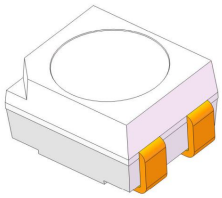
LRP4FS



采用表贴式封装，便于集成，良好的散热性能；采用垂直结构芯片，亮度高，高温下颜色漂移小；硅胶密封，透过率高，抗紫外和高温性能好；
SMD package, easy to be integrated, good heat dissipation;Vertical-chip technology,high optical output efficiency,small excursion of wave length at high temperature;Silicone sealed, high transmittance, excellent UV protection and thermal stability;

特点 | Features:

- ▲ 封装：白色 SMD 封装
  Package: White SMD Package
- ▲ 视角：120°
  Viewing angle:120°
- ▲ 颜色： λdom = 616 nm (red)
  Color: λdom = 616 nm (red)
- ▲ ESD：2 千伏，HBM Class 2
  ESD: 2 kV,HBM Class 2
- ▲ 认证：AEC-Q102
  Qualifications:AEC-Q102
- ▲ MSL：等级 2
  MSL: Level 2

应用 | Applications：

- ▲ 汽车信号灯
  Automotive lights
- ▲ 电器指示灯
  Signaling lamp of apparatus
- ▲ 灯具
  Lanterns
- ▲ 仪器、仪表盘背光显示
  Dashboard backlight

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器件最大允许值｜Maximum Ratings

参数 Parameter	符号 Symbol	值 Values	单位 Unit
工作温度 Operating temperature	T_{op}	-40-110	℃
存储温度 Storage temperature	T_{stg}	-40-110	℃
结温 P/N junction temperature	T_j	125	℃
正向电流 Forward current	I_f	70	mA
脉冲峰值电流 Surge current（t<=10μS; D=0.005; Ts=25℃）	I_{fm}	100	mA
反向击穿电压 Reverse voltage	V_R	12	V
抗静电电压 ESD withstand voltage (acc. To ANSI/ESDA/JEDEC JS-001-HBM, Class 2)	V_{ESD}	2	kV

关键指标参数 | Characteristics（Ts=25℃, If=50mA)

参数 Parameter	符号 Symbol	值 Values		单位 Unit
峰值波长 Peak wavelength	λp	typ.	631	nm
主波长 Dominant wavelength	λd	min.	612	nm
		typ.	616	
		max.	624	
发光角度 Viewing angle at 50% Iv	2θ	typ.	120	deg. [°]
正向电压 Forward voltage	Vf	min.	1.90	V
		typ.	2.33	
		max.	2.65	
反向漏电流 Reverse current (VR=10V)	I_R	max.	1	μA
光通量 Luminous flux	Φ	typ.	8.1	lm
实际热阻（P/N 结到焊接点） Thermal resistance （P/N junction to soldering point)	$R_{thJs\ real}$	max.	88	K/W
电热阻（P/N 结到焊接点） Thermal resistance （P/N junction to soldering point)	$R_{thJs\ ele}$	max.	59	K/W

亮度分档 | Brightness Groups (Ts=25℃， If=50mA)

组 Group	符号 Symbol	最小值 Min.	最大值 Max.	单位 Unit
B2	Φ_V	6.5	8.1	lm
B3	Φ_V	8.1	10.3	lm
B4	Φ_V	10.3	12.5	lm
B5	Φ_V	12.5	14.7	lm

***Ts：soldering point temperature**

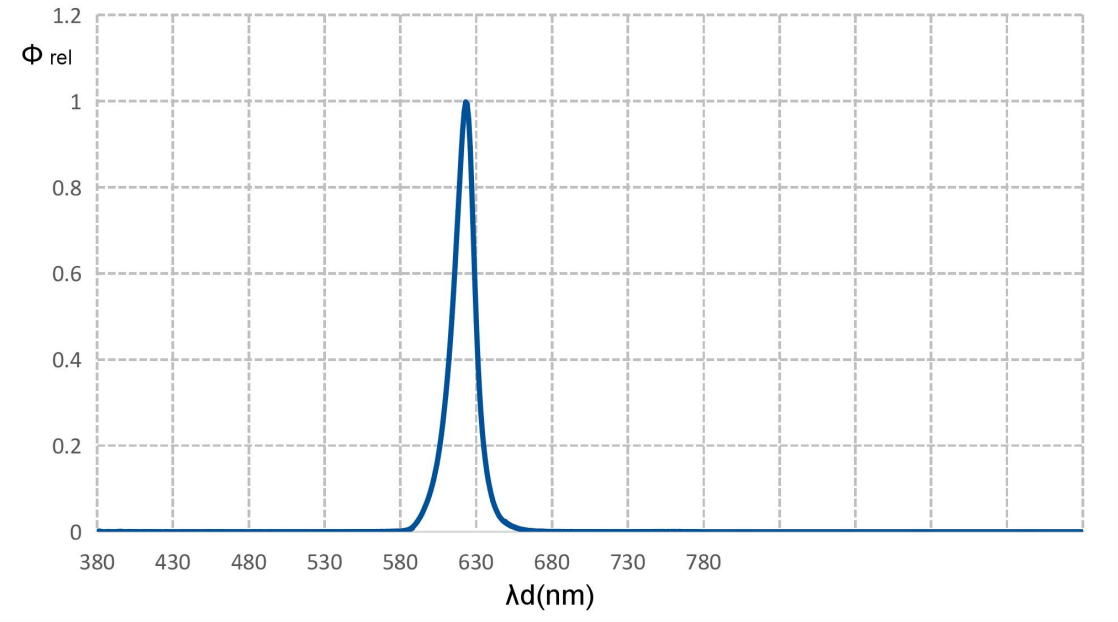
电压分档 | Forward Voltage Groups (Ts=25℃,If=50mA)

