

/Ordering Information

| Type | Luminous Intensity $I_v @ I_f=140\text{mA}$ | Ordering Code |
|----------------------------------------------------------------------------|------------------------------------------------|---------------|
| HVA-3433EES- XXXX - XX - XXXX Brightness Color Forward Voltage | 4.50 -14.00 cd | |

/Maximum Ratings

| Parameters | Symbol | Rating | Unit |
|-----------------------------------------------------------------|-----------|------------|------|
| / Junction Temperature | T_j | 125 | |
| / Forward Current ($T_s=25$) | I_f | 200 | mA |
| Peak Forward Current ($t \leq 10\mu s$ $D=0.005$ $T_s=25$) | I_{fp} | 1000 | mA |
| / Reverse Voltage ($T_s=25$) | V_r | 12 | V |
| Electrostatic Discharge (HBM) | V_{ESD} | 2000 | V |
| / Operating Temperature | T_{opr} | -40 ~ +110 | |
| / Storage Temperature | T_{stg} | -40 ~ +110 | |

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

| Parameters | Symbol | Rating | Unit |
|-------------------------------------------------------------|-------------------------|--------|------|
| / Wavelength at Peak Emission | typ. λ_{peak} | 625 | nm |
| / Dominant Wavelength | min. λ_{dom} | 612 | nm |
| | typ. λ_{dom} | 617 | nm |
| | max. λ_{dom} | 624 | nm |
| / Spectral Bandwidth at 50% I_{rel} max | typ. | 18 | nm |
| 50 % I_v / Viewing Angle at 50 % I_v | typ. | 120 | ° |
| / Forward Voltage | min. V_f | 1.90 | V |
| | typ. V_f | 2.15 | V |
| | max. V_f | 2.50 | V |
| / Reverse Current ($V_R=12V$) | typ. I_r | 0.2 | uA |
| | max. I_r | 10 | 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 |

