

# 产品规格书

## PRODUCT SPECIFICATION

<b>客户名称:</b> <b>CUSTOMER:</b>	
<b>产品名称:</b> <b>PRODUCT NAME:</b>	保险电阻 Fuse resistor
<b>产品描述:</b> <b>Product description:</b>	保险电阻 1W小型化 阻值10R 精度 5% 编带 Fuse resistor 1W miniaturization resistance 10R Accuracy 5% Braiding
<b>型号/规格:</b> <b>Model/specification:</b>	RXF:1WS-10R-J-T52
<b>料号</b> <b>Part Number :</b>	C2149605
<b>日期:</b> <b>Date:</b>	2023年04月25日 April 25th, 2023

供应商-泓达 Supplier-Hongda		确认合格章 Confirm qualified Signet	客户 Customer	零件承认章 Approval Signet
编制 PREPARED	田辉			
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## 一、产品特点

### Product features

该产品抗浪涌性能好，熔断一致性好，体积小，便于安装，安全可靠，广泛用于电光源、开关电源、充电器及家用电器等电子设备中。

The product has good anti-surge performance, good fusing consistency, small size, easy to install, safe and reliable, widely used in electric light source, switching power supply, charger and household appliances and other electronic equipment etc.

获得安规认证

Obtain safety certification

VDE: 认证编号 Certification No.: 40036858

UL/CUL 认证编号 Certification No.: E359590

CQC: 认证编号 Certification No.: 0.5W-CQC13001095211

1W-CQC13001095213

2W-CQC13001095221

## 二、外形尺寸

### Overall size

图 1

Figure 1

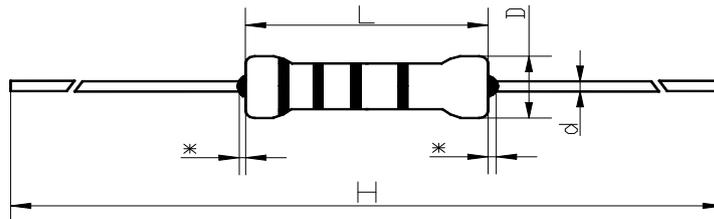


表 1

Form 1

型号 Type No.	额定功率 Rated power W	尺寸 Size (mm)				漆根允许长度* Allowable length of lacquer root (mm)
		Dmax.	Lmax.	H±1	d±0.05	
RXF	0.25、0.5S、 1WX	3.0	7.0	60~70	0.38~0.45	≤1
	0.5、1S、2WX	4.0	10.0	60~90	0.43~0.60	≤1.5
	1、2S、3WX	5.0	12.0	60~70	0.54~0.72	
	2、3S	6.0	16.0	60~80	0.60~0.72	

### 三、 技术说明

Technical specifications

表 2  
Form2

型号 Type No	额定功率 Rated power W	阻值范围 Resistance value range Ω	阻值精度 Resistance precision %	绝缘电压 Insulation voltage (直流或交流峰值) (DC or AC peak Value) V	元件极限电压 limiting voltage V
RXF	0.25、0.5S、1X	1-20	±5、±10	250	200
	0.5、1S、2X				250
	1、2S、3X			350	
	2、3S			350	

#### 一般数据 General data

#### 1、标称阻值允许偏差：±5%、±10%

Standard resistance tolerance: ±5%、±10%

#### 2、气候类别：55/155/21

Climate type: 55/155/21

#### 3、低气压：8.5kpa

Low pressure: 8.5kpa

#### 4、稳定度等级：5%

Stability grade: 5%

#### 5、阻值变化极限值：

Resistance variation limit:

##### 5.1、长期试验：±(5%R+0.1')

Test for a long time: ±(5%R+0.1')

##### 5.2、短期试验：±(1%R+0.05')

The short-term test: ±(1%R+0.05')

