

HVA-3528DER



3528 PLCC4

Products Series

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

- PPA
- 50% I_v 120
- 617nm
- AEC-Q102 & IEC 60810

Features

- Package Colorless clear resin in white PPA cup
- Viewing angle at 50% I_v: 120
- Color: Amber (617nm)
- Qualifications: Passed reliability test per AEC-Q102 & IEC 60810 requirement

Applications

- Signaling
- Interior and exterior lighting for automotive

Ordering Information

Type	Luminous Intensity I _v @ I _f =50mA	Ordering Code
HVA-3528DER - XXXX - XX -		

Maximum Ratings

Characteristics (T_s I_f = 50 mA)

Parameters		Symbol	Rating	Unit
Wavelength at Peak Emission	typ.	peak	624	nm
	min.	dom	612	nm
Dominant Wavelength	typ.	dom	617	nm
	max.	dom	624	nm

Spectral Bandwidth at 5.04.1 Tm04E70E0908150001-11001040001 T Jax.

Brightness Grouping (T_s $I_f = 50 \text{ mA}$)

Grouping	Luminous Intensity I_v min.	Luminous Intensity I_v max.	Luminous Flux Φ_v typ.
BA	1.80 cd	2.24 cd	6.10 lm
BB	2.24 cd	2.80 cd	7.60 lm
CA	2.80 cd	3.55 cd	9.50 lm
CB	3.55 cd	4.50 cd	12.10 lm

Forward Voltage Grouping (T_s $I_f = 50 \text{ mA}$)

Grouping	Forward Voltage V_f min.	Forward Voltage V_f max.
3A	2.06 V	2.05 V
3B		

Dominant Wavelength Grouping (T_s $I_f = 50 \text{ mA}$)

Grouping	Dominant Wavelength Group dom min.	Dominant Wavelength dom max.

