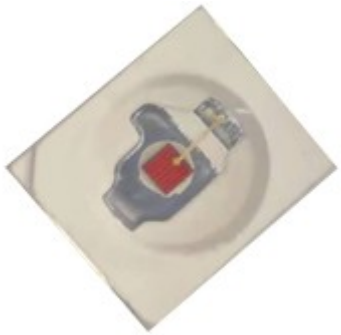
HVS-2835FPYA



2835 PLCC2　系列产品 / Products Series

具有高发光效率、高一致性、高稳定性、高可靠性，主要用于汽车应用

High luminous efficiency，consistency，stability and reliability, it is mainly used in automobile applications.

特征

- 外观：白色PCT塑料，无色透明硅树脂封装
- 50% I_V视角度：120°
- 颜色:超红（633nm）
- 资格：可靠性测试符合AEC Q102和 IEC 60810标准
- 潮湿敏感等级-2

Features

- Package：Colorless clear silicone in white PCT cup
- Viewing angle at 50% I_V: 120°
- Color: Super red (633nm)
- Qualifications: Reliability test compliance with AEC Q102 and IEC 60810
- MSL-2

应用

- 信号灯
- 汽车内外部照明应用

Applications

- Signaling
- Interior and exterior lighting for automotive

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订购信息 / Ordering Information

型号 Type						发光强度 Luminous Intensity I_V @ I_f=60mA	订单编号 Ordering Code
HVS-2835FPYA	- XXXX 亮度档 Brightness	-	X 颜色档 Color	-	XXXX 电压档 Forward Voltage	1.40 - 2.80 cd	XXXXXX

备注

■ 亮度档

单个最小包装只装有同一个亮度档次的产品，具体分档信息请见第4页

例如：HVS-2835FPYA-ABBB-1-XXXX，单个卷盘中的产品只有AB、BA、BB中的某一档

■ 颜色档

具体分档信息请见第4页

■ 正向电压档

单个最小包装只装有同一个正向电压档次的产品，具体分档信息请见第4页

例如：HVS-2835FPYA-XXXX-1-24，单个卷盘中的产品只有2、3、4中的某一档

Note

■ Brightness Grouping

Only one brightness group will be packed in one reel. Please refer to page #4 for details.

E.g.: HVS-2835FPYA-ABBB-1-XXXX, means only one bin of AB, BA or BB is in one reel.

■ Color Grouping

Please refer to page #4 for details.

■ Forward Voltage Groups

Only one forward voltage group will be packed in one reel. Please refer to page #4 for details.

E.g.: HVS-2835FPYA-XXXX-1-24, means only one bin of 2, 3 or 4 is in one reel.

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极限参数 / Maximum Ratings

参数 Parameters	符号 Symbol	数值 Rating	单位 Unit
结温 / Junction Temperature	T_j	125	℃
正向电流 / Forward Current (T_s=25℃)	I_f	70	mA
峰值正向电流 Peak Forward Current (t≤10us；D=0.005；T_s=25℃)	I_{fp}	100	mA
反向电压 / Reverse Voltage (T_s=25℃)	V_r	10	V
抗静电能力 Electrostatic Discharge (HBM)	V_{ESD}	2000	V
操作温度 / Operating Temperature	T_{opr}	−40 ~ +110	℃
储存温度 / Storage Temperature	T_{stg}	−40 ~ +110	℃

特性 / Characteristics (T_s = 25 ℃; I_f = 60 mA)

参数 Parameters		符号 Symbol	数值 Rating	单位 Unit
峰值波长 / Wavelength at Peak Emission	typ.	λ_{peak}	645	nm
主波长 / Dominant Wavelength	min. typ. max.	λ_{dom} λ_{dom} λ_{dom}	627 633 639	nm nm nm
半波宽 / Spectral Bandwidth at 50% I_{rel} max	typ.	Δλ	16	nm
50 % I_V下的视角度 / Viewing Angle at 50 % I_V	typ.	2Φ	120	°
正向电压 / Forward Voltage	min. typ. max	V_f V_f V_f	1.90 2.20 2.50	V V V
反向电流 / Reverse Current （V_R=10V)	typ. max.	I_r I_r	0.2 10	uA uA
实际热阻值（PN结−焊点）/ Real Thermal Resistance (Junction / Solder Point)	max.	R_{th} JS_{real}	18	K/W

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亮度分档 / Brightness Grouping (T_s = 25 ℃; I_f = 60 mA)

档次 Grouping	发光强度 Luminous Intensity I_v (min.)	发光强度 Luminous Intensity I_v (max.)	光通量 Luminous Flux Φ_v (typ.)
AB	1.40 cd	1.80 cd	4.80 lm
BA	1.80 cd	2.24 cd	6.10 lm
BB	2.24 cd	2.80 cd	7.60 lm

