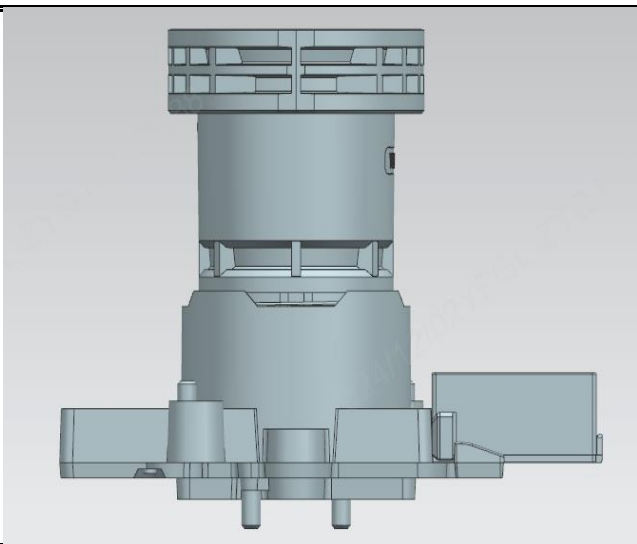


产品规格书
Product Specification

型号:	YT10207-8MP+H243+IR0323
(Model Name) :	
编码:	01.10207.017.08
(Part No.) :	
客户名称:	
(Customer Name):	
客户编码:	
(Customer Part No.):	

客户承认 (Customer Approved)

地址：东莞市长安镇靖海东路99号 Address: 99 East Jinghai Road, Chang'an Town, Dongguan City, Guangdong Province, China 电 话(Phone): 0769-89266655 传 真(Fax): 0769-89266656 网 址(Website): www.ytot.com	承认 (Approved by)	检印 (Reviewed by)		作成 (Prepared by)
		光学 Optics		
		结构 Structure		
		电子 Electronic		



图片仅供参考
(picture only for your reference)

产品规格书目录 (Table Of Content)

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3. 变更履历（Revision History）变更符号标记（Mark Revised）：○

版本 (REV.)	变更日期 (DATE)	变更内容 (Revision Content)	作成 (Prepared By)	备注 (Remark)
1.0	25.08.19	新规作成 (New Spec Document prepared)	何娟娟 He Juanjuan	
1.1				
1.2				
1.3				

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 YTOT products.)

5 主要参数 (Main Items)

5.1 光学参数规格 (Optical Specifications)

