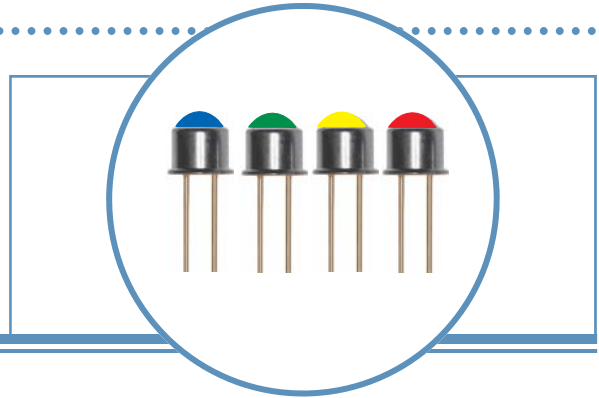


Hi-Reliability Visible LED Lamp (TO46)

OVM4x, OVM4xTX, OVM4xTXV

- Hermetically sealed TO-46 package
- Choice of blue, green, red or yellow
- High-brightness with well-defined spatial radiation patterns
- ESD protection built in



Each **OVM4x**, **OVM4xTX** and **OVM4xTXV** device is a high-reliability, high-sensitivity visible LED that is mounted in a hermetically sealed TO-46 package.

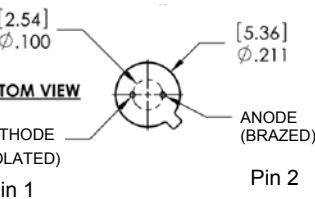
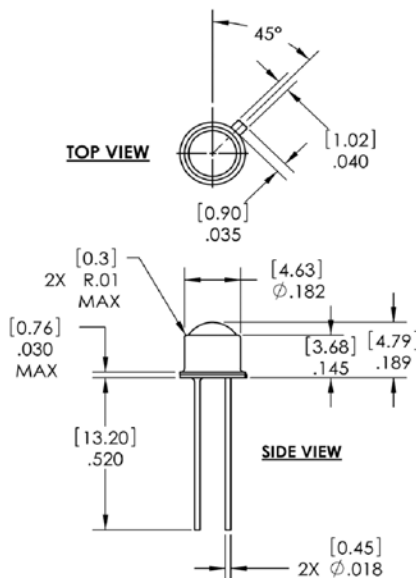
“Hi-Reliability” Visible LEDs function in the abnormally severe levels of mechanical, environmental and electrical stress that are typical of military and harsh industrial applications.

OVM4xTX and **OVM4xTXV** devices are processed to OPTEK’s 100% screening and QCI program-patterned after MIL-PRF-19500. Group A and B are performed on every lot. Group C is performed every six months.

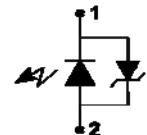
Applications

- Automotive exterior and interior lighting
- Architectural lighting
- Electronic signs and signals

| Part Number | Part Number | Material | Emitted Color | Intensity Typ. (mcd) | Lens Color |
|-------------|-------------|----------|---------------|----------------------|-------------|
| OVM4BTX | OVM4BTXV | InGaN | Blue | 2260 | Clear Glass |
| OVM4GTX | OVM4GTXV | InGaN | Green | 6520 | Clear Glass |
| OVM4RTX | OVM4RTXV | AllnGaP | Red | 3300 | Clear Glass |
| OVM4YTX | OVM4YTXV | AllnGaP | Yellow | 2010 | Clear Glass |



| | |
|-------|---------|
| Pin 1 | Cathode |
| Pin 2 | Anode |



DO NOT LOOK DIRECTLY AT LED WITH UNSHIELDED EYES OR DAMAGE TO RETINA MAY OCCUR.

Dimensions are in inches [mm]



OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

Hi-Reliability Visible LED Lamp

OVM4x, OVM4xTX, OVM4xTXV



Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$ unless otherwise noted

| | |
|-------------------------------------------------------------|-------------------|
| Storage Temperature Range | -65° C to +150° C |
| Operating Temperature Range | -55° C to +100° C |
| Reverse Voltage | 5 V |
| Continuous Forward Current ² | 100 mA |
| Peak Forward Current (10% Duty Cycle, 1 KHz) | 1.6 A |
| Power Dissipation | 370 mW |
| Lead Soldering Temperature (3mm from the case) ¹ | 260° C |
| Current Linearity vs. Ambient Temperature | -0.2 mA/° C |
| LED Junction Temperature | 115° C |

Notes:

- Solder time less than 5 seconds at temperature extreme.
- Design of heat dissipation should be considered.

Electrical Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

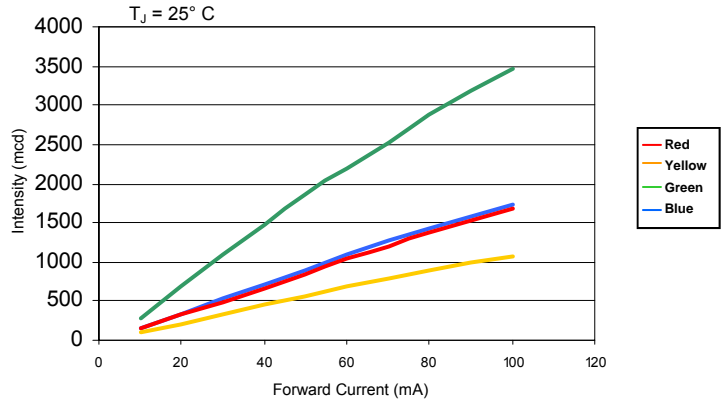
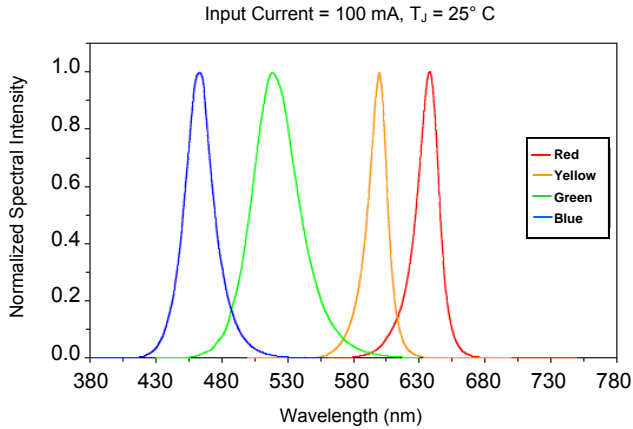
| SYMBOL | PARAMETER | | MIN | TYP | MAX | UNITS | CONDITIONS |
|-----------------|---------------------|--------|------|------|------|-------|----------------------|
| I_v | Luminous Intensity | Blue | ---- | 2260 | ---- | mcd | $I_F = 20\text{ mA}$ |
| | | Green | ---- | 6520 | ---- | | |
| | | Red | ---- | 3300 | ---- | | |
| | | Yellow | ---- | 2010 | ---- | | |
| V_F | Forward Voltage | Blue | ---- | 2.60 | 2.95 | V | $I_F = 20\text{ mA}$ |
| | | