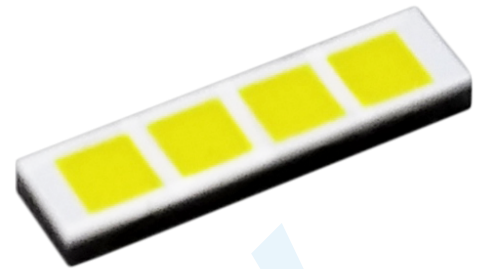


## HeadLamp Dong Feng DF-4B



Dong Feng Headlamp series delivers unique brilliant light with outstanding efficiency and elegant design. It's able to meet requirements of output and stability due to it's developed and tested to withstand extreme environment conditions and wide range of temperature change. It also provides distinct optical performance and uniform light pattern. With Dong Feng's HeadLamp series, you will start to experience and enjoy the excellent adventure during driving time.

### Features

- Excellent Brightness: 1450lm@ 1A
- Low thermal resistance
- Color: According to ECE/SAE

### Applications

- Exterior Automotive Lighting
- Daytime Running Light
- High Beam/ Low Beam for headlight

## Ordering Information

$\frac{2}{X1}$        $\frac{D}{X2}$        $\frac{F4}{X3-X4}$        $\frac{15}{X5-X6}$        $\frac{CW}{X7-X8}$        $\frac{XX}{X9-X10}$        $\frac{DB4}{X11-X13}$        $\frac{XXX}{X14-X16}$

X1 Type		X2 Emitter Series		X3-X4 Emitter Series		X5-X6 Emitter Power		X7-X8 Emitting Color	
Code	Type	Code	Type	Code	Type	Code	Type	Code	Type
2	Emitter	D	Dong Feng	F4	4Chip	15	15W	CW	Cool White

X9-X10 Internal Code		X11-X13 PCB Board		X14-X16 Series No.	
Code	Type	Code	Type	Code	Type
-	-	DB4	19x75	xxx	-

Type	Luminous Intensity IF = 1000mA IV [lm]	Ordering Code
Dong Feng 4 Chips	1450	2DF415CW06DB4001

## Maximum Ratings

Parameter	Symbol	Values	Unit
DC Forward Current (TS = 25°C)	IF	1000	mA
Peak Pulsed Current; (tp≤400ms, Duty cycle=10%)	I <sub>pulse</sub>	1500	mA
Thermal Resistance	-	2.7	K/W
Reverse Voltage <sup>[1]</sup>	V <sub>R</sub>	Note1	V
LED Junction temperature	T <sub>j</sub>	150	°C
Operating temperature	T <sub>opr</sub>	-40~+80	°C
Storage temperature	T <sub>stg</sub>	-40~+125	°C

**NOTE** — LEDs are not designed to drive in reverse bias.

**Characteristics** (TS = 25 °C; IF = 1000 mA)

Parameter	Symbol	Values	Unit
Luminous Flux (typ.)	-	1450	lm
Viewing angle (typ.)	$2\phi$	120	°
Forward voltage (typ.)	$V_F$	13.2	V

