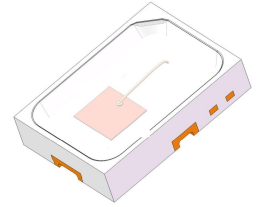


LSE1FM



采用 SMD 环氧封装，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 epoxy 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：SMD 环氧封装
Package: SMD epoxy package
- ▲ 视角：120°
Viewing angle: 120°
- ▲ 颜色： $\lambda_{\text{dom}} = 629 \text{ nm}$ (super red)
Color: $\lambda_{\text{dom}} = 629 \text{ nm}$ (super 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	°C
存储温度 Storage temperature	T_{stg}	-40-110	°C
结温 P/N junction temperature	T_j	125	°C
正向电流 Forward current	I_f	250	mA
脉冲峰值电流 Surge current ($t \leq 10\mu S$; $D=0.005$; $T_s=25^\circ C$)	I_{fm}	350	mA
反向击穿电压 Reverse voltage	V_R	10	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°C, If=140mA)

参数 Parameter	符号 Symbol	值 Values	单位 Unit
峰值波长 Peak wavelength	λ_p	typ. 640	nm
主波长 Dominant wavelength	λ_d	min. 625 typ. 629 max. 640	nm
发光角度 Viewing angle at 50% I _v	2 θ	typ. 120	deg. [°]
正向电压 Forward voltage	V _f	min. 1.9 typ. 2.23 max. 2.5	V
反向漏电流 Reverse current (V _R =10V)	I _R	max. 1	μA
光通量 Luminous flux	Φ	typ. 21	lm
实际热阻 (P/N 结到焊接点) Thermal resistance (P/N junction to soldering point)	R _{thJs real}	max. 40.6	K/W
电热阻 (P/N 结到焊接点) Thermal resistance (P/N junction to soldering point)	R _{thJs ele}	max. 21	K/W

亮度分档 | Brightness Groups (Ts=25°C, If=140mA)

组 Group	符号 Symbol	最小值 Min.	最大值 Max.	单位 Unit
B1	Φ_V	15	18	lm
B2	Φ_V	18	21	lm
B3	Φ_V	21	24	lm
B4	Φ_V	24	28	lm
B5	Φ_V	28	33	lm

*Ts: soldering point temperature

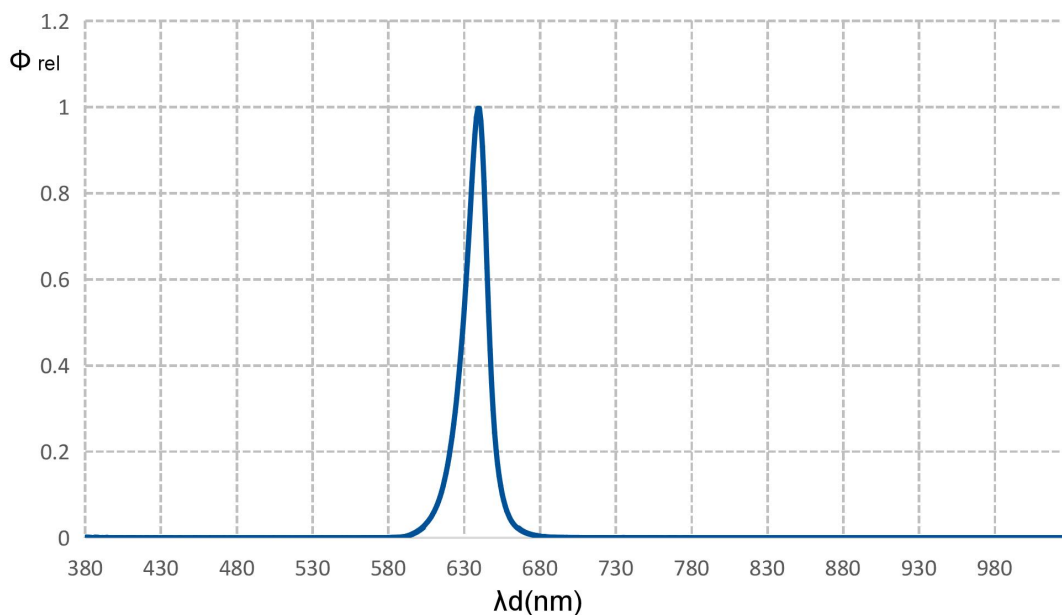
电压分档 | Forward Voltage Groups (Ts=25°C, If=140mA)

