

**Chanyu**

Product Specifications

No.CY -90-3-ED-Q013

CY-RDS3002-M1200-27K-E-3V Version

A/0



CUSTOMER:

PRODUCT SERIES (Product Series): Flexible filament LED

PRODUCT NUMBER: CY-RDS3002-M1200-27K-E-3V

DESCRIPTION (Product Description): 300mm long 200 parallel 1 series 3V filament products

ORDER DATE (Sample delivery date):

approve	Audit	Formulate

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1. Product Features

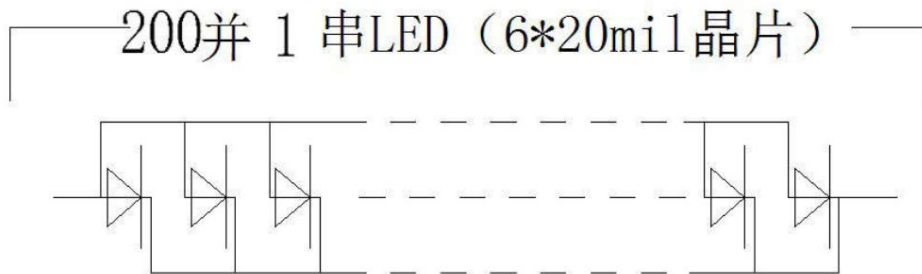
- 1. Luminous color: warm white
- 2. Colloid color: yellow
- 4. Package size: 300x1.8mm
- 5. Antistatic grade (MIL-STD-883E): HBM 2 (2000~4000V)
- 6. Suitable for filament diode installation method, this product does not contain harmful substances and complies with RoHS environmental standards

2. Application areas

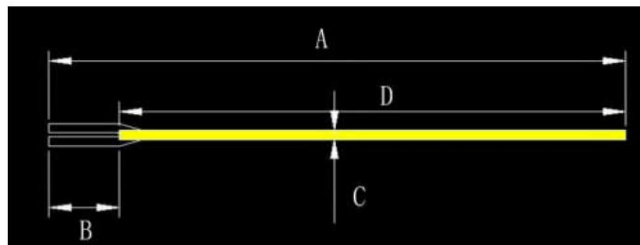
Bulb lamps, 360° full-angle luminous lamps, etc.

3. Product circuit diagram, finished product dimensions and appearance

1. Product circuit diagram



2. Finished product size and exterior image



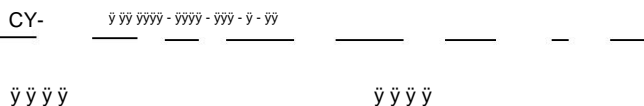
A $\dot{y}$ 301 $\pm$ 1.5MM B $\dot{y}$ 8 $\pm$ 1.5MM

C $\dot{y}$ 1.8 $\pm$ 0.2MM D $\dot{y}$ 293 $\pm$ 1.5MM

Note: The pin with round hole is positive

4. Product model explanation

1. This code consists of 8 areas as follows:



2. Interpretation of partition:

y: Chanyu's abbreviation code

y: Product type code

y: Substrate type code

y: Filament size code: the first three digits are length, the last digit is width

y: Chip code: The first digit is the chip code, the second digit is the chip string number, the third, fourth, and fifth digits are the chip parallel number

y: Color temperature code

y: Color rendering index code

S: CRI>70 E: CRI>80 N: CRI>90

y: Voltage code

5. Limit parameters (Ta=25±5y)

parameter	symbol	Rating	unit
Operating temperature	Topr	-30...+55	y
Storage temperature	Tstg	-10...+40	y
Storage humidity	Rh	60	%
Junction temperature	Tj	85	y
Forward Current	IF	100	mA
Forward pulse current	I <sub>fp</sub>	150	mA

Note: Transient forward peak current pulse conditions: 1/10 duty cycle, 1 ms pulse width