/Information on Label

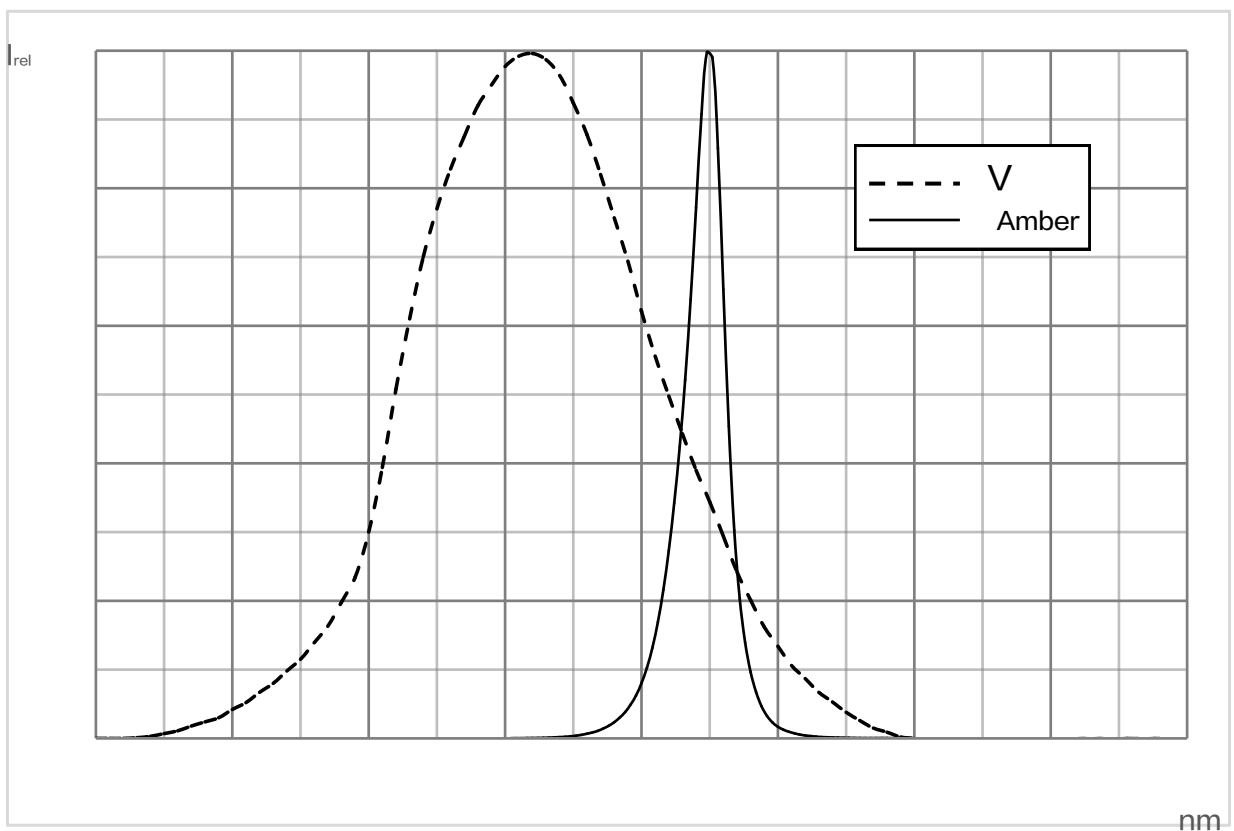
/E.g. DA-2-3A

| /Brightness | /Color | /Forward Voltage |
|-------------|--------|------------------|
| DA | 2 | 3A |

- $V(\lambda) =$

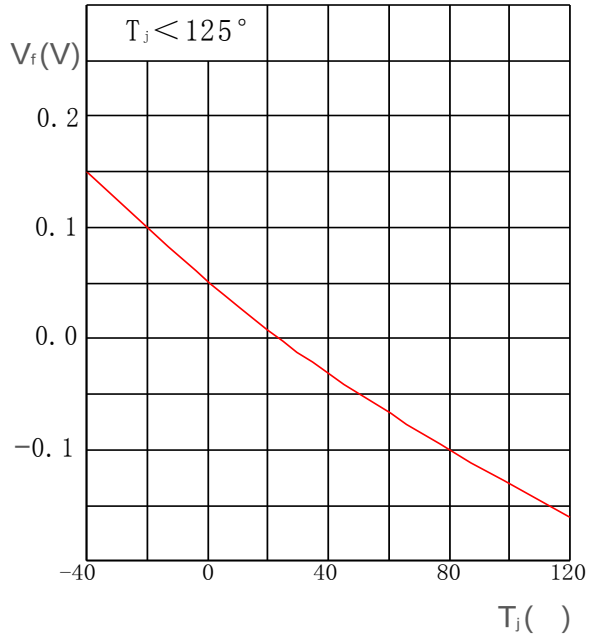
Relative Spectral Emission - $V(\lambda) =$ Standard Eye Response Curve

