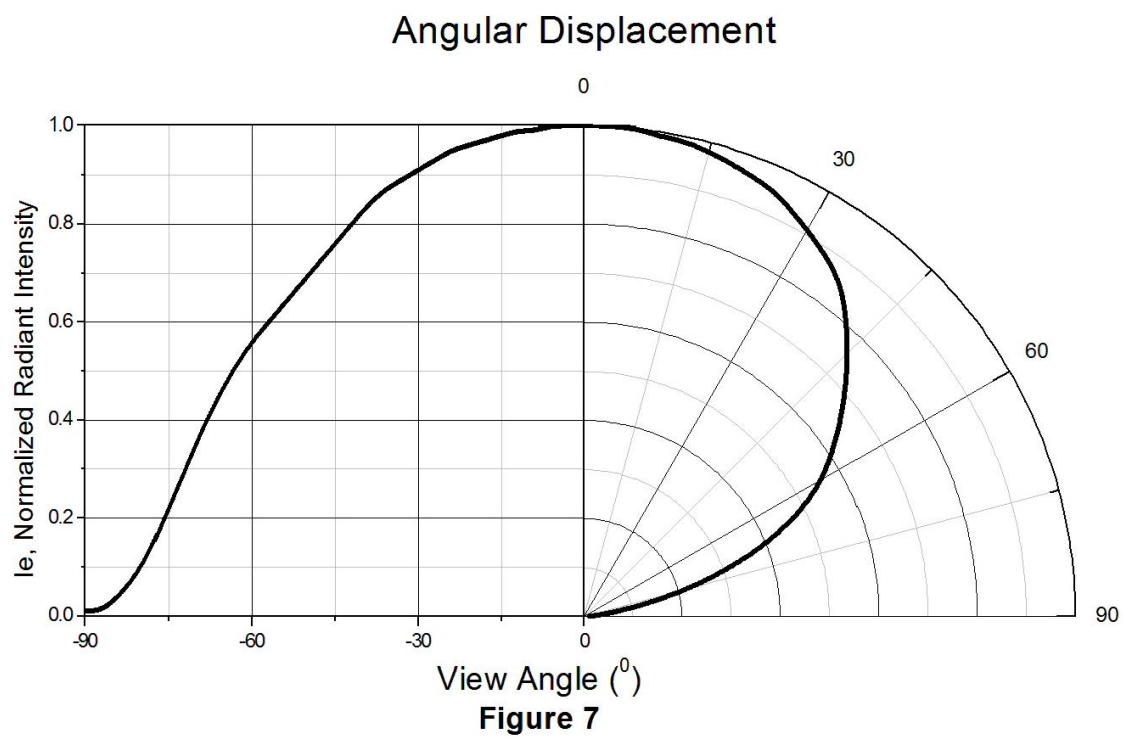


Figure 5





Typical Characteristic Curves

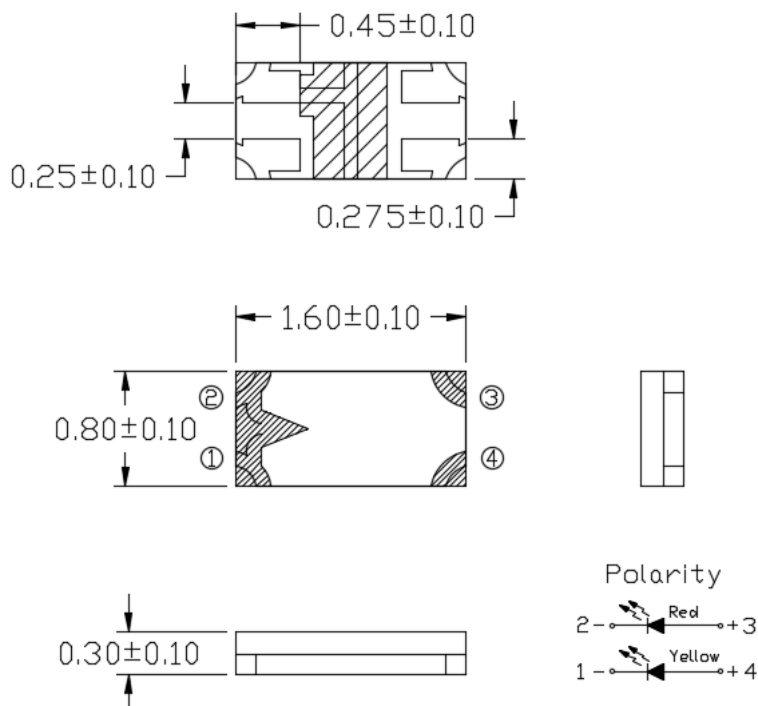




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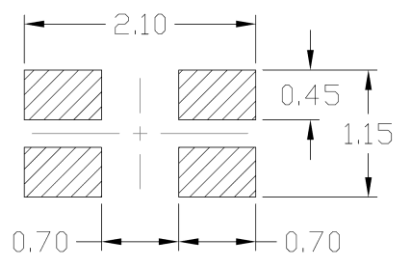
Dual Wavelength SMD Type Emitter