正向电压分档 / Forward Voltage Grouping (T_s = 25 ℃; I_f = 60 mA)

档次 Grouping	正向电压 Forward Voltage V_f (min.)	正向电压 Forward Voltage V_f (max.)
2	1.70 V	2.00 V
3	2.00 V	2.30 V
4	2.30 V	2.60 V

主波长分档 / Dominant Wavelength Grouping (T_s = 25 ℃; I_f = 60 mA)

档次 Grouping	主波长 Dominant Wavelength λ_{dom} (min.)	主波长 Dominant Wavelength λ_{dom} (max.)
1	627 nm	639 nm

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标签信息 / Information on Label

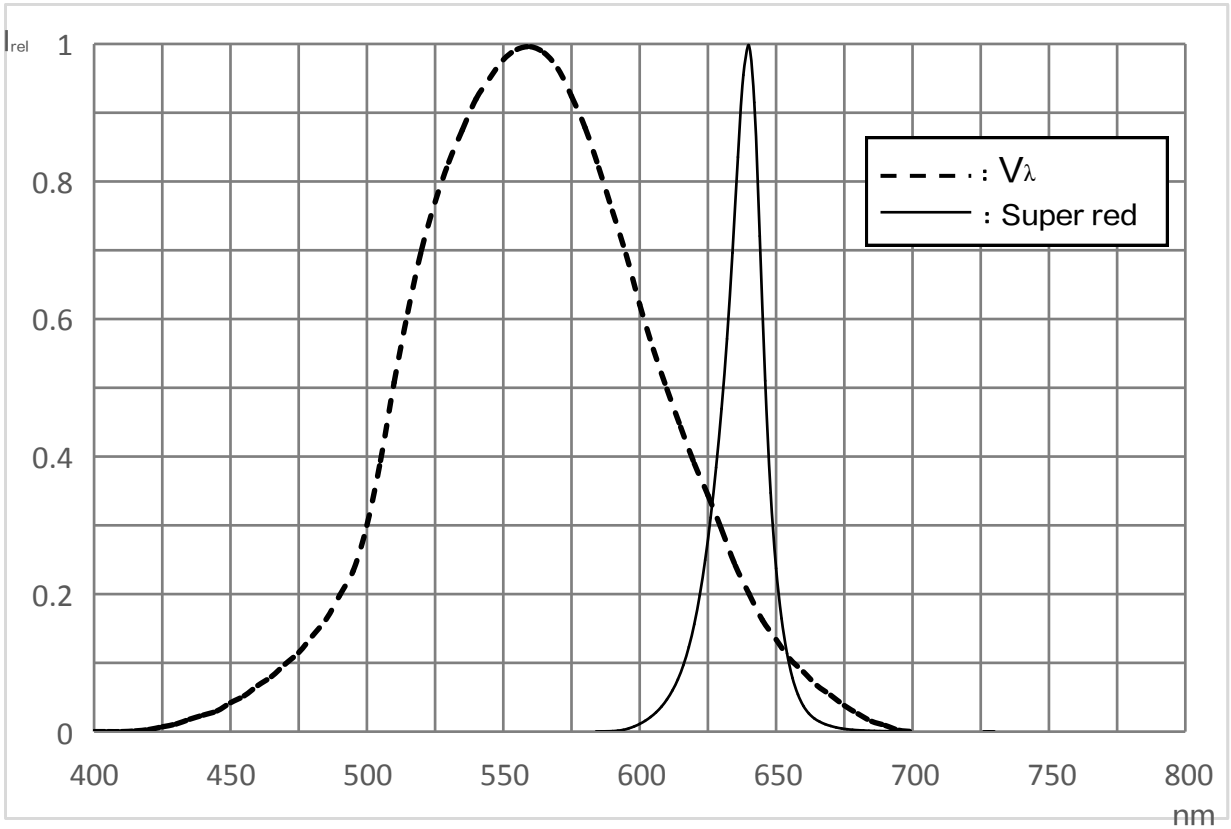
例 / E.g.：AB-1-2

亮度档 / Brightness	颜色 / Color	正向电压 / Forward Voltage
AB	1	2

相对发射光谱 – V(λ) = 标准人眼视觉曲线

Relative Spectral Emission – V(λ) = Standard Eye Response Curve

$I_{rel} = f(\lambda)$; T_s = 25 ℃; I_f = 60 mA



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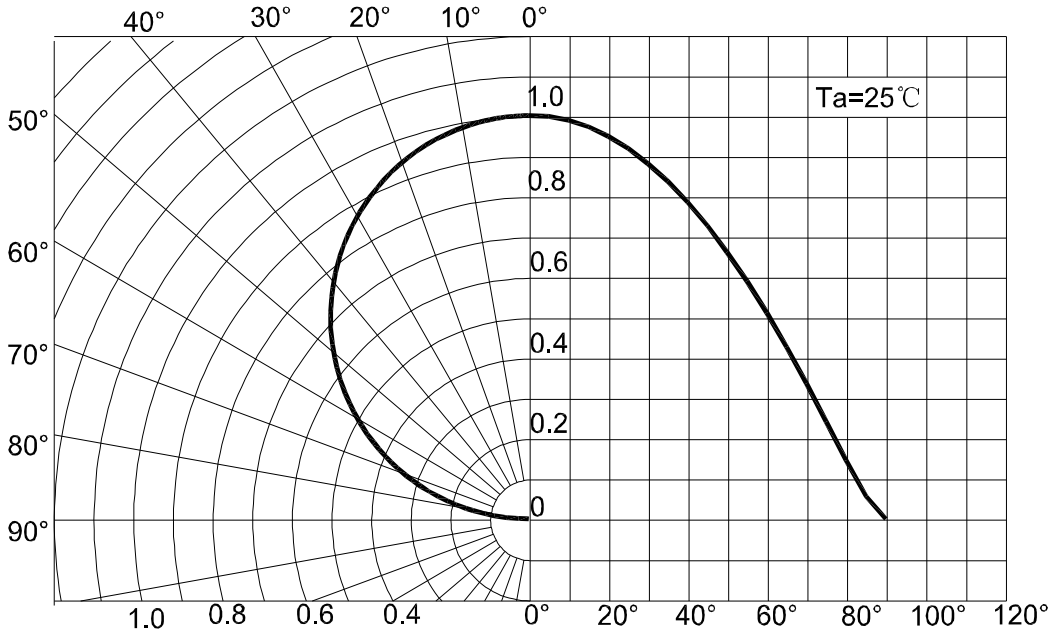
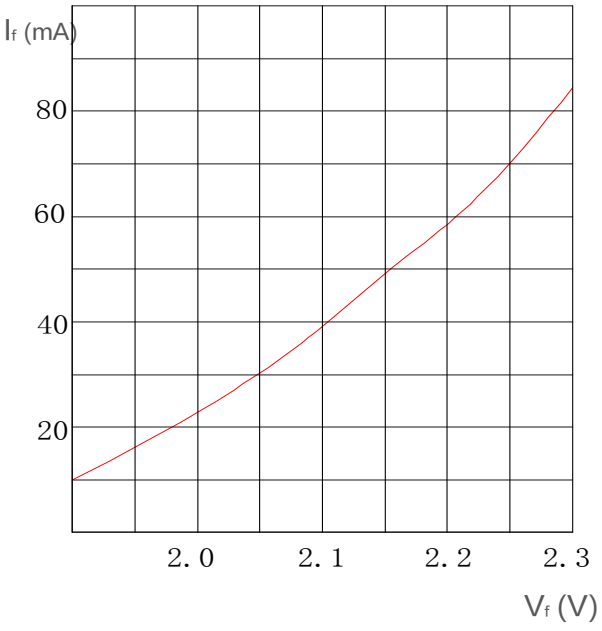
辐射特性 / Radiation Characteristics