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



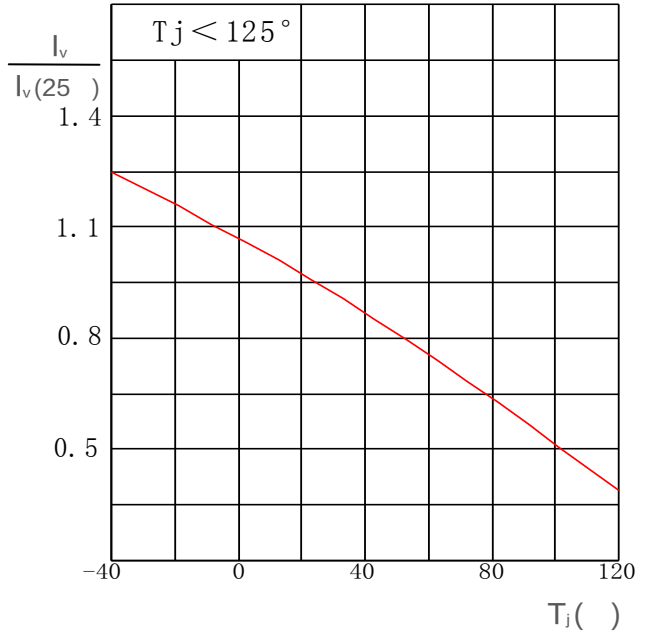
/Relative Forward Voltage

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

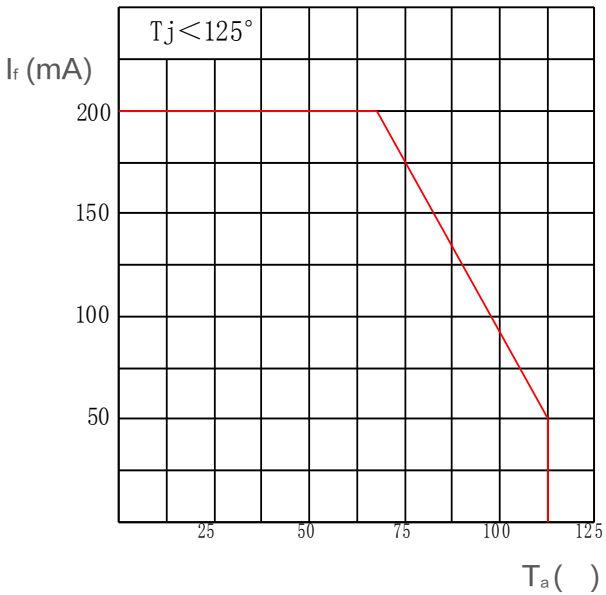


/Relative Luminous Intensity

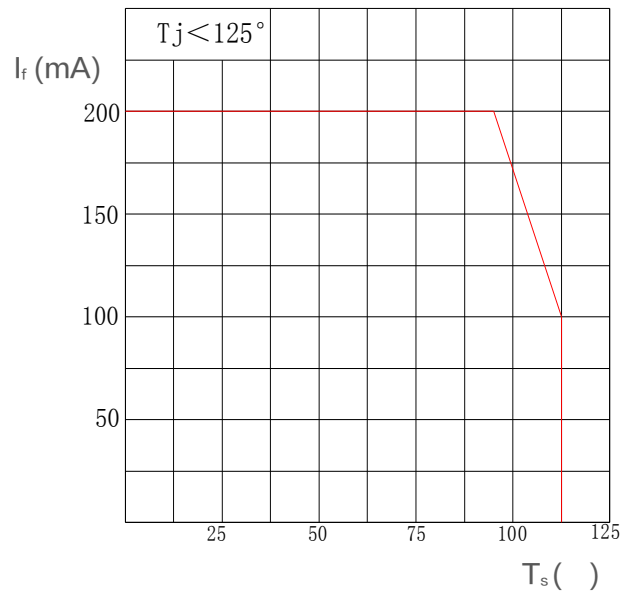
$I_v/I_v(25^\circ) = f(T_j); I_f = 140 \text{ mA}$