**NOTE** —  $2\phi$  is the off-axis angle where the luminous intensity is half of the axial luminous intensity.

Preliminary

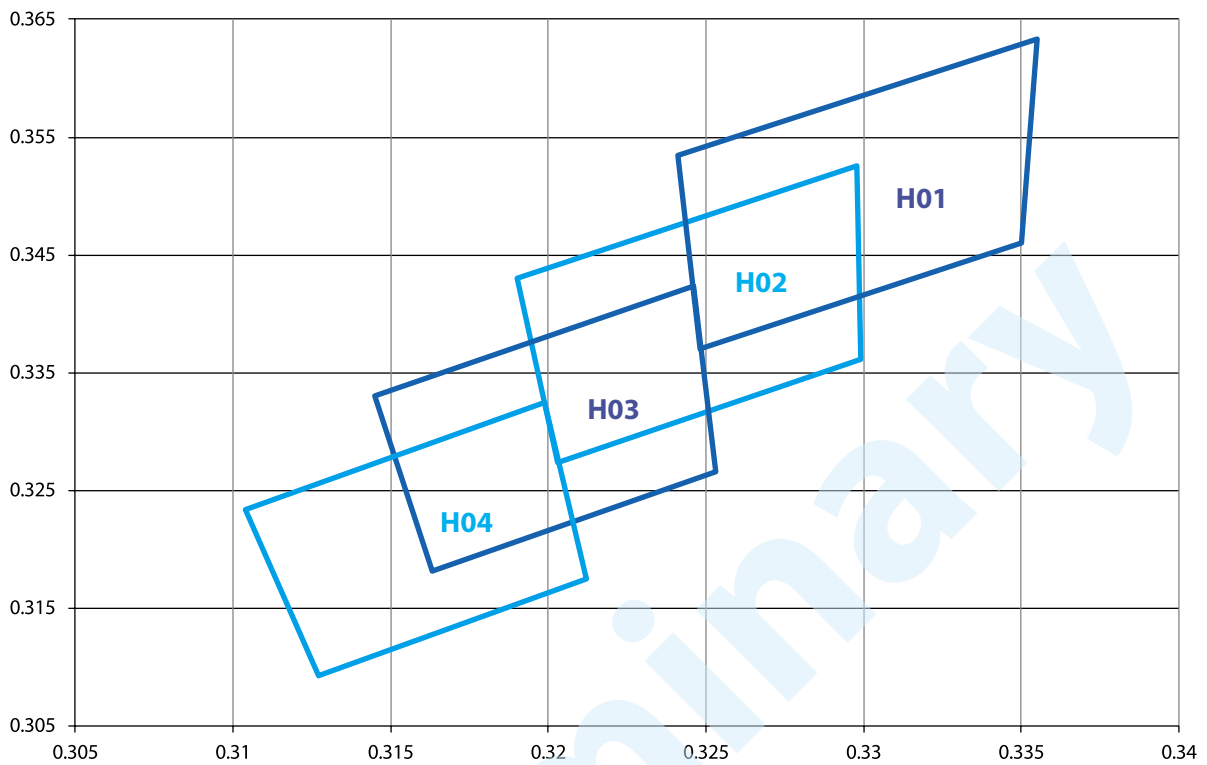
## Brightness Groups

Group	(min.) Luminous Intensity I <sub>v</sub> [lm]	(max.) Luminous Intensity I <sub>v</sub> [lm]
G4	1250	1400
H4	1400	1550
I4	1550	1700