$I_{rel} = f(\phi)$; $T_s = 25$ ℃



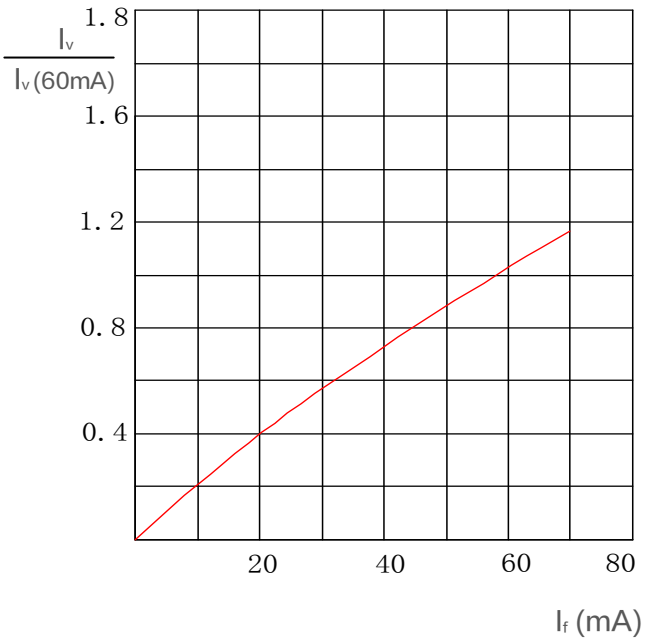
正向电流 / Forward Current

$I_f = f(V_f)$; $T_a = 25$ ℃



相对亮度特性曲线 / Relative Luminous Intensity

$I_v/I_v(60\ mA) = f(I_f)$; $T_a = 25$ ℃



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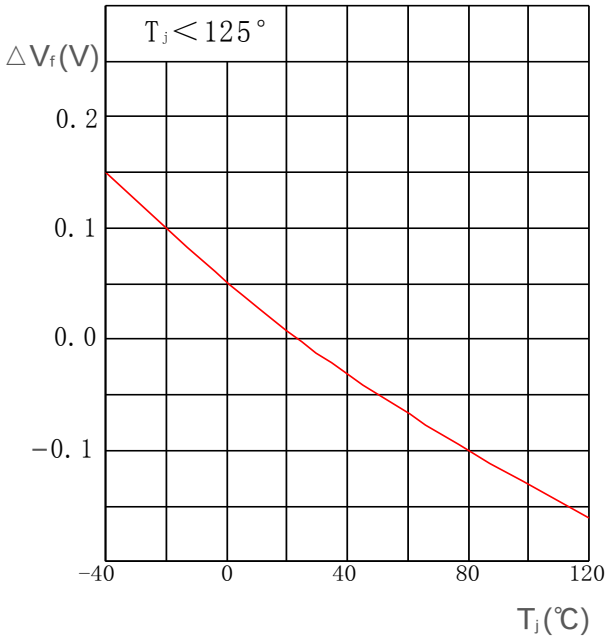
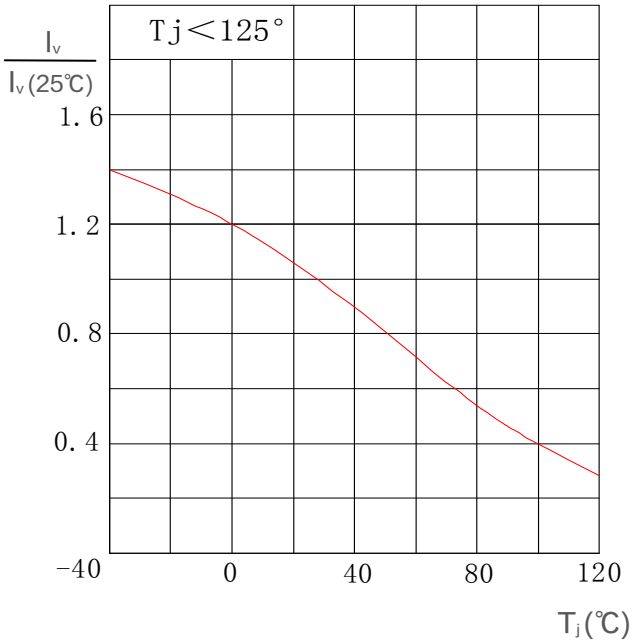
相对正向电压 / Relative Forward Voltage

$\Delta V_f = V_f - V_f(25\,℃) = f(T_j)$; $I_f = 60$ mA



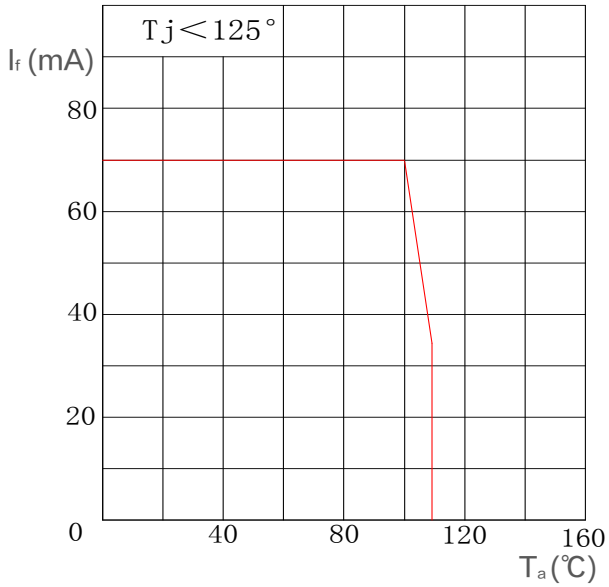
相对发光强度 / Relative Luminous Intensity

$I_v/I_v(25℃) = f(T_j)$; $I_f = 60$ mA



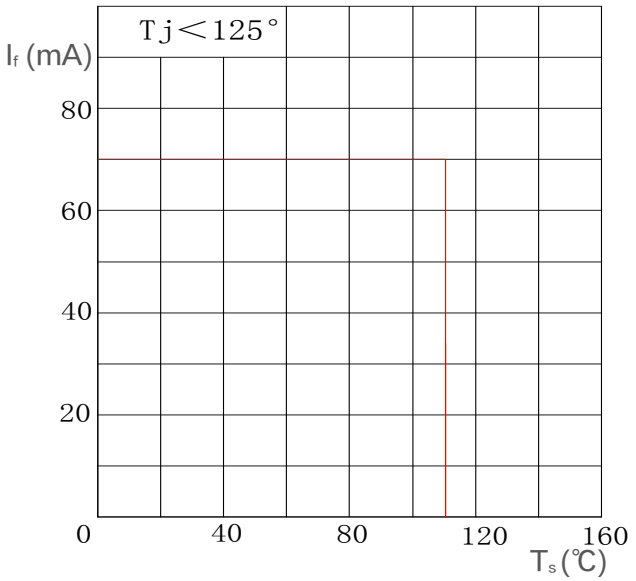
环境温度与正向电流 Ambient Temperature vs. Forward Current

