

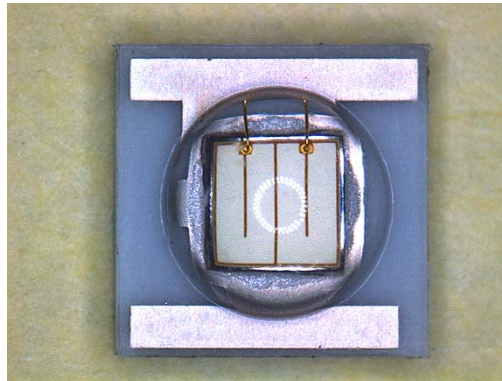


# 紫外光 1W 3535VT 氧化鋁鍍銀陶瓷封裝產品規格書

Ultraviolet (UV) 1W 3535VT Al<sub>2</sub>O<sub>3</sub> Ag-plating Ceramic Package Product Data Sheet

一類產品/一種品名

PC-U9E1VA-R0



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產品特性與應用 Features and Applications:

■ Feature 特性

- ◆ 1W 3535VT Al2O3 Ag-plating Ceramic Package  
(1W 3535VT 氧化鋁鍍銀陶瓷封裝)
- ◆ Half Angle ( $2\theta$  1/2) : 125°  
(視角：125°)
- ◆ Silicone Compression Molding Lens  
(矽膠壓模成型透鏡)
- ◆ Vertical Chips  
(垂直結構晶粒)

■ Applications 應用

- ◆ General Lighting  
(一般照明)
- ◆ Decorative Lighting  
(裝飾照明)
- ◆ Architectural Lighting  
(建築照明)
- ◆ Special Lighting  
(特殊照明)

產品編碼 Product Nomenclature

下表將描述產品品名 (Product Type) 之命名原則，有關光電特性規格之定義，請參考分類碼規格 (Bin Code Specification) 章節之規範。

P C - U 9 E 1 V A - R 0  
 X1 X2 X3 X4 X5 X6 X7 X8 X9 X10

X1&X2-Module 模組	
Code(X1&X2)	Type
PC	Ceramic

X4-Lens 透鏡	
Code(X3)	Type
9	Silicone Molding Lens(TF)

X8-Version 版本	
Code(X8)	Type
A	Normal
B	單向 Zener included

X3-Color 顏色	
Code(X3)	Type
U	Ultraviolet
B	Blue
G	Green
Y	Yellow
R	Red
C	Infrared(660nm)
E	Infrared(740nm)
D	Infrared(850nm)
F	Infrared(940nm)
X	Cool White
N	Neutral White
W	Warm White

X5-Substrate 基板	
Code(X5)	Type
E	Ceramic 3535
F	Ceramic 5050

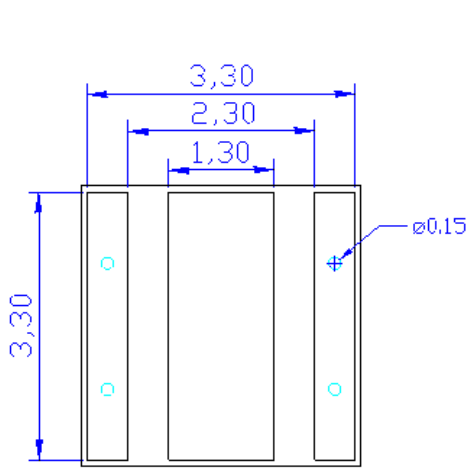
X9-Packing 包裝	
Code(X9)	Type
R	Reel

X6-Power 功率	
Code(X6)	Type
1	1W (2-4V)
3	3W (2-4V)