## Forward Voltage Groups

Group	(min.) VF [V]	(max.) VF [V]
V41	12.1	13.3
V42	13.3	14.5

## Chromaticity Coordinate Groups



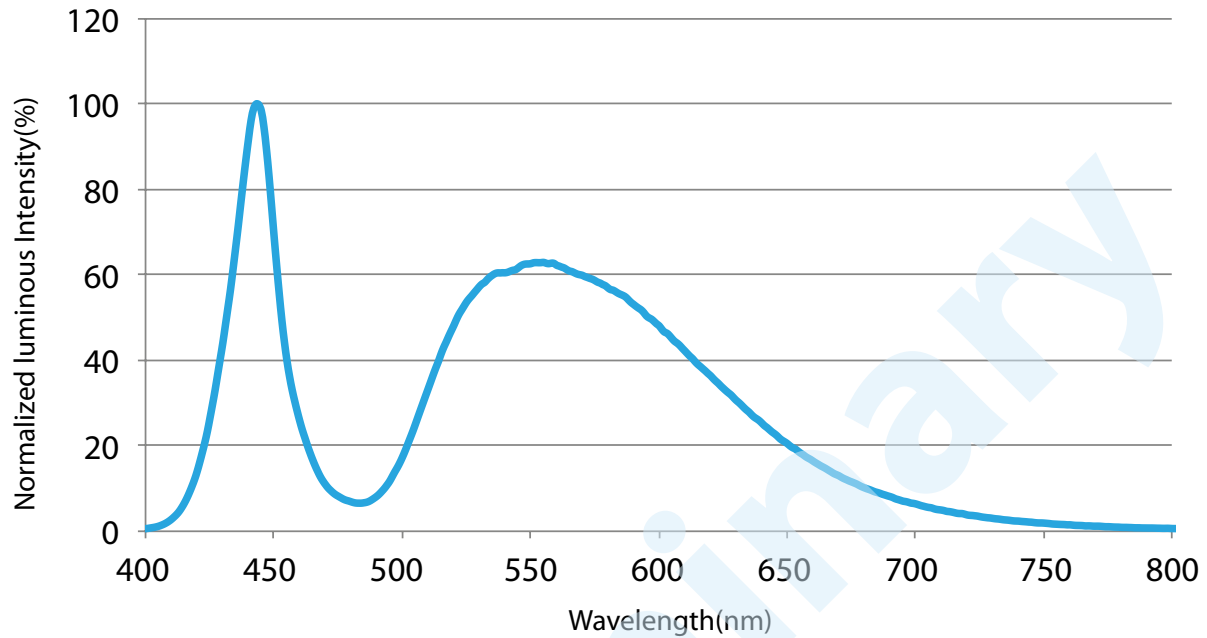
## Color Chromaticity Groups

Group	Cx	Cy
H01	0.3241	0.3534
	0.3248	0.3370
	0.3350	0.3460
	0.3355	0.3633
H02	0.3190	0.3430
	0.3203	0.3274
	0.3298	0.3526
	0.3299	0.3361

Group	Cx	Cy
H03	0.3145	0.3330
	0.3163	0.3181
	0.3246	0.3424
	0.3253	0.3266
H04	0.3104	0.3234
	0.3127	0.3093
	0.3199	0.3325
	0.3212	0.3175

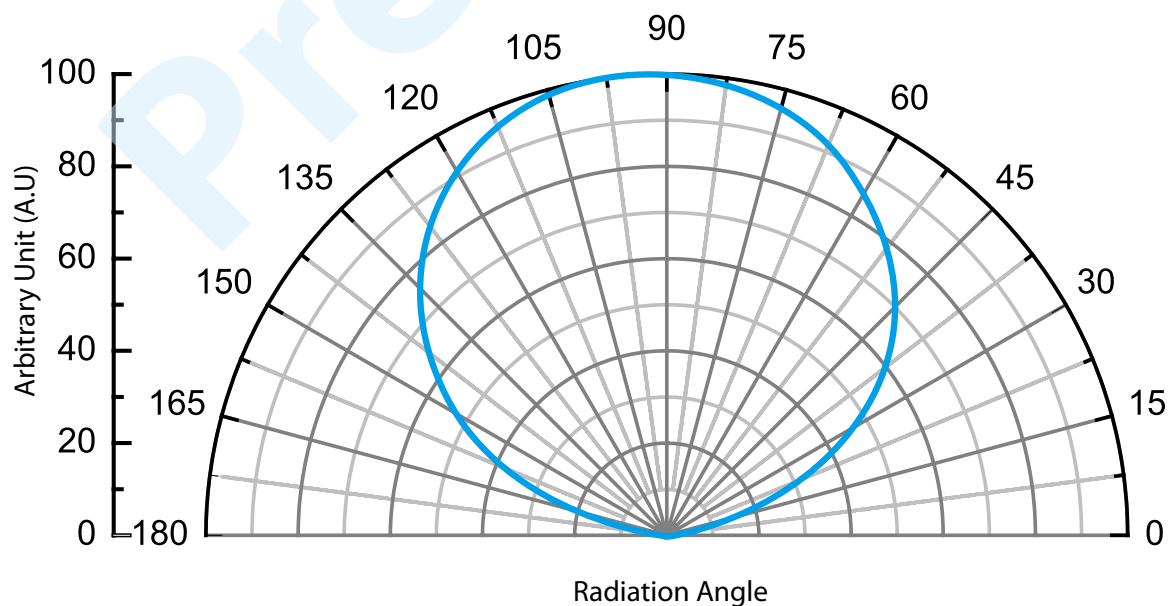
## Relative Spectral Emission - $V(\lambda)$ = Standard eye response curve