Information on Label

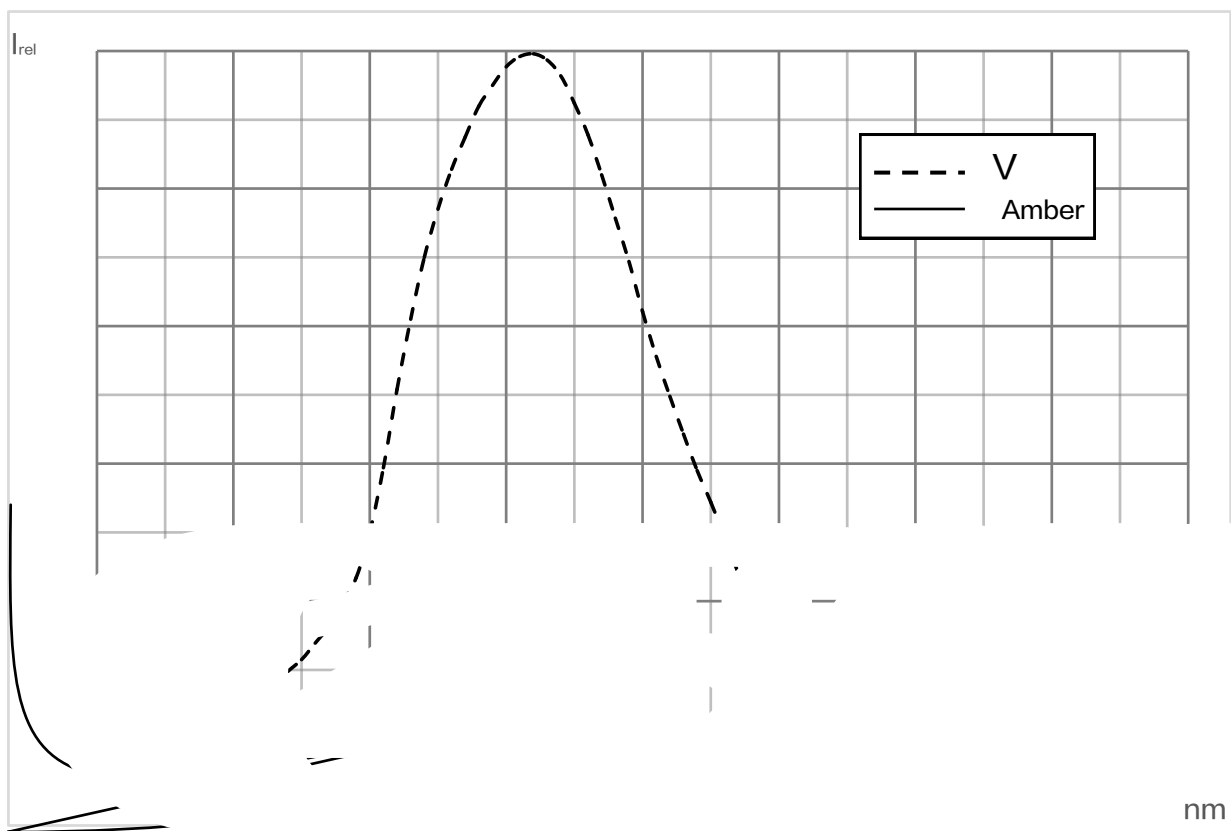
E.g. BA-2-3A

Brightness	Color	Forward Voltage
BA	2	3A

$$- V(\lambda) =$$

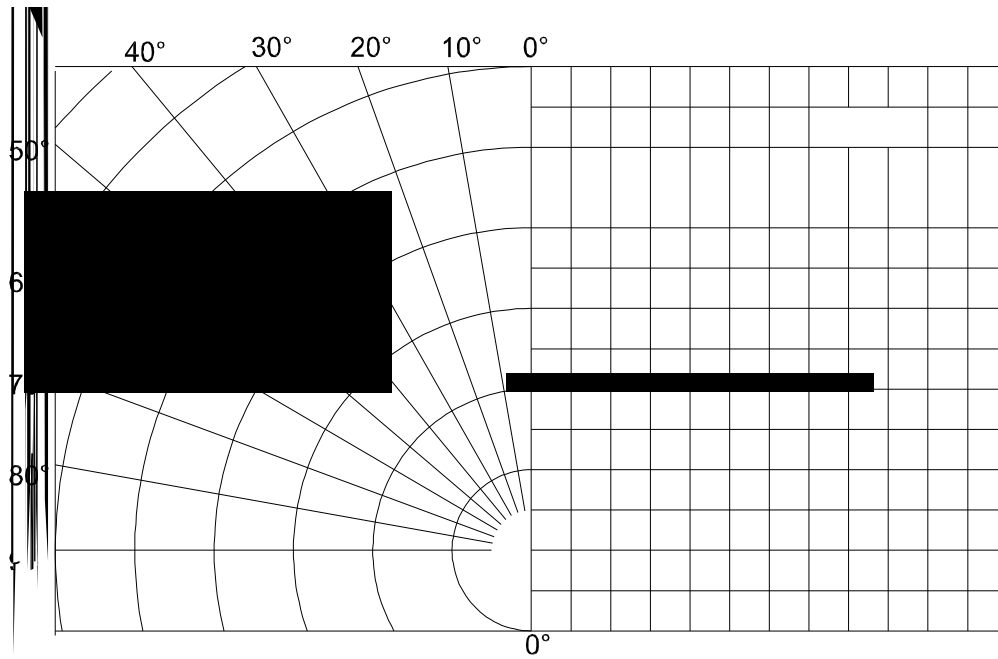
Relative Spectral Emission - $V(\lambda)$ = Standard Eye Response Curve