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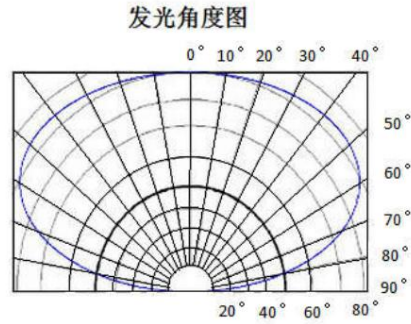
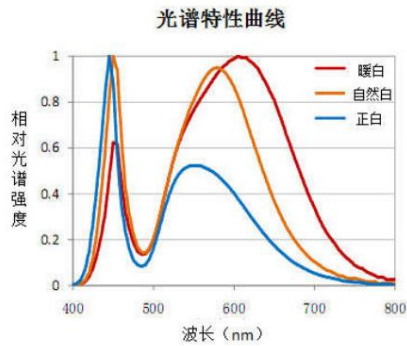
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## 6. Photoelectric characteristics (Ta=25±5ÿ)

parameter	Symbol Test	Conditions	Minimum	Mean	Maximum	unit	
Forward voltage	VF	IF=100mA		2.65	2.7	3	V
power	PD			265	270	300	mW
Color rendering index	Sun			80			
Full View	2ÿ1/2				360		ÿou
Color Temperature	CCT			2607	2700	2791	K
Luminous flux	F			22			lm
Reverse current	AND	VR=5V		0		10	ÿA
Anti-static	ESD	HBM (Human Body Model)			4000V/2 level		
		MM (Machine Mode)			300V/M3 class		

Note: 1. Luminous flux error ±10% 2. Forward voltage error ±5% 3. Color temperature error ±100K 4. Color rendering index error ±2

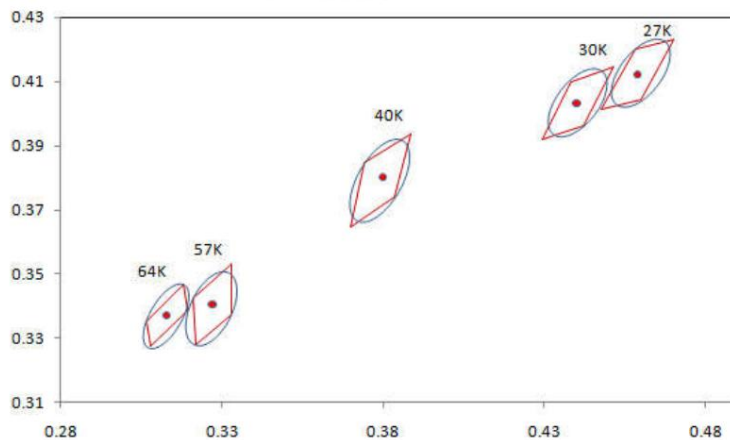
**7. Photoelectric characteristic curve (IF=100mA Ta=25±5ÿ)**



**8. Parameter distribution range (IF=100mA)**

project	Minimum	Maximum	unit
Color Temperature	2607	2791	K
Luminous flux	22		lm
Voltage	2.65	3	V
Color rendering index	80		

**分光打靶图 SDCM≤5**



White light spectroscopic target chart based on IEC 60081 color tolerance standard coordinates

The color tolerance of the point within the blue ellipse is less than 5

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## Spectroscopic targeting coordinates

Color temperature segment (K)	Color zone code	CIE coordinate axis	center point coordinate	x1	x2	x3	x4
				y1	y2	y3	y4
2725±80K	27K	x	0.4590	0.4475	0.4582	0.470	0.4598
		and	0.4120	0.4012	0.4199	0.4228	0.4041
2940±85K	30K	x	0.4400	0.4295	0.4381	0.4515	0.4420
		and	0.4030	0.3918	0.4097	0.4145	0.3962
4060±163K	40K	x	0.3800	0.3699	0.3743	0.3885	0.3835
		and	0.3800	0.3646	0.3846	0.3934	0.3741
5750±270K	57K	x	0.3272	0.3220	0.3209	0.3330	0.3329
		and	0.3403	0.3280	0.3425	0.3533	0.3375
6500±325K	64K	x	0.3130	0.3079	0.3068	0.3181	0.3192
		and	0.3370	0.3274	0.3354	0.3467	0.3387

Note: Machine test error, coordinate value  $\pm 0.005$

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**9. Reliability test standards**

## 1. Experimental Project

category	Test Project	Experimental conditions	Duration	Failure number/ Test base
Environmental testing	Hot and cold shock	-40 $\ddot{y}$ 25 $\ddot{y}$ 100 $\ddot{y}$ 25 $\ddot{y}$ 30min 5min 30min 5min	Loop 50 rounds 0/22	
	High temperature storage	Ta=100 $\ddot{y}$	1000 hours 0/22	
	Low temperature storage	Ta=-40 $\ddot{y}$	1000 hours 0/22	
	High temperature and high humidity storage	Water = 85°C RH = 85%.	1000 hours 0/22	
Life test Room temperature life test		Ta=25 $\ddot{y}$ IF=100mA	1000 hours 0/22	
ESD	Human body electrostatic discharge	4000V	3 times	0/22