$I_f = f(T_a)$



焊点温度与正向电流 / Solder Point Temperature vs. Forward Current

$I_f = f(T_s)$



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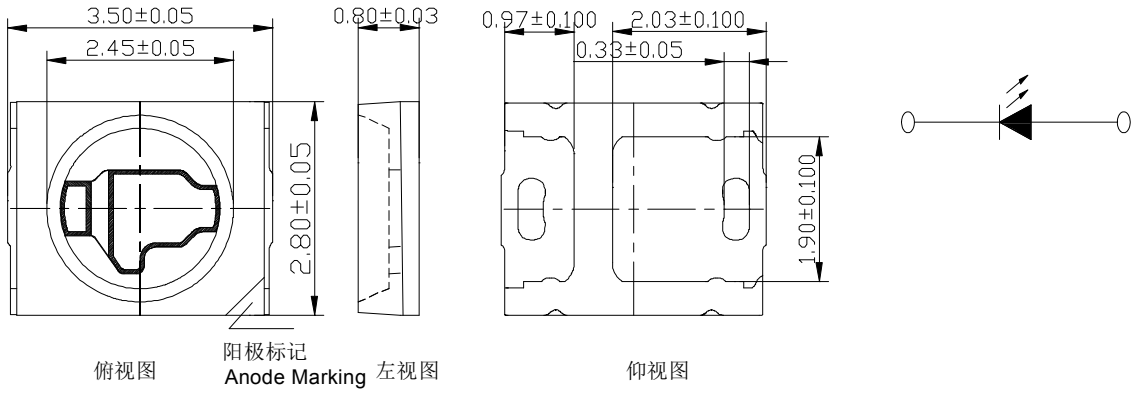
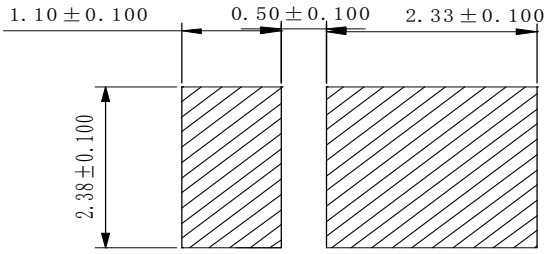
产品尺寸 / Package Outline



推荐焊盘 / Recommended Solder Pad



注释

■ 不适合超声波清洗的封装

NOTE

■ Package not suitable for ultrasonic cleaning

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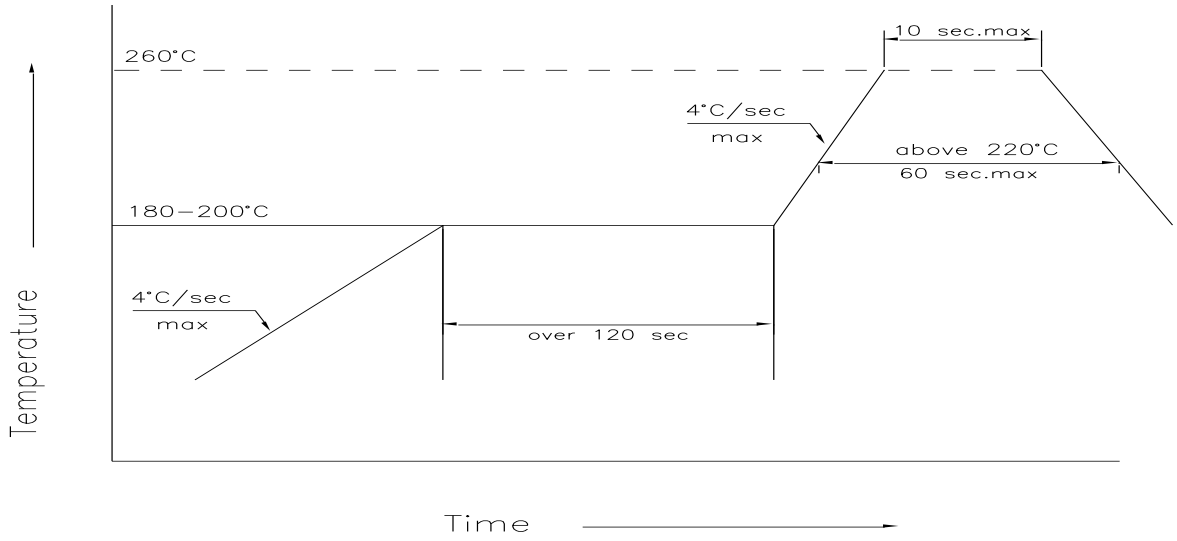
回流焊要求 / Reflow Soldering Profile