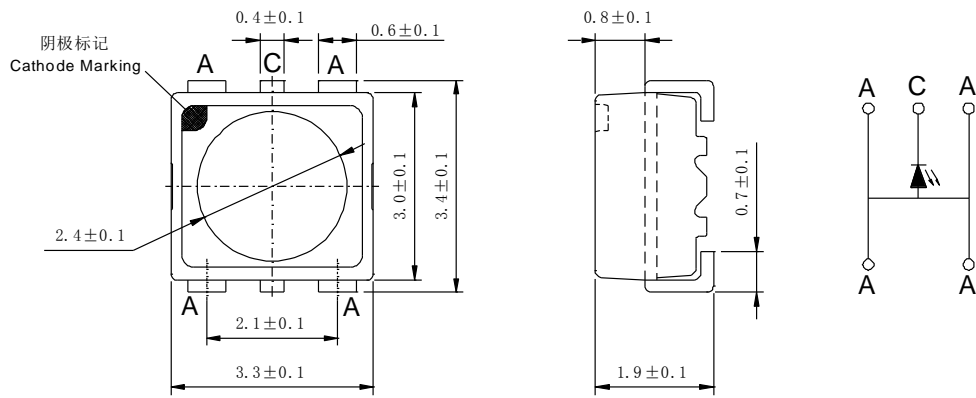


Ambient Temperature vs. Forward Current
 $I_f = f(T_a)$

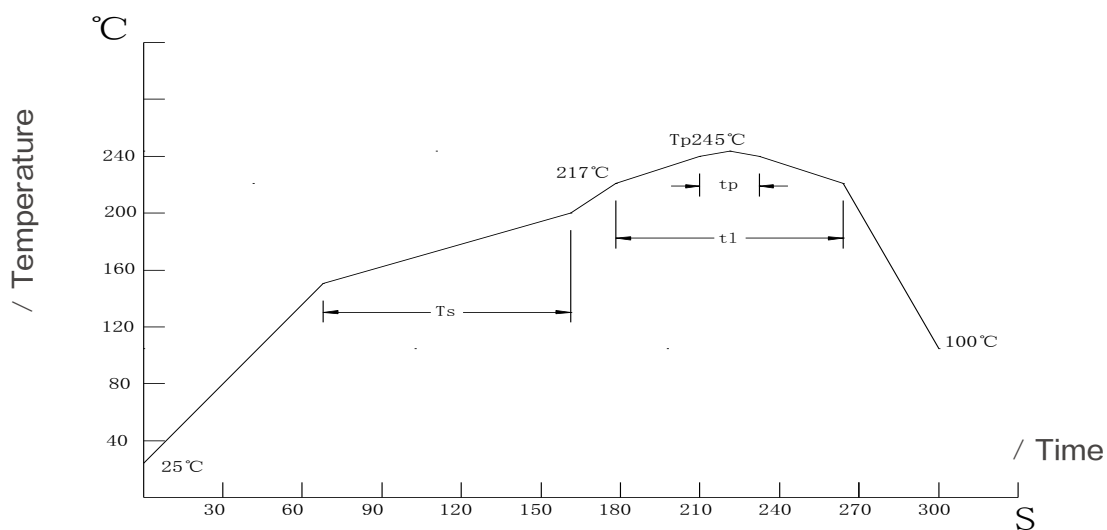


/Solder Point Temperature vs. Forward Current
 $I_f = f(T_s)$



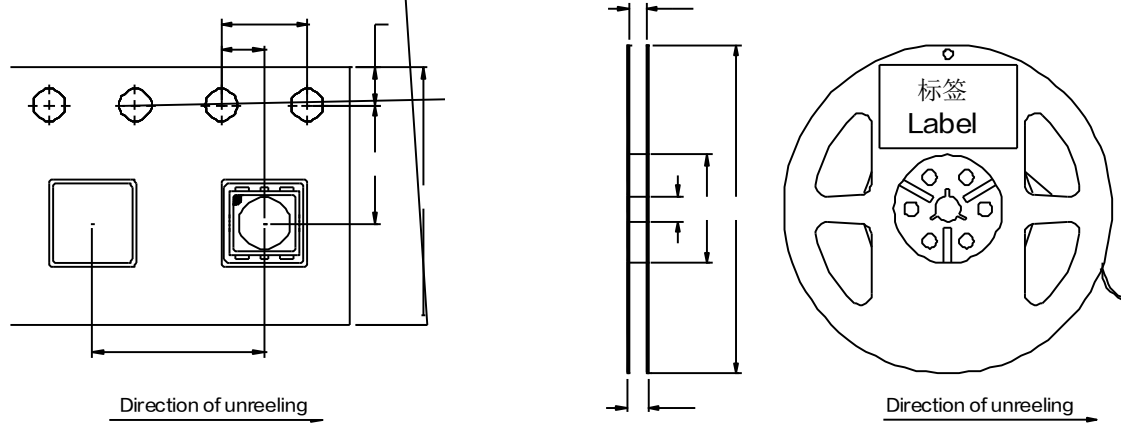


/Reflow Soldering Profile



| 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 ± 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 |

