



深圳市创威时代光电有限公司  
Shenzhen ChuangWei Seculens CO., Ltd.

## 产品规格书

### Product Specification

产品名称:4mm 1/2.7" 高清星光镜头 Product Name:4mm 1/2.7" Starlight Lens	
型号:	<b>S307-2MP+H59+IR0147</b>
Model:	<b>S307-2MP+H59+IR0147</b>

客户承认 (Customer Approved)	承认 (Approved by)	检印 (Reviewed by)	作成 (Prepared by)

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## 4.概要 (Outline)

### 4.1 应用范围 (Application)

适用于我司向贵司提供的镜头产品(The below datasheet is only suit to SECULENS products.)

## 5 主要参数 (Main Items)

### 5.1 光学参数规格 (Optical Specifications)

NO.	项目 (Items)	具体规格 (Specification)					
1	F No.	1.4±10%					
2	焦距(Focal-Length)	3.97 ±5%					
3	光学后焦 (Optical Back Focal Length)	5.28 ±0.1 (in air)					
4	机械后焦 (Mechanical Back Focal Length)	5.04 ±0.2 (in air)					
5	镜头总长(TTL)	22.27 ±0.2 (in air)					
6	像面大小 (Image circle)	Φ6.9 (MAX)					
7	镜片构成 (Lens structure)	1G5P (第一枚镜片为塑胶镜片时, 仅可使用酒精擦拭3次) (The first optical lens is plastic lens, could only be wiped with alcohol 3 times)					
8	接口 (Mount)	M12*P0.5					
9	镜头与底座螺纹配合扭力 (Clamp Force)	60-600gf-cm					
10	视场角(FOV)	sensor型号	H(水平)	V(垂直)	D(对角)		
		1/2.7"(16:9)	90.9°	48.0°	109.1°		
		1/2.8"(16:9)	87.6°	46.4°	104.5°		
		1/2.9"(16:9)	84.2°	45.0°	100.1°		
11	光学畸变 (Optical Distortion)	1/2.7"	-12.5%	1/2.8"	-11.0%	1/2.9"	-9.5%
12	相对亮度 (Relative Illumination)	1/2.7"	45%	1/2.8"	48%	1/2.9"	50%
13	最大主光线夹角 (CRA)	1/2.7"	14.1°	1/2.8"	13.7°	1/2.9"	13.4°
14	近摄距 (M.O.D)	0.2m					
15	解像标准 (Resolution)	分辨率 (Resolution): 1920×1080 (2MP)					
		中心: 1000线条清晰; 0.7Y: 700线条清晰; 0.9Y: 300线条清晰; center:1000 line clear;0.7Y:700 line clear;0.9Y: 300 line clear;					
16	重量 (Weight)	/					
17	操作方法 (Operation)	聚焦 (Focus)			手动 (Manual)		
		光圈 (Iris)			固定 (Fixed)		
18	环保&安全 (HSF&Safety)	RoHS					