主要特性 Profile Feature	符号 Symbol	无铅焊接 Pb-Free Assembly			单位 Unit
		min.	rec.	max.	
预热升温速率 Ramp-up Rate to Preheat 25℃-180℃	-	-	2	3	℃/s
时间 / Time （T_{smin} to T_{smax}）	T_s	60	100	120	s
峰值升温速率 Ramp-up Rate to Peak （T_{smax} to T_p）	-	-	2	3	℃/s
熔点温度 Liquidus Temperature	T_l		217		℃
高于熔点温度的时间 Time above Liquidus Temperature	t_l	-	80	100	s
峰值温度 / Peak Temperature	T_p	-	255	260	℃
规定的峰值温度±5℃以内的时间 Time within 5℃ of the Specified Peak Temperature	t_p	10	20	30	s
降温速率 / Ramp-down Rate （T_p to 100℃）	-	-	3	6	℃/s
时间 / Time （25℃ to T_p）	-	-	-	480	s

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可靠性试验 / Reliability Test

试验项目 Test Item	试验方法Test Method	试验条件Test Condition	周期 Duration	试验数量 Number Of Test	试验结果 Test Result
光电测试 Test	产品规格书 Products Datasheet	25℃条件量测光电参数 Measurement of Photoelectric parameters At 25 ℃	-	全部 ALL	Pass
外观检查 EV	JESD22 B-101	显微镜观察 OM observation	-	全部 ALL	Pass
参数验证 PV	产品规格书 Products Datasheet	25℃条件量测光电参数 Measurement ofphotoelectric parametersat 25 ℃	-	75	0/75
破坏性物理分析 DPA	AEC-Q101-004	化学开盖后,观察外观结构 After Decap，OM observation	-	10	0/10
人体模式静电释放 ESD HBM	JESD22 A-114	±2000V	2次 2 times	30	0/30
机器模式静电释放 ESD MM	JESD 22-A115C	±200V	2次 2 times	30	0/30
尺寸测量 PD	JESD22 B-100	参照样品规格书 Per Products Datasheet	-	30	0/30
高温高湿通电测试 WHTOL1	JESD22 A-101	Ta=85° C/85% RH,开/关各30分钟,If=350mA Ta=85℃ 85%RH, 30min. on/30min. off,If=350mA	1000小时 1000 hours	78	0/78
功率温度循环测试 PTC	JESD22 A-105	Ta = -40℃ ~85℃,驻留时间10分钟,转换时间11分钟，开/关各5分钟，If=350mA Ta=-40℃ ~85℃,Dwell：10min,Transition time：11min, 5 min. on / 5 min. off，If=350mA	1000循环 1000 cyc	78	0/78
高温寿命测试 HTOL	JESD22-A108	Ta = 85° C, If=350mA	1000小时 1000 hours	78	0/78

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可靠性试验 / Reliability Test

热阻测试 TR	JEDEC JESD51-50 JESD51-51 JESD51-52	需使用不同导热材质分层测试 Need to use different thermal conductivity material layer test	-	10	14
金线拉力 WBP	MIL-STD-750-2 Method 2037	参照MIL-STD-750-2Method 2037 Per MIL-STD-750-2Method 2037	-	15	Ppk>1.67
金球推力 WBS	AEC Q101-003	参照AEC Q101-003 Per AEC Q101-003	-	15	Ppk>1.67
晶片推力 DS	MIL-STD-750-2 Method 2017	参照MIL-STD-750-2Method 2017 Per MIL-STD-750-2Method 2017	-	15	Ppk>1.67

接受标准 / Acceptance Criteria

正向电压 Forward Voltage	Vf变化≤+/-10% VF shift%≤+/- 10% from initial value
光通量 Luminous Flux	LM光通量变化≤+/-20%，备注：某些应用环境≤+/-30%，某些特定应用（如内饰）≤+/-50% LM shift≤ %+/- 20% from initial value，Note. +/- 30% may be acceptable for some application. +/- 50% may be acceptable only for some application (e.g., interior).
主波长 Dominant wavelength	主波长变化≤- 2 nm λ≤+/- 2 nm according to initial value
外观 Visual	无迁移，腐蚀，分层等 No migration, corrosion, delamination , other