$$I_{rel} = f(\lambda); T_s \quad I_f = 50 \text{ mA}$$



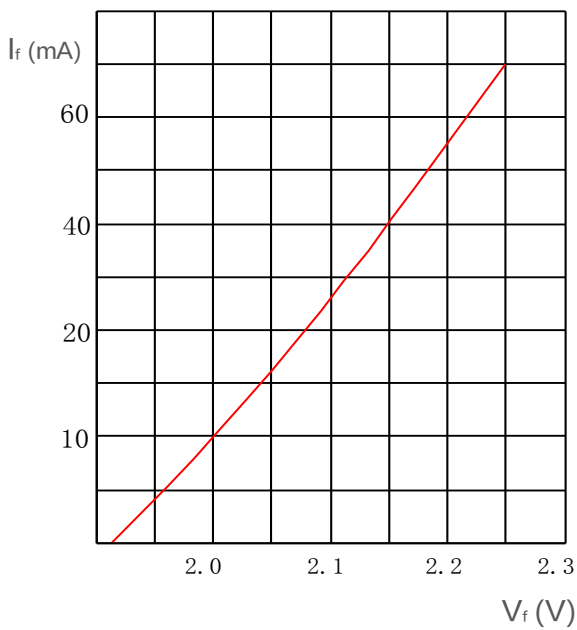
Radiation Characteristics

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



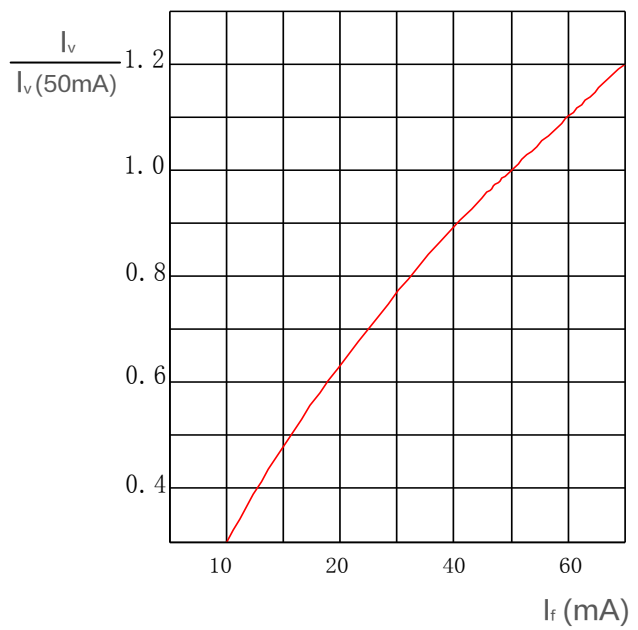
Forward Current

$I_f = f(V_f); T_a$



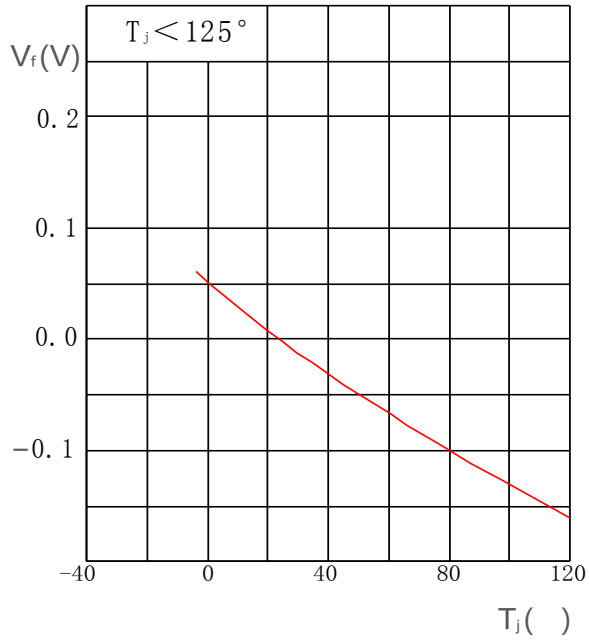
Relative Luminous Intensity

$I_v/I_v(50\text{mA}) = f(I_f); T_a$



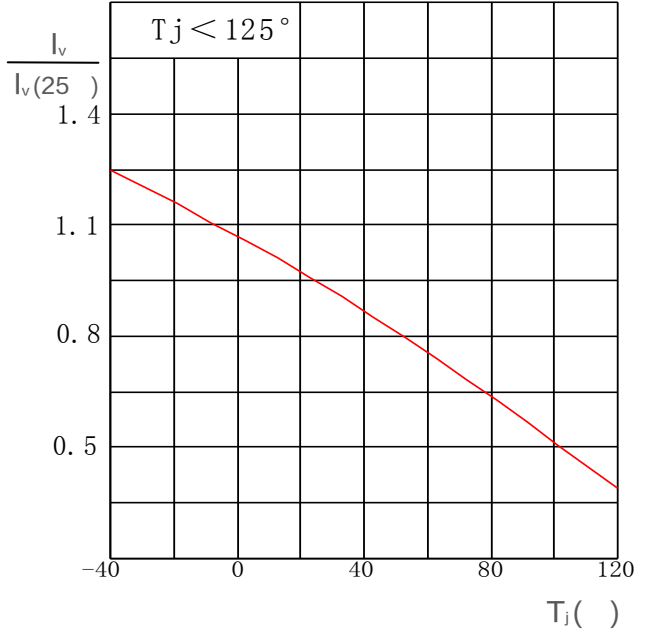
