

# HVR-3433EES

## 3433 PLCC6 / Products Series

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

- PPA
- 50% I<sub>v</sub> 120°
- 623nm
- AEC-Q102 & IEC 60810

## Features

- Package

## /Ordering Information

Type	Luminous Intensity I <sub>v</sub> @ I <sub>f</sub> =140mA	Ordering Code
HVR-3433EES- XXXX - XX - XXXX	3.55 -9.00 cd	XXXXXX
Brightness      Color      Forward Voltage		

■	HVR-3433EES- <u>CBEA</u> -XX-XXXX	4	CB DA DB EA
■	4		
■	HVR-3433EES-XXXX-XX- <u>3A4B</u>	4	3A 3B 4A 4B

### Note

#### ■ Brightness Grouping

Only one brightness group will be packed in each reel. Please refer to page #4 for details.  
E.g.: HVR-3433EES-CBEA-XX-XXXX, means only one bin of CB, DA, DB or FA is in each reel.

#### ■ Color Groups

Please refer to page #4 for details.

#### ■ Forward Voltage Groups

Only one forward voltage group will be packed in each





## / Information on Label

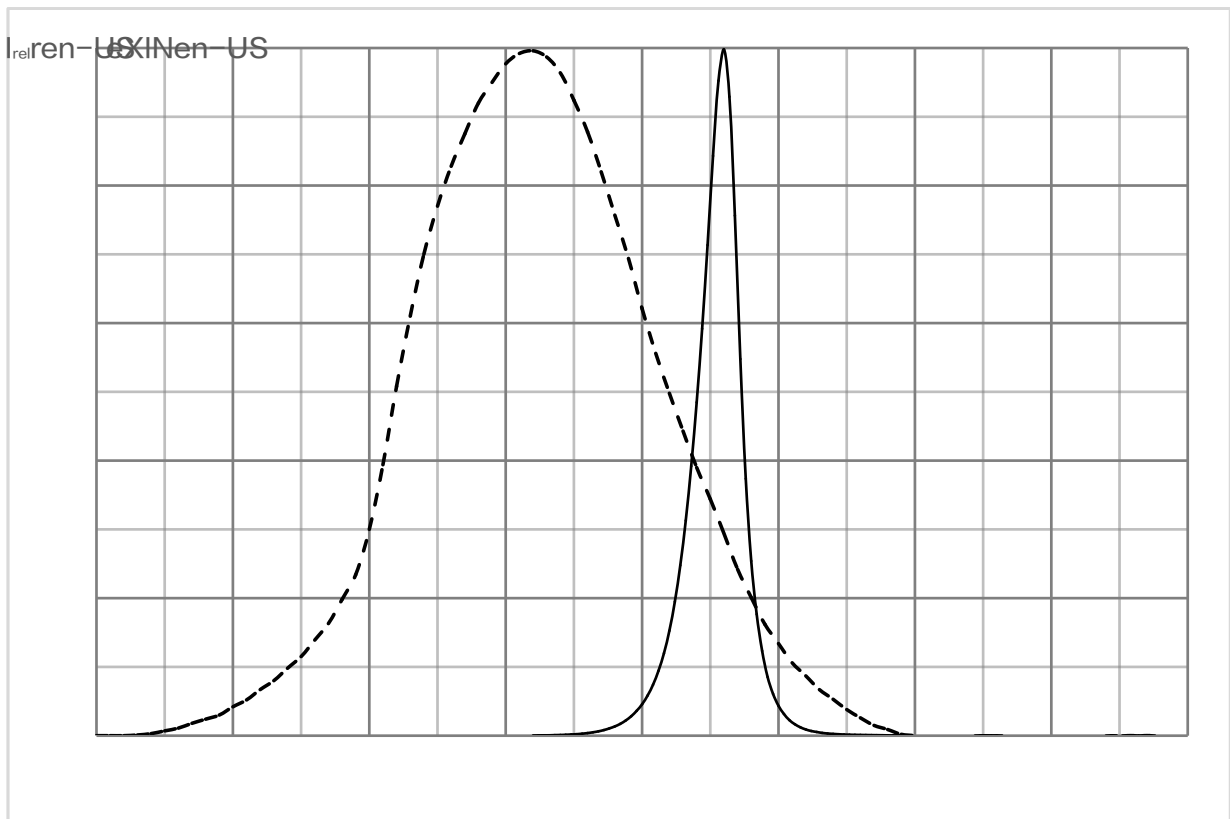
/E.g. DA-1-3A

/Brightness	/Color	/Forward Voltage
DA	1	3A

- V( ) =

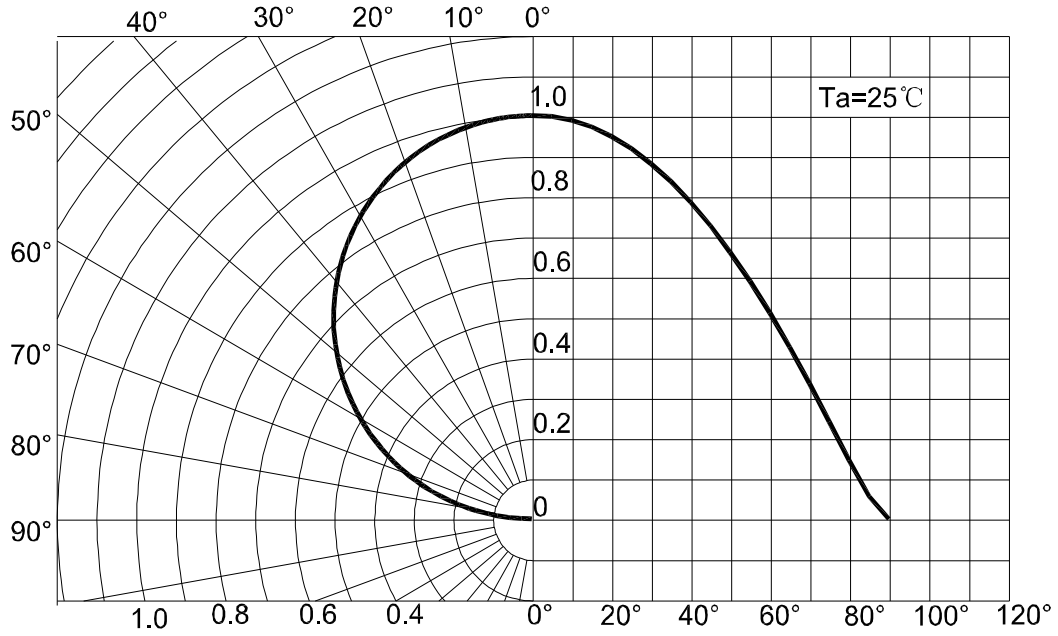
Relative Spectral Emission - V( ) = Standard Eye Response Curve

