Ordering Information

Type	Luminous Intensity I_V @ I_f=140mA	Ordering Code
HVA-3433EES- XXXX - XX - XXXX Brightness / Color / Forward Voltage	4.50 -14.00 cd	

ئى ڭ / Maximum Ratings

ڭ Parameters	Symbol	ڭ Rating	Unit
/ Junction Temperature	T_j	125	
هي / Forward Current (T_s=25	I_f	200	mA
هي Peak Forward Current (t≤10us D=0.005 T_s=25	I_{fp}	1000	mA
/ Reverse Voltage (T_s=25	V_r	12	V
2 Electrostatic Discharge (HBM)	V_{ESD}	2000	V
ج / Operating Temperature	T_{opr}	−40 ~ +110	
/ Storage Temperature	T_{stg}	−40 ~ +110	

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

ڭ Parameters		Symbol	ڭ Rating	Unit
صلى / Wavelength at Peak Emission	typ.	$_{peak}$	625	nm
صلى / Dominant Wavelength	min. typ. max.	$_{dom}$ $_{dom}$ $_{dom}$	612 617 624	nm nm nm
صلى / Spectral Bandwidth at 50% I_{rel} max	typ.		18	nm
50 % I_V / Viewing Angle at 50 % I_V	typ.		120	°
هي / Forward Voltage	min. typ. max	V_f V_f V_f	1.90 2.15 2.50	V V V
/ Reverse Current (V_R=12V)	typ. max.	I_r I_r	0.2 10	uA uA
PN − / Real Thermal Resistance (Junction / Ambient)	max.	R_{th} JA_{real}	60	K/W
PN − / Real Thermal Resistance (Junction / Solder Point)	max.	R_{th} JS_{real}	41	K/W

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

خی بم Grouping	Luminous Intensity I_V min.	Luminous Intensity I_V max.	Luminous Flux $_v$ typ.

DA/F3 9.96 Tf1 0 0 1 108.98 66nous InTc(/F3 9.96 Tf1 0 0 1 108.98 665.1 Tm0 0.482 0.773 rg/MC