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

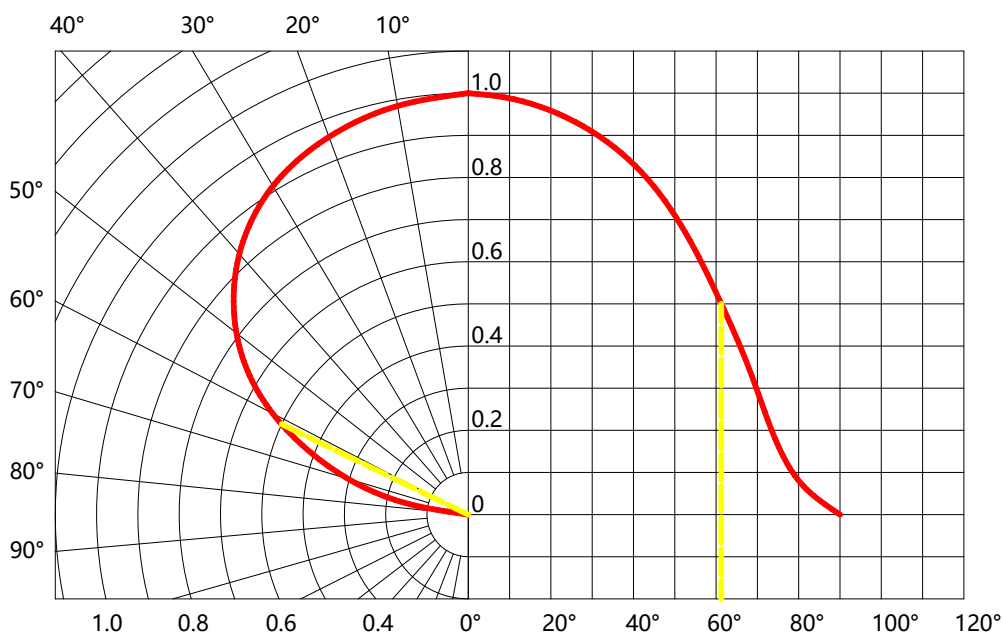
色度分档 | Chroma Groups (Ts=25°C, If=140mA)

组 Group	符号 Symbol	最小值 Min.	最大值 Max.	单位 Unit
W1	λ_{dom}	625	630	nm
W2	λ_{dom}	630	635	nm
W3	λ_{dom}	635	640	nm

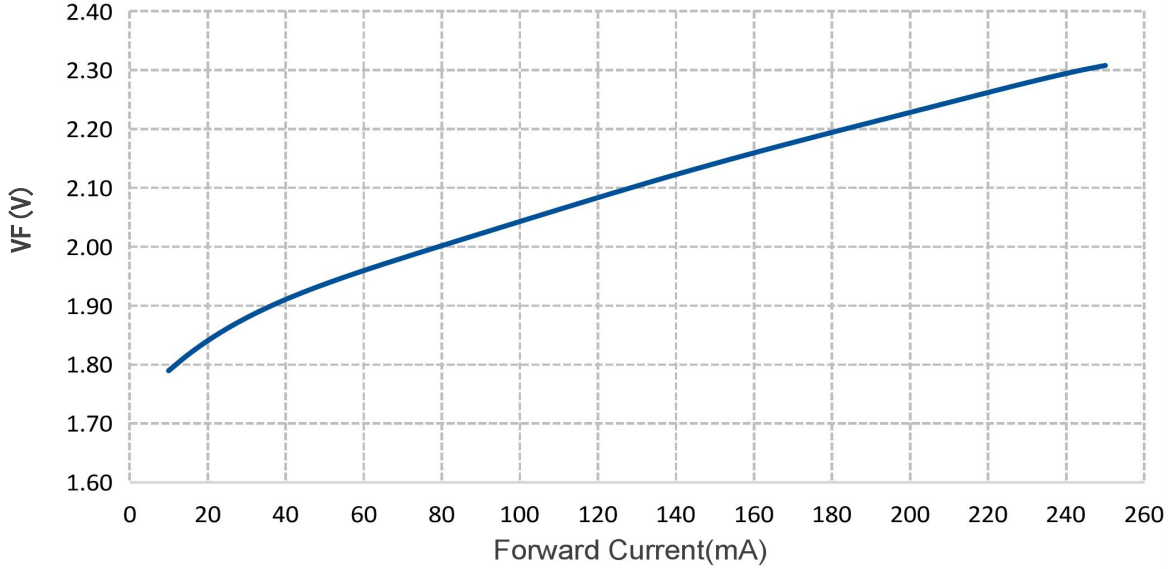
相对光谱分布曲线 | Relative Spectral Emission Curve (Ts=25°C, If=140mA)