$I_{rel} = f(\lambda)$ ;  $T_s = 25^\circ\text{C}$ ;  $I_f = 140\text{ mA}$



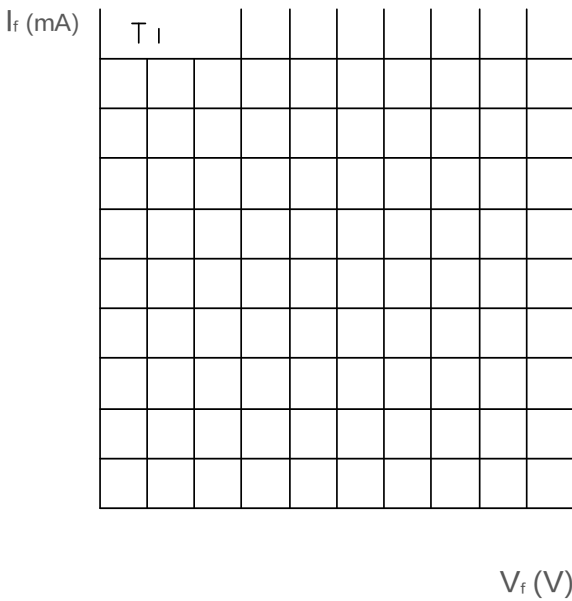
/Radiation Characteristics

$I_{rel} = f(\theta); T_s = 25$



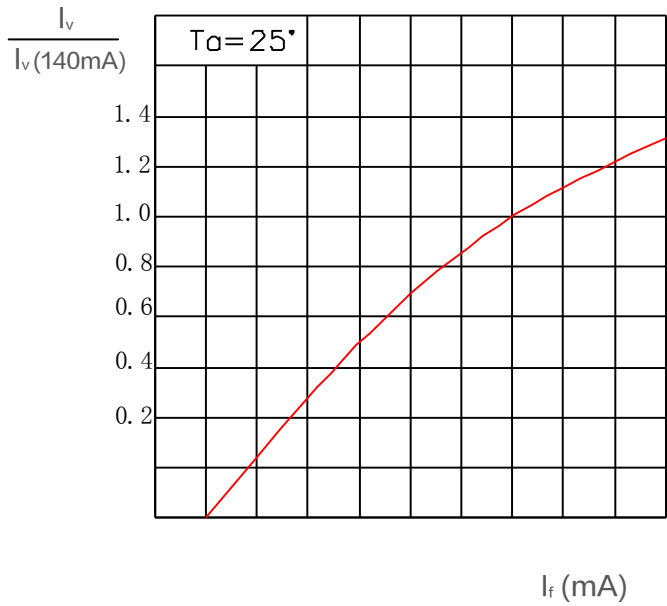
/Forward Current

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

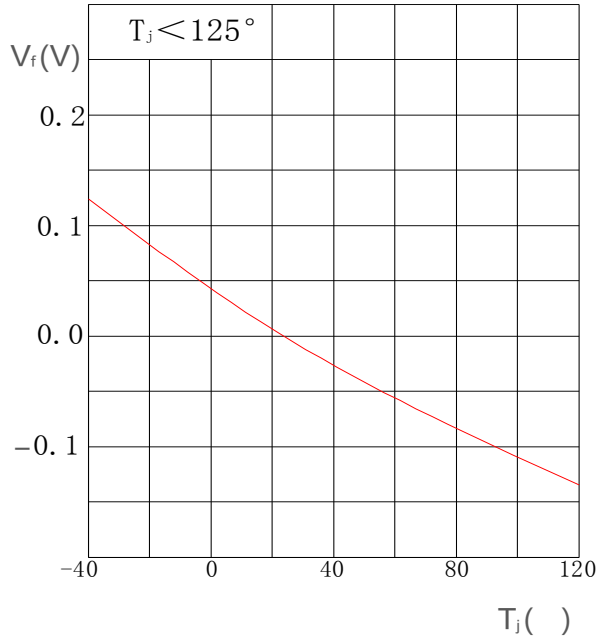


/Relative Luminous Intensity

