HVCB-3433EES

3433 PLCC6 / Products Series

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

- PPA
- 50% I_V 120 °
- Cx=0.20,Cy=0.30 CIE1931
- AE4 49 4 3896 Tf1 0 5CEMC 2264s234Tm6004.49.98 374.21 TQi

/ Ordering Information

Type	Luminous Intensity I_V @ I_f=140mA	Ordering Code
HVCB-3433EES- XXXX - XXXX - XX Brightness Chromaticity Coordinate Forward Voltage	5.60 -14.00 cd	XXXXXX

■

4

HVCB-3433EES-DBFA-XXXX-XX DB EA EB FA

■

5

HVCB-3433EES-XXXX-4J5L-XX 4J 5J 4K 5K 4L 5L

■

4

HVCB-3433EES-XXXX-XXXX-47 4 5 6 7

Note

■ Brightness Grouping

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

E.g.: HVCB-3433EES-DBFA-XXXX-XX, means only one bin of DB, EA, EB or FA is in each reel.

■ Chromaticity Coordinate Groups

Only one Chromaticity Coordinate group will be packed in each reel. Please refer to page #5 for details.

E.g.: HVCB-3433EES-XXXX-4J5L-XX, means only one bin of 4J 5J 4K 5K 4L or 5L is in each reel.

■ Forward Voltage Groups

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

E.g.: HVCB-3433EES-XXXX-XXXX-47, means only one bin of 4, 5, 6 or 7 is in each reel.

/ Maximum Ratings

Parameters	Symbol	Rating	Unit

/ Characteristics (T_s = 25 ; I_f = 140 mA)

Parameters		Symbol	Rating	Unit
/ Chromaticity coordinates acc. to CIE 1931	typ.	Cx Cy	0.20 0.30	nm
50 % I_V / Viewing Angle at 50 % I_V	typ.		120	°
/ Forward Voltage	min. typ. max	V_f V_f V_f	2.90 3.30 4.10	V V V
/ Reverse Current V_R=12V)	typ. max.	I_r I_r	/ not designed for reverse operation	uA uA
PN - /Real Thermal Resistance (Junction / Ambient)	max.	$R_{th\ JA_{real}}$	40	K/W
PN - / Real Thermal Resistance (Junction / Solder Point)	max.	$R_{th\ JS_{real}}$	40	K/W

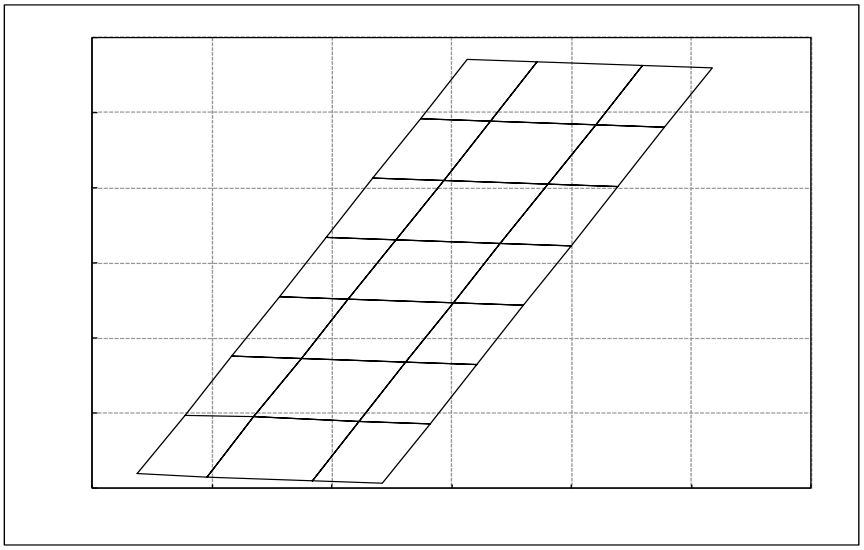
/ Brightness Grouping (T_s = 25 ; I_f = 140 mA)