Package Dimension *All dimensions are in mm, unless otherwise stated*



Note: Tolerance unless mentioned is ± 0.1 mm.

Recommended Soldering Mask *All dimensions are in mm, unless otherwise stated*



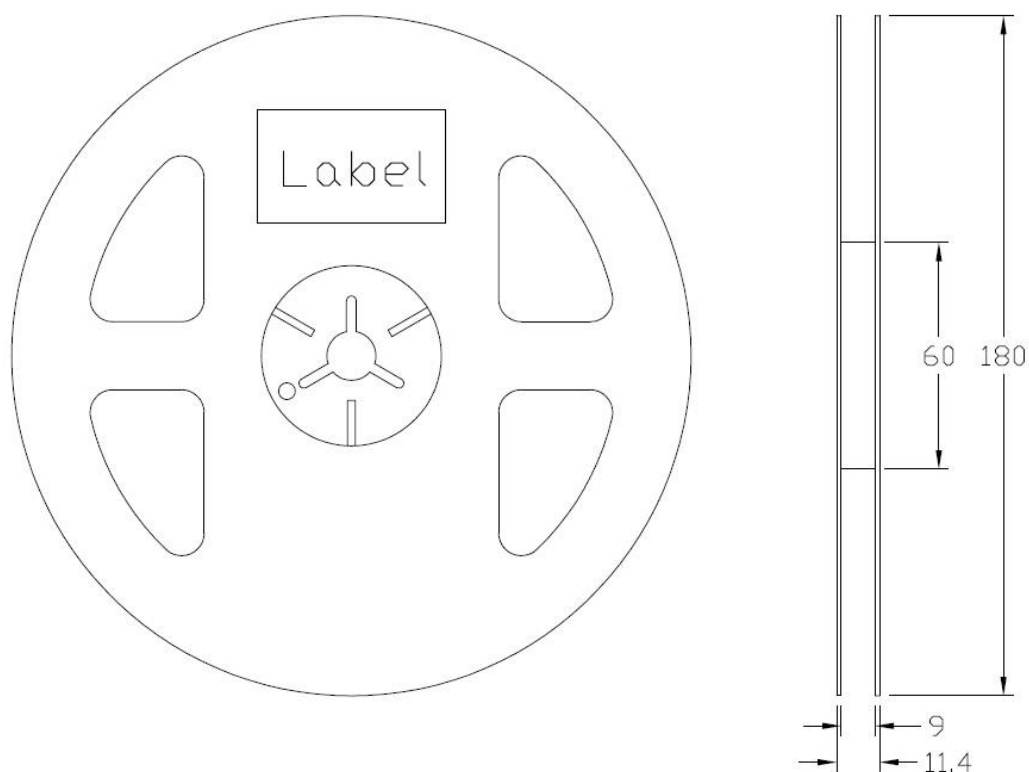
Note: Tolerance unless mentioned is ± 0.1 mm.