#### 6、温度系数：常规型 ≤ ±350 ppm

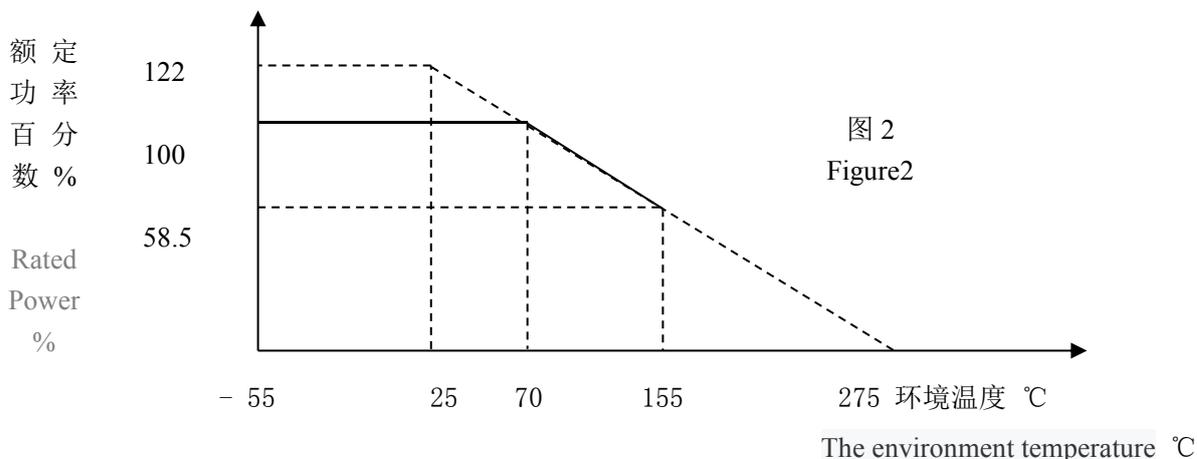
The temperature coefficient data: Conventional type ≤ ±350 ppm

#### 7、额定电流：I<sup>2</sup>(A)=P(W)/R(Ω)

Rated current: I<sup>2</sup>(A)=P(W)/R(Ω)

8、降功率曲线图如图 2:

The power reduction curve is shown in the figure 2:



注：额定功率是在 70°C 温度下连续工作的最大值，超过 70°C 时按曲线降功耗。

Remark: Rated power is under the temperature of 70 °C maximum of continuous work, more than 70 °C when the curve down power consumption.

9、熔断特性 Fusing features

定义：对电阻器的施加规定的过负荷时，阻值显著增大；使流过电阻器的电流下降到最初实验电流的 1/50 以下时称为熔断。电阻器从加上规定的过负荷时到发生熔断对所需的时间称为熔断时间。这种性能称为熔断特性。

**Operation definitions:** When the specified overload is applied to the resistor, the resistance value increases significantly. When the current flowing through the resistor drops below 1/50 of the initial experimental current, it is called fusing. The time required for the resistor to fuse from the time when the specified overload is applied to the time required for the fuse pair to occur is called the fusing time. This property is called the fusing characteristic.

要求：在规定的额定电流倍率过负荷条件下，熔断时间应符合下表规定；

**Requirements:** under the specified rated current ratio overload condition, the fusing time shall comply with the following table

表 3

额定电流倍率(倍) Rating Ampere (In)	熔断时间 (S) Opening Time (S)
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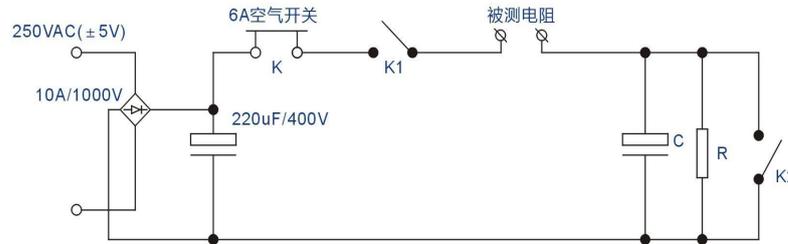
0.25W	R < 1Ω: 6    R ≥ 1Ω: 7	≤30
0.5~2W	R < 1Ω: 6    R ≥ 1Ω: 6	≤30
注：熔断时间可根据用户要求制做；要求雷击产品不做熔断考核 <b>Remark:</b> The opening time can be made according to customers' requirement; It is required that the lightning strike products do not undergo fuse assessment.		