Grouping	Luminous Intensity I_V min.	Luminous Intensity I_V max.	Luminous Flux $_V$ typ.
DB	5.60 cd	7.10 cd	19.90 lm
EA	7.10 cd	9.00 cd	25.30 lm
EB	9.00 cd	11.20 cd	37.70 lm
FA	11.20 cd	14.00 cd	39.60 lm

/ Forward Voltage Grouping (T_s = 25 ; I_f = 140 mA)

Grouping	Forward Voltage V_f min.	Forward Voltage V_f max.
4	2.90 V	3.20 V
5	3.20 V	3.50 V
6	3.50 V	3.80 V
7	3.80 V	4.10 V

/Colour Chromaticity Groups (T_s = 25 ; I_f = 140 mA)



/ Information on Label

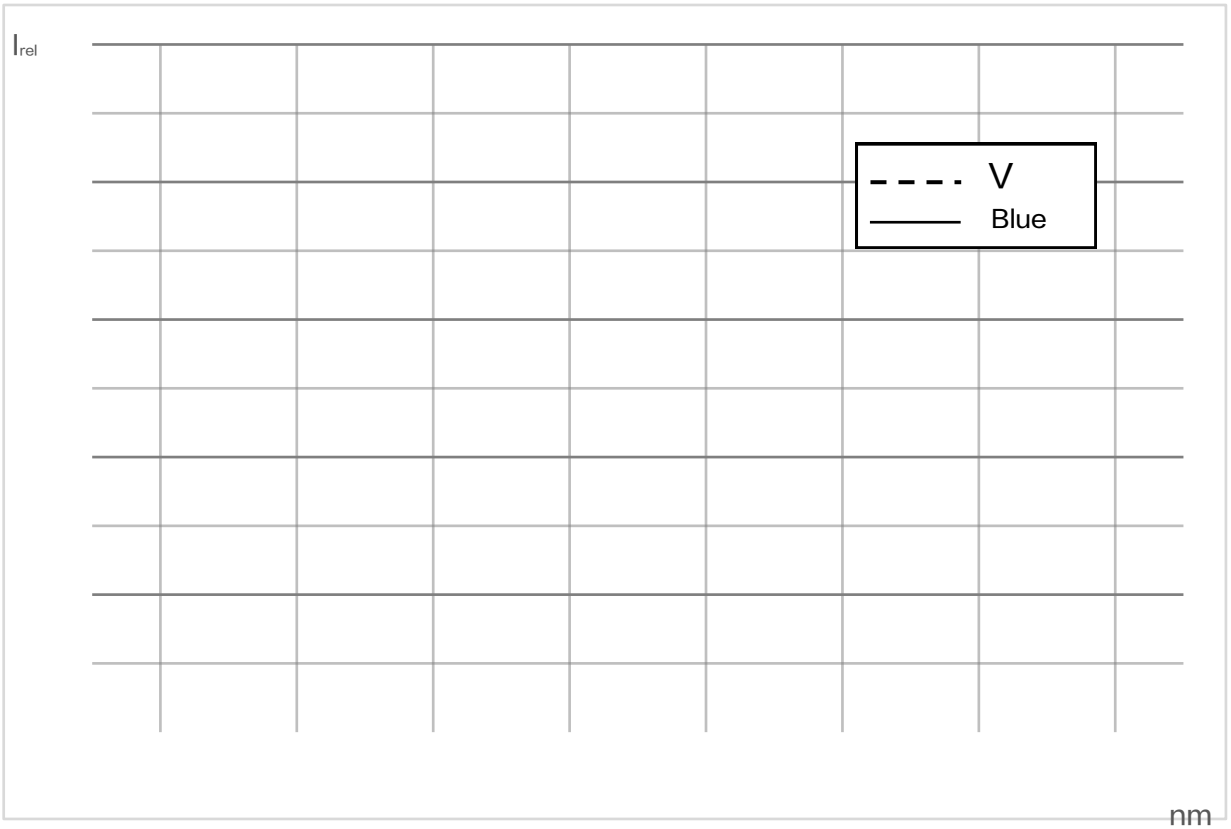
/ E.g. DB-4J-4

/ Brightness	/ Color	/ Forward Voltage
DB	4J	4

- V( ) =

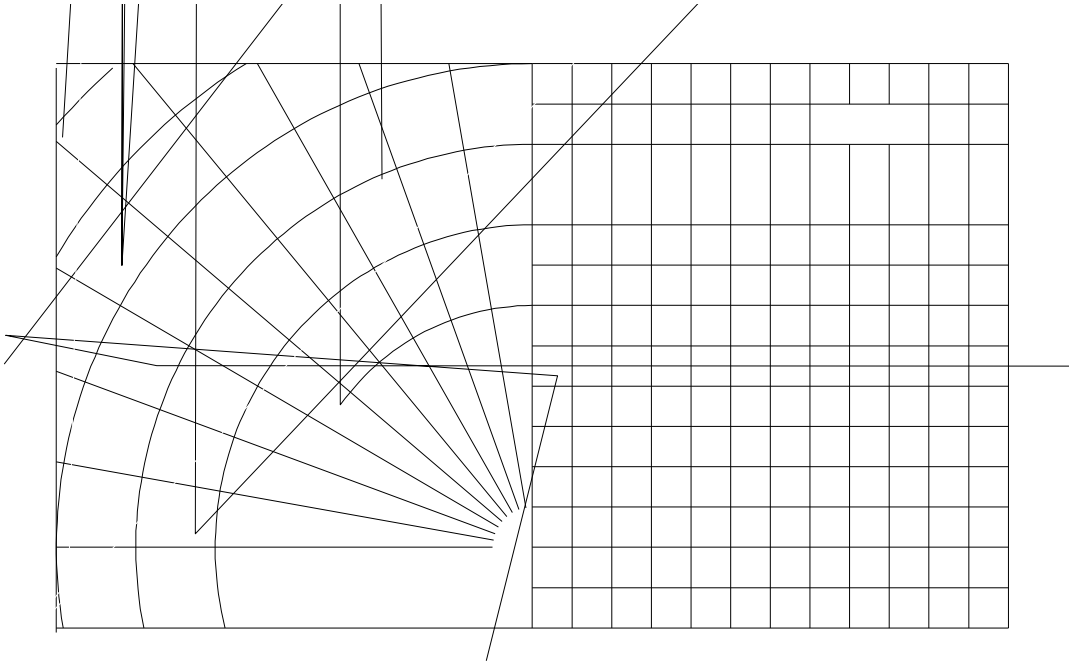
Relative Spectral Emission - V( ) = Standard Eye Response Curve