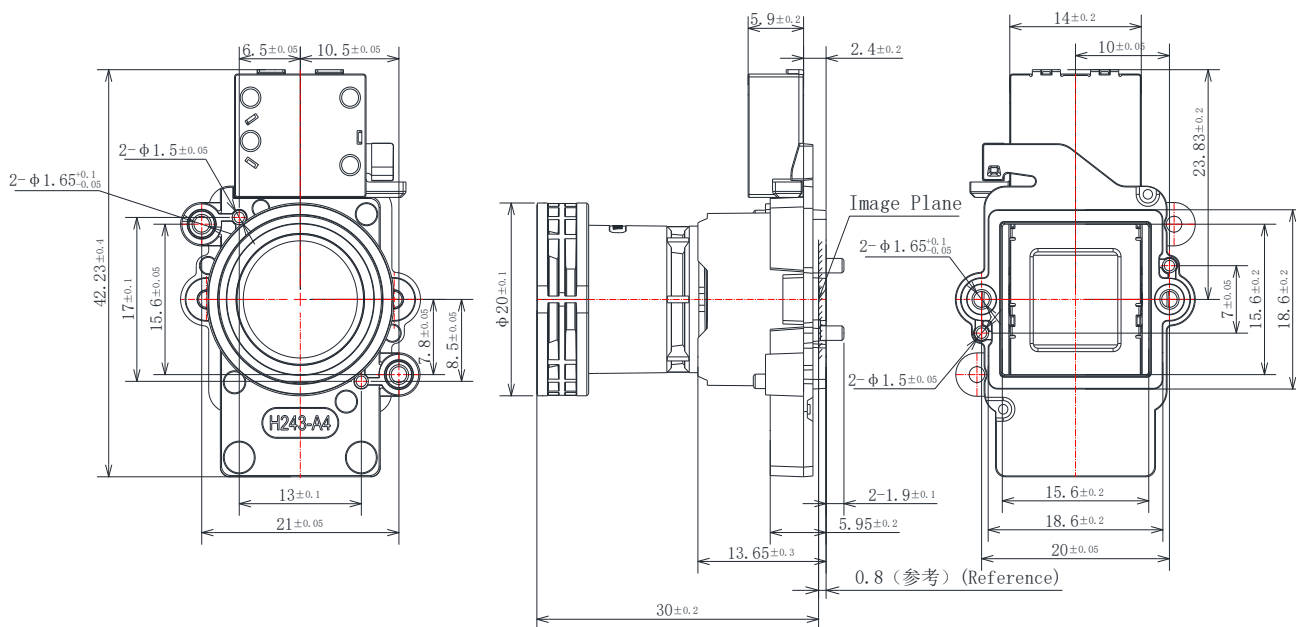
NO.	项目(Items)		具体规格（Specification）			
1	F No.		1.0±10%			
2	焦距(Focal-Length)		5.0 ±5%			
3	光学后焦 (Optical Back Focal Length)		4.62±0.2 (in air)			
4	机械后焦 (Mechanical Back Focal Length)		4.52±0.2 (in air)			
5	镜头总长(TTL)		30±0.2 (in air)			
6	像面大小（Image Circle）		Φ9.2（MAX）			
7	镜片构成（Lens Structure）		3G5P（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)			
8	接口（Mount）		M16*P0.5			
9	镜头与底座螺纹配合扭力 (Clamp Force)		100-600gf.cm			
10	视场角 (FOV)	sensor型号		H(水平)	V(垂直)	D(对角)
		1/1.8"	7.680*4.320*8.812	93.1°	49.8°	111.8°
		1/1.8"	7.795*4.408*8.955	94.8°	50.9°	114.5°
11	光学畸变（Optical Distortion）		1/1.8"	-40.3%	1/1.8"	-42.4%
12	TV畸变（TV Distortion）		1/1.8"	-12.6%	1/1.8"	-13.2%
13	相对亮度（Relative Illumination）		1/1.8"	40%	1/1.8"	39.2%
14	最大主光线夹角（CRA）		1/1.8"	5.3°	1/1.8"	5.2°
15	近摄距（M.O.D）		4m (可保证性能)			
16	解像标准（Resolution）		分辨率（Resolution）: 3840*2160 (8MP)			
17	建议芯片封装倾斜规格 (Tilt Tolerance Of Sensor Packaging)		≤4'			
18	操作方法（Operation）		聚焦 (Focus)		手动（Manual）	
			光圈（Iris）		固定（Fixed）	
19	环保&安全（HSF&Safety）		RoHS			