## 10. 电流抗冲击性能 Impact Resistance

按图 3 闭合开关 K, 打开开关 K2, 按 2S 通 2S 断的要求, 将 K1 反复通断 100 次, 试验电阻应不开路。

According to figure 3, close the switch K and open the switch K2, the K1 is repeatedly on and off for 100 times, and the test resistance should not open the circuit (as the requirement of 2S on and 2S off)

图 3  
Figure 3



注:

- 1、电容 C 容量的选择依据客户要求选择, 无特殊要求取 C=10uF。
- 2、电阻 R 阻值选择根据使用电路, 折算成内阻而得, 电阻功率取 20W, 功率因数取 0.8, 10W 以下电阻器一般取 20W, 5.1KΩ (±5%)。

Remark:

- 1、The choice of capacitor C capacity based on customer demands, without demands C=10uF.
- 2、Choice of resistance value R in accordance with the use of lines, derived from converted into resistance, resistance power 20W, power factor 0.8, the appliance below 10W take 20W, 5.1KΩ, ±5%.

## 11. 雷击浪涌冲击 (Surge) 特性 Lightning surge characteristics

试验方法: 将试验电阻接入适用的电器中, 按照 IEC61000-4-5 测试标准进行, 施加浪涌电压, 波形: 1.2/50us; 耦合方式: L-N、L N-PE、L-PE、N-PE 根据要求选择; 极性分别为: 正 负; 相位角为: 0°、90°、180°、270°, 浪涌次数各 5 次, 间隔时间为 60S。

**Test method:** The test resistance was connected to the applicable electrical appliances, and the test was conducted according to IEC61000-4-5 test standard. The surge voltage was applied,

and the waveform was 1.2/50us.Coupling mode:L-N, L N-PE, L-PE, N-PE as required;The polarity was positive and negative.Phase Angle for 0 °, 90 °, 180 °, 270 °, surge number 5 times each, time interval of 60 s.

试验标准：试验结束后，试验电阻应不开路。

**Test standard:** The test resistance shall not be opened after the test.

**12、主要试验项目、试验方法及性能要求（如无特殊说明，则均在标准试验大气条件下进行）** The main test items, test methods and performance requirements (test should be carried out at standard atmosphere)

**表 4 Form 4**

序号 No	试验项目 Test items	试验方法 Test method	性能要求 Performance requirements
1	阻值 Resistance	电阻误差分选仪测量。 Tested by Resistance Tolerance Sorter	电阻值在标称阻值及允许偏差范围内。 The range of resistance from nominal resistance to the allowable tolerance.
2	短时过负荷 Short-time overload	电阻器施加 2.5 倍的额定电压，持续 5S，恢复 1~2h 后测量阻值，并计算阻值变化率。 Resistor is imposed 2.5 times rated voltage and lasts 5 seconds, then the voltage restores to the normal for 1-2h, and calculate the resistance change rate.	阻值变化： Resistance change: $\Delta R \leq \pm (2\%R + 0.05\Omega)$
3	可焊性 Weldability	槽焊法，把电阻器引出端浸入 (260±5)°C 的焊料锅中，插入深度距离元件主体 2+0/-0.5 mm，持续 2±0.5S 后，取出观察焊料覆盖面积。 Groove welding: Dip the resistor outlet into the solder pot as (260±5)°C, Insert depth from component body 2+0/ -0.5mm, continue for 2± 0.5s, remove and observe solder coverage.	被浸入部分表面圆周方向 90%以上覆盖。 More than 90% the immersed surface is covered.
4	耐电压 High voltage	把电阻器放在金属“V”形槽中，施加规定的绝缘电压，电压加在连在一起的两电阻引线及“V”形槽之间，持续 60S。 Put resistor into a metal V-shaped groove,	外观无可见损伤、标志清晰；无击穿、飞弧 Appearance without