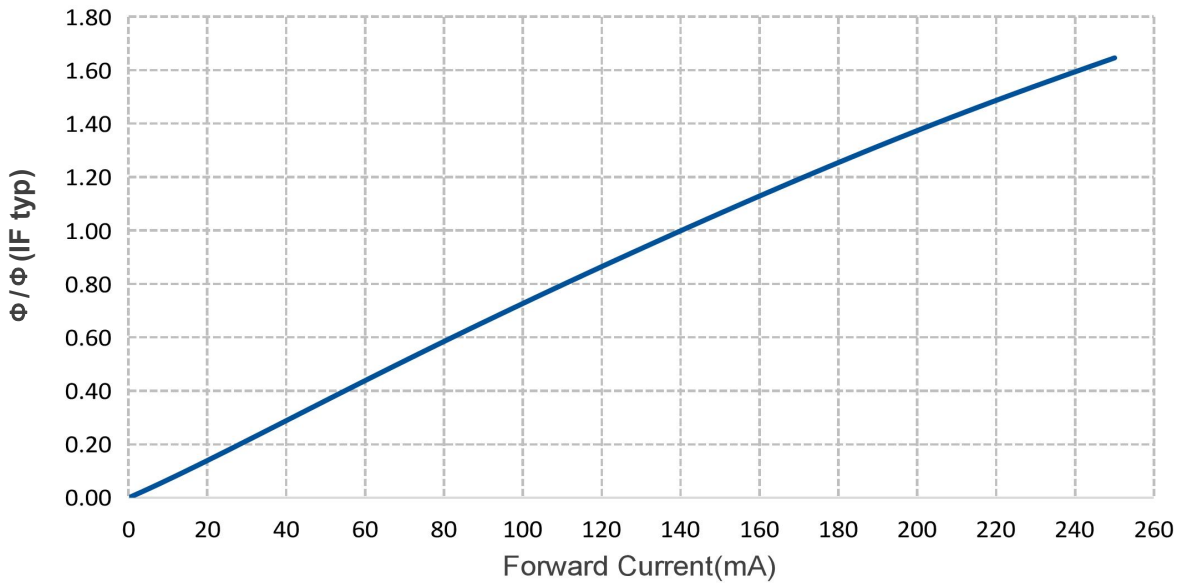
辐射特性 | Radiation Characteristics (Ts=25°C, If=140mA)



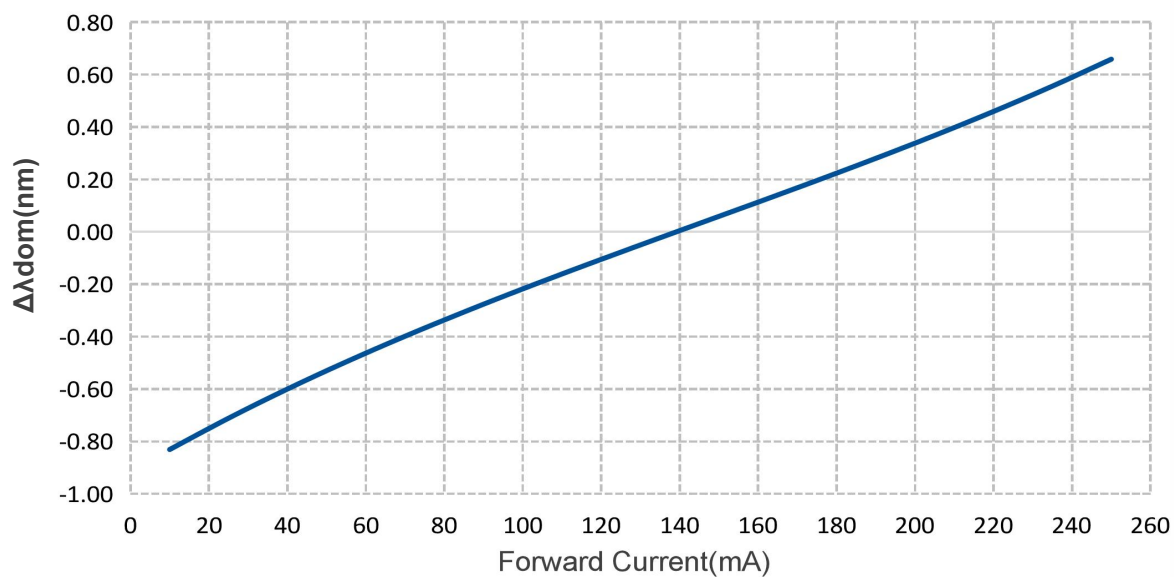
正向电流-正向电压 | Forward current-Forward Voltage (Ts=25°C)