Relative Forward Voltage

$V_f = V_f - V_f$, i_f ; $I_f = 50 \text{ mA}$



Relative Luminous Intensity

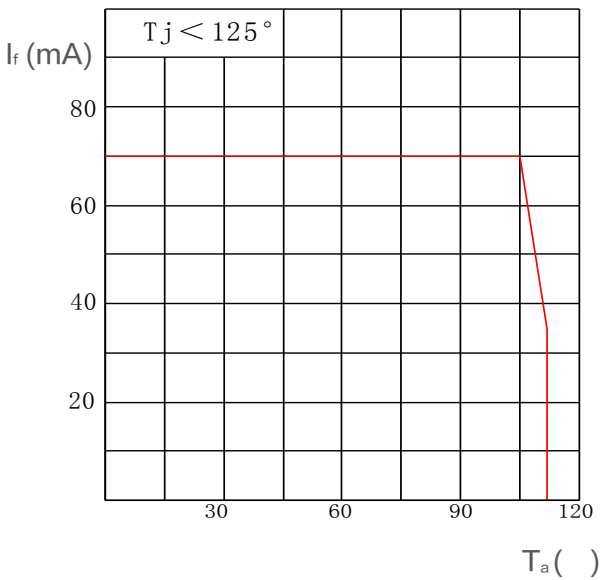
I_v/I_v , i_f ; $I_f = 50 \text{ mA}$



Solder Point Temperature

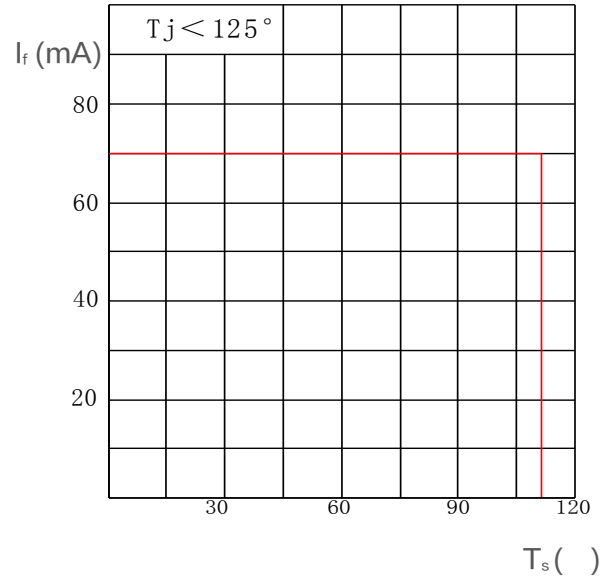
Ambient Temperature vs. Forward Current

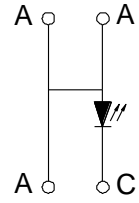
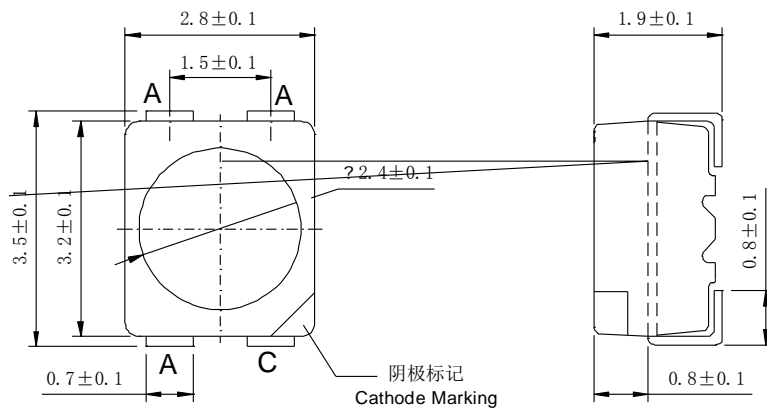
$I_f = f(T_a)$



