



洲光源  
CHAULIGHT

# 产品规格书 SPECIFICATION

客户名称:

Customer Name

产品类型: 下视模组

Product Name

产品型号: ZSPIR-2415-4428-C

Part No.

技术参考 Technical Reference		样品 Sample	量产供货 Mass Product		
客户审核 (加盖公章) Client approval (Stamp)			洲光源审核 Chaulight approval		
核准 Approval	确认 Checked	核准 Approval	确认 Checked	制作 Edited	
		谢小金	杨培续	赖华棋	
<input type="checkbox"/> 接收 Qualified		<input type="checkbox"/> 不接收 Disqualified		日期 Date: 2023.08.14	

联系电话(Tel): 13828819291

E-mail: tony@zgy-led.com

地址(Add): 深圳市宝安区航城街道航空路 36 号华盛泰科技大厦 D 栋 502

No.502, Building D, Huashengtai Science and Technology Building, No. 36, Hangcheng Street, Bao'an District, Shenzhen

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广东洲光源红外半导体有限公司  
Guangdong Chaulight Infrared Semiconductor Co., Ltd.

## 特性 Feature

--可靠性高、辐射强度高、低电压驱动

Highreliability、Highradiant intensity、Low forward voltage

--感应速度快、感光度强

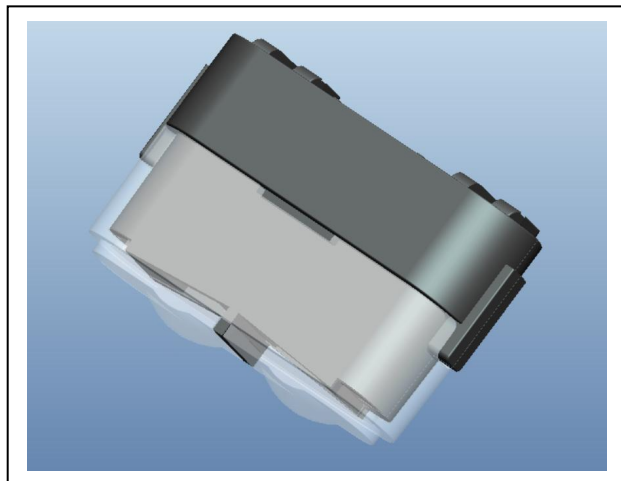
Fastresponse time、Highphoto sensitivity-