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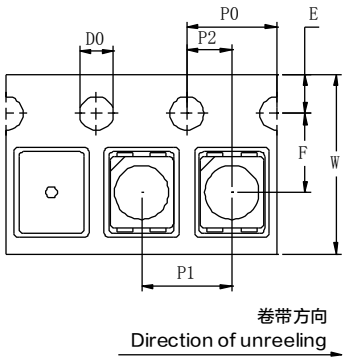
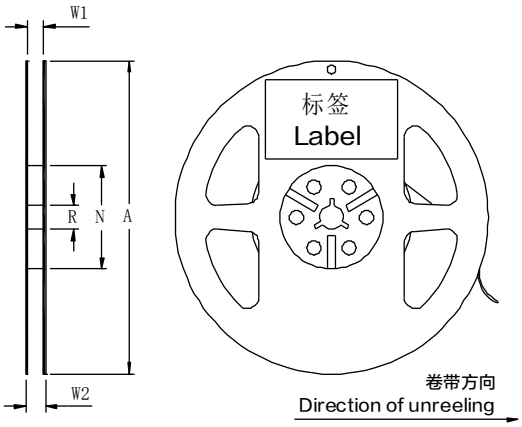
卷带与卷盘 / Tape and Reel





前端空带: 最小400 mm；尾端空带: 最小160 mm；尺寸符合: IEC 60286-3, EIA 481-D标准

Leader: min. 400 mm；Trailer: min. 160 mm；Requirement acc. to IEC 60286-3, EIA 481-D

卷带尺寸 / Tape Dimensions（mm）

W	P0	P1	P2	D0	E	F
8±0.1	4±0.1	4±0.1	2±0.05	1.50±0.05	1.75±0.1	3.50±0.05

卷盘尺寸 / Reel Dimensions（mm）

A	W1	W2	N	R
178.0±0.2	8.0±0.5	8.0±0.5	60.0±0.4	13.5±0.3

数量 (颗/卷) / Quantity（pcs/reel）

4000

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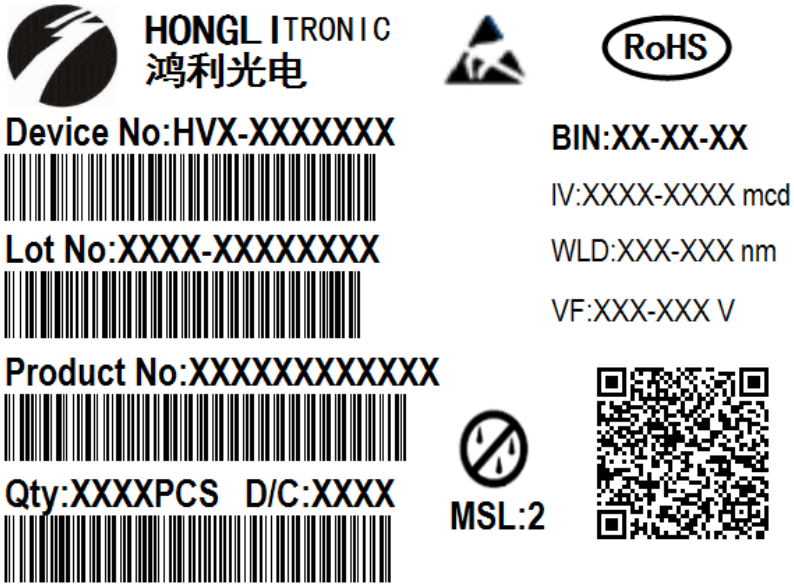
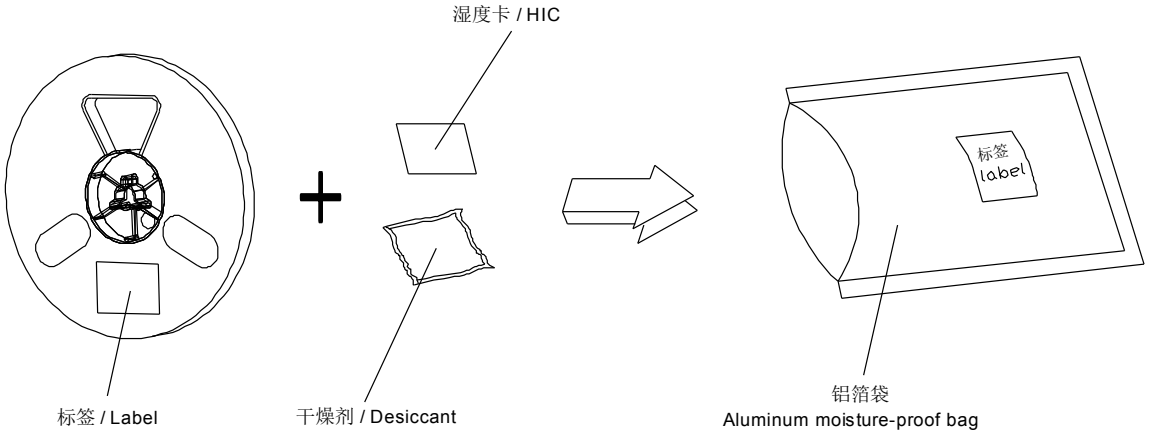
条形码标签 / Barcode-Product-Label (BPL)