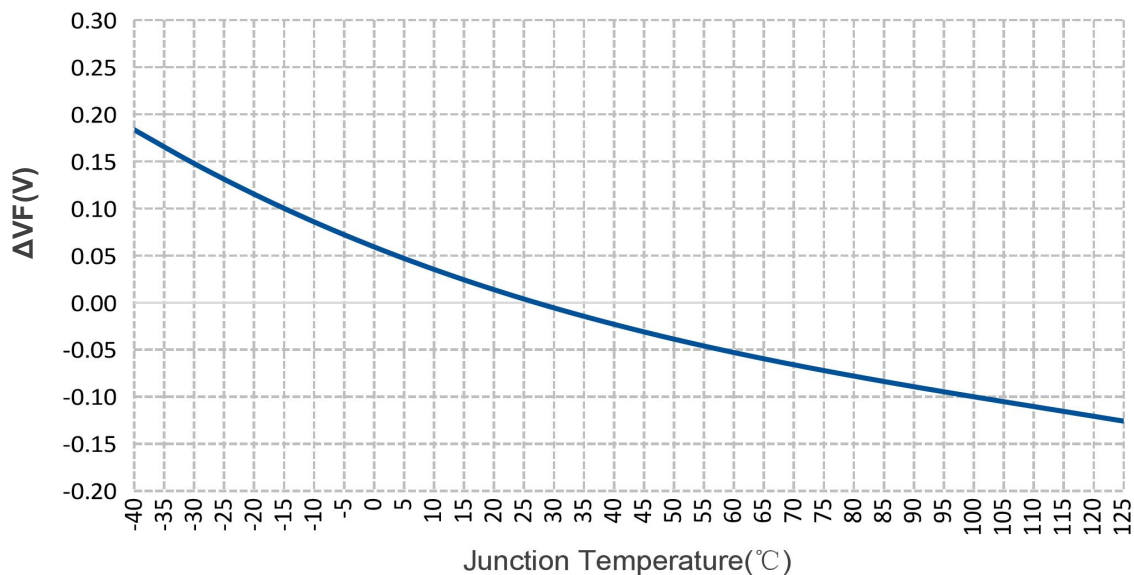
正向电流-相对光通量 | Forward current-Relative Luminous Flux (Ts=25°C)



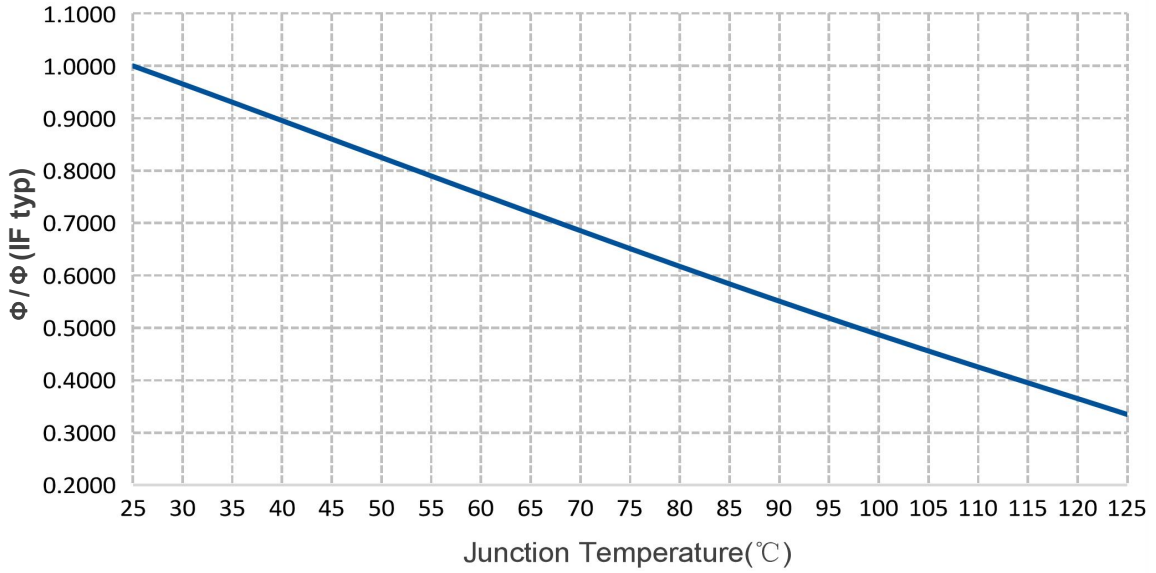
正向电流-主波长 | Forward current-Dominant Wavelength ($T_s=25^\circ\text{C}$)