/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

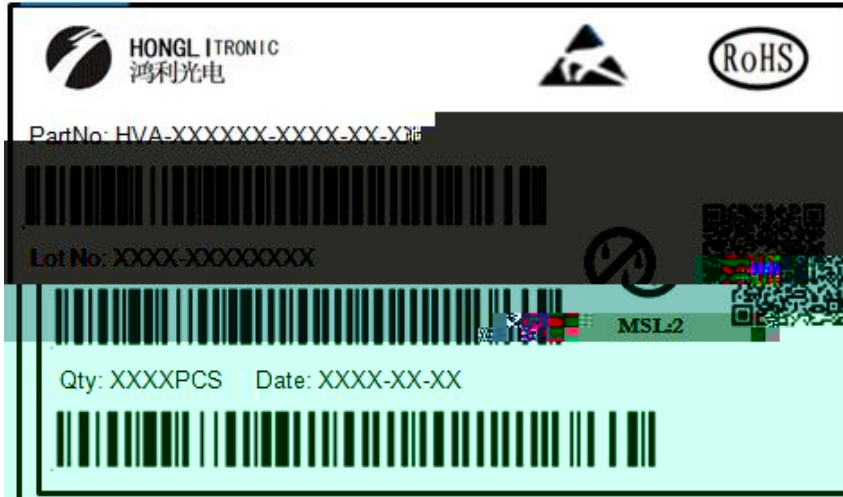
/Tape Dimensions mm

| 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 |

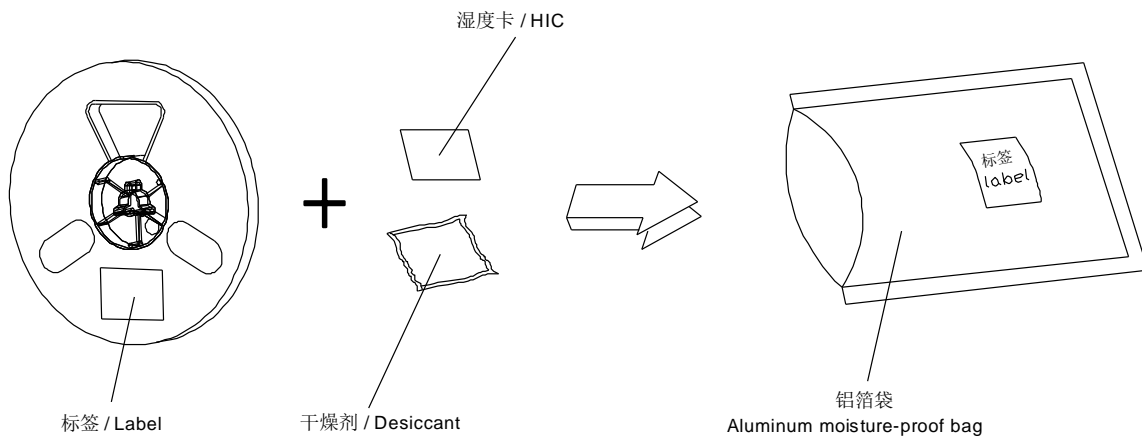
/Reel Dimensions mm

| 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



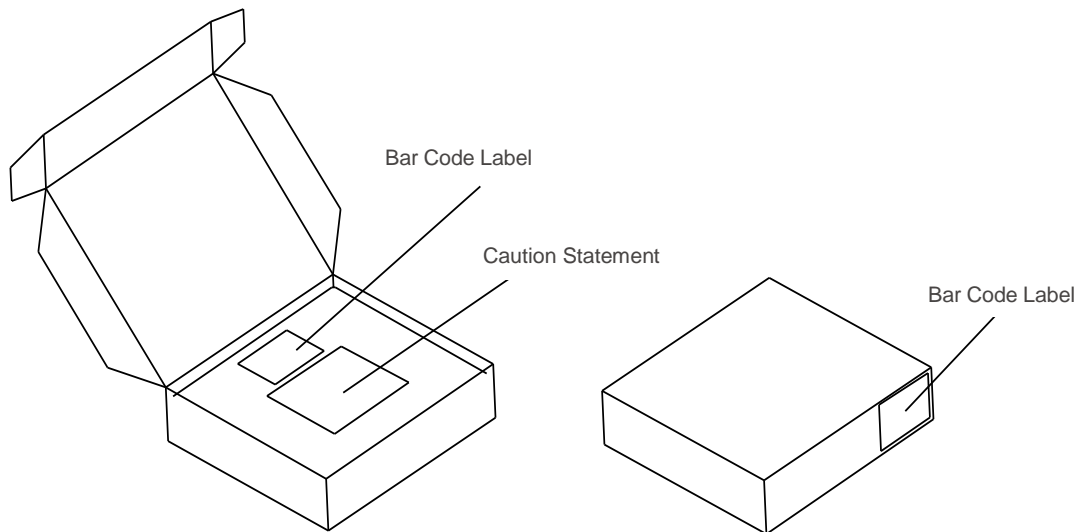
NOTE

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.

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 |

| | | | |
|---|---------|----------------------|-------------------|
| : | | | |
| : | , | $\pm 0.1 \text{ mm}$ | |
| | 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.