包装材料及过程 / Dry Packing Process and Materials



备注

产品包装在一个干燥的铝箔袋里，同时内附有干燥剂和湿度卡。
对于干燥包装，您可以从网络或JEDEC标准里获取。

NOTE

Moisture-sensitive product is packed in a dry bag containing desiccant and HIC (humidity indicator card).
Regarding dry pack you may find further information in the internet or JEDEC.

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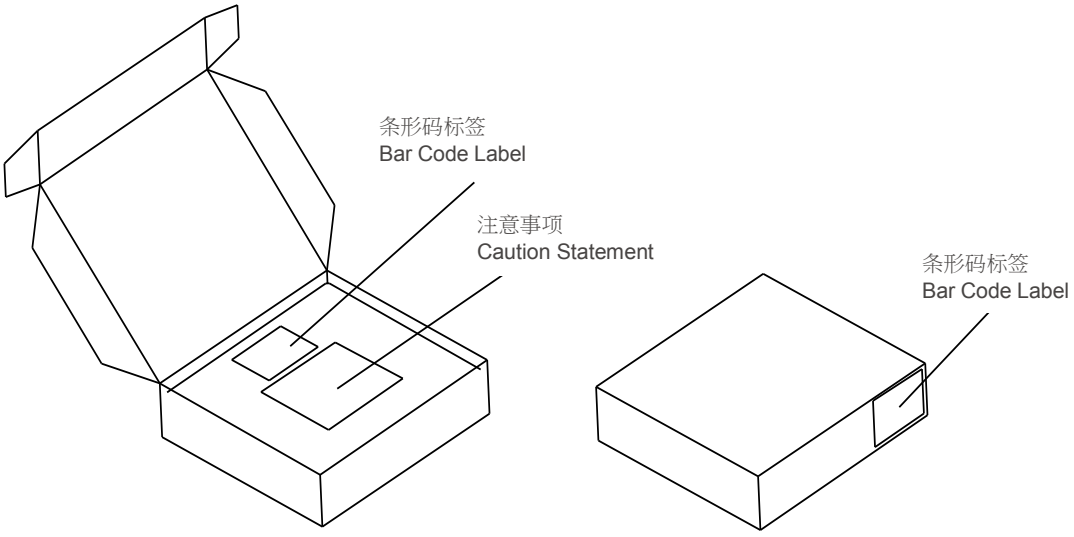
出货包装及材料 / Transportation Packing and Materials



出货箱尺寸 / Dimensions of Transportation Box (mm)

宽度 / Width	长度 / Length	高度 / Height
256±5	223±5	62±5
256±5	223±5	124±5

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注释

典 型 值：每个产品的实际值可能与这些统计出的典型值不同。
公　　差：除非图纸中有说明，公差默认为 ±0.1 mm。
正向电压：正向电压是在8ms脉冲电流并且内部在线性为±0.05V和一个±0.1V的外在不确定性（按照GUM K=3因子）来进行测试的。
波　　长：波长是在25ms脉冲电流并且内部在线性为±0.5nm和一个±1nm的外在不确定性（按照GUM K=3因子）来进行测试的。
亮　　度：亮度是在25ms脉冲电流并且内部在线性为±8%和一个±11%的外在不确定性（按照GUM K=3因子）来进行测试的。

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Glossary

Typical Values: Actual values of each product may differ from these statistical values .
Tolerance of Measure: Unless otherwise noted in drawing, tolerances are specified with +/−0.1mm.
Forward Voltage: The forward voltage is measured during a current pulse of typically 8 ms, with an internal reproducibility of ± 0.05 V and an expanded uncertainty of ± 0.1 V (acc. to GUM with a coverage factor of k = 3).
Wavelength: The wavelength is measured at a current pulse of typically 25 ms, with an internal reproducibility of ± 0.5 nm and an expanded uncertainty of ± 1 nm (acc. to GUM with a coverage factor of k = 3).
Brightness: Brightness values are measured during a current pulse of typically 25 ms, with an internal reproducibility of ± 8% and an expanded uncertainty of ± 11% (acc. to GUM with a coverage factor of k = 3).

Special Statement: The final interpretation of this specification shall be vested in Honglitronic, in the case of ambiguity, the Chinese version shall prevail.

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