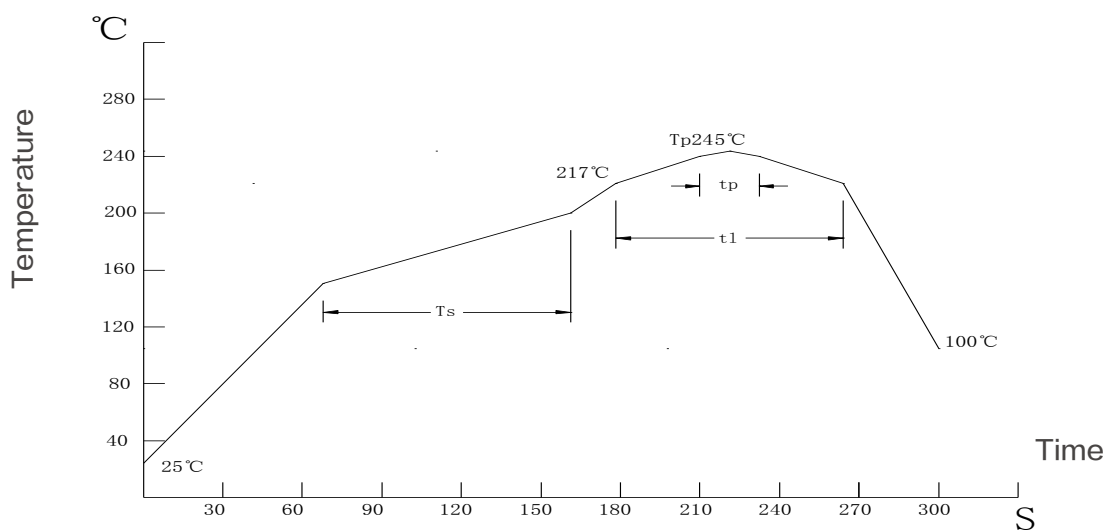
vs. Forward Current

$I_f = f(T_s)$





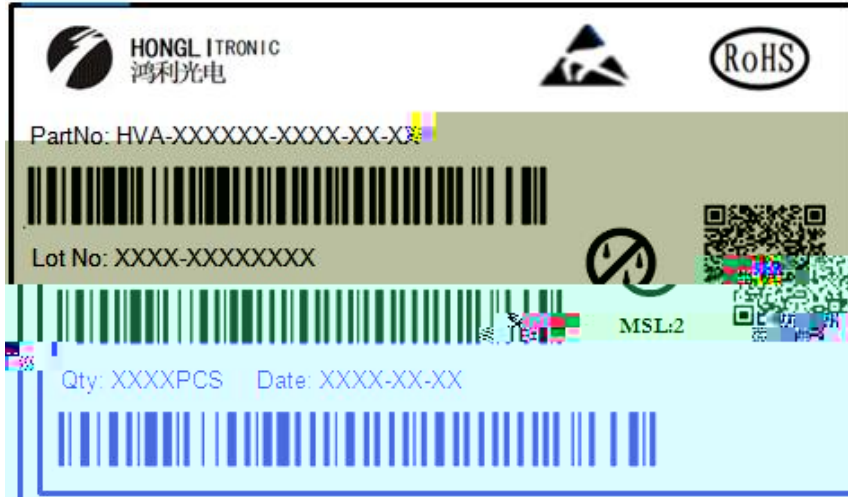
Reflow Soldering Profile



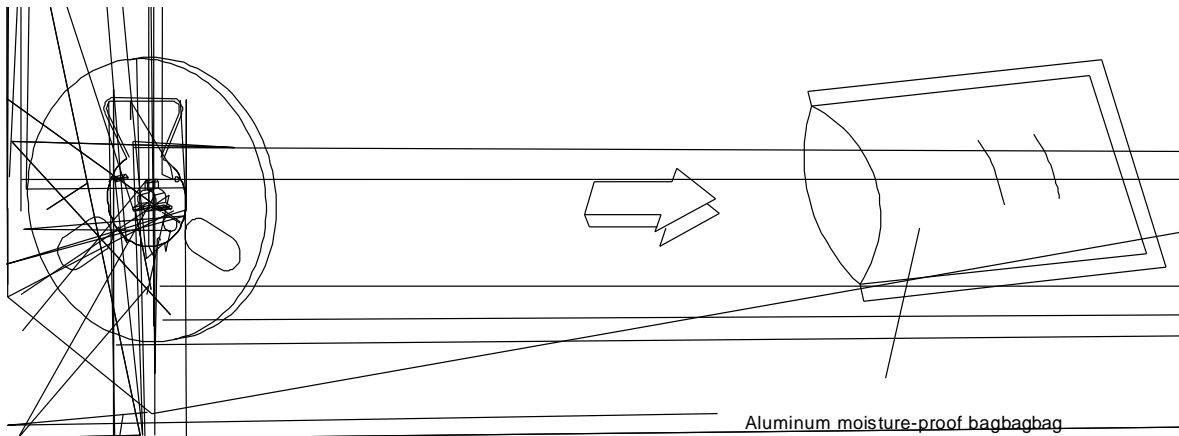
Profile Feature	Symbol	Pb-Free (SnAgCu) Assembly			Unit
		min.	rec.	max.	
Ramp-up Rate to Preheat 25 -150	-	-	2	3	/s
Time T _{smin} to T _{smax}	T _s	60	100	120	s
Ramp-up Rate to Peak T _{smax} to T _p	-	-	2	3	s
Liquidus Temperature	T _l	-	217	-	-
Time above Liquidus Temperature	t _l	-	80	100	s