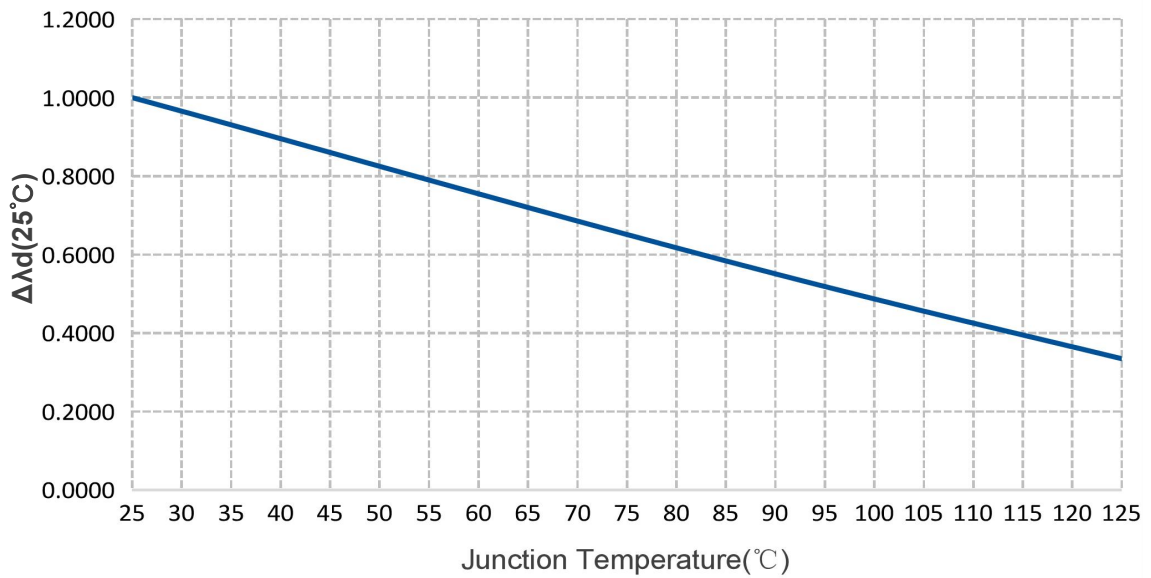
结温-正向电压 | Junction Temperature-Forward Voltage ($I_f=140\text{mA}$)



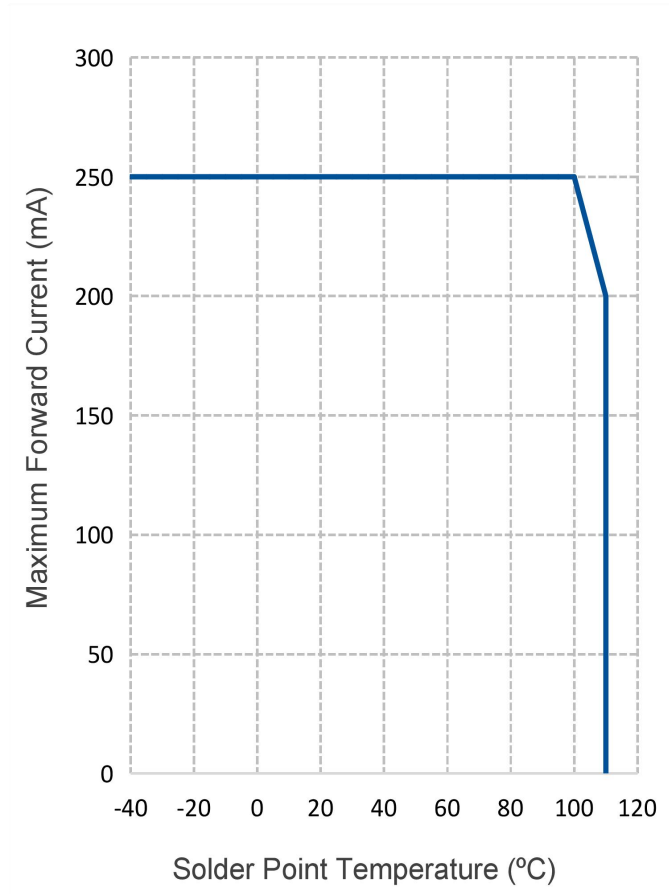
结温-相对光通量 | Junction Temperature-Relative Luminous Flux (If=140mA)



结温-主波长 | Junction Temperature-Dominant Wavelength (If=140mA)