-最佳感应波长 940nm

Optimal sensing wavelength  
 $\lambda_p=940\text{nm}$

--无铅材料、Rosh 认证

Pb.Free、RoHS compliant version



## 应用 Application

--智能扫地机器人

Intelligent Sweeping Robot

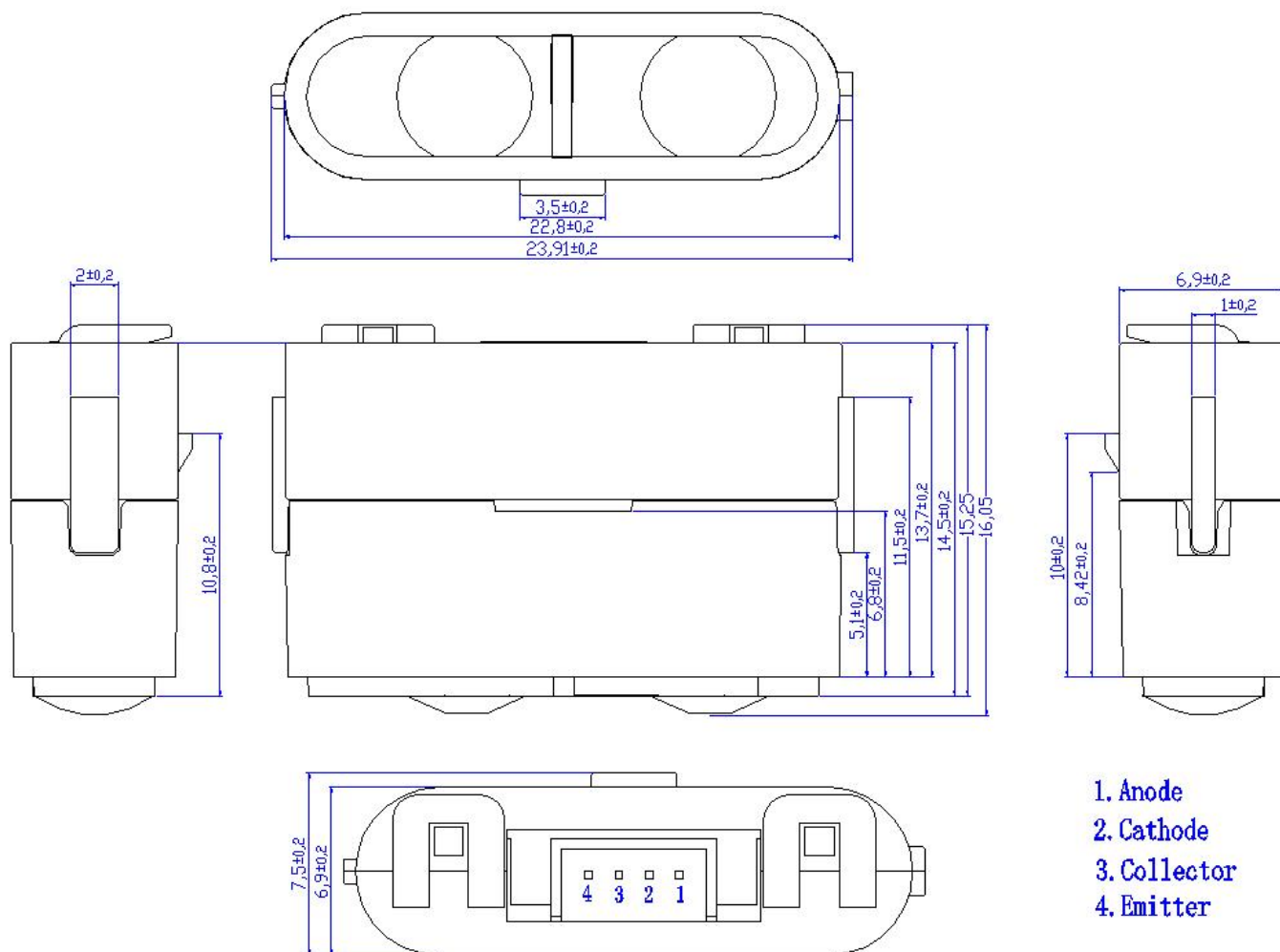
## 最大额定值 Absolute Maximum Ratings

测试项目 Parameter (Ta=25°C)	符合 Symbol	范围 Ratings	单位 Unit
最大功率 PowerDissipation*1	Pd	140	mW
最大反向电压 Reverse Voltage	VR	5	V
最大持续正向电流 Forward Current	IF	100	mA
最大脉冲正向电流 Peak Forward Current*2	IFP	1	A
最大功率 PowerDissipation*1	Pd	75	mW
集电极-发射极电压 Collector-Emitter Voltage	VCEO	30	V
发射极-集电极电压 Emitter-Collector Voltage	VECO	5	V
集电极电流 Collector Current	IC(ON)	20	mA
工作温度 Operating Temperature	Topr	-20~+80	°C
储存温度 Storage Temperature	Tstg	-40~+85	°C
焊接温度 Lead Soldering Temperature*3	Tsol	260 (<5s)	°C