备注: 以上参数均为理论值, 仅供参考

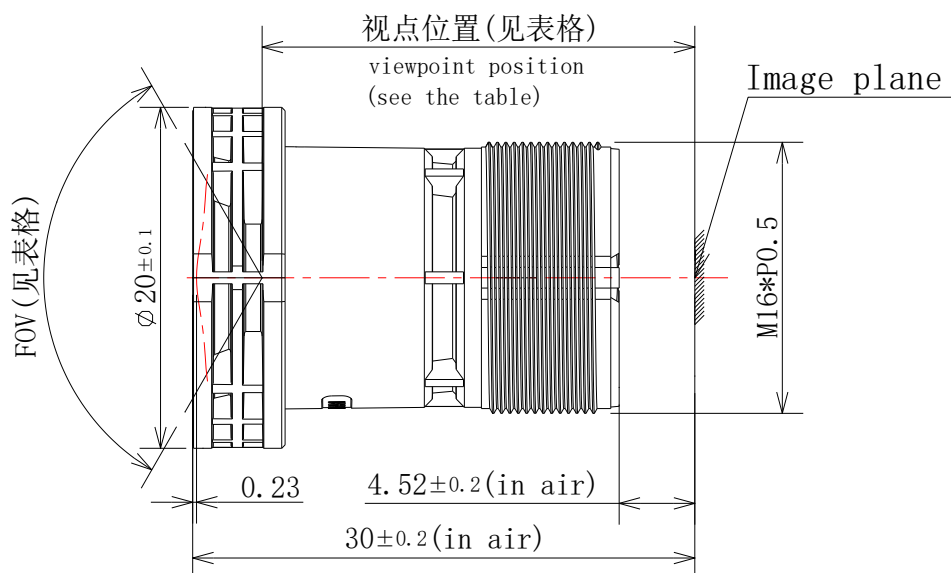
NOTE:The above parameters are theoretical values, for reference only

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）



未注公差(Unmarked Tolerance)	0~10	±0.1	10~50	±0.2	50~200	±0.5	未注单位(Unmarked Unit)	mm
--------------------------	------	------	-------	------	--------	------	---------------------	----

5.2.3视点信息(Viewpoint Table):

全像高 Full Image Height	视场角 FOV	视点 Viewpoint	备注 Remark	全像高 Full Image Height	视场角 FOV	视点 Viewpoint	备注 Remark
2.1	24.1°	14.16		6.9	82.0°	23.64	
2.2	25.2°	14.70		7	83.4°	23.74	
2.3	26.4°	15.19		7.1	84.7°	23.84	
2.4	27.5°	15.64		7.2	86.1°	23.94	
2.5	28.7°	16.05		7.3	87.5°	24.03	
2.6	29.8°	16.44		7.4	89.0°	24.13	
2.7	31.0°	16.80		7.5	90.4°	24.22	
2.8	32.1°	17.14		7.6	91.9°	24.32	
2.9	33.3°	17.45		7.7	93.4°	24.41	
3	34.5°	17.75		7.8	94.9°	24.51	
3.1	35.6°	18.03		7.9	96.4°	24.60	
3.2	36.8°	18.29		8	98.0°	24.69	
3.3	37.9°	18.54		8.1	99.6°	24.79	
3.4	39.1°	18.78		8.2	101.2°	24.88	
3.5	40.3°	19.01		8.3	102.8°	24.97	
3.6	41.4°	19.22		8.4	104.5°	25.07	
3.7	42.6°	19.43		8.5	106.2°	25.16	
3.8	43.7°	19.63		8.6	107.9°	25.26	
3.9	44.9°	19.82		8.7	109.7°	25.35	
4	46.1°	20.00		8.8	111.5°	25.45	
4.1	47.3°	20.17		8.9	113.4°	25.55	
4.2	48.4°	20.34		9	115.3°	25.64	
4.3	49.6°	20.50		9.1	117.3°	25.74	
4.4	50.8°	20.66		9.2	119.3°	25.85	
4.5	52.0°	20.81		9.3			
4.6	53.2°	20.96		9.4			
4.7	54.3°	21.10		9.5			
4.8	55.5°	21.24		9.6			
4.9	56.7°	21.37		9.7			
5	57.9°	21.50		9.8			
5.1	59.1°	21.63		9.9			
5.2	60.3°	21.75		10			
5.3	61.6°	21.87		10.1			
5.4	62.8°	21.99		10.2			
5.5	64.0°	22.11		10.3			
5.6	65.2°	22.23		10.4			
5.7	66.5°	22.35		10.5			
5.8	67.7°	22.46		10.6			
5.9	69.0°	22.58		10.7			
6	70.2°	22.69		10.8			
6.1	71.5°	22.80		10.9			
6.2	72.8°	22.91		11			
6.3	74.0°	23.02		11.1			
6.4	75.3°	23.13		11.2			
6.5	76.6°	23.23		11.3			
6.6	78.0°	23.33		11.4			
6.7	79.3°	23.44		11.5			
6.8	80.6°	23.54		11.6			