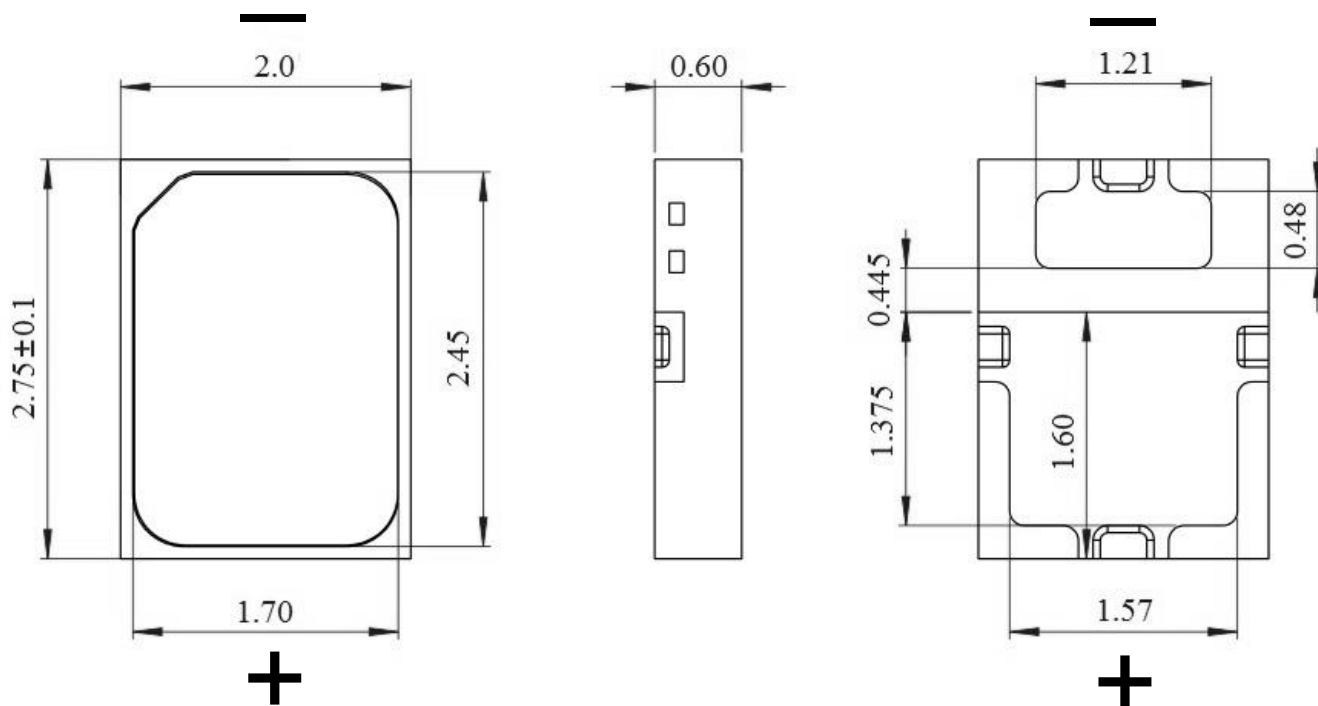


最大容许正向电流 | Max. Permissible Forward Current



外形尺寸 | Mechanical Dimensions

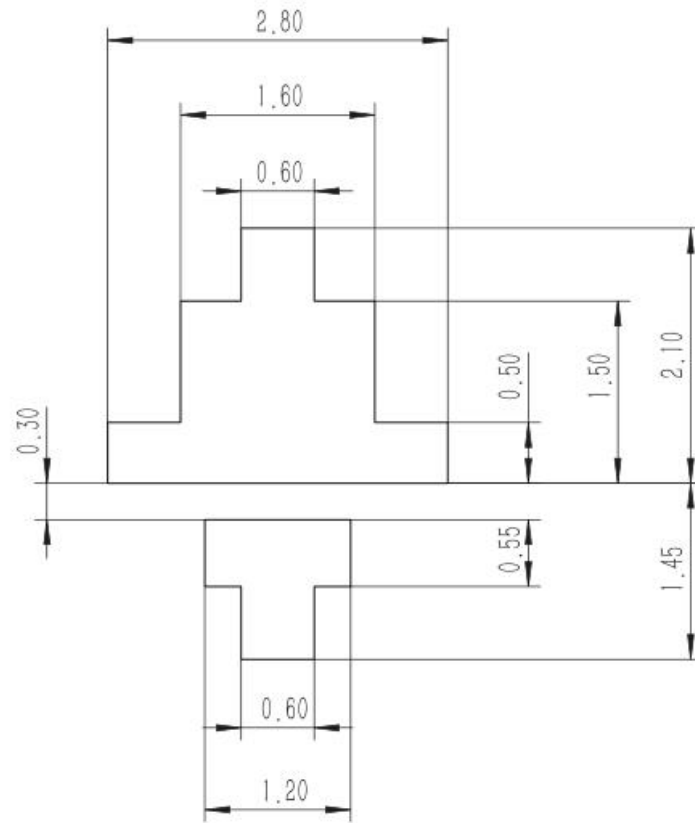
单位 | Unit: mm



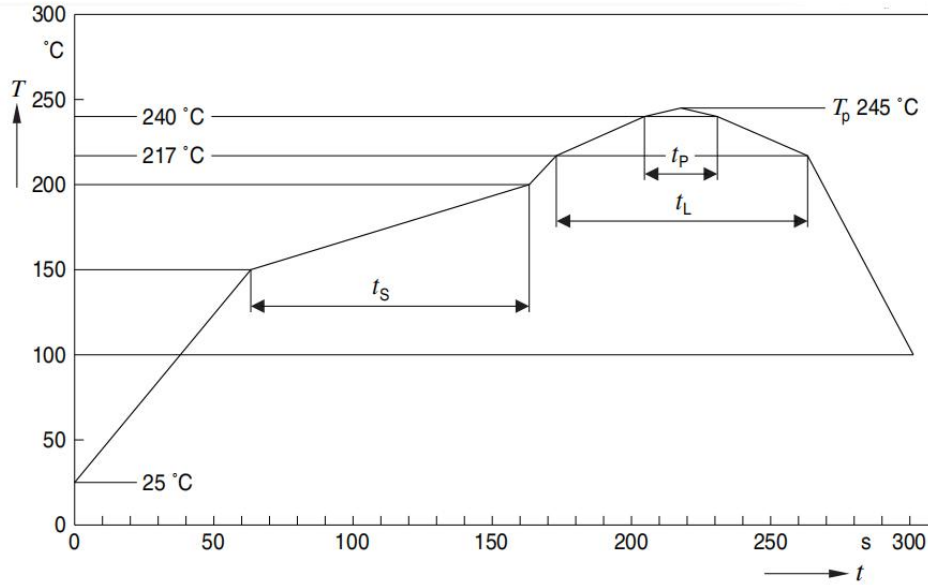
尺寸 Size	公差 Tolerance
.	±0.1mm
*.**	±0.05mm
*.***	±0.05mm