组 Group	符号 Symbol	最小值 Min.	最大值 Max.	单位 Unit
V1	Vf	1.90	2.05	V
V2	Vf	2.05	2.20	V
V3	Vf	2.20	2.35	V
V4	Vf	2.35	2.50	V
V5	Vf	2.50	2.65	V

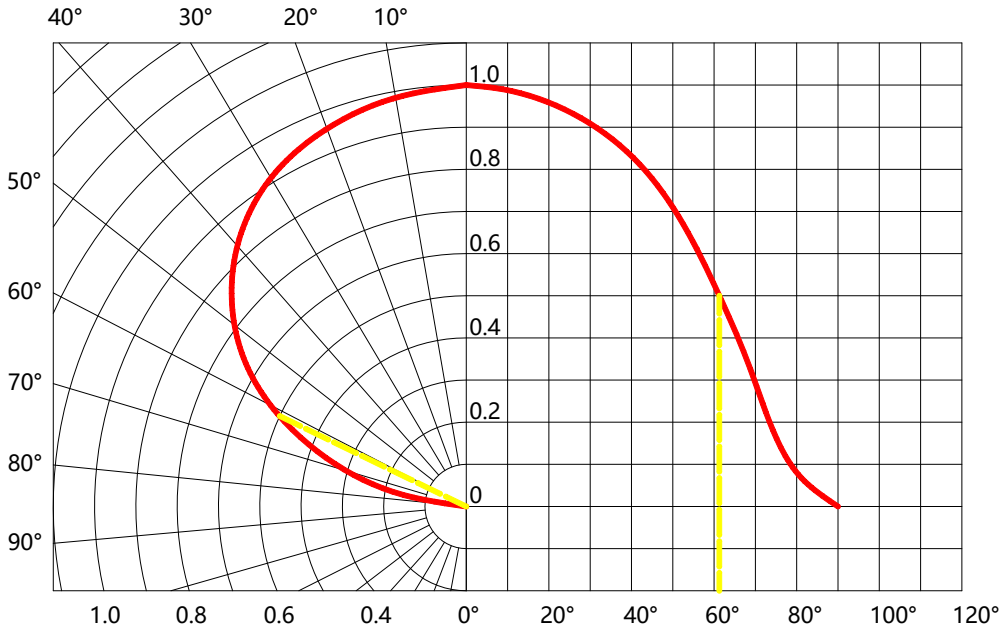
色度分档 | Chroma Groups (Ts=25℃,If=50mA)

组 Group	符号 Symbol	最小值 Min.	最大值 Max.	单位 Unit
W1	λ_{dom}	612	616	nm
W2	λ_{dom}	616	620	nm
W3	λ_{dom}	620	624	nm

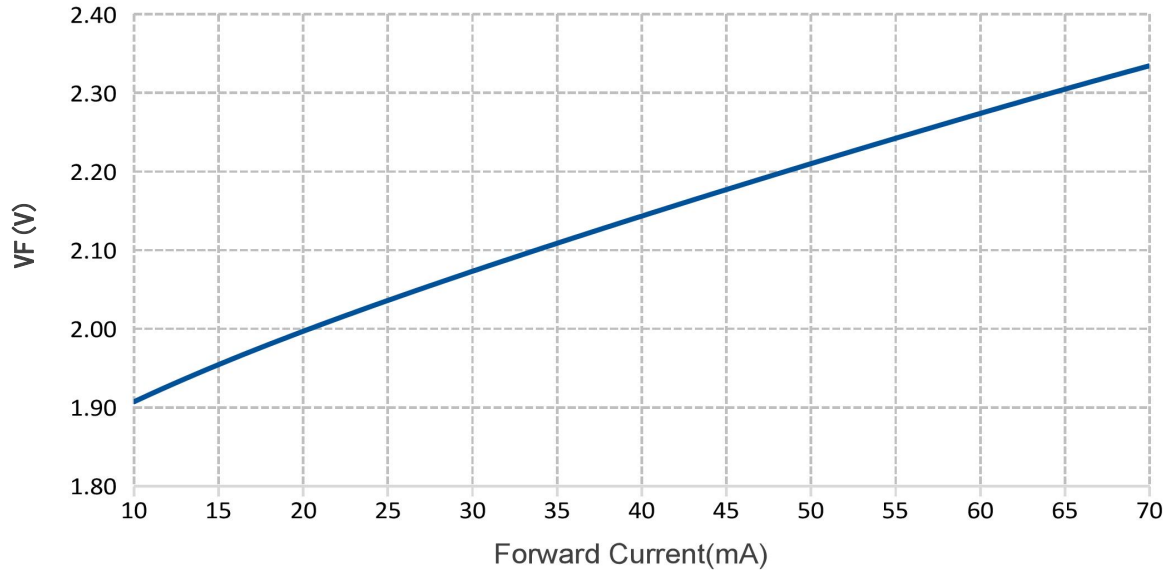
相对光谱分布曲线｜Relative Spectral Emission Curve (Ts=25℃,If=50mA)