		apply specified insulated voltage to the position between pigtailed and V-shaped groove for 60 seconds.	damage,clear mark No breakdown, arcing
5	耐焊接热 Resistance to Soldering Heat	试前测量阻值，把电阻器引出端浸入 350±10℃的焊料锅中，插入深度距离元件主体 2+0/-0.5 mm，持续 3.5±0.5 S 后，恢复 1h 后测量阻值，计算阻值变化率。 Before testing, The resistor terminal into the solder pot as 350±10℃,Insert depth from component body 2+0/ -0.5mm after 3.5 ±0.5s, and Calculate the rate of change of resistance when the resistance was measured after 1h recovery	阻值变化： Resistance change: $\Delta R \leq \pm (1\%R + 0.05\Omega)$
6	温度快速变化 Rapid temperature change	按照低温：-55±3℃，时间：30 分钟，常温、时间 2-3 分钟，高温 155±3℃，时间：30 分钟，此为一循环，做 5 次循环，恢复 1-2h 后测量阻值并计算阻值变化率 According to the low temperature:-55±3℃ Time: 30min; Room temperature: Time: 2-3 min The high temperature as 155±3℃: Time: 30min; This a cycle, and five cycles are performed,and Calculate the rate of change of resistance when the resistance was measured after 1-2h recovery	阻值变化： Resistance change: $\Delta R \leq \pm (1\%R + 0.05\Omega)$
7	耐久性 Endurance	把电阻器放在 (70±3)℃ 的恒温箱内，输入额定直流电压，1.5h 通，0.5h 断，如此循环 1000h，取出后恢复 1—4h 后，测量阻值，计算阻值变化率。 Put resistor into a thermo tank (70±3)℃. Input rated AC voltage,work for 1.5 hours then break for 0.5 hour. By the way, cycle 1000 hours. Then take out resistor and don't touch it for 1-4 hours, measure its resistance and calculate resistance change rate.	阻值变化： Resistance change: $\Delta R \leq \pm (5\%R + 0.1\Omega)$
8	引出端强度 Outlet strength	拉力：用 10N 的力持续拉 10S； Pull: keep pulling for 10 seconds with a force of 10N 折弯：在引出端加 5N 负荷，使电阻器主体在 (2-3) S 内倾斜约 90°，恢	阻值变化： Resistance change: $\Delta R \leq \pm (1\%R + 0.05\Omega)$ 。

		<p>复后, 往另一方向折弯, 即折弯 2 次。 Bending: In terminal 5 n load, make the resistor body tilt within (2-3) S about 90 ° and back up, bent in the other direction, bending twice</p>	
9	<p>振动 vibration</p>	<p>电阻体与安装点的距离为 6±1mm, 振动率范围 10-500HZ, 振幅: 0.75mm 或加速度 98m/s<sup>2</sup>(取较小者); 振动方向和时间沿 Z、X、Y 轴方向各 2h, 共 6h, 周期: 1min; (10-55-10HZ), 试后测量阻值, 并计算阻值变化率。 The distance between the resistance body and the mounting point is 6±1mm, Vibration range 10-500HZ,the amplitude:0.75mm or the acceleration is 98m/s<sup>2</sup>(the smaller one); Vibration direction and time along the Z, X, Y axis direction 2h, total time is 6h; cycle:1min,(10-55-10HZ);measure its resistance and calculate resistance change rate after test.</p>	<p>1) 外观: 无机械损伤 2) 阻值变化: 1) Appearance: no mechanical damage 2) Resistance change: <math>\Delta R \leq \pm (1\%R + 0.05\Omega)</math></p>
10	<p>气候顺序 Climate order</p>	<p>—干热 —循环湿热, 试验 Db, 第一个循环; —寒冷 —低气压 —循环湿热, 试验 Db, 其余的循环 —直流负荷 - dry heat - circulating wet heat, test Db, first cycle;- cold - low pressure - circulating wet heat, test Db, the rest of the circulating - dc load</p>	<p>阻值变化: Resistance change: <math>\Delta R \leq \pm (5\%R + 0.1\Omega)</math> 绝缘电阻: <math>\geq 100M\Omega</math> Insulation resistance : <math>\geq 100M\Omega</math></p>
11	<p>意外过载 Accidental overload</p>	<p>将试验样品安装在距电阻主体 25±3mm 的单层丝网圆筒内, 施加 5、10、16 额定功耗过负荷, 持续 5min 或到电阻器变成开路时止。 Install the test sample in a single layer of wire mesh cylinder 25±3mm away from the resistor body, and apply 5, 10, 16 rated power consumption overload for 5min or until the resistor becomes open circuit.</p>	<p>丝网圆筒不着火 Screen cylinder does not fire</p>

13、编带式样及尺寸如图 4、表 5:

The braiding pattern and size are shown in the figure 4 and Form 5

图 4  
Figure 4

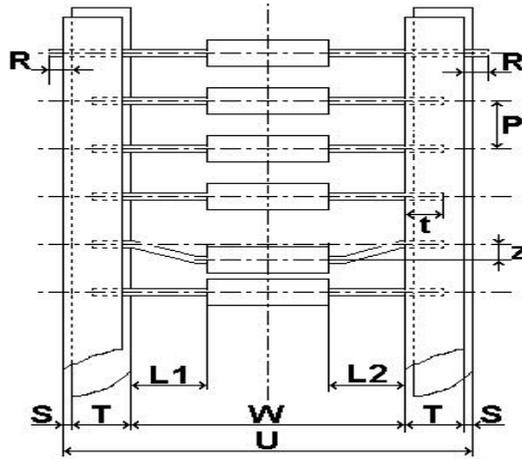


表 5  
Form 5

编带规格 Editorial specificatio n	尺寸 size (mm)								
	U	W	P	L1-L2	T	Z	R	t	S
T26	38±1	26±0.5	5±0.5	<0.5	6±0.1	≤1	0	≥3.2	<1.5
T52	64±2	53±1		<1					
T63	75±2	63±1	10±0.5						
	75±2	63±1	10±0.5						
T72	84±2	72±2	5±0.5	<1.2					
	84±2	72±2	10±0.5						

14、套管产品式样及尺寸见图 5、表 6

Casing product style and size as Figure 5 and Form 6

图 5 Figure 5

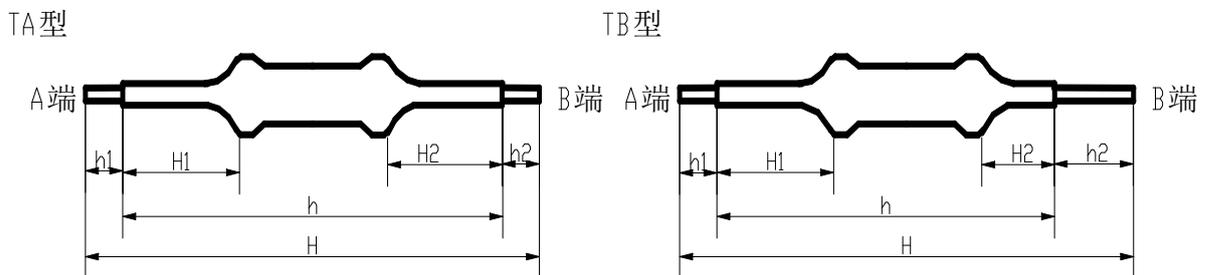


表 6 Form 6

形状 The shape	尺寸 size (mm)					
	H±1	H1±1.5	H2±1.5	h≤h (1±5%)	h1±2	h2±2
TA 型	70	20	20	50	10	10
TB 型	80	5	25	40	10	30

注：1、引线裸露部位≤5 mm时，公差为+2/-1 mm，2、套管尺寸可根据客户要求制做  
 Remark: 1. Lead exposed part ≤5 mm, the tolerance: +2/-1 mm  
 2.Casing dimensions can be made according to customer requirements