推荐焊盘 | Recommended Solder Pad

单位 | Unit: mm



回流焊曲线 | Reflow Soldering Profile

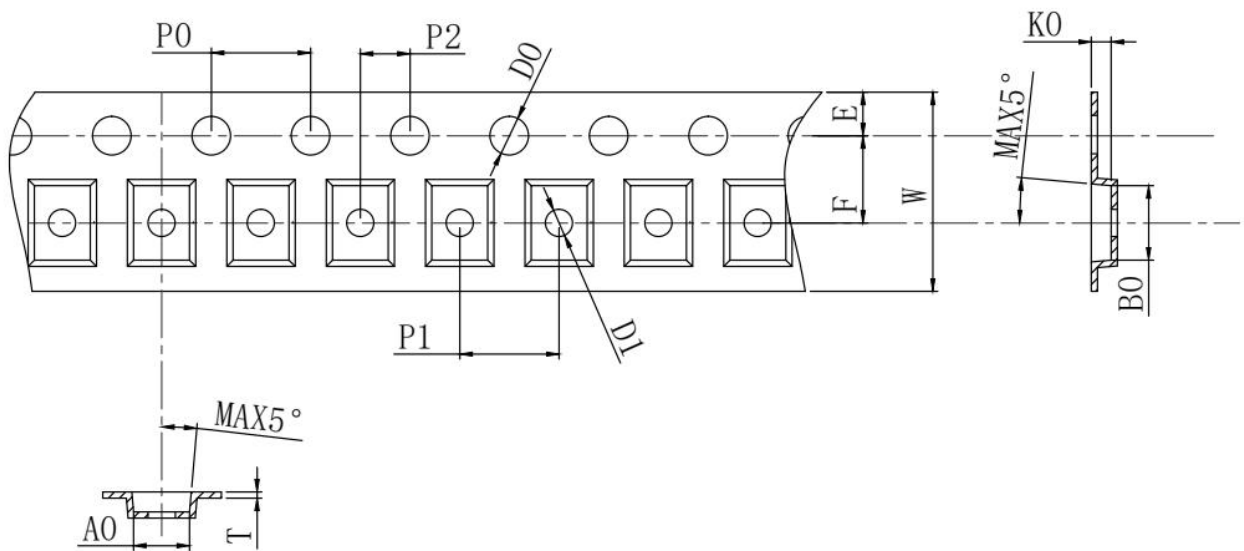
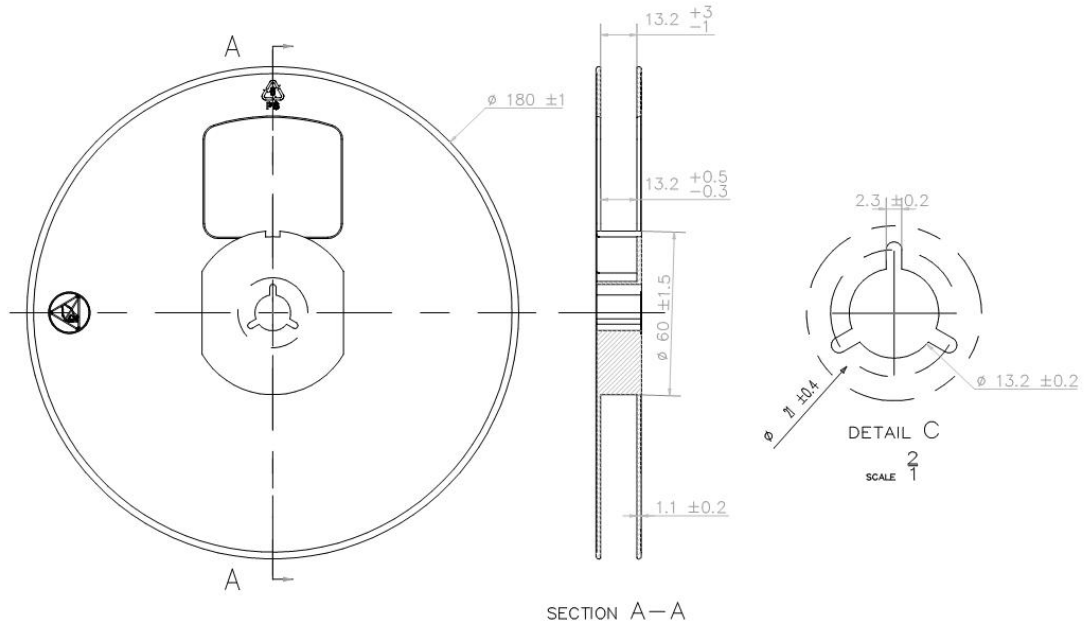