\*1、在 25 摄氏度的环境中测试 below 25 Free Air Temperature

\*2、脉宽少于等于 100us, 占空比 1% Pulse width  $\leq 100\mu\text{s}$ , Duty cycle=1%

## 产品尺寸 Package Dimension



### 备注 Notes:

--所有尺寸为毫米标识

All dimensions are in millimeters

--未标识尺寸正负公差为 0.3mm

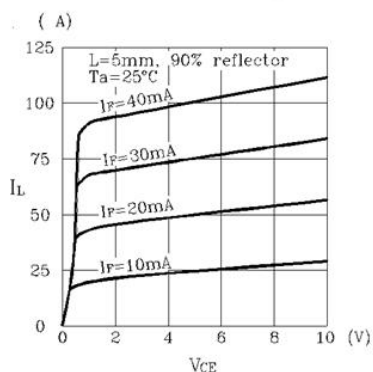
Tolerances unless dimensions  $\pm 0.3\text{mm}$

## 光电特性 Electro-Optical Characteristics

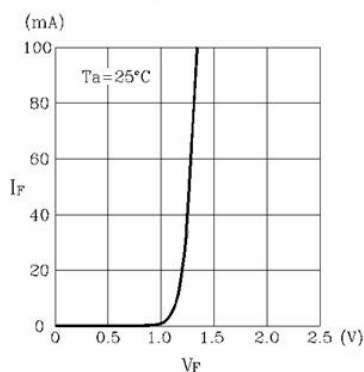
电性参数(温度=25℃) Paramete (Ta=25℃)	符号 Symbol	条件 Condition	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Units
正向电压 Forward Voltage	VF	IF=20mA	--	1.20	1.5	V
正向电压 Forward Voltage	Icc	IF=100mA*2	--	1.40	1.85	v
峰值波长 Peak Wavelength	$\lambda_p$	IF=20mA	--	940	--	nm
反向电流 Reverse Current	IR	VR=5V	--	--	10	$\mu$ A
暗电流 Dark Current	ICEO	Ee=0mW/cm <sup>2</sup> VCE=20V	--	--	100	nA
集电极-发射极的工作电压 C-E Saturation Voltage	VCE(SAT)	IC=2mA Ee=1mW/cm <sup>2</sup>	--	--	0.4	V
上升时间 Rise Time	tr	VCE=5V	--	15	--	$\mu$ S
下降时间 Fall Time	tf	IC=1mA RL=1000 $\Omega$	--	15	--	$\mu$ S
光电流 Collector Current	I <sub>C(ON)</sub>	IF=20mA VCE=5V	4.0	6.0	--	mA

## 典型光电特性曲线图 Typical Electro-Optical Characteristics Curves

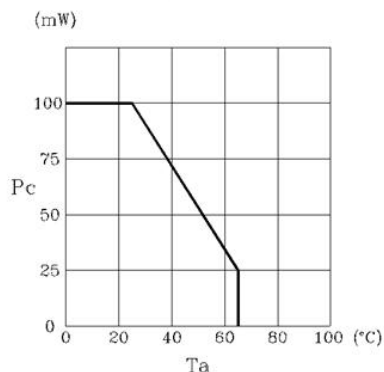
Light Current vs Collector-Emitter Voltage



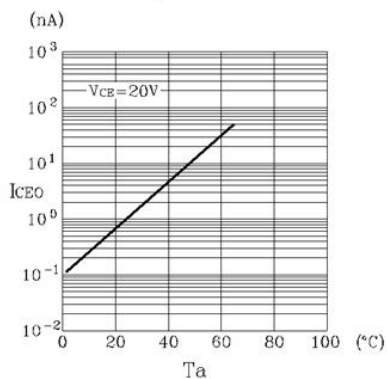
Forward Current vs Forward Voltage



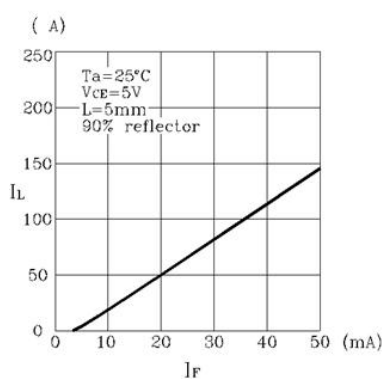
Power Dissipation vs Ambient Temperature