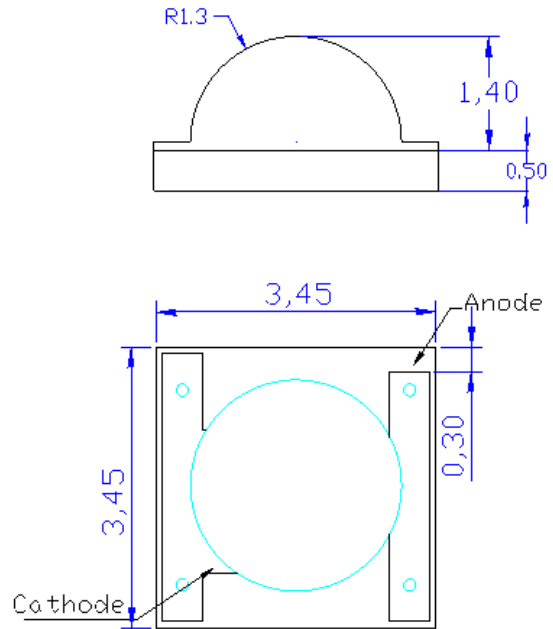
X10-CRI 演色性	
Code(X10)	Type
0	No Limit
6	60(min)
7	70(min)
8	80(min)
9	90(min)

X7-Chip 芯片	
Code(X7)	Type
A	Horizontal Chip
F	Flip Chip
V	Vertical Chip

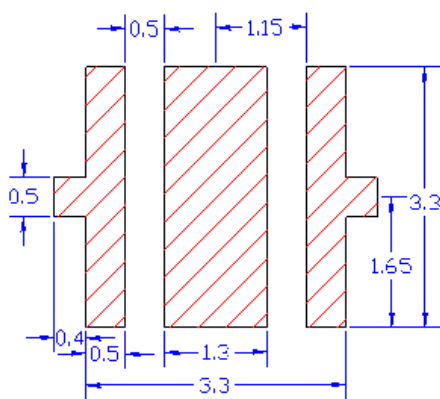
封裝外觀尺寸 Package Dimensions:



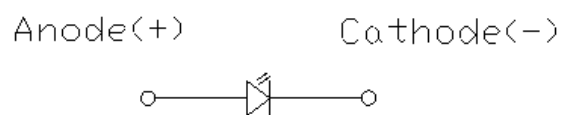
Bottom Layout



Dimension



Recommended Solder Pad



Circuit Diagram

Notes :

1. All dimensions are in millimeters (所有尺寸以 mm 毫米為單位)
2. Tolerance is  $\pm 0.25$ mm (公差)



光電特性 Electrical/Optical Characteristics (Ta=25°C)

Parameter (參數)	Symbol (符號)	Conditions (測試條件)	Min. (最小值)	Avg. (平均值)	Max. (最大值)	Units (單位)
Luminous Flux (光通量)	$\Phi_e$	IF=350mA	15		820	mW
Dominate Wavelength (主波長)	WLP	IF=350mA	365		430	nm
Forward Voltage (順向電壓)	$V_F$	IF=350mA	1.8		3.8	V
Reverse leakage Current (反向漏電流)	IR	VR=5V			10	$\mu A$
Viewing Angle[1] (發光角度)	$2\theta_{1/2}$	IF=350mA		125		degrees
Thermal resistance (junction to solder point) (熱阻 接面到焊點)	Rth(j-s)	IF=350mA		8		°C/W
Temperature coefficient of Voltage (電壓的溫度係數)	$\Delta V_F/\Delta T$	IF=350mA		-3		mV/°C

絕對最大額定值 Absolute Maximum Rating (Ta=25°C)

Parameter (參數)	Symbol (符號)	Ratings (數值)	Units (單位)
Power Dissipation (消耗功率)	$P_D$	1-3	W
DC Forward Current (順向直流電流)	$I_F$	350	mA
Max DC Forward Current (最大順向直流電流)	$I_F(\text{Max DC})$	700	mA
Max Pulsed Forward Current [2] (順向脈衝電流)	$I_F(\text{Max Pulsed})$	1000	mA
LED Junction Temperature (接面溫度)	$T_j$	120	°C
Reverse Voltage (反向電壓)	$V_R$	5	V
Operating Temperature Range (工作溫度)	$T_{OPR}$	-30°C To +80°C	
Storage Temperature Range (儲存溫度)	$T_{STG}$	-40°C To +100°C	