$I_{rel} = f(\lambda)$ ; TS = 25°C; IF = 1000mA



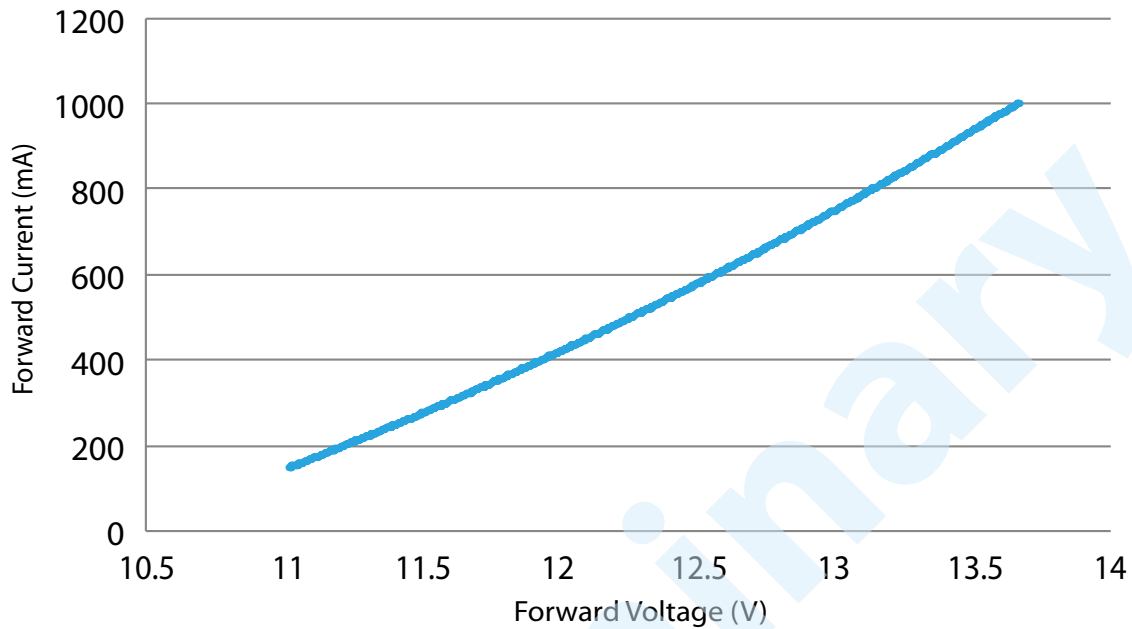
## Radiation Characteristics

$I_{rel} = f(\lambda)$ ; TS = 25°C



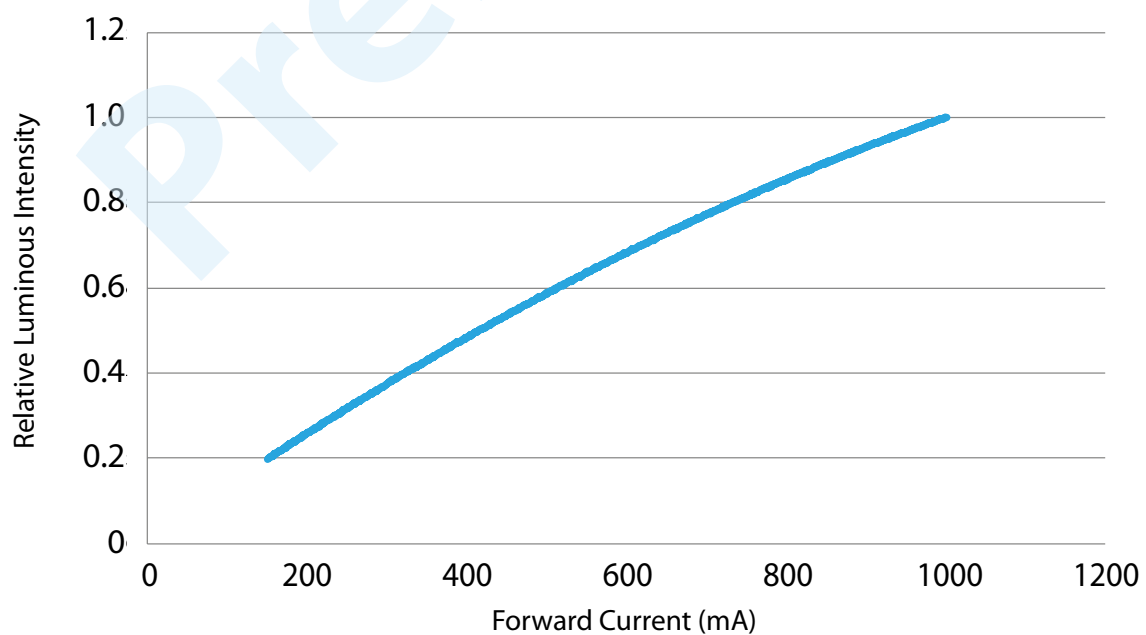