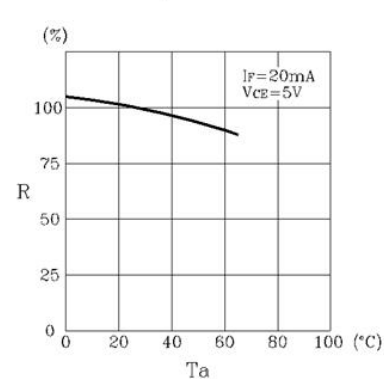
Dark Current vs Ambient Temperature



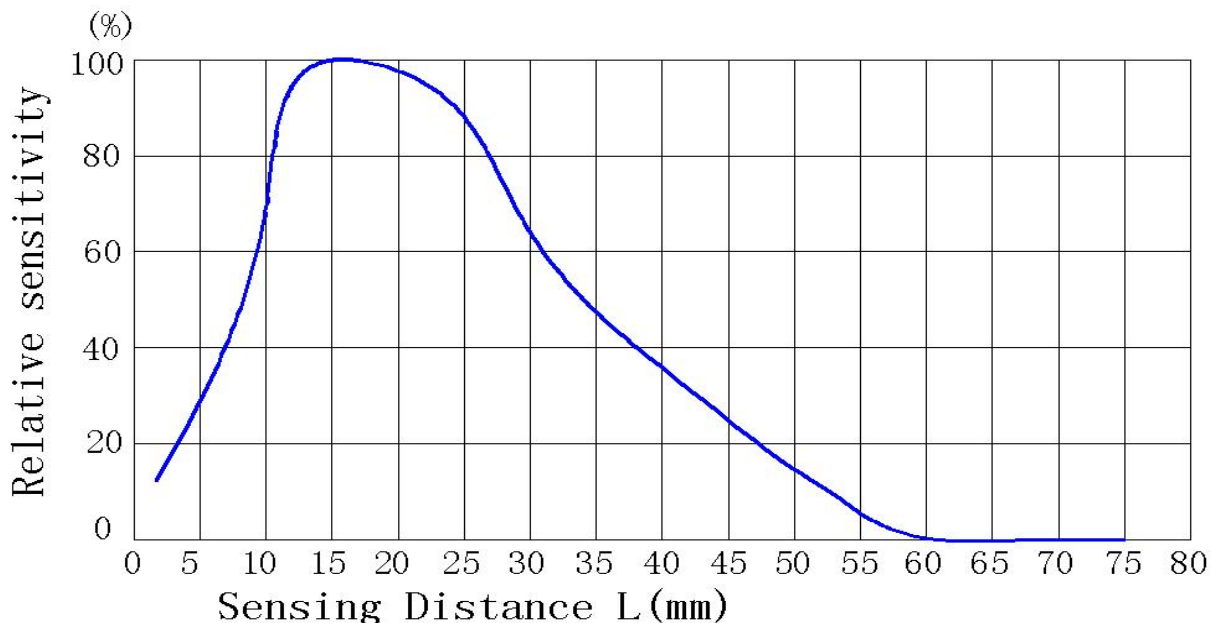
Light Current vs Forward Current



Relative Light Current vs Ambient Temperature



### Position Detect Characteristics



## ► 注意事项Note

### --过流保护Over-current-proof

1、客户必须应用电阻进行保护，否则会造成轻微电压偏移大电流变化（烧毁将发生）。

Customers must use resistors for protection, otherwise it may cause slight voltage deviation and large current changes (burning will occur).

### --储存Storage

1. 产品应保持在10℃~30℃和90%RH 或以下。

The product should be kept at 10 °C~30 °C and 90% RH or below.

2、产品建议在一年内使用。

Product recommendation for use within one year .

### --其他Other

1、以上规格可更改，恕不另行通知。 洲光源将为上述规格的材料变更保留权力

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## ► 更改记录表 Engineering Change Notice-Record

版本 Edition	更改日期 Date	主要更改内容 Main Content	拟制 Prepared	确认 Checked
A/1	2024-11-10	新版本发布 New Edition	赖华棋	谢小金