Notes :

[1]. Tolerance  $\Theta:10^\circ$  ( $\Theta$  公差為  $10^\circ$  )

[2]. 1/10 Duty Cycle 0.1ms Pulse Width (脈衝寬度 0.1ms，佔空比 1/10)



分類碼規格 Bin Code Specification

P      F      V      M      B      Q      6      B      0  
 Y1      Y2      Y3      Y4      Y5      Y6      Y7      Y8      Y9

Y1 - Item (類型)	
Code(Y1)	Type
P	STANDARD

Y2 - Condition 測試條件		
Code(Y2)	IF(mA)	Unit
H	150	mW
F	350	mW
J	700	mW

Y3/Y4 - Peak Wavelength Group 峰波長類別			
UV (400nm)			
Code(Y3/Y4)	WLP (nm)	Code(Y3/Y4)	WLP (nm)
VE	360.0-362.5	VS	395.0-397.5
VF	362.5-365.0	VT	397.5-400.0
VG	365.0-367.5	EA	400.0-402.5
VH	367.5-370.0	EB	402.5-405.0
VI	370.0-372.5	EC	405.0-407.5
VJ	372.5-375.0	ED	407.5-410.0
VK	375.0-377.5	EE	410.0-412.5
VL	377.5-380.0	EF	412.5-415.0
VM	380.0-382.5	EG	415.0-417.5
VN	382.5-385.0	EH	417.5-420.0
VO	385.0-387.5	EI	420.0-422.5
VP	387.5-390.0	EJ	422.5-425.0
VQ	390.0-392.5	EK	425.0-427.5
VR	392.5-395.0	EL	427.5-430.0

Y5&Y6 - Radiant Flux 輻射通量			
Code(Y5)	Code(Y6)	Min. (mW)	Max. (mW)
A	A	0.1	15
A	B	15	30
A	C	30	45
A	D	45	60
A	E	60	75
A	F	75	90
A	G	90	105
A	H	105	120
A	I	120	135
A	J	135	150
A	K	150	165
A	L	165	180
B	O	180	210
B	P	210	240
B	Q	240	285
B	R	285	325
B	S	325	380
B	T	380	440
B	U	440	520
B	V	520	600
B	W	600	700
B	X	700	820
B	Y	820	950
B	Z	950	1100
C	A	1100	1300
C	B	1300	1500

Y7 - Forward Voltage 順向電壓		
Code(Y7)	Min. (V)	Max. (V)
0	1.8	2
1	2	2.2
2	2.2	2.4
3	2.4	2.6
4	2.6	2.8
5	2.8	3
6	3.0	3.2
7	3.2	3.4
8	3.4	3.6
9	3.6	3.8
A	3.8	4.0
B	4.0	4.2
C	4.2	4.4
D	4.4	4.6
E	4.6	4.8
F	4.8	5