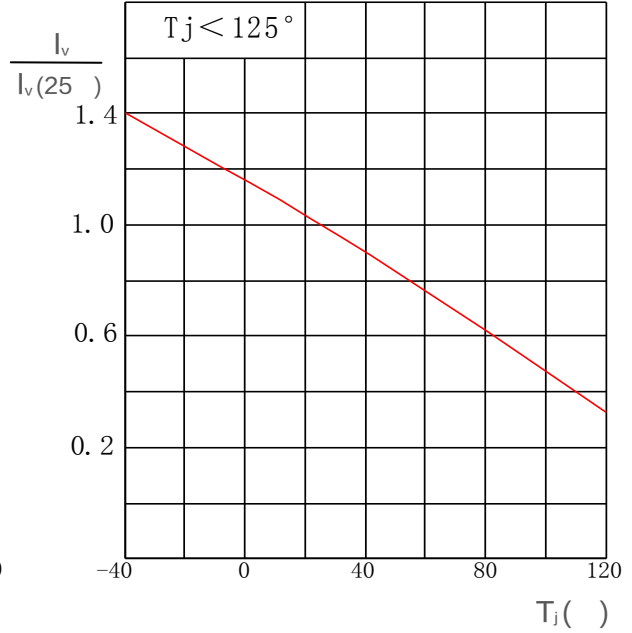
$I_v/I_v(140\text{ mA}) = f(I_f); T_a = 25$



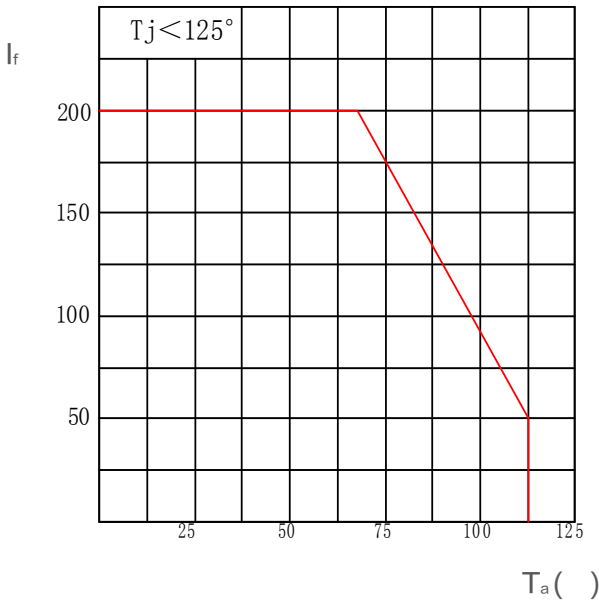
/Relative Forward Voltage  
 $V_f = V_f - V_f(25^\circ) = f(T_j); I_f = 140 \text{ mA}$



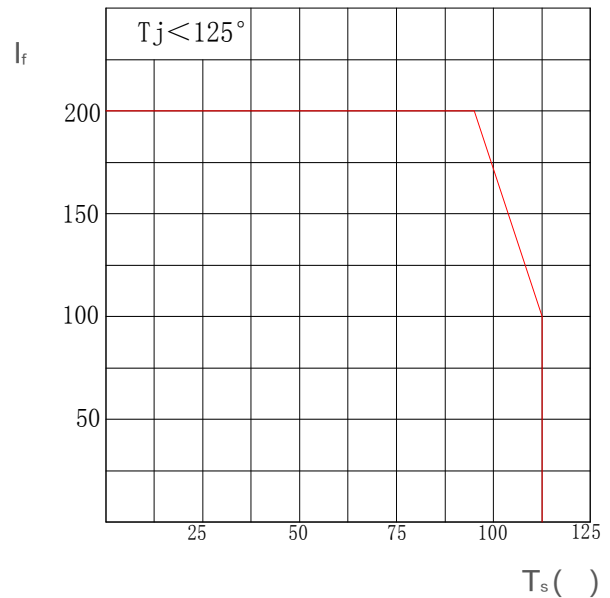
/Relative Luminous Intensity  
 $I_v/I_v(25^\circ) = f(T_j); I_f = 140 \text{ mA}$