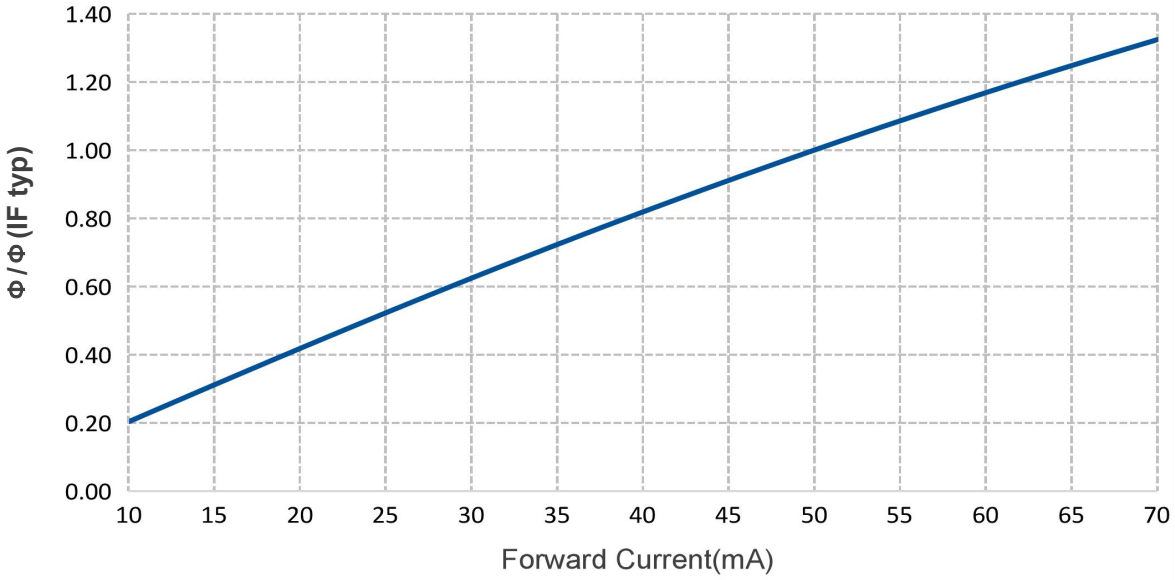
辐射特性｜Radiation Characteristics (Ts=25℃,If=50mA)



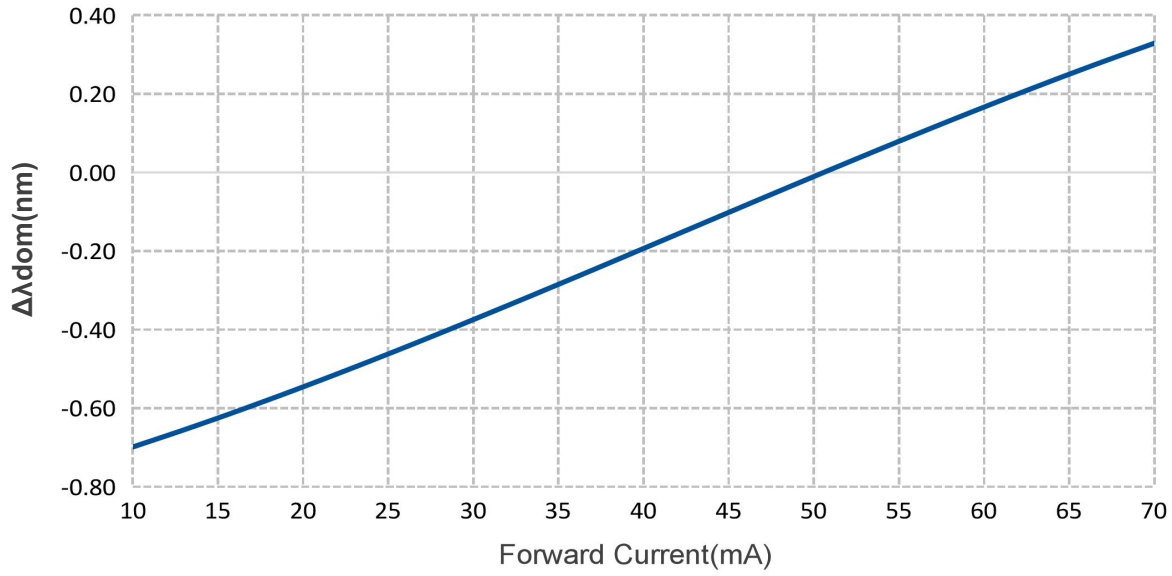
正向电流-正向电压｜Forward current-Forward Voltage (Ts=25℃)