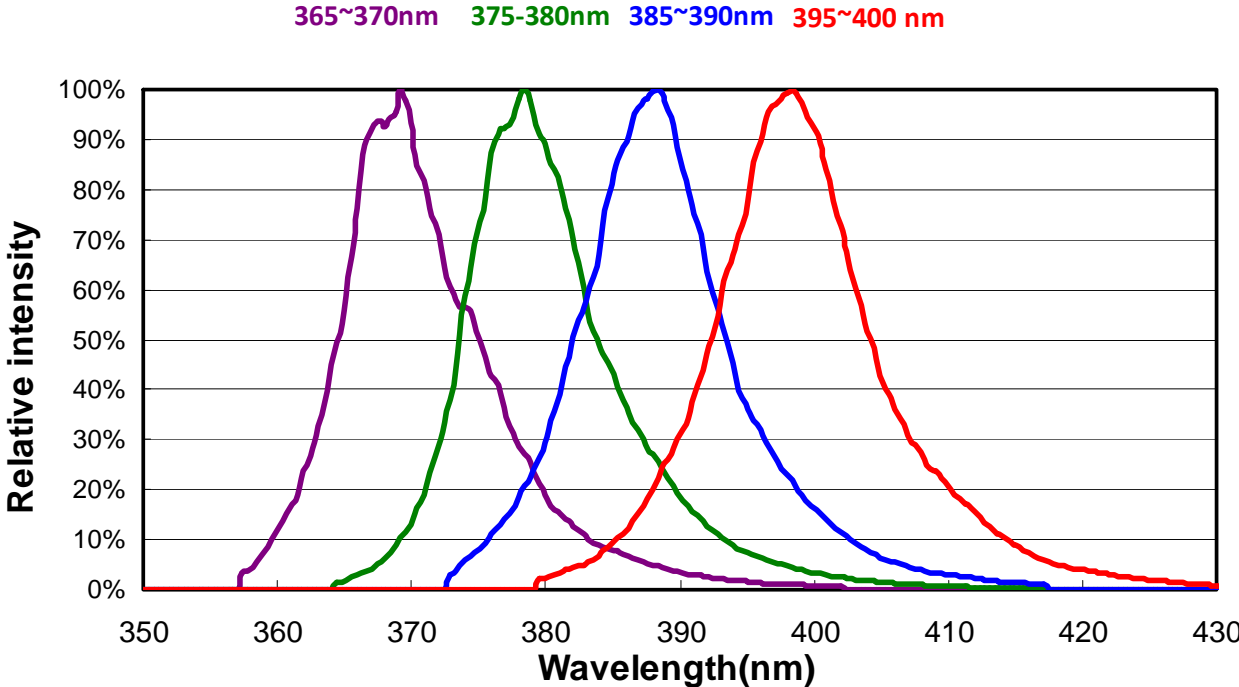
Y8 - Others 其它		
Code(Y8)	Ir (μA)	WLP step
B	0-10	2.5 nm