Ordering Information

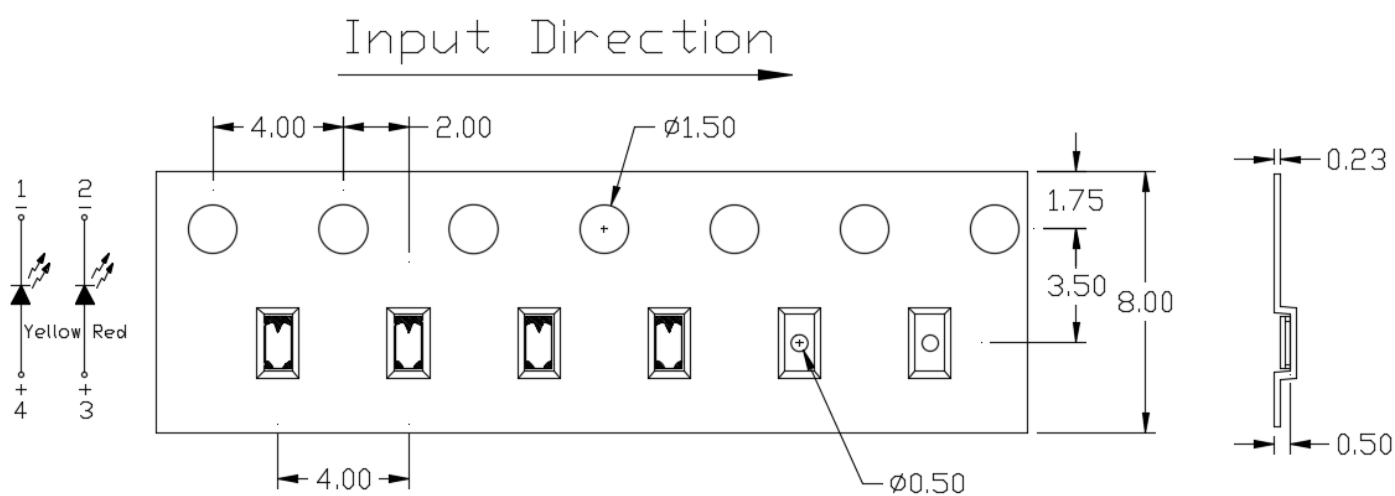
Part Number	Description	Quantity
YRP160803-CTC3	Tape & Reel	3000 pcs

Dual Wavelength SMD Type Emitter

Reel Dimension *All dimensions are in mm, unless otherwise stated*



Tape Dimension *All dimensions are in mm, unless otherwise stated*



Note: Tolerance unless mentioned is $\pm 0.1\text{mm}$.



YRP160803-CTC3

Dual Wavelength SMD Type Emitter

Label Form Specification

CT Micro
International Corporation

MSL-X
MADE IN CHINA

CPN: XXXXXXXXXXXXXXXXX
|||||

Part no: XXXXXXXXXXXXXXXX
|||||

Serial no: XXXXXXXXX
|||||

Lot no: XXXXXXXXX
|||||

Qty: XXXXXX Date Code: YWWJ
||||| |||||

IV: XX WD:XX VF:XX
||||| ||||| |||||

QR Code

Pb
RoHS

CPN : Customer Part Number

Part no: CTM Production Number

Serial no: Production Number

Lot no: Lot number

Q'ty: Packing Quantity

Date Code: Manufacture Date

IV : Bin Code of Luminous Intensity

WD : Bin Code of Dominant Wavelength

VF : Bin Code of Forward Voltage

MADE IN CHINA: Production Place

Storage Condition

1. Do not open moisture proof bag before the products are ready to use.
2. The moisture barrier bag should be stored at 30°C and 90%R.H. max. before opening.
Shelf life of non-opened bag is 12 months after the bag sealing date.
3. After opening the moisture barrier bag floor life is 1 year at 30°C/60%RH. max. Unused LEDs should be resealed into moisture barrier bag. (Refer to J-STD-020 Standard)
4. If the moisture absorbent material has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the J-STD-033 Standard conditions.



Reflow Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T _{smin})	150°C
Temperature Max. (T _{smax})	200°C
Time (t _s) from (T _{smin} to T _{smax})	60-120 seconds
Ramp-up Rate (t _L to t _P)	3°C/second max.
Liquidous Temperature (T _L)	217°C
Time (t _L) Maintained Above (T _L)	60 – 150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time (t _P) within 5°C of 260°C	30 seconds
Ramp-down Rate (T _P to T _L)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.



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