15、成型式样及尺寸图6、表7

Molding style and size as figure 6 and form 7

图 6 Figure 6

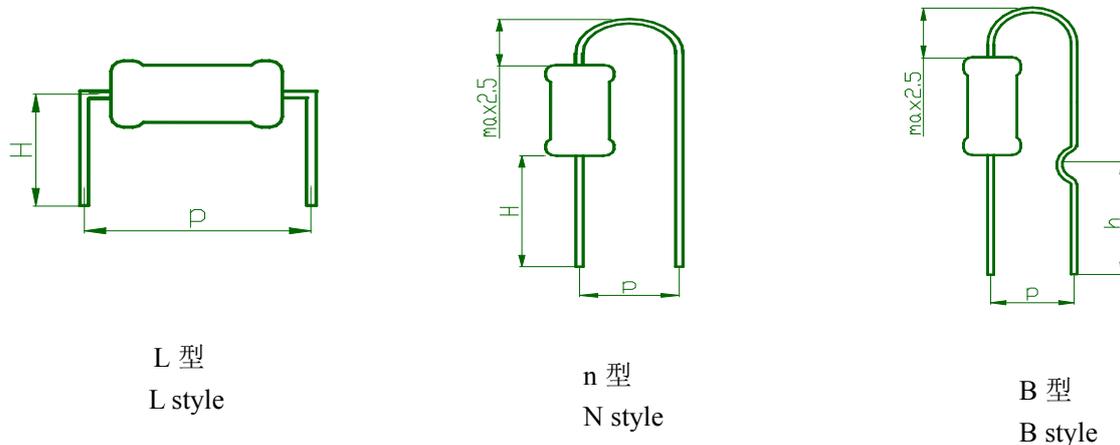
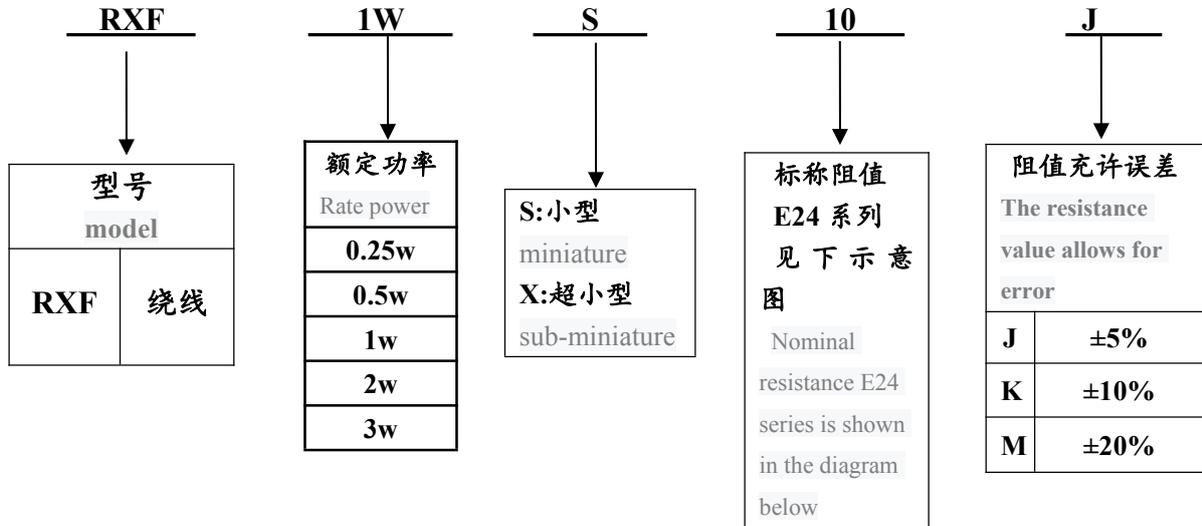


表 7 Form 7

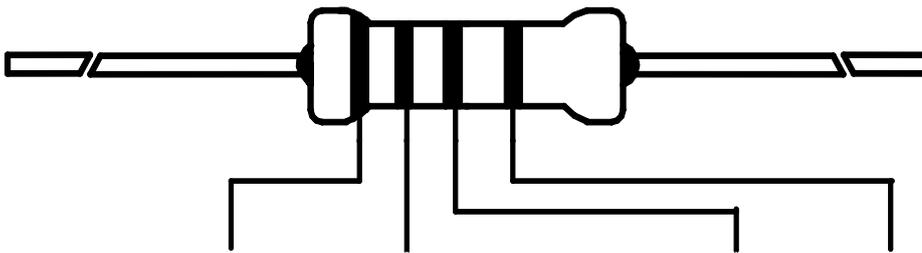
形状 Style	尺寸 size (mm)			注： 成型形状及尺寸 可根据客户要求 制作 Remark: Molding shape and size can be made according to customer requirements
	P±1.0	H±1	h±0.5	
n 型	5	3.5		
	8	3.5		
B 型	5		3.5	
	8		3.5	
L 型	12.5	4.5		
	14.5	5.5		

## 16、型号规格名称说明（例）

Description of model and specification (ex.)



## 17.色环标志图 Color ring logo diagram



颜色 Color	第 1 数字 First digit	第 2 数字 Second digit	第 3 数字 Third digit	乘数 Multiplier	误差率 Tolerance
黑 Black	0	0	0	$10^0$	—
棕 Brown	1	1	1	$10^1$	±1
红 Red	2	2	2	$10^2$	±2
橙 Orange	3	3	3	$10^3$	—
黄 Yellow	4	4	4	$10^4$	—
绿 Green	5	5	5	$10^5$	±0.5
蓝 Blue	6	6	6	$10^6$	±0.25
紫 Violet	7	7	7	$10^7$	±0.1
灰 Gray	8	8	8	$10^8$	—
白 White	9	9	9	$10^9$	—
金 Gold	—	—	—	$10^{-1}$	±5
银 Silver	—	—	—	$10^{-2}$	±10
无 Plain	—	—	—	—	±20