Y9 - TBD. 保留碼	
Code(Y9)	Type
0	Default



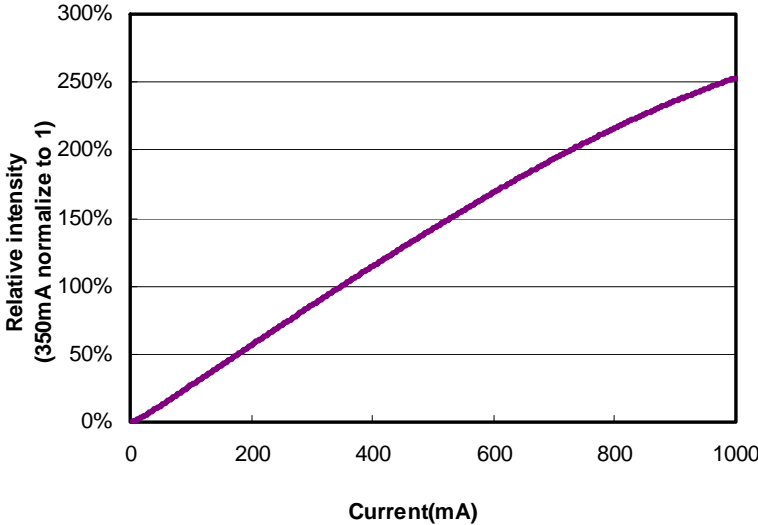
光譜分佈圖 Spectrum Distribution

Ultraviolet (365-400 nm) Spectrum Distribution

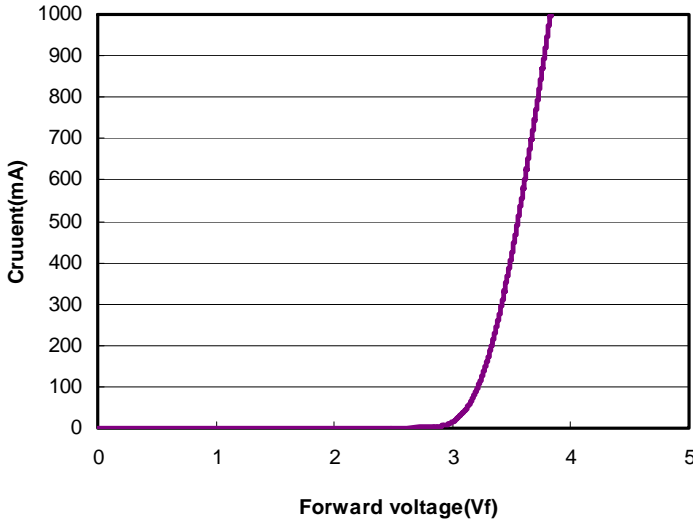


特性曲線 Characteristic Curves

Luminous flux ( $\Phi_e$ ) vs Current(IF)



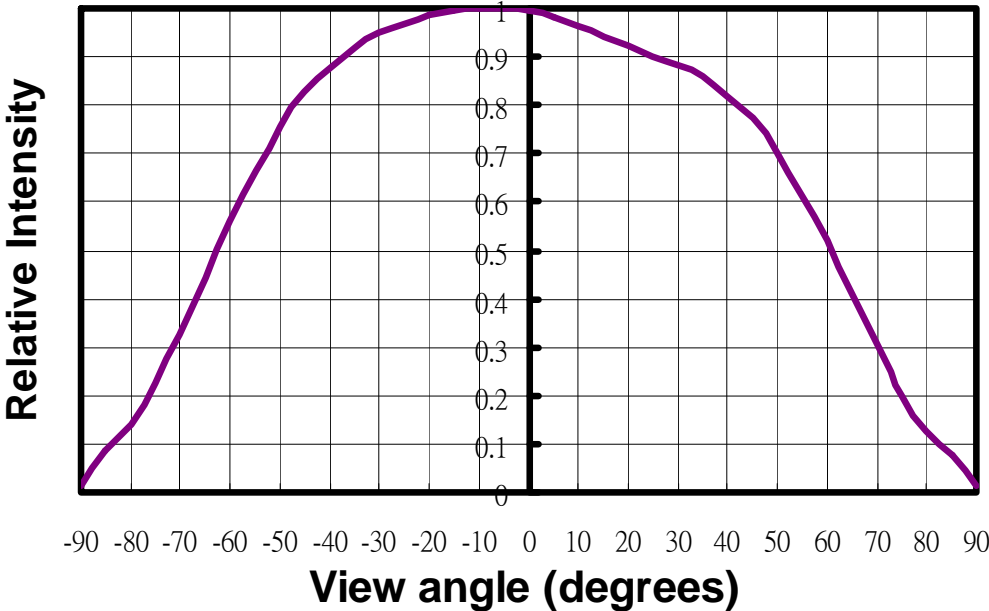
Current(IF) vs Voltage(Vf)