ﻙ ﻥ / Information on Label

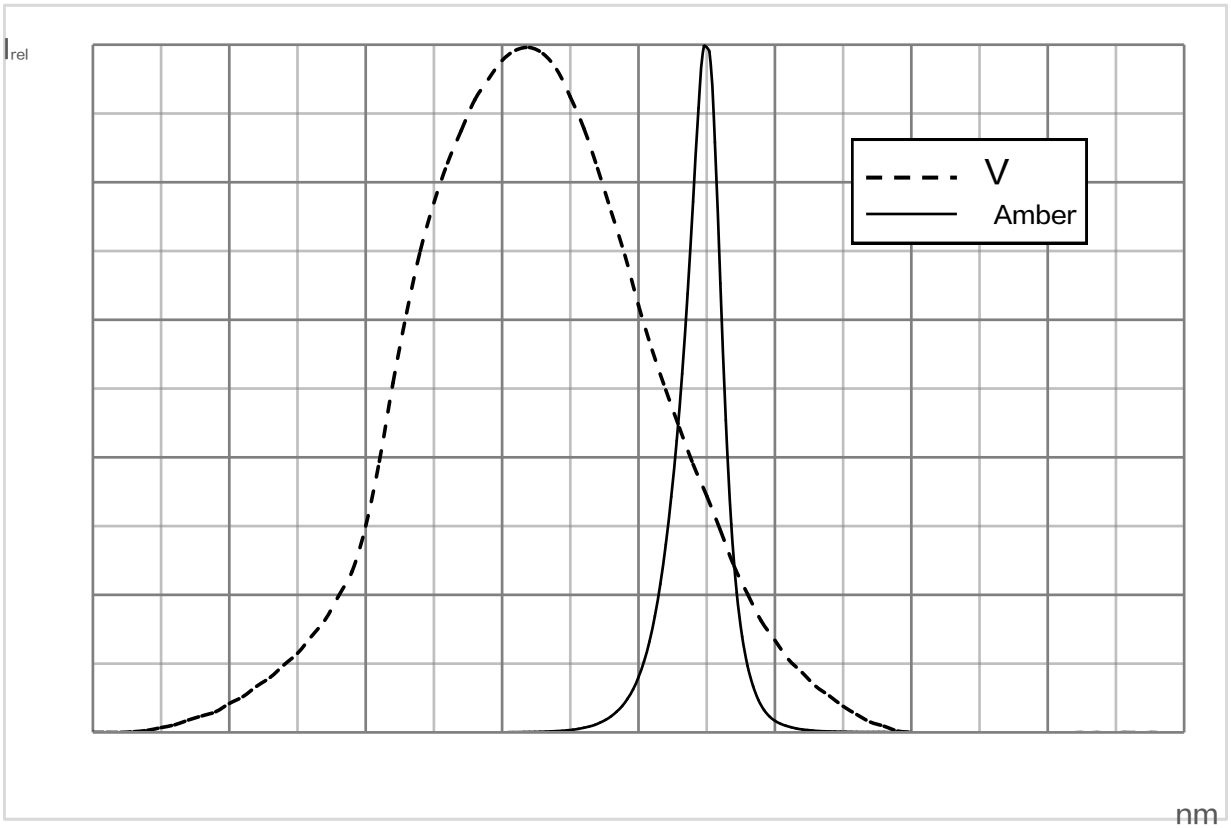
/ E.g. DA-2-3A

ﺑﻢ / Brightness	/ Color	ﻋﻲ / Forward Voltage
DA	2	3A

- V( ) = ﻙ ﺯ

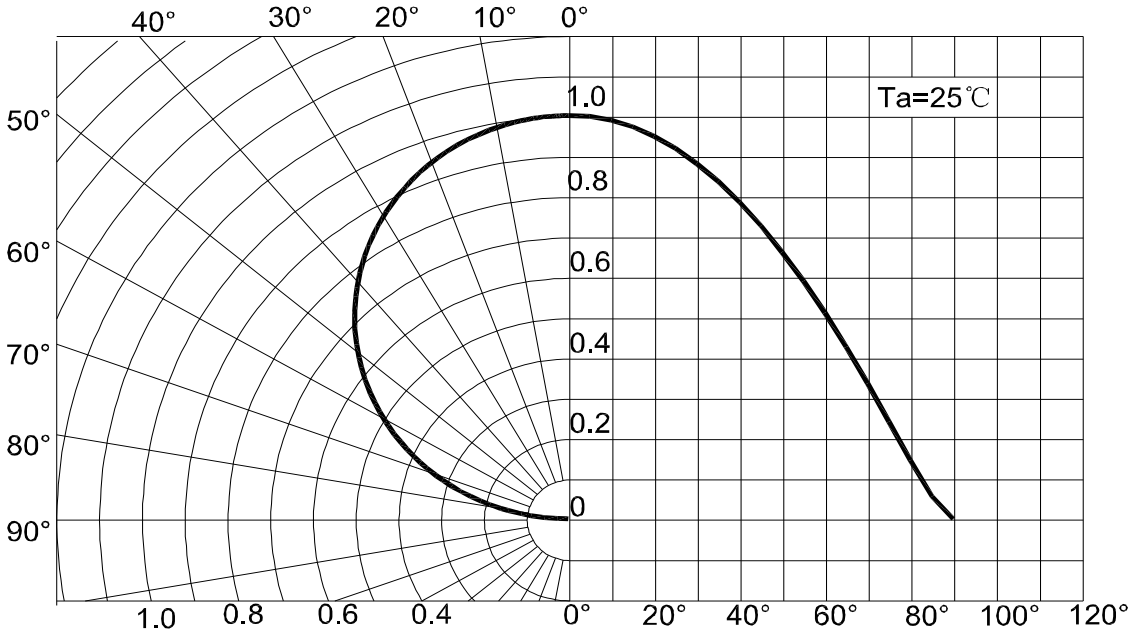
Relative Spectral Emission - V( ) = Standard Eye Response Curve