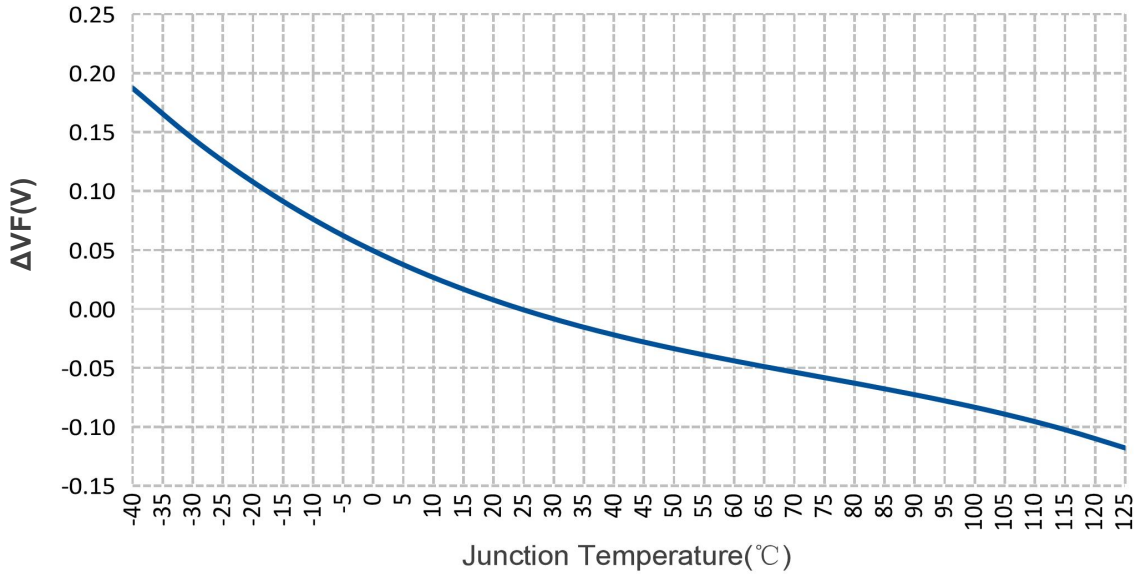
正向电流-相对光通量｜Forward current-Relative Luminous Flux (Ts=25℃)



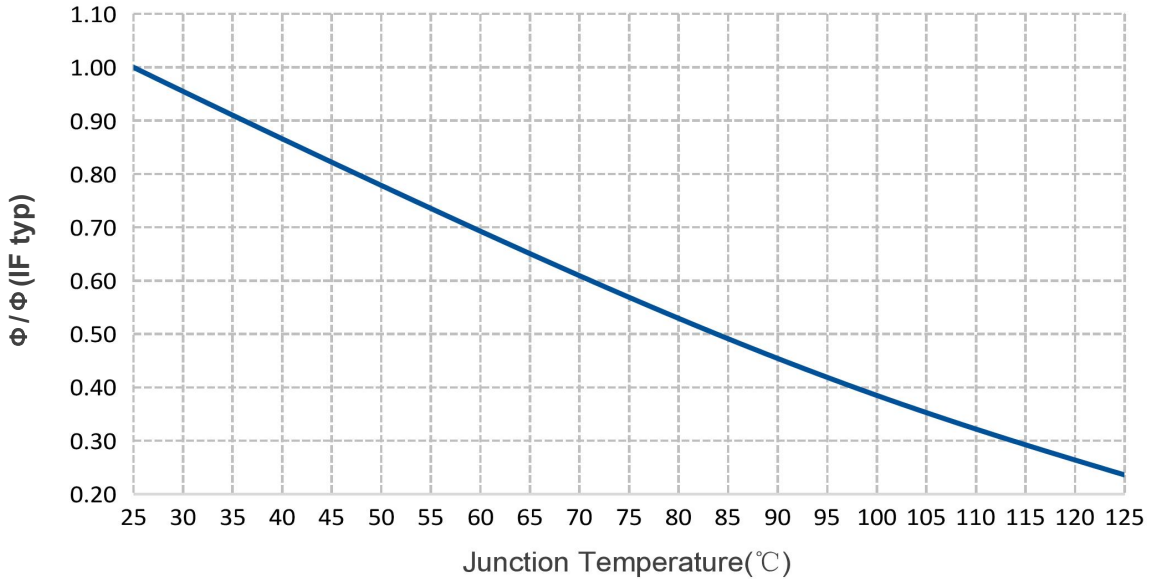
正向电流-主波长｜Forward current-Dominant Wavelength (Ts=25℃)