I_{rel} = f ( ); T_s = 25 ; I_f = 140 mA



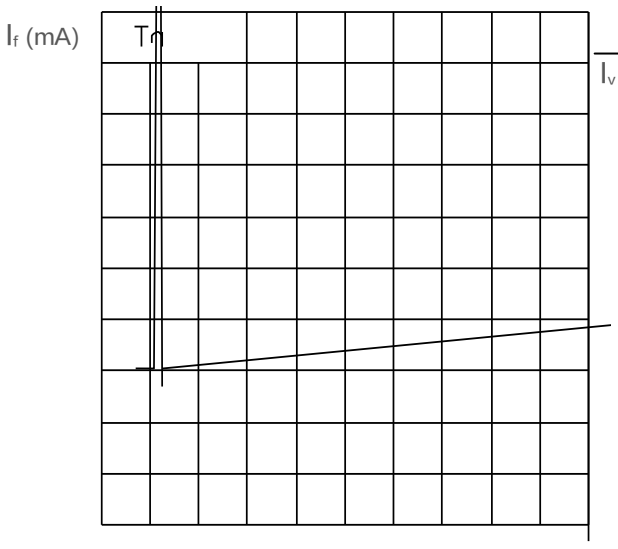
/ Radiation Characteristics

$I_{rel} = f$ ($T_s = 25$



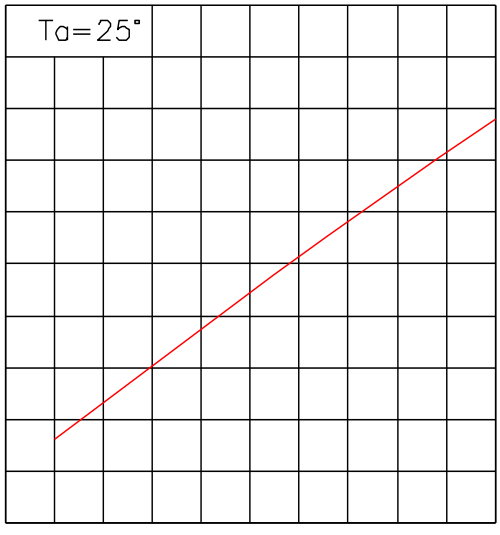
/ Forward Current

$I_f = f(V_f)$; $T_a = 25$



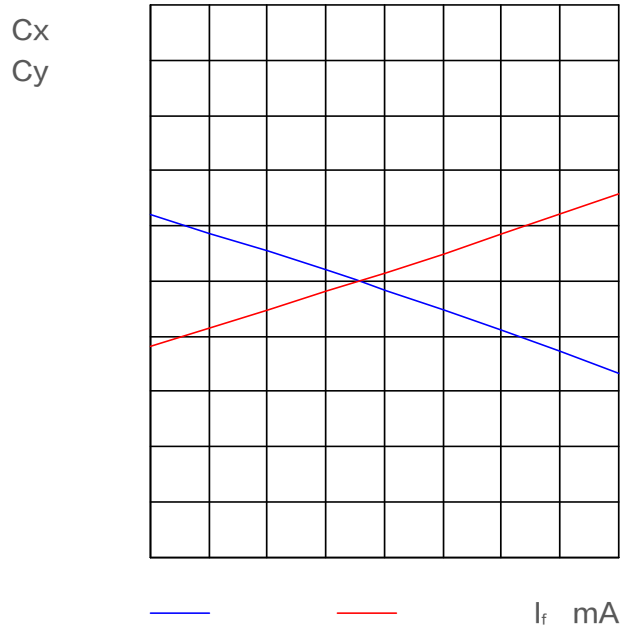
/ Relative Luminous Intensity

$I_v / I_v(140\ mA) = f(I_f)$; $T_a = 25$



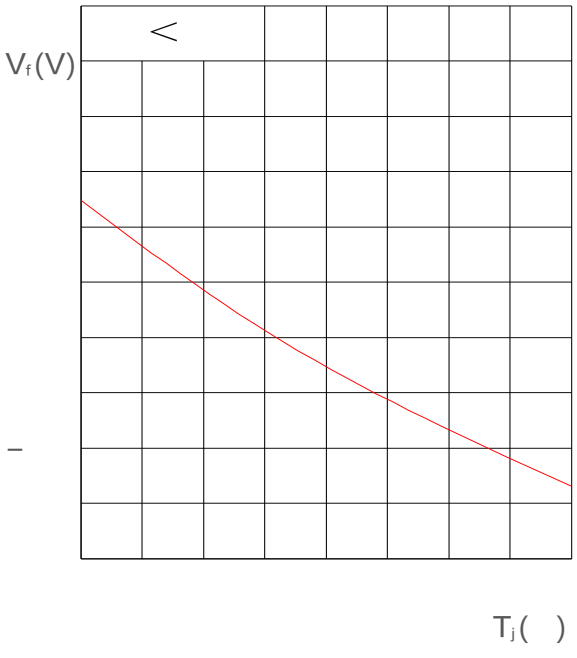
/Chromaticity coordinate shift

Cx, Cy=f(I_f);T_s=25



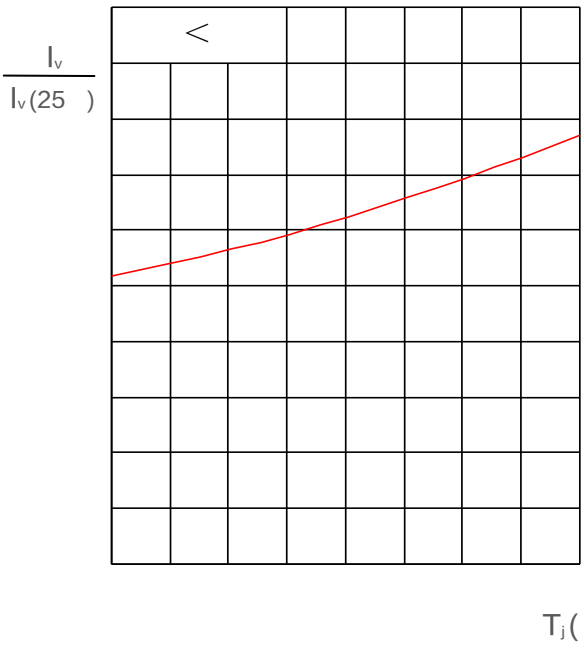
/ Relative Forward Voltage

$V_f = V_f - V_f$ (25) = f (T_j); I_f = 140 mA



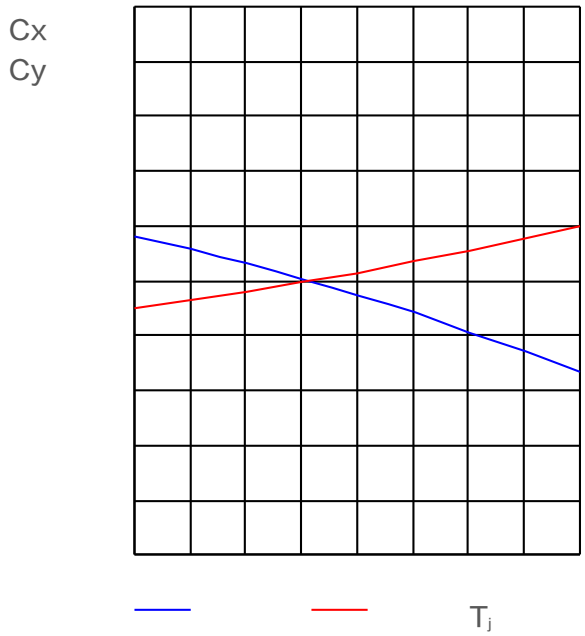
/ Relative Luminous Intensity

I_v / I_v(25) = f (T_j); I_f = 140 mA