备注:

- 1.最大像高提供至镜头支持的最大靶面（通用产品相对照度按照20%，特殊产品根据需求再联络）
- 2.视点深度一律按照空气中尺寸计算；并且以镜头像面为起始位置；
- 3.模拟参数时，物距暂定按照无穷远计算——此时镜头距离前窗玻璃最远，干涉风险最大；
- 4.各数据的公差按照：视场角精确到0.1度，视点精确到0.01mm；

NOTE:

- 1.The max image height is the largest format that the lens can support (general RI is 20%);
- 2.It is in air depth of viewpoint; counting from lens image .
- 3.Simulated object distance is infinite.
- 4.tolerance: FOV 0.1°; viewpoint 0.01mm.

5.3 IR-CUT参数规格(IR0323) (IRCUT Specification)-V00

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	40.8*14*1.9
2	开口口径(Opening Aperture)	-	mm	9*9
3	线长(Wire Length)	-	mm	50±5
4	线径(Wire diameter)	-	mm	0.6
5	绝缘等级(Insulation class)	-	-	B
6	端子保持力(Terminal retentivity)	-	N	≥10
7	线圈阻抗(Coil Resistance)	20℃	Ω	25±5
8	静态保持力(Static retention force)	-	g	≥0.8
9	通电电压(Electric voltage)	参照环境参数规格Refer to the environmental parameter specifications	V	3.5~6.0
10	通电时间(Electric time)	参照环境参数规格Refer to the environmental parameter specifications	ms	100~200
11	断电时间(Power-off time)	参照环境参数规格Refer to the environmental parameter specifications	ms	≥2500
12	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, 为了延长使用寿命, 建议通断电时间为: 通电100ms~200ms, 断电30s~60s, 不通电时滤光片保持不动。
 Note: Positive and negative voltage. For prolonging the life of IR-CUT, Recommended Driving Time: power on 100ms ~200ms, power off 30s~60s. Filter does not move when power is off.

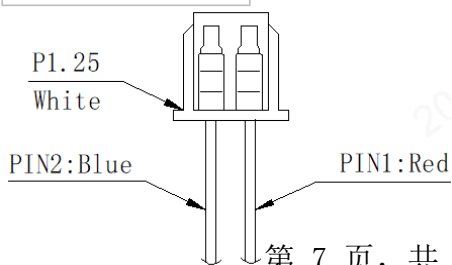
滤光片规格(Filter Specifications)

红外滤光片 (IR Filter) 蓝玻璃	镀膜方式 (Coating method)	双面镀膜Double sided coating
	滤光片基材 (Base material)	QB58
	尺寸 (Size)	9.3mm*9.7mm*0.21mm (厚度公差+0.02mm -0.00mm)
	镀膜规格 (Coating Spec)	350nm~400nm Tave<1%
		435±5nm T=50%
		460nm~560nm T>85%, Tave>90%
		620nm~632nm T=50%, 斜率80~10%≥80nm
		700nm T<3%
		750nm~1000nm T<0.5%, Tave<0.1%
白玻璃 (Dummy Glass)	镀膜方式 (Coating method)	双面镀膜Double sided coating
	滤光片基材 (Base material)	D263T
	尺寸 (Size)	9.3mm*9.7mm*0.21mm (厚度公差+0.00mm -0.02mm)
	镀膜规格 (Coating Spec)	420nm~1100nm T>92% Tave>96%
滤光片厚度差(thickness difference)		0.01mm~0.04mm

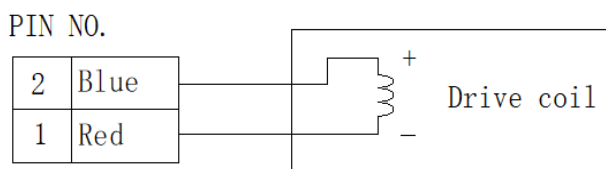
切换模式(Switch type)