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



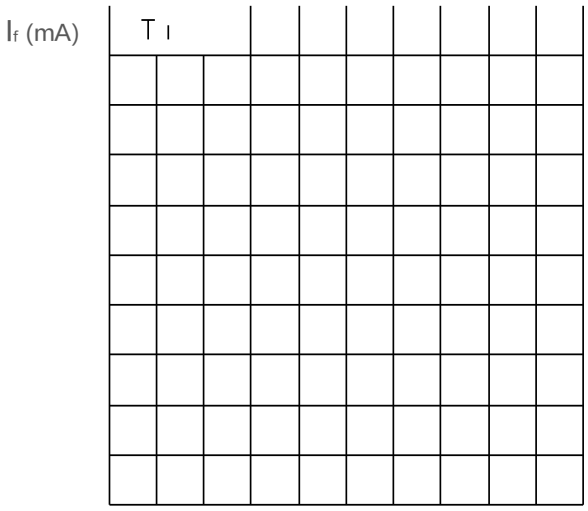
١ / Radiation Characteristics

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



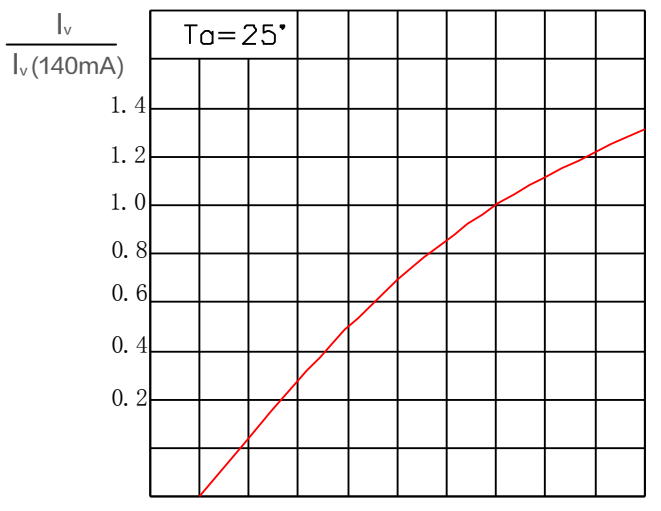
معي / Forward Current

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



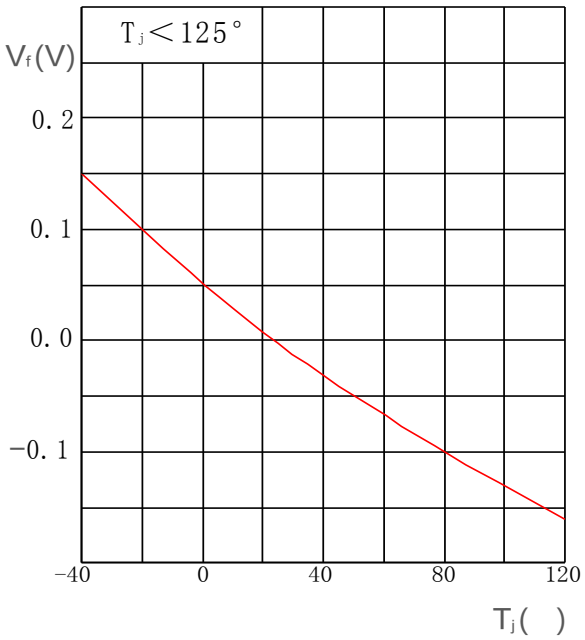
١ ٤ / Relative Luminous Intensity

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



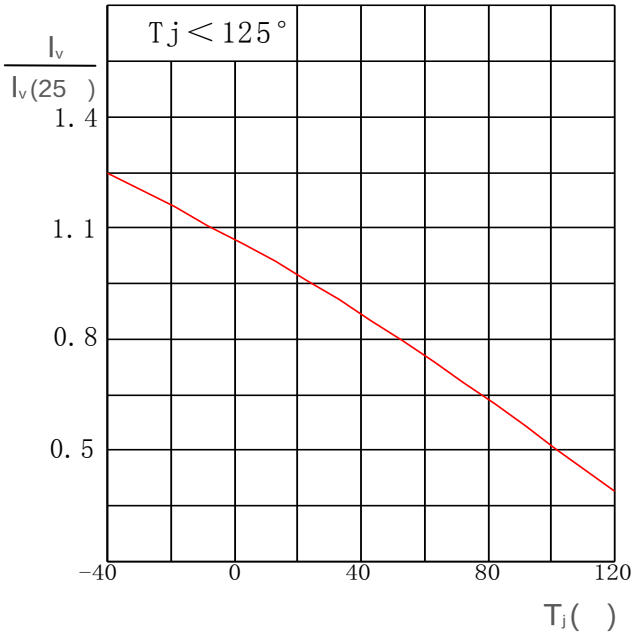
/ Relative Forward Voltage

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



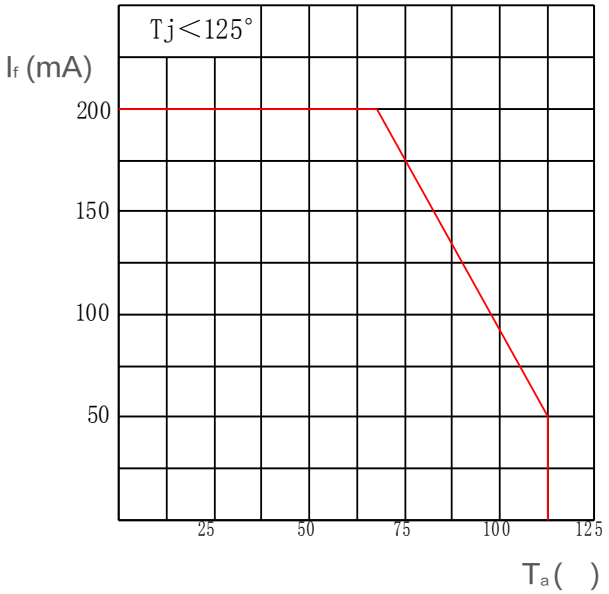
/ Relative Luminous Intensity

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



Ambient Temperature vs. Forward Current

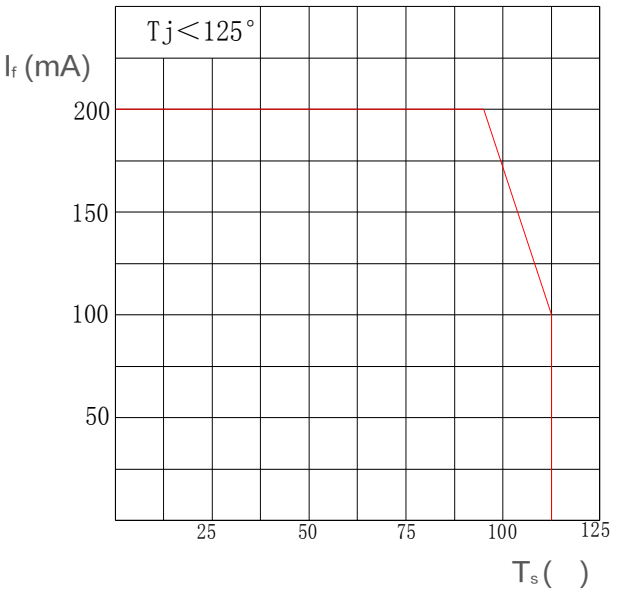
$I_f = f(T_a)$

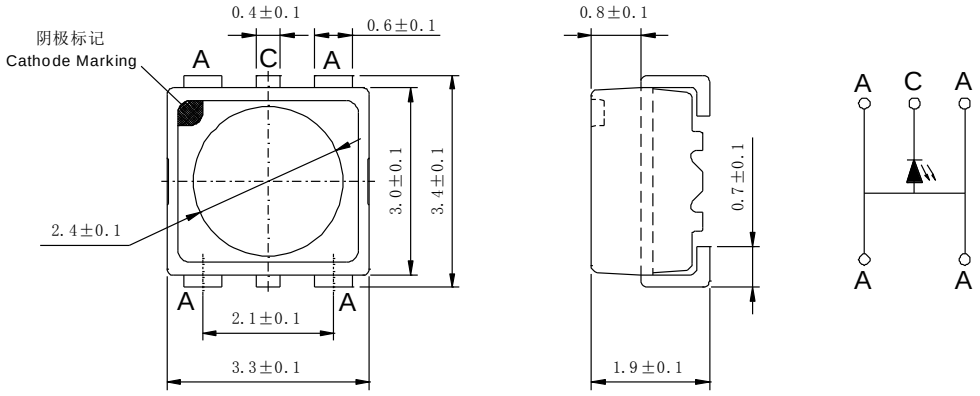


/ Solder Point Temperature

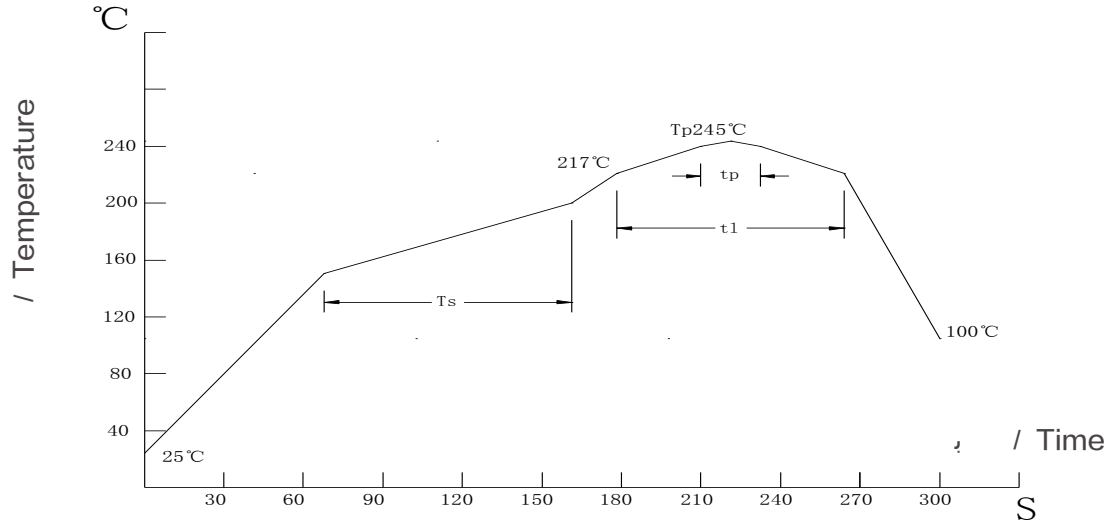
vs. Forward Current

$I_f = f(T_s)$