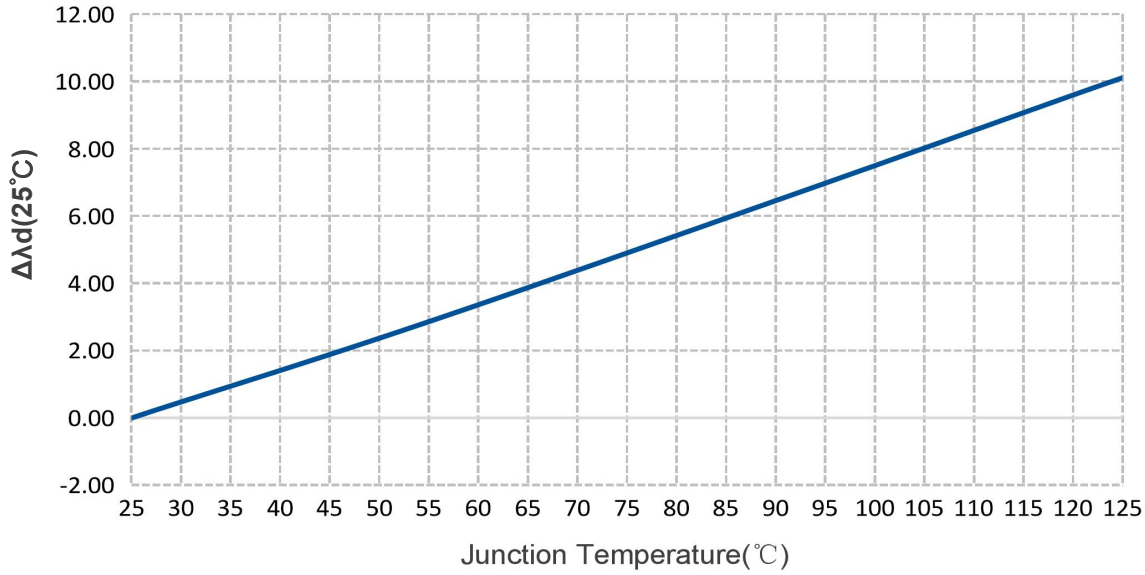
结温-正向电压｜Junction Temperature-Forward Voltage (If=50mA)



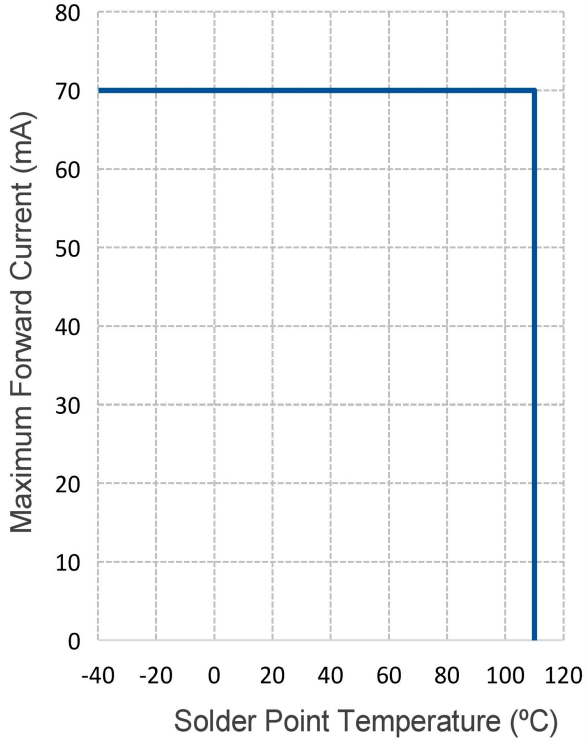
结温-相对光通量 | Junction Temperature-Relative Luminous Flux (If=50mA)



结温-主波长 | Junction Temperature-Dominant Wavelength (If=50mA)