区分 Distinction	红线Red line	蓝线Blue line	状态State
极性Polarity	(+)	(-)	红外滤光片工作(白天) IR Filters work
	(-)	(+)	白玻璃片工作(夜晚) Dummy glass work

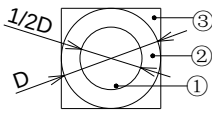
端子定义terminal:



接线示意图wiring diagram:



5.4 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: 拍摄距离(Distance): 上下充满画面 1.2: 拍摄方法(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: 拍摄标准(Criteria) 8MP: 拍摄 (resolution test) 中心: 摩尔纹清晰时满足1600线清晰; 0.7Y: 满足1100线清晰 (Center: 1600 lines clear when moire lines clear; 0.7Y: 1100 lines clear)
2	外观标准 (Appearance Standards)	2.1 镜头内污 (LENS DUST) A: 规格 60-40 (27W台灯目视检查) 伤痕: 宽度 <60um, 长度和 <D/2, ≤15um不计; 脏污: 单点直径 <400um, 200~400um 点 ≤3个。 2.2 IR-CUT外观(IR-CUT appearance) A: 滤光片油污、异色、欠膜、破裂、溢胶、水纹、白雾, 不可; B: 表面不可移动脏污, 尘点范围要求: 如右图所示: ① 区0.1mm以下不可超过3个; ②区0.1~0.15mm不可超过5个; ③ 区0.1~0.2mm以下不可超过10个。图中①和②区划伤长度1mm, 宽度0.1mm≤3个。 C: 可移动尘点的全区依照中心位置不可移动尘点标准判定 D: 丝印不良不可 2.3 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; 胶水不得溢入有效透光内。 2.1 LENS DUST A: Specification 60-40 (Visual inspection of the 27W desk lamp) Scratch: width<60um, total length<D/2, ≤15um ignored; Smudge: Single dot diameter <400um, 200~400um dot ≤3 pcs 2.2 IR-CUT appearance A: Oil on filter, color failure, coat cracks, coating missing, glue overflow, liquid pattern are not acceptable. B: Standard for immovable dirt-spot on surface, Referring the image on the right side: ①Area: Spot diameter<0.1mm, spot qty≤3; ②Area: Spot diameter: 0.1~0.15mm, spot qty≤5, ③ Area: Spot diameter: 0.1~0.2mm, spot qty ≤10; ①/② Area: Scratch length around 1mm and scratch width around 0.1mm, scratch qty≤5 C: Movable dirt-spot's standard is following the immovable standard D: Printed letter's failure is not acceptable 2.3 Other visual standard Color on surface is even, not obvious defect, dirt, dislocation, scratch, shrink; glue is not allowed to enter the effective diameter range. 

5.5 环境参数规格 (Environment Specifications)

No.	环境描述 (Items)	条件(Description)
1	存放环境 (Storage Condition)	-40℃~+80℃; 10-90%RH (No condensing)
2	工作环境 (Operation Condition)	-30℃~+70℃; 10-90%RH (No condensing)

6 信赖性测试(Reliability Test)