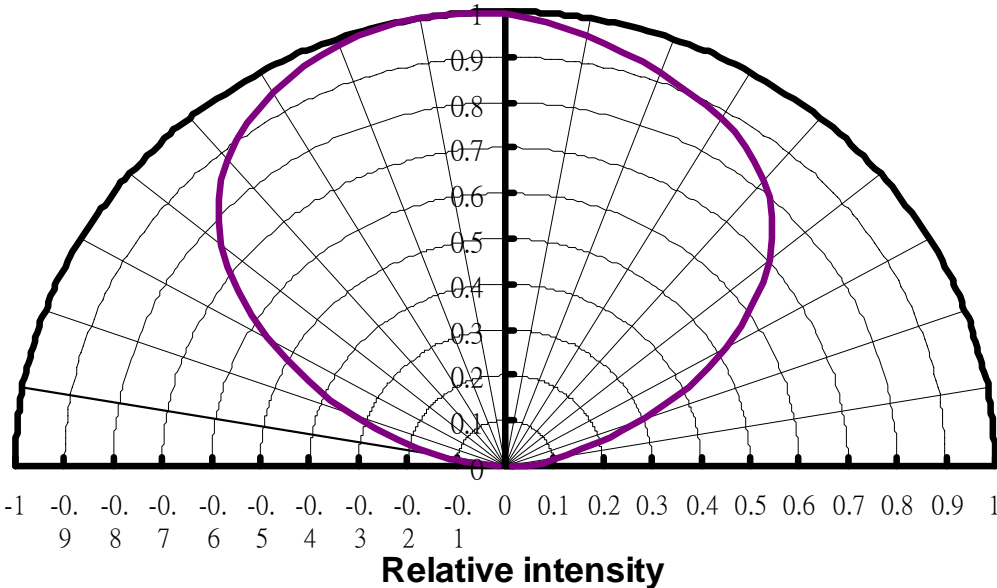


典型發光圖形 Typical Radiation Pattern

Spatial radiation pattern



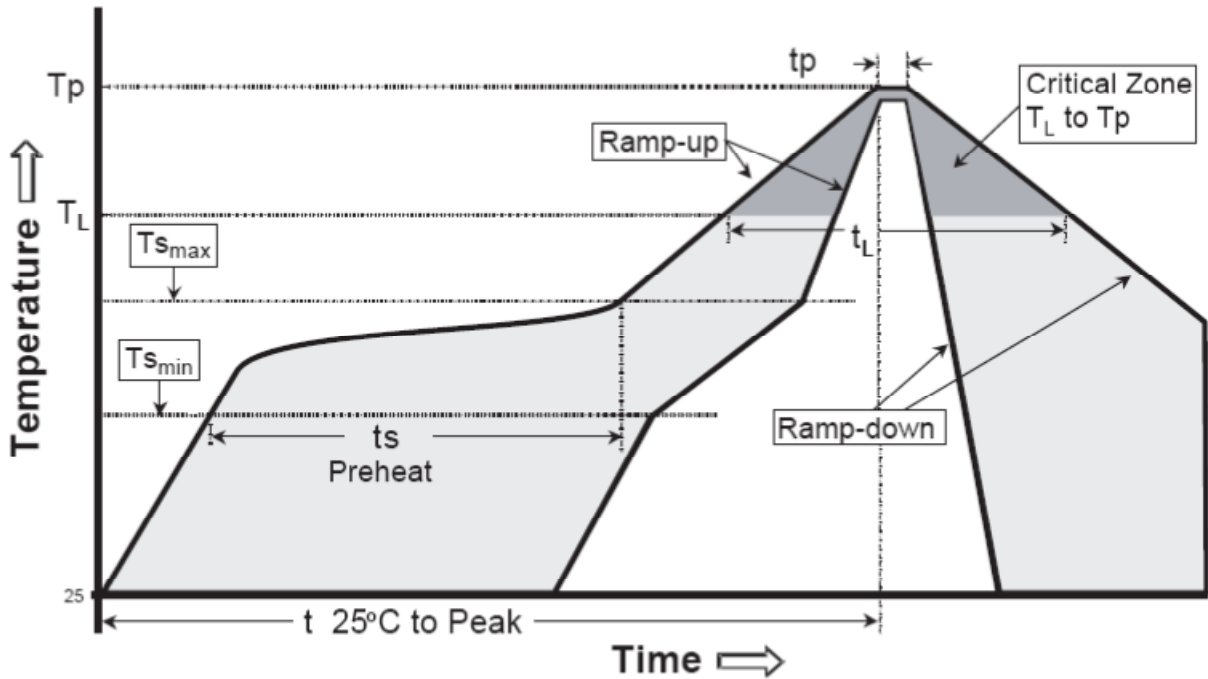
Spatial radiation pattern





典型迴焊曲線 Typical Reflow Soldering Profile

● Reflow Soldering Temperature Profile



Profile Feature	Typical parameters
Average Ramp-Up Rate ( $T_{s_{max}}$ to $T_p$ )	3 °C/second max.
Preheat Temperature Min ( $T_{s_{min}}$ )	150 °C
Preheat Temperature Max ( $T_{s_{max}}$ )	200 °C
Time ( $T_{s_{min}}$ to $T_{s_{max}}$ )	60-180 seconds
Time maintained above Temperature ( $T_L$ )	217 °C
Time maintained above Time ( $T_L$ )	60-150 seconds
Peak/Classification Temperature ( $T_p$ )	240 °C
Time within 5 °C of Actual Peak Temperature ( $T_p$ )	5 seconds
Ramp-Down Rate	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