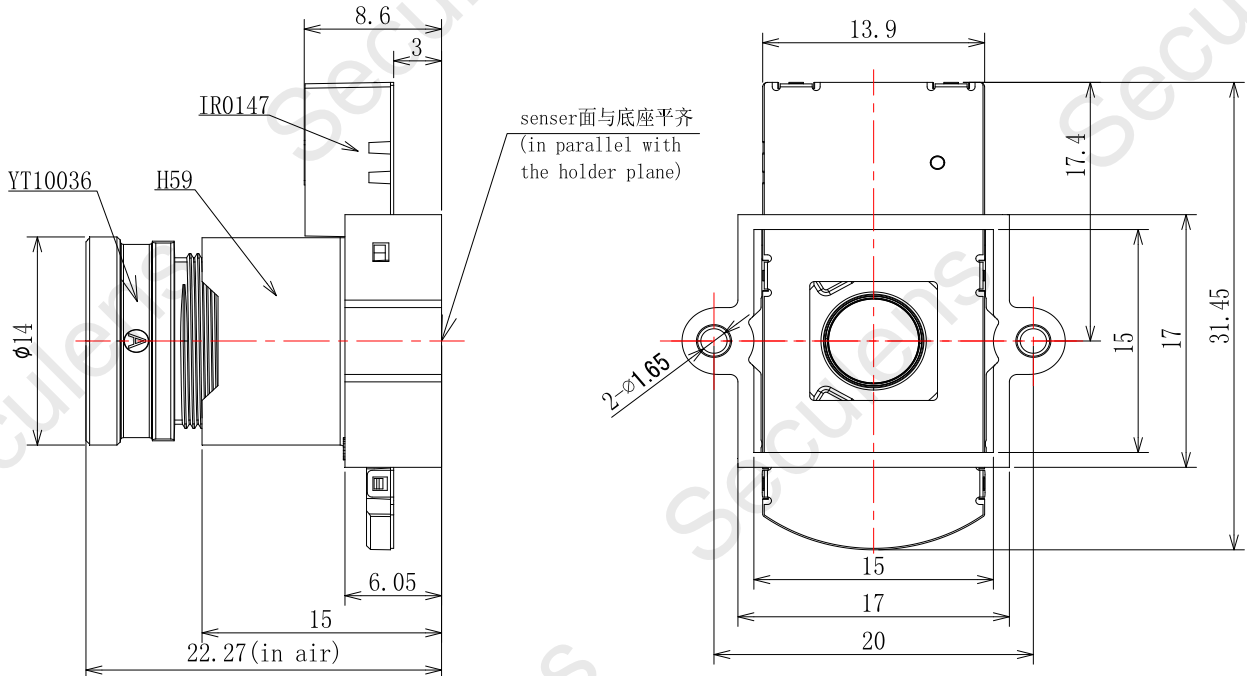


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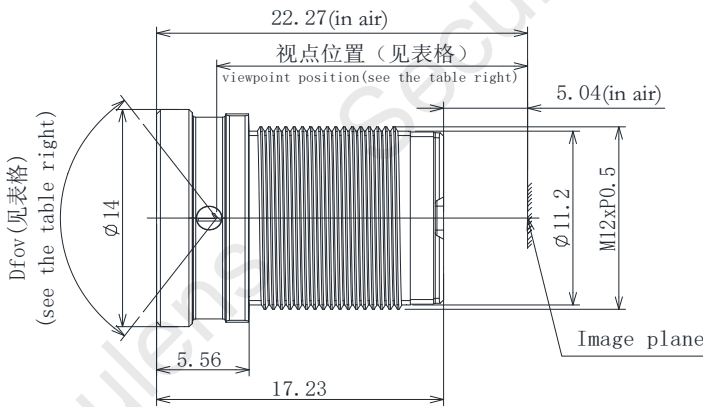
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## 5.2 机构参数规格 (Mechanical Specifications)

### 5.2.1 外形尺寸图 (Dimension Figure)



### 5.2.2 视点图 (Viewpoint Figure)



像面大小 (Format)		Dfov	视点位置 (mm) (viewpoint position)
(1/2.7 以下镜头) (lens format < 1/2.7")	∅4.4	66.91°	17.07
	∅5.6	88.02°	18.12
	∅6.0	95.85°	18.47
	∅6.17	99.37°	18.62
	∅6.39	104.18°	18.83
	∅6.6	109.03°	19.03
	∅7.0	118.96°	19.45

本规格书未注单位 (Unit is not indicated in the document): mm

未注公差 (Unmarked Tolerance):  $\Phi \pm 0.1$ ,  $L \pm 0.15$

### 5.3 光学检测标准 (Optical Performance)

No.	检测项目 (Items)	描述 (Description)
1	解像力 (Resolution)	1.1: TV实拍解像条件 (Condition) A:Chart:社内实拍chart B:实拍距离(Distance): 1.2m 1.2: 实拍方法(Method) A:旋转镜头调焦得到最清晰的像面中心(Adjust the machine interface to get the most clear image plane center) 1.3: 实拍标准(Criteria) 2MP: 中心: 1000线条清晰; 0.7Y: 700线条清晰; 0.9Y: 300线条清晰; center:1000 line clear;0.7Y:700 line clear;0.9Y: 300 line clear;
2	外观标准 (Appearance Standards)	2.1镜头内污 (LENS DUST) A:规格 60-20 伤痕: 宽度 <60um, 长度和 <D/2, ≤15um不计; 脏污: 单点直径 <200um,100~200um点 ≤3个。 2.2其他外观(Other appearance) 外表面颜色均匀, 无明显缺陷、污渍、异物伸出、明显划伤和收缩; 脏水不得溢入有效通光内。 2.1 LENS DUST A: Specification 60-20 Scratch: width<60um, total length<D/2, ≤15um ignored; Smudge: Single dot diameter <200um,100~200um dot ≤3 pcs 2.2 Other appearance Outside surface uniform color; no visible flaws, stains, foreign bodies extended, obvious scratch or contraction; no glue spill into the effective aperture.