回流焊步骤 Profile Feature	符号 Symbol	无铅回流焊 (SnAgCu) Pb-Free (SnAgCu) Assembly			单位 Unit
		最小值 Min.	设定值 Reco.	最大值 Max.	
预热升温速率 25 °C to 150 °C Ramp-up rate to preheat			2	3	K/s
升温时间 (T _{smin} -T _{smax})	t _s	60	100	120	s
从 T _{smax} 升温到最高温度的速率 Ramp-up rate to peak			2	3	K/s
达到液相的温度 Liquidus temperature			217		°C
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	T _p		245	260	°C
在高于最高温度 5°C 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°C 的速率 Ramp-down rate* TP to 100 °C			3	6	K/s
从最高温降到 25°C 的时间 Time 25 °C to TP				480	s

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

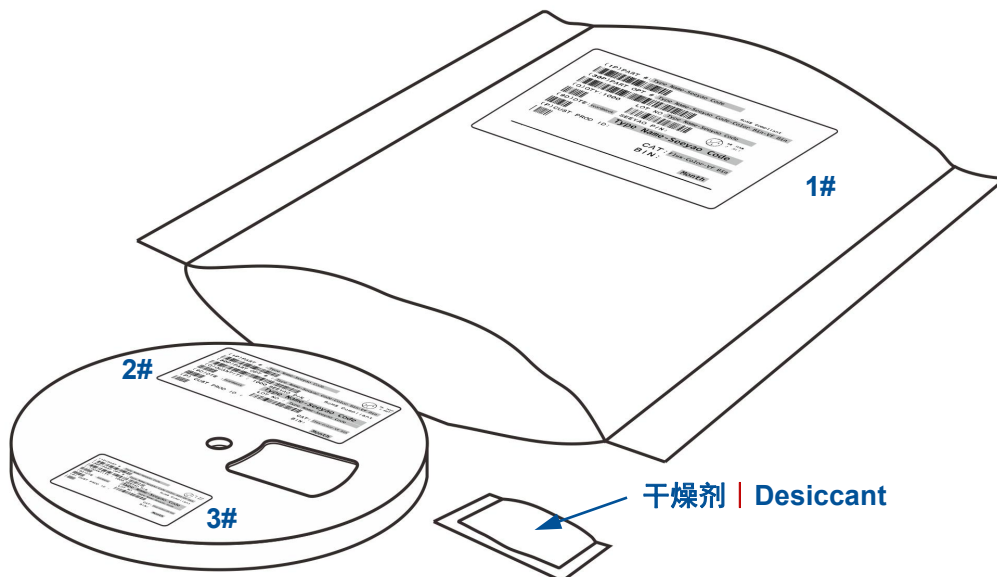
编带 | Taping

单位 | Unit: mm



SYMBOL	A0	B0	K0	P0	P1	P2
SPEC	2.20 ± 0.05	2.95 ± 0.05	0.75 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10
SYMBOL	T	E	F	D0	D1	W
SPEC	0.20 ± 0.05	1.75 ± 0.10	3.50 ± 0.10	1.55 ± 0.05	1.10 ± 0.10	8.00 ± 0.10

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



标签 1# | Label 1#

(1P)PART #: Type Name-See Yao Code
 RoHS Compliant
 (30P)PART OPT #: Type Name-See Yao Code-Color Bin-Vf Bin
 (Q)QTY: 1000 LOT NO: Type Name-See Yao Code
 (9D)DTE: Year&Week SEEYAO P/N: Type Name-See Yao Code
 (P)CUST PROD ID: CAT: Flux-Color-Vf Bin
 BIN: Month

标签 2# | Label 2#

(1P)PART #: Type Name-See Yao Code MS TEMP
 (30P)PART OPT #: Type Name-See Yao Code-Color Bin-Vf Bin
 (Q)QUANTITY: 1000 SEEYAO P/N: Type Name-See Yao Code
 (9D)DTE: Year&Week LOT NO: Type Name-See Yao Code
 (P)CUST PROD ID: CAT: Flux-Color-Vf Bin
 BIN: Month

标签 3# | Label 3#

DT: 0123456789
 Num: 1000
 Bin: Bin012#
 ABCDEF-GH0123456789
 SALME0123456789
 Bin0123456789012345