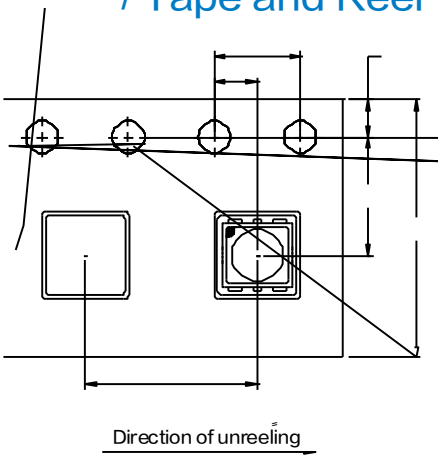

0.4±0.1
0.6±0.1
阴极标记
Cathode Marking
A
C
A
2.4±0.1
3.0±0.1
3.4±0.1
A
A
2.1±0.1
3.3±0.1
0.8±0.1
0.7±0.1
1.9±0.1
A
C
A
A
A

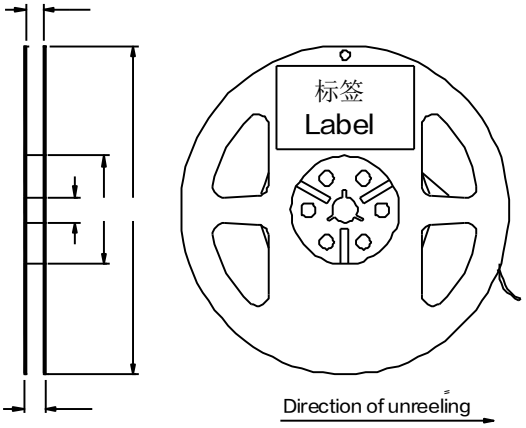
فمم / Reflow Soldering Profile



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	t_l	-	80	100	s
/ Peak Temperature	T_p	-	245	260	
Time within 5 of the Specified Peak Temperature	t_p	10	20	30	s
/ Ramp-down Rate T_p to 100	-	-	3	6	/s
/ Time 25 to T_p	-	-	-	480	s