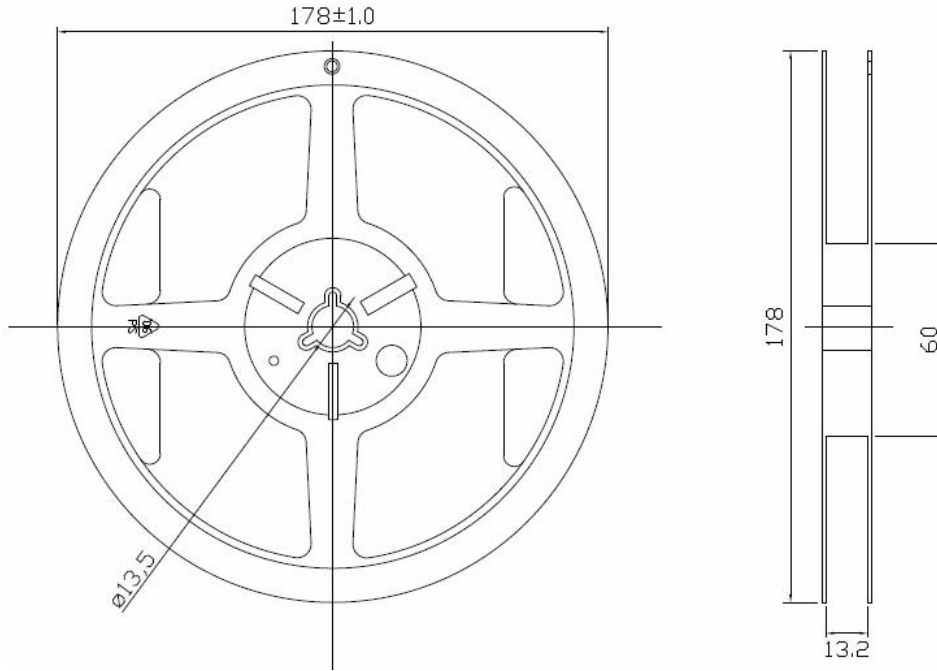




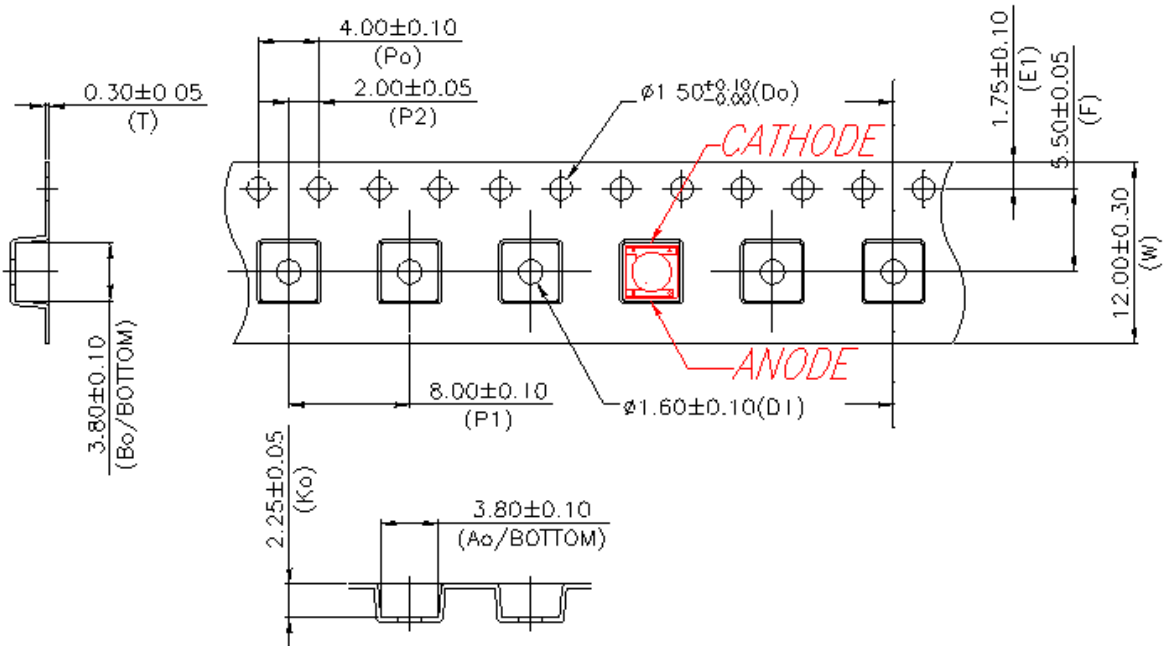
包裝方式 Packing

料帶包裝 (Tape-and-Reel Packing)

● Reel Dimensions



● Carrier Tape Dimensions



Notes :

1. All dimensions are in millimeters (所有尺寸以 mm 毫米為單位)



## 使用注意事項 Notice

- 一、為避免吸潮建議將產品貯存在放有乾燥劑的乾燥櫃中，貯存溫度為： $5^{\circ}\text{C}\sim 30^{\circ}\text{C}$ ，濕度： $\leq 60\% \text{HR}$ 。
- 二、貯存在濕度較高環境的產品使用前，建議乾燥，乾燥條件為： $60^{\circ}\text{C}\pm 5^{\circ}\text{C}/12$  個小時。
- 三、產品在焊錫後冷卻過程中避免機械壓力和過大震動。
- 四、回焊後不允許快速冷卻。
- 五、禁止焊接在變形 PCB 板上。
- 六、產品不得接觸水、油、有機溶液。
- 七、產品使用最大溫度值應考慮工作電流大小。
- 八、打開防潮包裝後 7 天內產品使用完畢。
- 九、重新包裝未使用的產品置防潮袋密封好之後貯存在乾燥的地方。
- 十、產品外觀尺寸可更改而不再另行通知。
- 十一、防靜電要求：使用產品時，必須戴防靜電環或防靜電手套，所有設備、裝置、機台必須有效接地。
- 十二、該產品必須配置恆流源驅動。

## Notice

1. In order to avoid absorption of moisture, it is recommended that the products are stored in the dry box (or desiccators ) with a desiccants. Alternatively the following environment is recommended:  
Storage temperature :  $5^{\circ}\text{C}\sim 30^{\circ}\text{C}$  Humidity:60% HR max.
2. If the storage conditions are of high humidity the product should be dried before use.  
Recommended drying conditions: 12 hours at  $60^{\circ}\text{C}\pm 5^{\circ}\text{C}$ .
3. Any mechanical force or any excess vibration should be avoid during the cooling process after soldering.
4. Reflow rapidly cooling should be avoided.
5. Components should not be mounted on distorted Printed Circuit Boards.
6. Devices should not contact with any types of fluid, such as water , oil , organic solvents... etc.
7. The maximum ambient temperature should be taken into consideration when determining the operating current.
8. Devices should be soldered within 7 days after opening the moisture-proof packing.
9. Repack unused product in anti-moisture packing, fold to close any opening and store in a dry place.
10. The appearance and specifications of devices may be modified for improvement without notice.
11. ESD Precautions Static Electricity and surge damages LEDs. It is recommended that wrist bands or anti-electrostatic gloves be used when handing the LEDs . All devices, equipment and machinery should be properly grounded.
12. This product must be driven by constant power supplier.