/Chromaticity coordinate shift

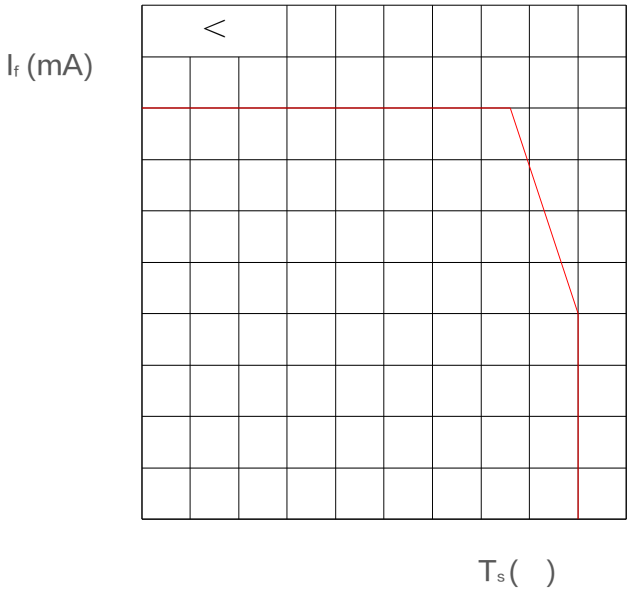
Cx, Cy=f(I_f);I_f=140mA



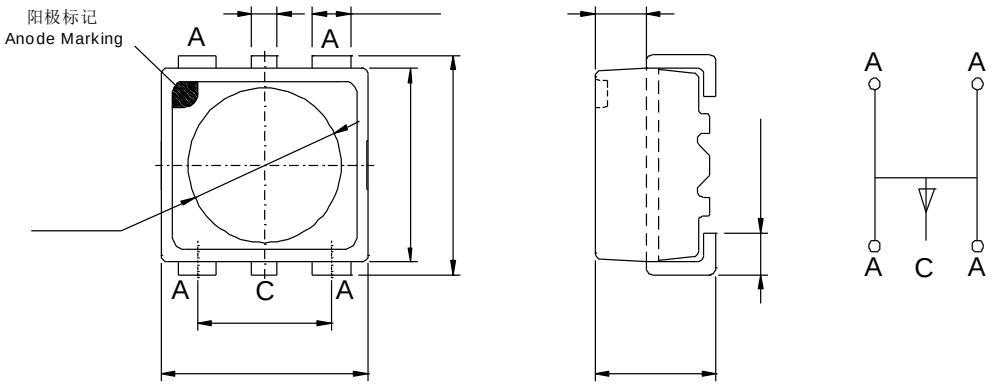
/ Solder Point Temperature

vs. Forward Current

$I_f = f(T_s)$



/ Package Outline



- 40mg
-
- Class 3B

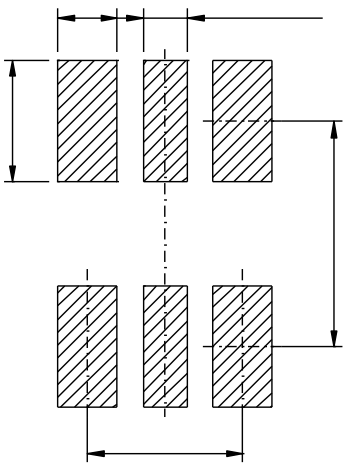
: 1) H_2S 40 / 90%R.H, 15ppm, 336 (IEC 60068-2-43)
2) : 25 / 75 %R.H, 500
(IEC 60068-2-60 4: 10ppb H_2S, 200ppb SO_2, 200ppb NO_2, 10ppb Cl_2)

NOTE

- Approximate Weight: 30mg
- Mark: Anode
- Corrosion test: Class 3B

Test conditions: 1) H2S test 40 / 90%R.H, 15ppm, 336hours
(Standards IEC 60068-2-43)
2) Flowing mixed gas test: 25 / 75 %R.H, 500hours