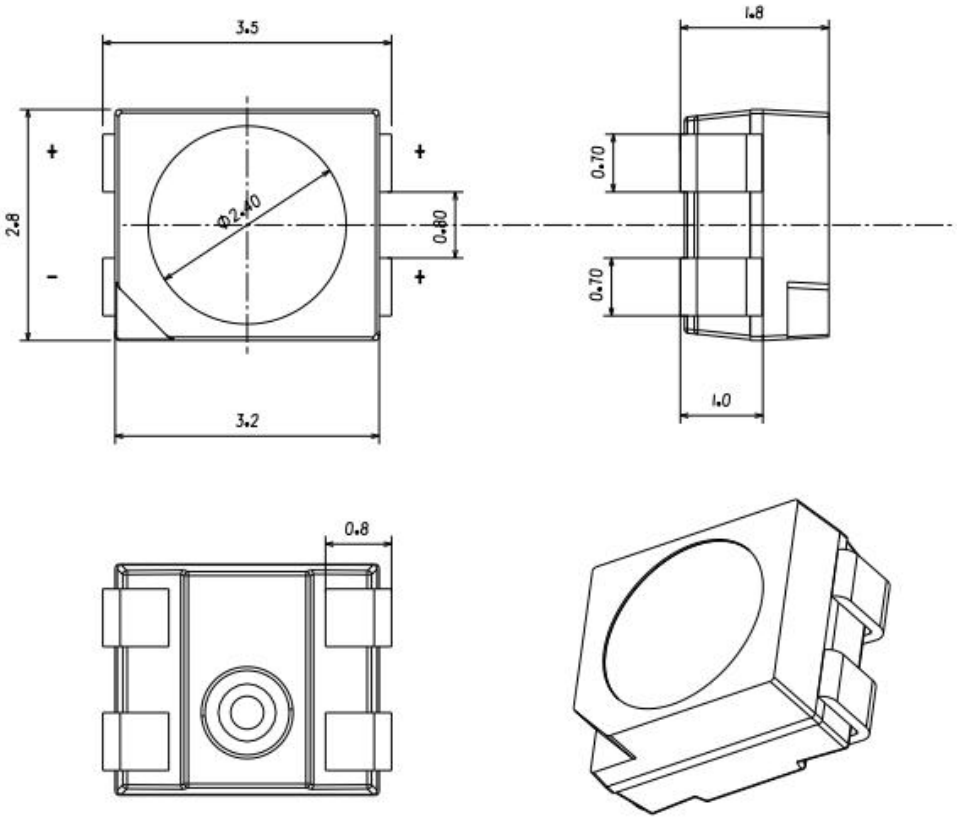


最大容许正向电流 | Max. Permissible Forward Current



外形尺寸 | Mechanical Dimensions

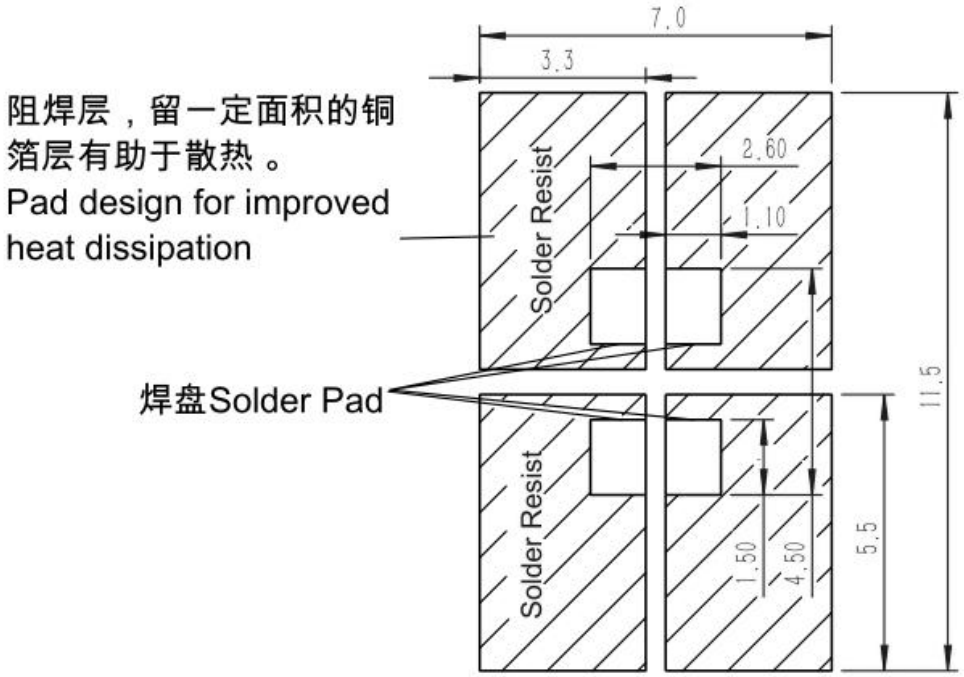
单位 | Unit: mm

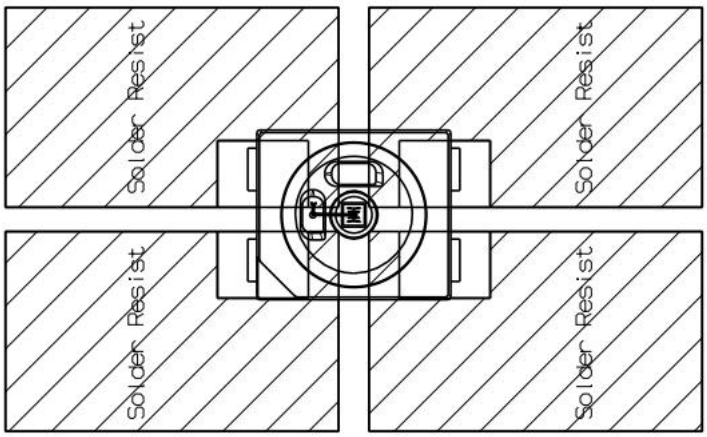


尺寸 | Size	公差 | Tolerance
.	±0.1mm
*.**	±0.05mm

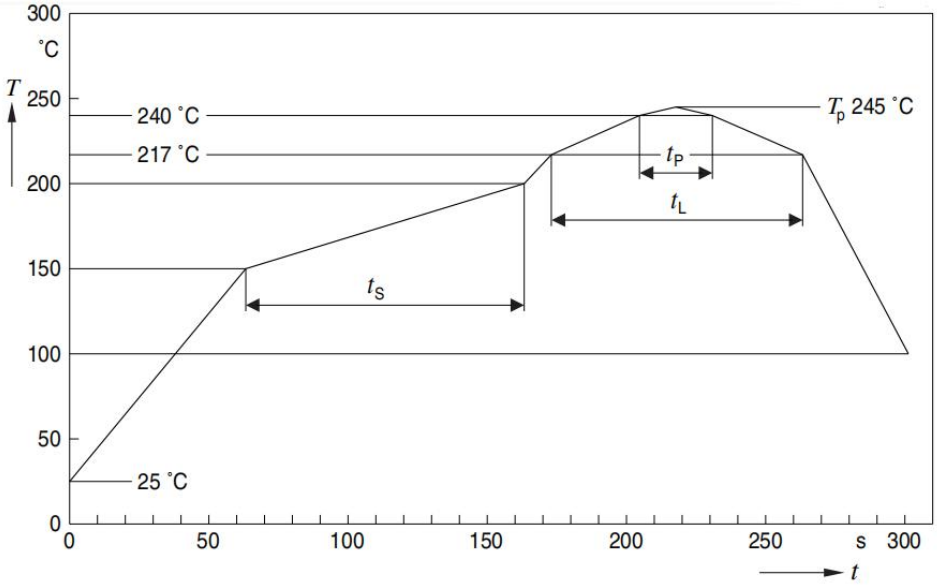
推荐焊盘 | Recommended Solder Pad

单位 | Unit: mm





回流焊曲线｜Reflow Soldering Profile

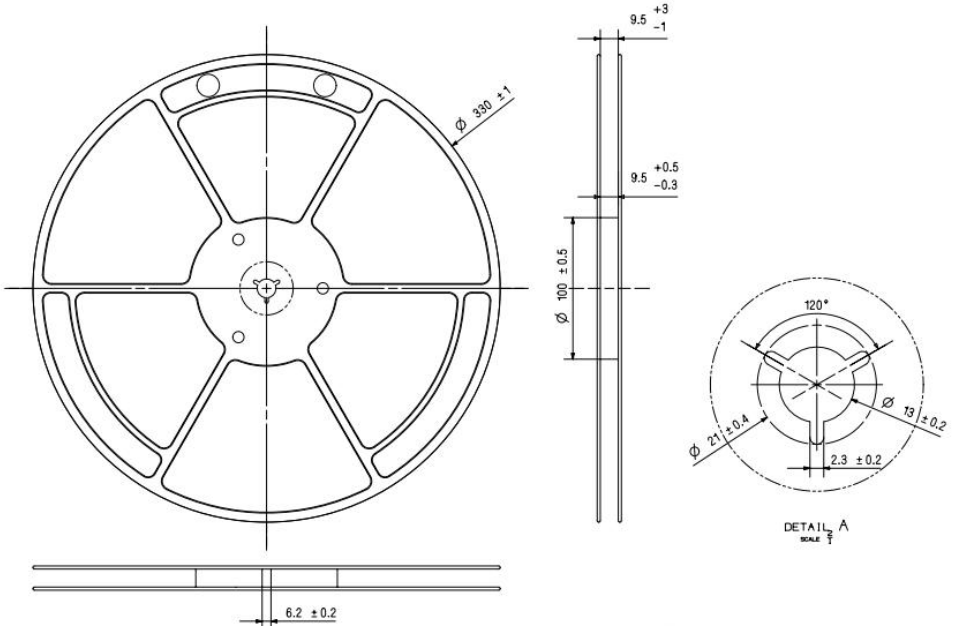


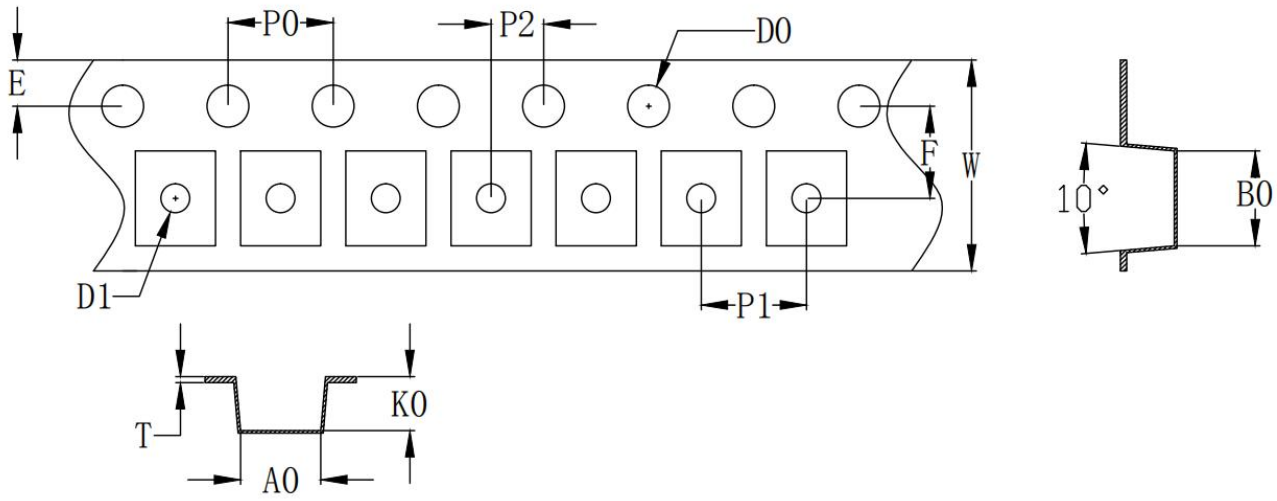
回流焊步骤 Profile Feature	符号 Symbol	无铅回流焊（SnAgCu）Pb-Free (SnAgCu) Assembly 最小值 Min.	设定值 Reco.	最大值 Max.	单位 Unit