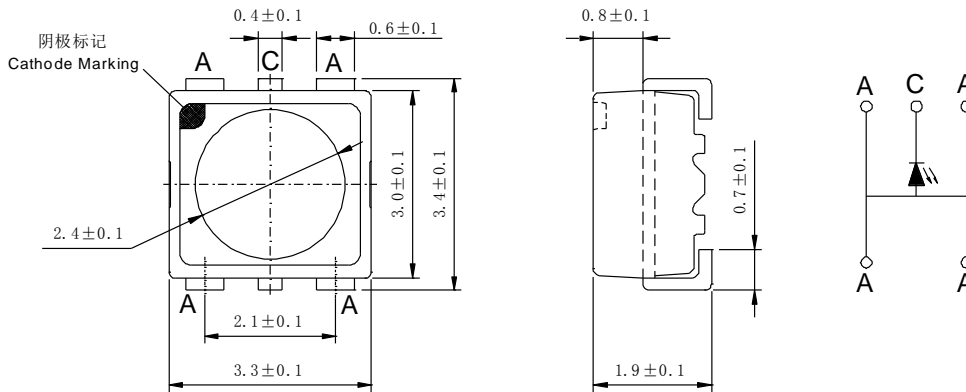
Ambient Temperature vs. Forward Current  
 $I_f = f(T_a)$



/Solder Point Temperature vs. Forward Current  
 $I_f = f(T_s)$



## /Package Outline

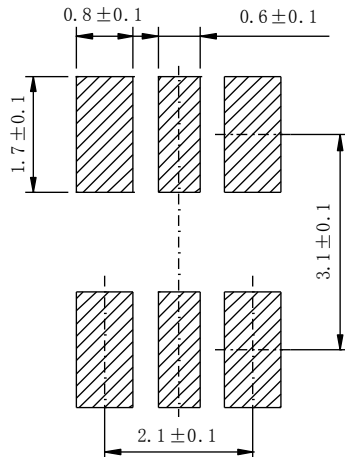


- 40mg
- Class 3B
- : 1) H<sub>2</sub>S 40 /90% R.H, 15ppm, 336 ( IEC 60068-2-43)
- 2) : 25 /75 % R.H, 500
- ( IEC 60068-2-60 4: 10ppb H<sub>2</sub>S, 200ppb SO<sub>2</sub>, 200ppb NO<sub>2</sub>, 10ppb Cl<sub>2</sub>)

### NOTE

- Approximate Weight: 40mg
  - Mark: Cathode
  - Corrosion test: Class 3B
- Test conditions: 1) H<sub>2</sub>S 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<sub>2</sub>S, 200ppb SO<sub>2</sub>, 200ppb NO<sub>2</sub>, 10ppb Cl<sub>2</sub>)