## 2. Criteria

project	Marking	Test conditions	Qualification criteria
Forward voltage	VF	IF=100mA	Less than upper limit $\times$ 1.1
Reverse current	AND	VR=5V	$\ddot{y}$ 10 $\mu$ A
Luminous flux/light intensity	IV	IF=100mA	Single attenuation $\ddot{y}$ 30%



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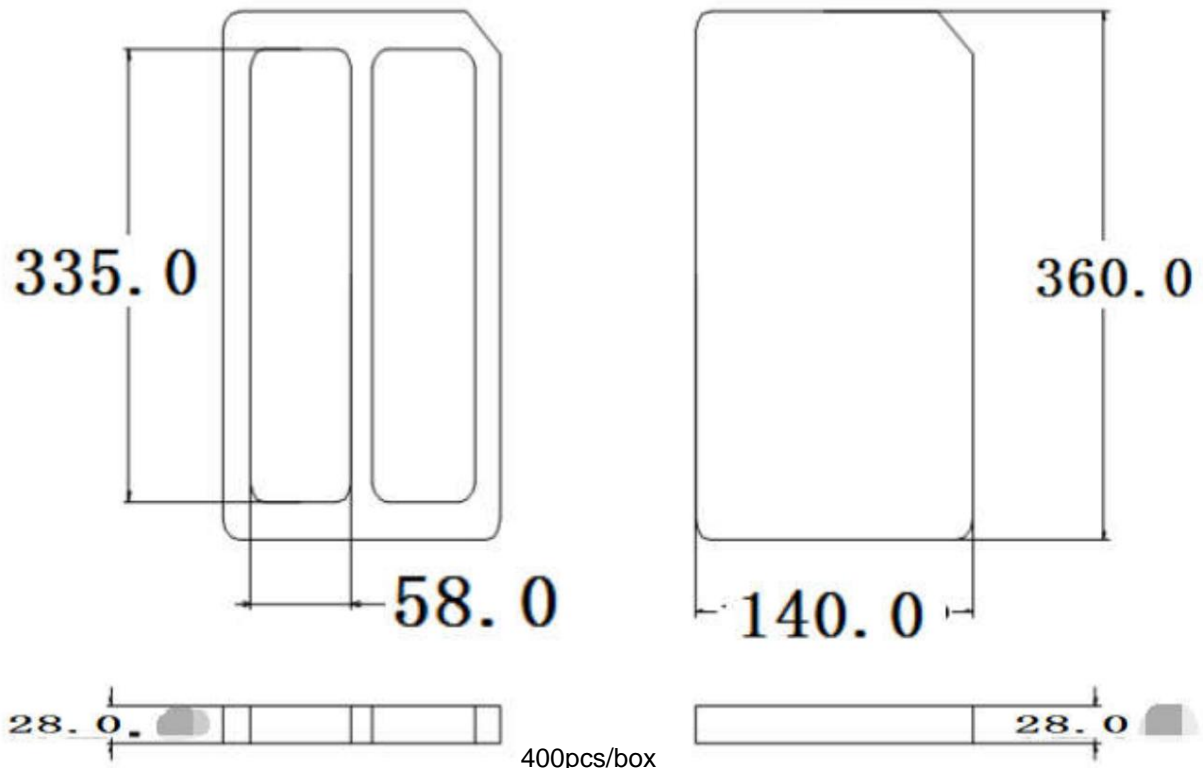
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10. Finished product packaging

1. Tags:

<b>Chanyu</b>			
Single-ended 300mm single-sided soft filament			
Product Model			
Manufacturing order number			
quantity		100mA CCT(K)	
Date		100mA $\ddot{y}$ (Im)	
test		100mA VF(V)	
		100mA Ra	

2. Packaging method (unit: mm)



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## 11. Tips

### 1. Operation

Be careful to protect the LED filament, do not bend it, and avoid the light-emitting area from contacting high temperature or sharp objects.

### 2. Circuit Design

ÿ. Current limiting resistors must be used to prevent the LED from being subjected to instantaneous overload voltage in the switching circuit.

ÿ. Ensure that the LED drive current is within the rated current range of 100mA

ÿ. When using pulse excitation, the average current should be within the rated current

ÿ. When the LED is not working, the circuit should avoid reverse voltage