No.	项目（Item）	测试条件(Condition)	判定标准 （Standard Of Criterion）																				
1	高温存放试验 High-Temperature Storage Test	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 specifications met the specified requirements after lens is exposed to 80℃ for 48 hours and then return to normal temperature/humidity for 6 hours	解像变化量绝对值≤15% The absolute value of the resolution change is less than 15%																				
2	低温存放试验 Low-Temperature Storage Test	镜头在-40℃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 specifications met the specified requirements after lens is exposed to -40℃ for 48 hours and then return to normal temperature/humidity for 6 hours	解像变化量绝对值≤15% The absolute value of the resolution change is less than 15%																				
3	冷热冲击试验 Temperature Cycle Test	镜头在-40℃条件下保持30分钟，然后升温至+85℃，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 specifications met the specified requirements after lens is exposed to -40℃ for 30 min, then heated up to +85℃ for 30 min as one cycle, 10 cycle shall be performed. And then return to normal temperature/humidity for 6 hours	解像变化量绝对值≤15% The absolute value of the resolution change is less than 15%																				
4	振动试验 Vibration Test	<table border="1"><thead><tr><th>频率(Hz)</th><th>加速度谱密度 (g2/Hz)</th></tr></thead><tbody><tr><td>1</td><td>0.00072</td></tr><tr><td>3</td><td>0.018</td></tr><tr><td>4</td><td>0.018</td></tr><tr><td>5</td><td>0.01</td></tr><tr><td>100</td><td>0.01</td></tr><tr><td>135</td><td>0.00148</td></tr><tr><td>200</td><td>0.001</td></tr><tr><td>201</td><td>0.00012</td></tr><tr><td>300</td><td>0.00001</td></tr></tbody></table> 总均方根加速度：1.087Grms 试验轴向：3轴向。 试验时间：Z方向60min，X和Y方向30min 对于A类包装（包装件重量≤45KG）：起始频率点为5Hz Total root mean square acceleration: 1.087 Grms Test axis: 3 axes. Test time: 60 minutes in the Z direction, 30 minutes in the X and Y directions. For Class A packaging (package weight ≤ 45KG): The starting frequency point is 5 Hz.	频率(Hz)	加速度谱密度 (g2/Hz)	1	0.00072	3	0.018	4	0.018	5	0.01	100	0.01	135	0.00148	200	0.001	201	0.00012	300	0.00001	解像变化量绝对值≤15% The absolute value of the resolution change is less than 15%
频率(Hz)	加速度谱密度 (g2/Hz)																						
1	0.00072																						
3	0.018																						
4	0.018																						
5	0.01																						
100	0.01																						
135	0.00148																						
200	0.001																						
201	0.00012																						
300	0.00001																						

No.	项目 (ITEM)	测试条件(CONDITION)	判定标准 (Standard of criterion)
5	耐久试验 (Durability)	试验标准Test Standards: ▪ VCM Motor: - 电流: 0~90~0 mA , 持续1秒 - Current : 0~90~0 mA for 1sec - 方向: +Z 方向 - Direction : +Z direction - 周期: 1轮=0.5秒开启→ 0.5s 关闭 - Cycle : 1cycle= 0.5s ON→ 0.5s OFF - 温度: 23℃±2℃ - Temperature : 23℃±2℃ - 时间: 300,000轮 - Times : 300,000cycles ▪ IR-cut filter section - IN ⇌ OUT 驱动100ms, 断电2500ms 往复驱动,20000次 - IN ⇌ OUT drive for 100ms, power off for 2500ms. Repeated drive, 20,000 times. 测试项目Test Items: ☒ IR-cut ☐ VCM马达 ☐ 不涉及	试验后各项性能OK; all meet test standard after test
6	跌落试验 (Drop Test)	1.高度: 包装后, 高度1m; 2.落下方向: 一角三棱六面; 3.次数: 各一次; 上述实验条件后作动无异常。 1.Height: 1m after packaged; 2.Direction: One corner, three edges, six faces; 3.Frequency: Once each (NO abnormalities for operation after testing with above experiment conditions)	解像变化量绝对值≤15% The absolute value of the resolution change is less than 15%