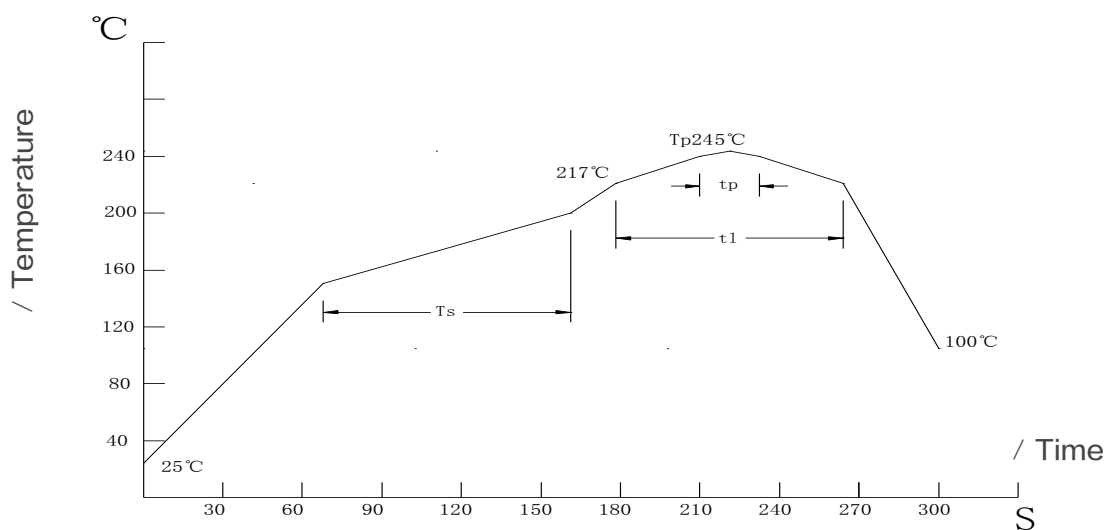
## /Recommended Solder Pad



- NOTE
- Package not suitable for ultrasonic cleaning



## / Reflow Soldering Profile

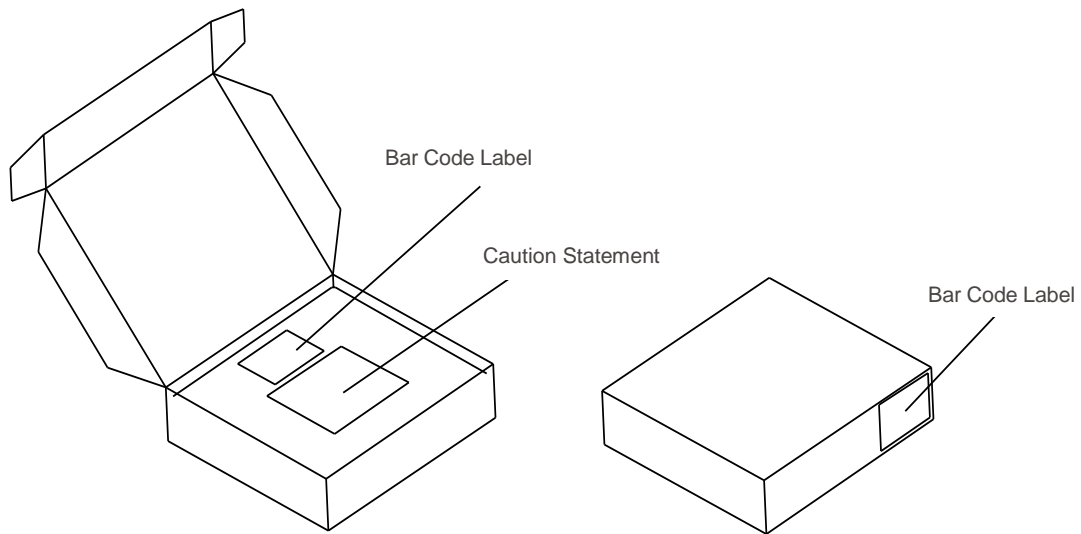


Profile Feature	Symbol	Pb-Free (SnAgCu) Assembly			Unit
		min.	rec.	max.	
Ramp-up Rate to Preheat 25 -150	-	-	2	3	/s
/Time $T_{smin}$ to $T_{smax}$	$T_s$	60	100	120	s
Ramp-up Rate to Peak $T_{smax}$ to $T_p$	-	-	2	3	/s
Liquidus Temperature	$T_l$		217		
Time above Liquidus Temperature	$t_l$	-	80	100	s
/Peak Temperature $\pm 5$	$T_p$	-	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



/Barcode-Product-Label (BPL)

## /Transportation Packing and Materials



## /Dimensions of Transportation Box (mm)

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

:			
:	,	$\pm 0.1 \text{ mm}$	
	8ms	$\pm 0.05\text{V}$	$\pm 0.1\text{V}$
	GUM K=3		
	25ms	$\pm 0.5\text{nm}$	$\pm 1\text{nm}$
	GUM K=3		
	25ms	$\pm 8\%$	$\pm 11\%$
	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  $\pm 0.05 \text{ V}$  and an expanded uncertainty of  $\pm 0.1 \text{ V}$  (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  $\pm 0.5 \text{ nm}$  and an expanded uncertainty of  $\pm 1 \text{ nm}$  (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  $\pm 8\%$  and an expanded uncertainty of  $\pm 11\%$  (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.