(Standards IEC 60068-2-60 test method 4: 10ppb H_2S, 200ppb SO_2, 200ppb NO_2, 10ppb Cl_2)

/ Recommended Solder Pad



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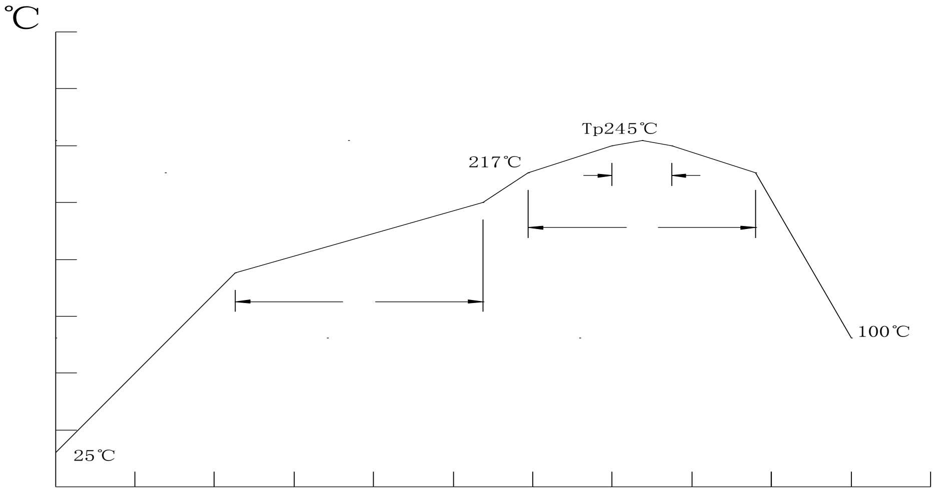
NOTE

- Package not suitable for ultrasonic cleaning

/ Reflow Soldering Profile



Profile Feature	Symbol	Pb-Free (SnAgCu) Assembly			Unit
		min.	rec.	max.	
Ramp-up Rate to Preheat 25 -150	-	-	2	3	/s
/ Time T_{smin} to T_{smax}	T_s	60	100	120	s
Ramp-up Rate to Peak T_{smax} to T_p	-	-	2	3	/s
Liquidus Temperature	T_l		217		
Time above Liquidus Temperature					

mp 8.0167.<0ET EMC /P <</MCID 84>> BDC BT /1F3 9.96 Tf 1 0 0 1 82.344 400.85 Tm [(16a)-4(t)-MC /P <