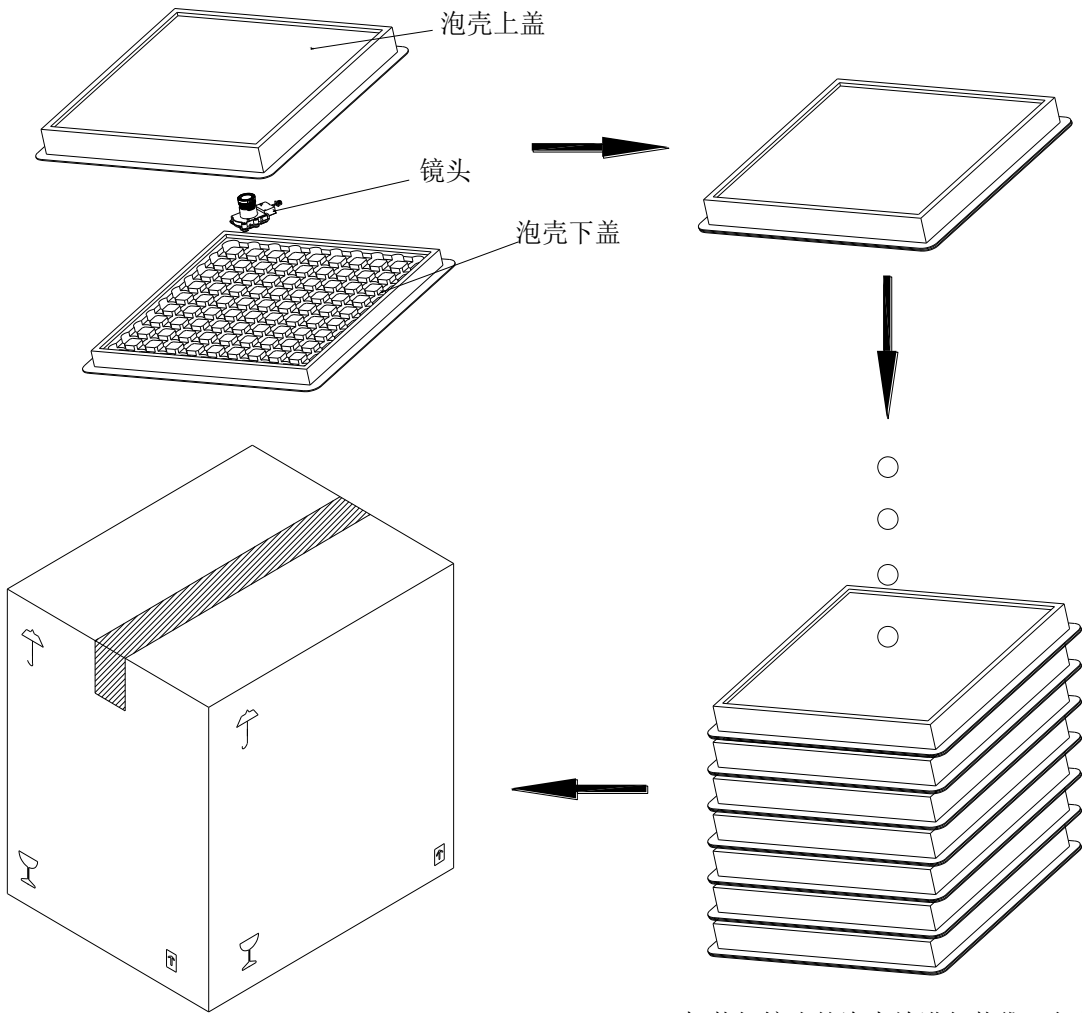
7 包装规格（Packaging Specifications）

1. 给镜头前端盖好保护盖，放入泡壳格内

place the front protective cover on the lens and position it inside the blister tray

2. 盖上泡壳上盖，在泡壳上贴好标示票

Close the blister cover and attach the identification label on the blister



4. 用胶带封好纸箱口，在侧面贴上标示票

Seal the carton with adhesive tape and attach the identification label on the side

3. 把装好镜头的泡壳放进包装袋，包装袋塑封后将其逐层放入纸箱。

Place the blister-contained lens into a sealed plastic bag, then place it layer by layer into the carton box.

✂ 注：包装纸箱可根据客户订单灵活选用，以上包装以纸箱（320*240*490）包装示例

Note:The carton size can be customized per customer order. The above example uses a standard carton (320*240*490 mm)

数量(Quantity):

TBD	PCS/盒	TBD	盒/箱	TBD	PCS/箱
TBD	pcs/box	TBD	boxes/carton	TBD	pcs/carton