## Forward Current

$I_F = f(V_F); T_S = 25^\circ\text{C}$



## Relative Luminous Intensity

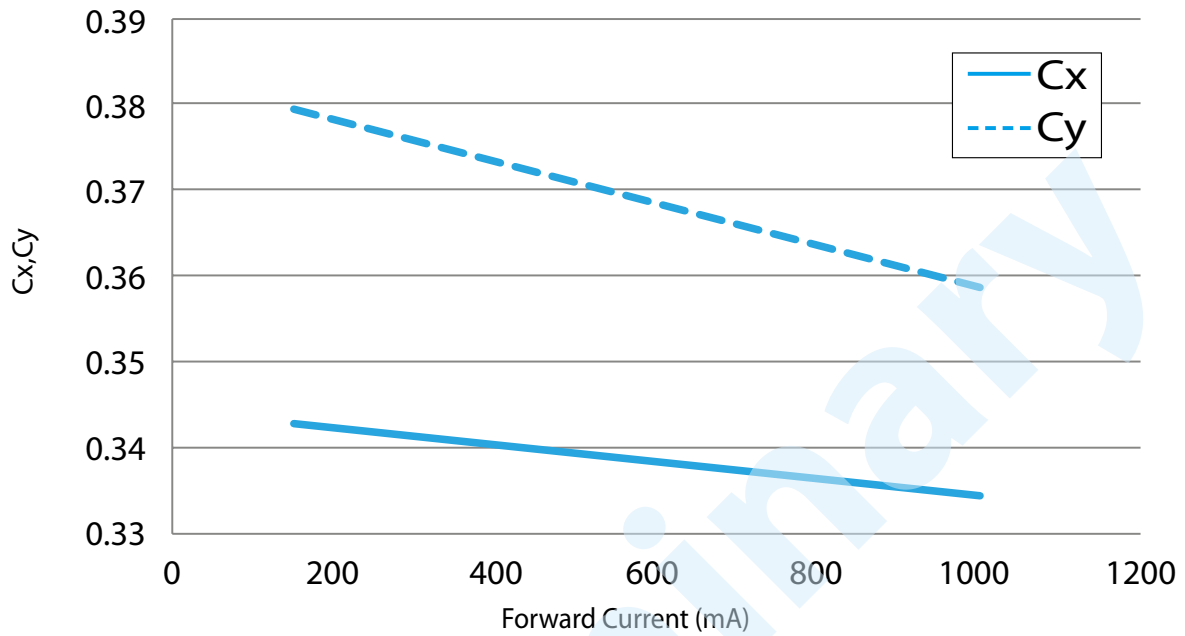
$I_V/I_V(1000\text{mA}) = f(I_F); T_{\text{Board}} = 25^\circ\text{C}$