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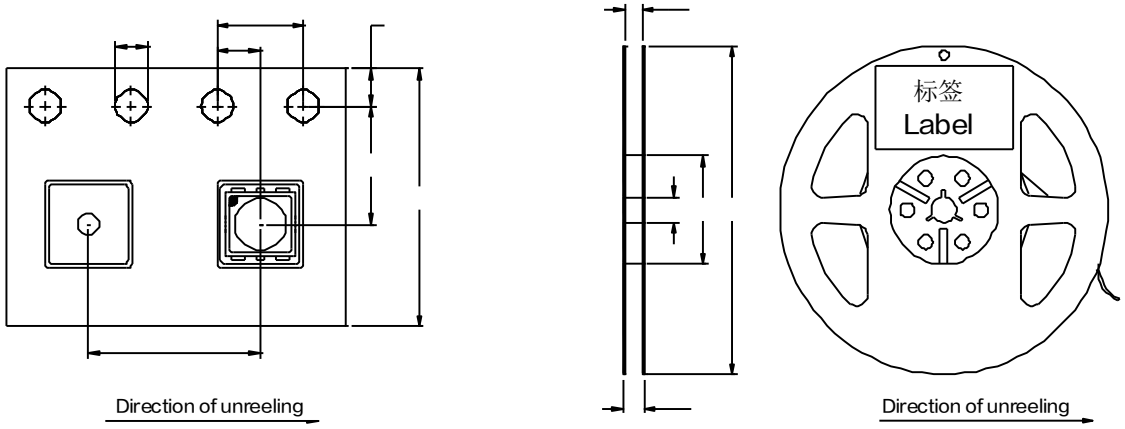
/ Tape and Reel