Peak 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

BO 0 1 29371 94492 11 g0 3562 8154 61 RWP A 0 0 BO 0 1 32719 12581 g

Barcode-Product-Label (BPL)



Dry Packing Process and Materials

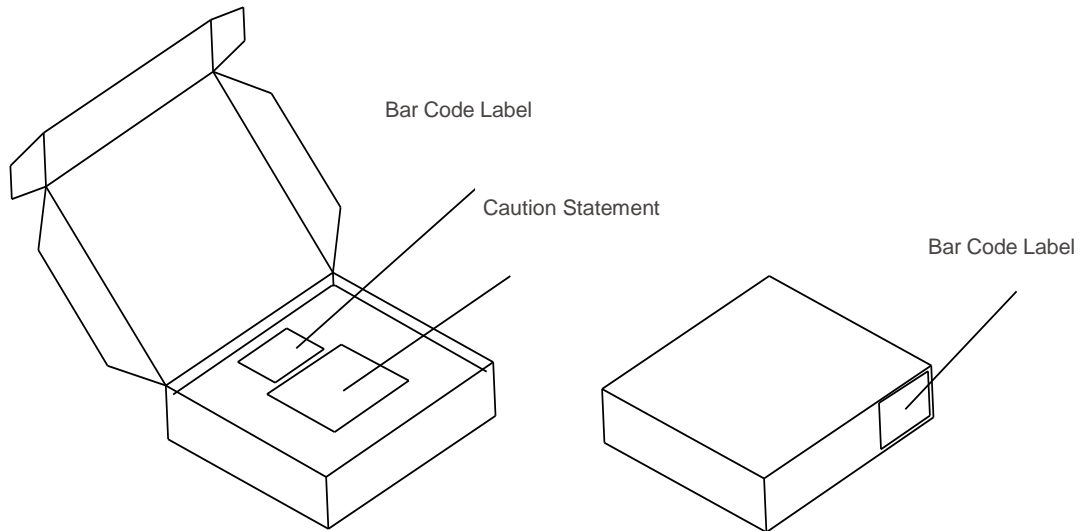


NOTE

JEDEC

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

:			
:			
	8ms	0.05V	0.1V
	GUM K=3		
	25ms	0.5nm	1nm
	GUM K=3		
	25ms	8%	11%
	GUM K=3		

Glossary

Typical Values: Actual values of each product may differ from these statistical values.