### 5.4 环境参数规格 (Environment Specifications)

No.	环境描述 (Items)	条件(Description)
1	存放环境 (Storage condition)	-30°C~+80°C; 10-90%RH (No condensing)
2	工作环境 (Operation condition)	-20°C~+60°C; 10-90%RH (No condensing)

**6 信赖性测试( Reliability Test)**

No.	项目 (ITEM)	测试条件(CONDITION)
1	高温存放试验 Storage Test At High Temperature	镜头在80℃温度中存放48小时，之后再存放在常温常湿环境中恢复6小时后，所有规格满足规定要求 All specification are to be satisfied after lens is exposed to 80℃ for 48 hours and then to normal temperature/humidity for 6 hours
2	低温存放试验 Storage Test At Low Temperature	镜头在-30℃温度中存放48小时，之后再存放在常温常湿环境中恢复6小时后，所有规格满足规定要求 All specification are to be satisfied after lens is exposed to -30℃ for 48 hours and then to normal temperature/humidity for 6 hours
3	冷热冲击试验 Temperature Cycle Test	镜头在-30℃条件下保持30分钟，然后升温至+80℃，稳定后保持30分钟作为一个周期，共10个周期。之后再存放在常温常湿环境中恢复6小时后，所有规格满足规定要求 All specification are to be satisfied after lens is exposed to -30℃ for 30min, Tank temperature change +80℃ for 30min as one cycle, 10 cycle shall be performed. And then to normal temperature/humidity for 6 hours
4	振动试验 Vibration Test	镜头在振幅为1.5mm、频率为10-55Hz的正弦波参数下，在三个互相垂直的轴线上依次振动25分钟后，镜头无松动并满足所有规格要求 All specification are to be satisfied after lens is subjected to the sine wave of 1.5mm amplitude and 10-55Hz directions for 25 minutes each

**7 IRCUT参数规格 (IRCUT Specifications) (IR0147)**

NO	项目ITEM	条件Condition	单位Unit	标准Standard
1	产品外形尺寸(Product size)	装配外形(Assembly exterior)	mm	31.5*13.9*1.7
2	开放口径(Opening Aperture)	-	mm	7*7
3	线长(Wire Length)	-	mm	70±5
4	线圈阻抗(Coil Resistance)	20℃	Ω	60±10%
5	通电电压(Electric voltage)	参照环境参数规格Refer to the environmental parameter specifications	V	6~12
6	通电时间(Electric time)	参照环境参数规格Refer to the environmental parameter specifications	ms	100~200
7	推荐驱动条件(Recommend Driving Condition)	参照环境参数规格Refer to the environmental parameter specifications	-	端口电压Port voltage: 3.5V驱动秒时Driving time: 100ms

备注: 产品通正反向电压, 通断电时间为: 通电100ms~200ms, 断电30s~60s, 不通电时滤光片保持不动。

Note: Positive and negative voltage. Time: power on 100ms ~200ms, power off 30s-60s.

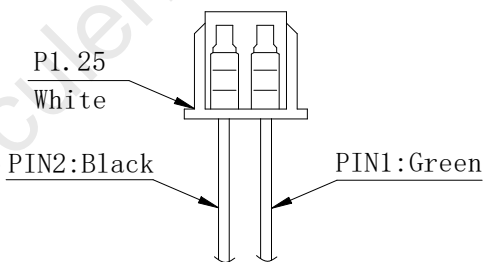
Filter does not move when power is off

**滤光片规格 (IR Filter Specifications)**

红外波光片 (IR Filter)	尺寸 (Size)	8.4mm*8.2mm*0.21mm
	镀膜规格 (Coating Spec)	350nm~380nm Tave<3%
		420nm±10nm T=50%斜率20%~80%<20nm
		440nm~600nm Tave>93% T>85%
		645nm±10nm T=50%斜率80%~20%<20nm
		680nm T<5%
700nm~950nm T<1% Tave<1%		
白片波光片 (Dummy Glass)	尺寸 (Size)	8.4mm*7.4mm*0.21mm
	镀膜规格 (Coating Spec)	420nm~950nm T>92% Tave>96%

**切换模式 (Switch type)**

区分 Distinction	绿线Green line	黑线Black line	状态State
极性Polarity	(-)	(+)	白玻璃片工作 (夜晚) Dummy glass work
	(+)	(-)	红外滤光片工作 (白天) IR Filters work

**端子定义terminal:**

**接线示意图wiring diagram:**

PIN NO.

2	Black
1	Green