: 400 mm : 160 mm IEC 60286-3, EIA 481-D

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

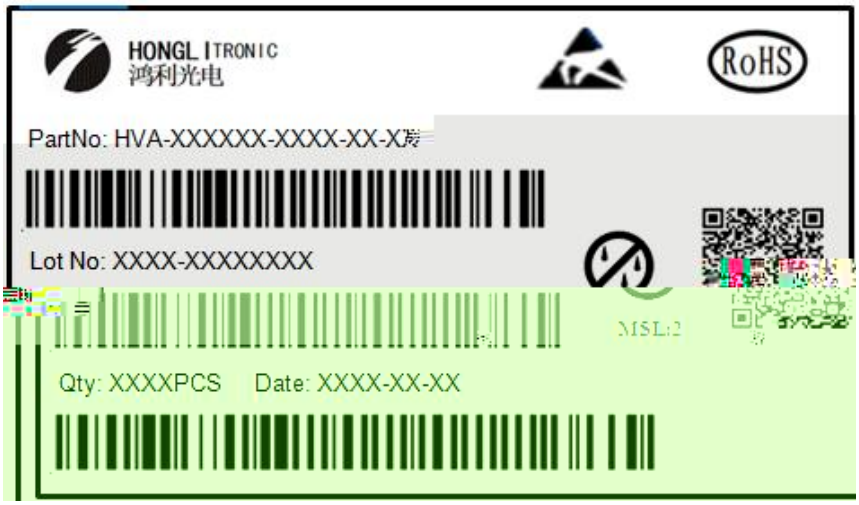
/ Tape Dimensions mm

W	P0	P1	P2	D0	E	F
8 ± 0.1	4 ± 0.1	4 ± 0.1	2 ± 0.05	1.5 ± 0.1	1.75 ± 0.1	3.5 ± 0.05

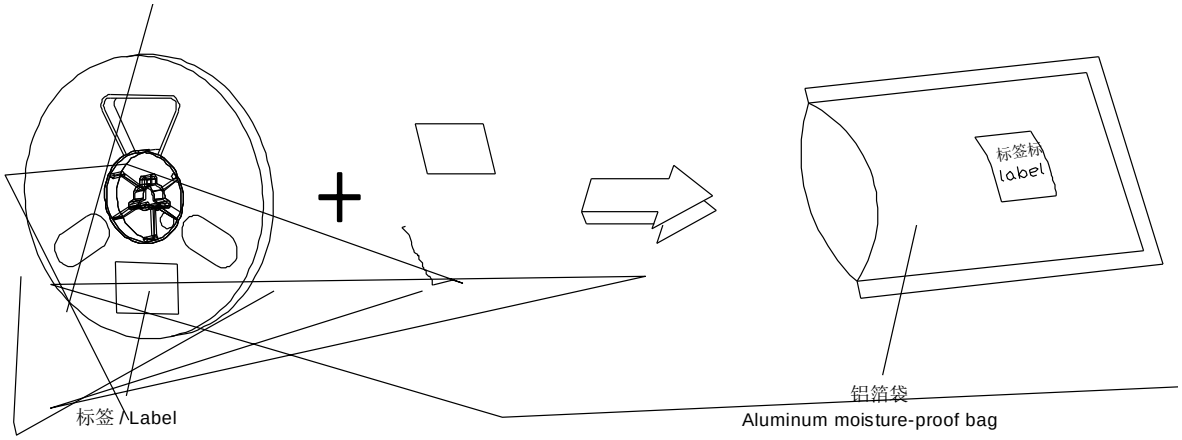
/ Reel Dimensions mm

A	W1	W2	N	R
177.8	9.3 ± 0.3	11.2 ± 0.3	58.5 ± 0.2	13.5 ± 0.2

/ Barcode-Product-Label (BPL)



/ Dry Packing Process and Materials

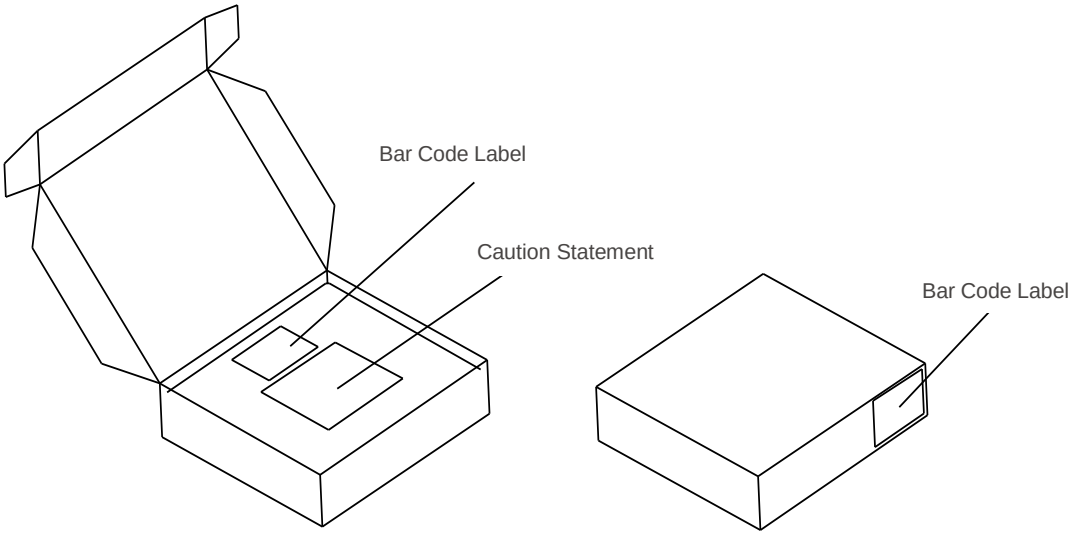


JEDEC

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.

/ Transportation Packing and Materials



/ Dimensions of Transportation Box (mm)

/ Width	/ Length	/ Height
256 ± 5	223 ± 5	62 ± 5
256 ± 5	223 ± 5	124 ± 5

:

: , ±0.1 mm

8ms ±0.05V ±0.1V
GUM K=3

25ms ±0.005 ±0.01
GUM K=3

25ms ±8% ±11%
GUM K=3

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).
Chromaticity coordinate groups: Chromaticity coordinate groups is measured at a current pulse of typically 25 ms, with an internal reproducibility of ± 0.005 and an expanded uncertainty of ±0.01 (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.