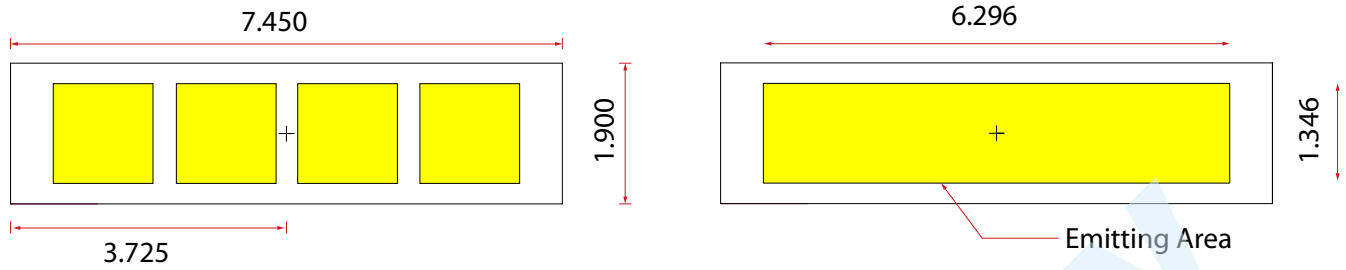
## Chromaticity Coordinate Shift

$\Delta Cx, \Delta Cy = f(IF); TS = 25\text{ }^\circ\text{C}$

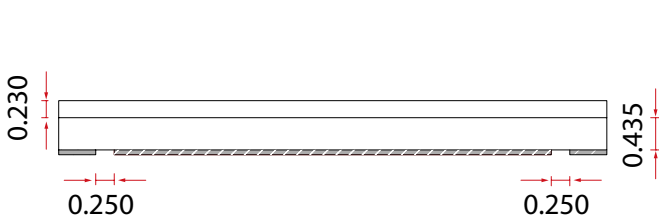


## Mechanical Dimensions

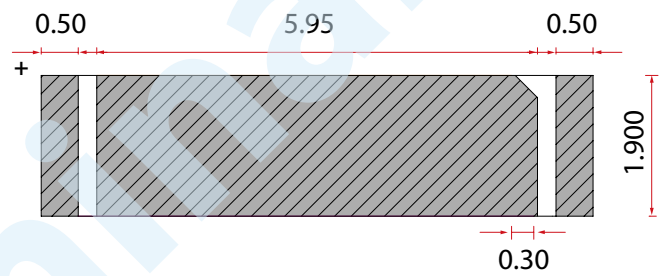
### Top View



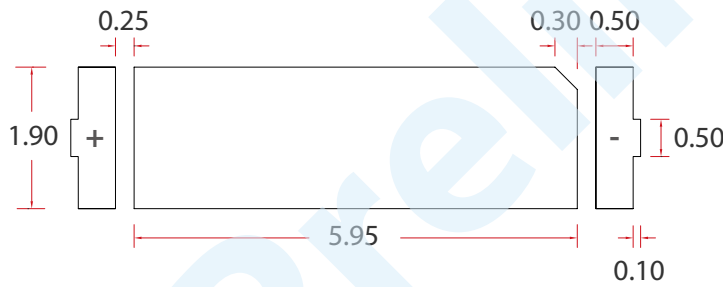
### Side View



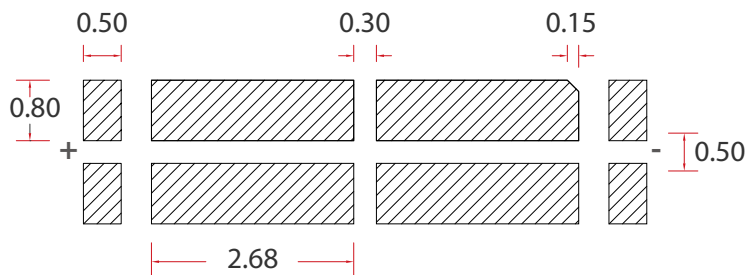
### Bottom View



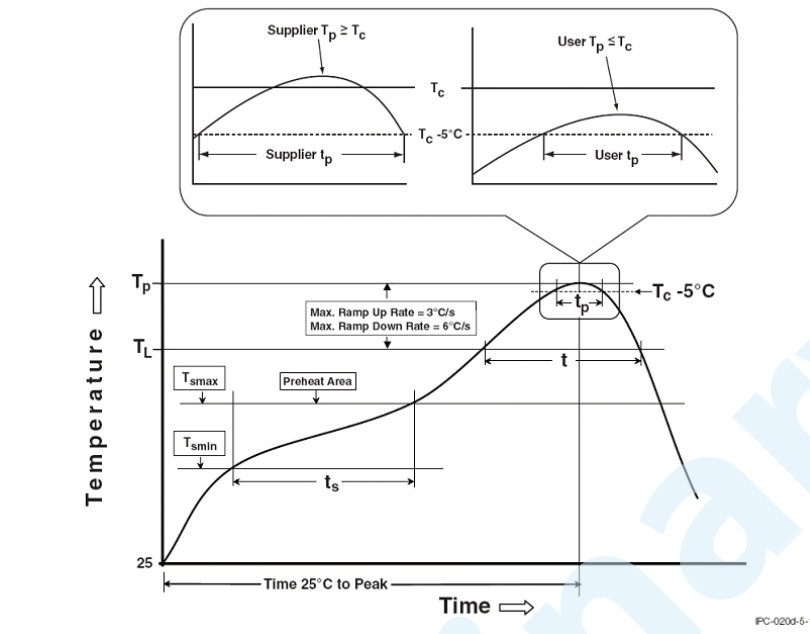
### Recommended PCB Solder Pad



### Recommended Stencil Mask



## Reflow Profile



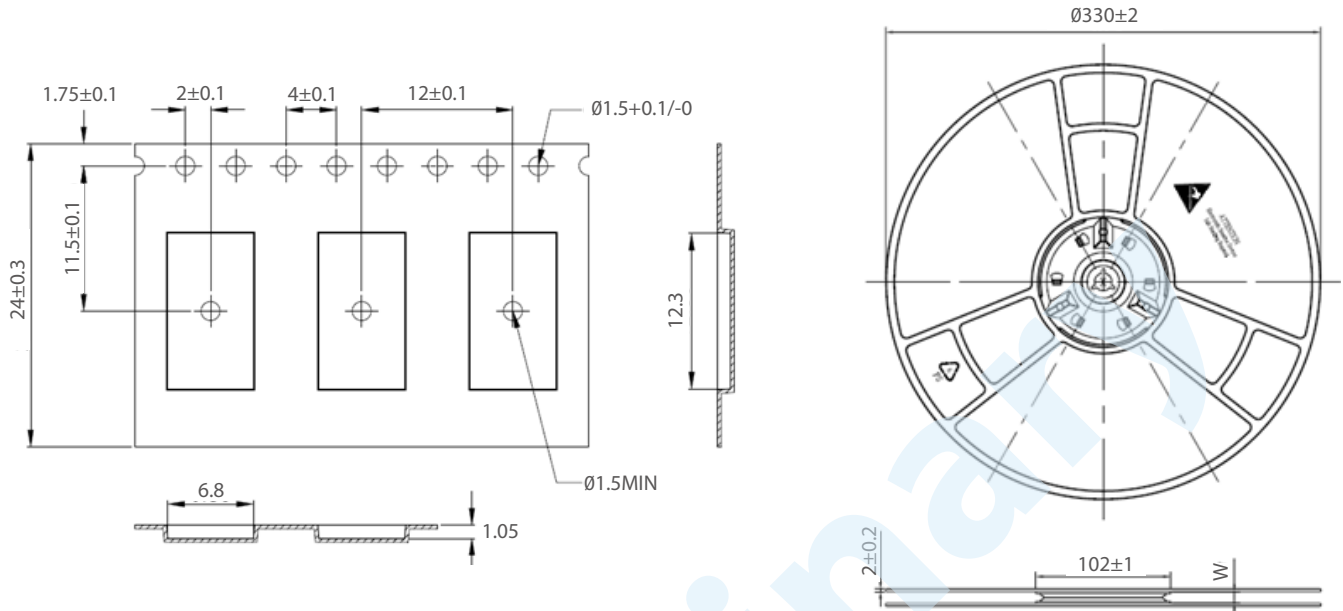
PC-0203-5-1

Parameter	Symbol	Pb-Free (SnAgCu) Assembly			Unit
		Minimum	Recommendation	Maximum	
Preheat and Soak temperature (T <sub>smin</sub> to T <sub>smax</sub> )	T <sub>s</sub>	150	150~200	200	°C /s
Time t <sub>s</sub> (T <sub>smin</sub> to T <sub>smax</sub> )	t <sub>s</sub>	60	-	120	s
Ramp-up rate to peak (T <sub>smax</sub> to T <sub>p</sub> )	-	-	-	3	°C /s
Liquidus temperature	T <sub>L</sub>		217		°C