预热升温速率 25 °C to 150 °C Ramp-up rate to preheat			2	3	K/s
升温时间 (Tsmin-Tsmax)	ts	60	100	120	s
从 Tsmax 升温到最高温度的速率 Ramp-up rate to peak			2	3	K/s
达到液相的温度 Liquidus temperature			217		℃
在液相温度以上的时间 Time above liquidus temperature	t_L		80	100	s
最高温度 Peak temperature	Tp		245	260	℃
在高于最高温度 5℃范围内停留的时间 Time within 5 °C of the specified peak temperature TP - 5 K	t_p	10	20	30	s
降到 100℃的速率 Ramp-down rate* TP to 100 °C			3	6	K/s
从最高温降到 25℃的时间 Time 25 °C to TP				480	s

***LED complies to MSL Level 2 (JEDEC J-STD-020E)**

编带 | Taping

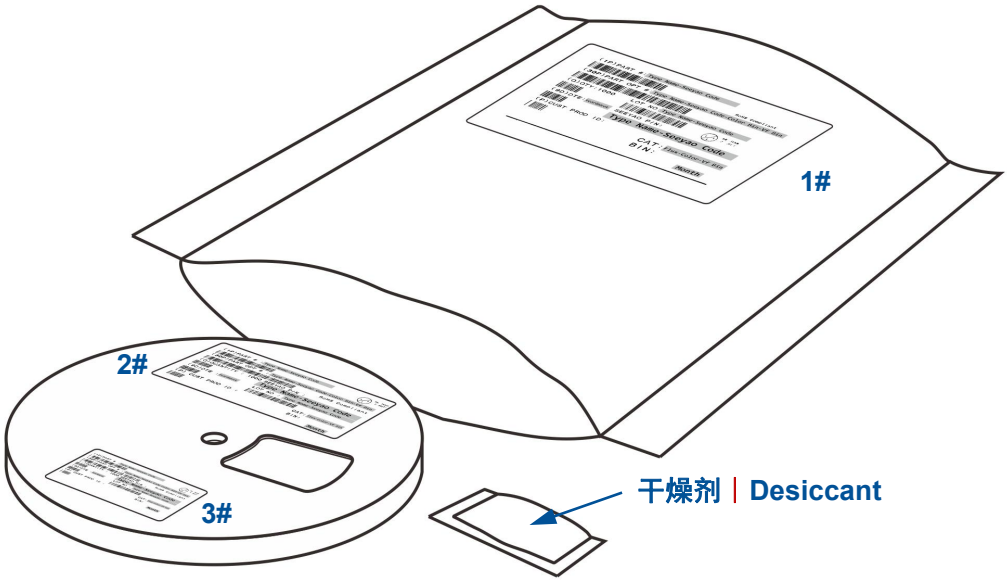
单位 | Unit: mm



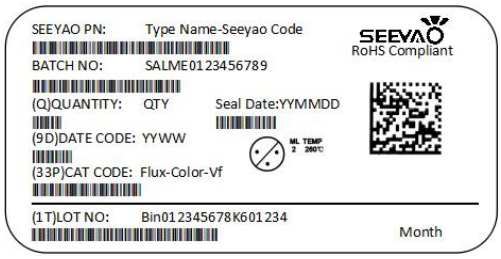


ITEM	W	A0	B0	K0	E	F	D0	D1	P0	P1	P2	T
DIM	8.00	3.05	3.70	2.05	1.75	3.50	1.50	1.10	4.00	4.00	2.00	0.22
TOLE	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.03 -0.03

包装信息-产品标签｜Packaging Information- Product Label



标签 1#｜Label 1#



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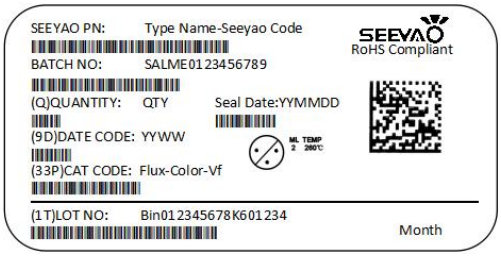

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