/ 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

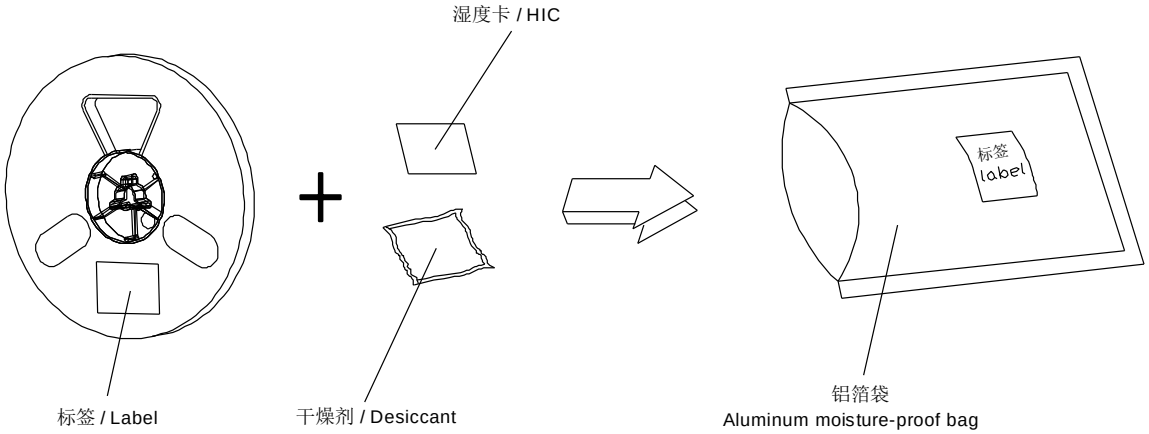
W	P0	P1	P2	D0	E	F
8 ± 0.1	4 ± 0.1	4 ± 0.1	2 ± 0.05	1.5 ± 0.1	1.75 ± 0.1	3.5 ± 0.05

/ 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

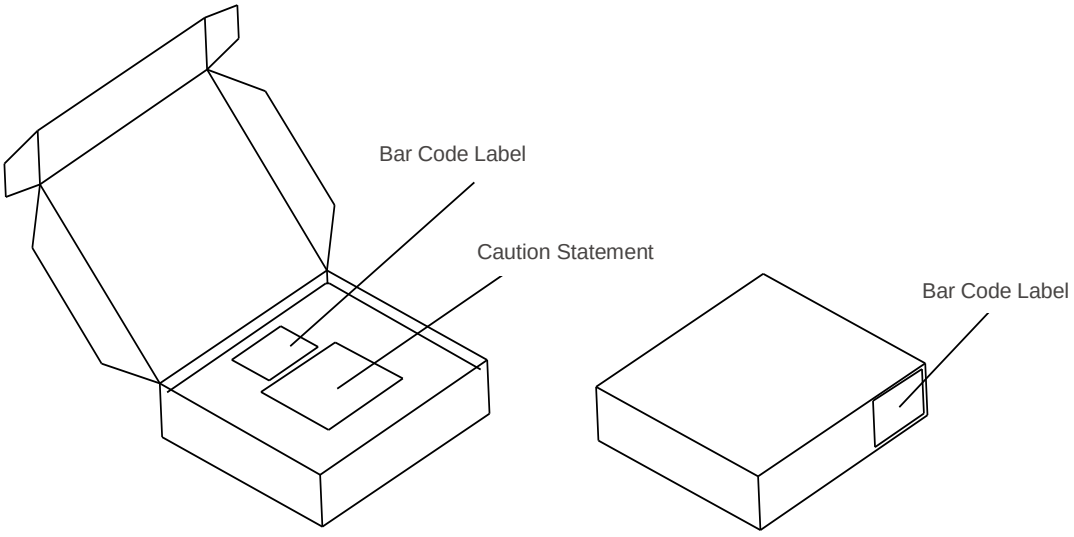


JEDEC

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.

ء ي / Transportation Packing and Materials



/ Dimensions of Transportation Box (mm)

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

: شحـ
: ن ث, ±0.1 mm
عي عي خ 8ms ١ ±0.05V ±0.1V ١
ً GUM K=3 ثا
طلى طلى خ 25ms ١ ±0.5nm ±1nm ١
ً GUM K=3 ثا
خ 25ms ١ ±8% ±11% ١
ً GUM K=3 ثا

ض ث لآ لآ ـه .. لحيظ ٥ؤ ١ سي ب ؤ

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.