Time above liquidus temperature	t <sub>L</sub>	60	-	150	s
Peak temperature	T <sub>p</sub>	255	-	260	°C
Time** within 5°C of the specified classification temperature	t <sub>p</sub>	-	30	-	s
Average ramp-down rate (T <sub>p</sub> to T <sub>smax</sub> )	-	-	-	6	°C /s
Time 25°C to peak temperature	-	-	-	8	min

## Notes:

- \* Tolerance for peak profile temperature (T<sub>p</sub>) is defined as a supplier minimum and a user maximum.
- \*\* Tolerance for time at peak profile temperature (t<sub>p</sub>) is defined as a supplier minimum and a user maximum.

## Product Packaging information



### Tape Dimensions

W	P0	P1	P2	D0	E1	F
16±0.3	4±0.1	8±0.1	2±0.1	1.5±0.1	1.75±0.1	7.50±0.1

### Reel Dimensions

A	W	Nmin	W1	W2	W3	D	b	C
330	24	102 ± 1.0	24.4 ± 0.2/0	28.4 ± 0.2	>16.0	21.3±0.2	2.3±0.2	13.5±0.2

Unit: mm

24 mm tape with 2000 pcs on Ø330 mm reel

Preliminary

**HS and China RoHS compliants product**



符合歐盟 RoHS 指令的要求；

中國的相關法規和標準，不含有毒有害物質或元素。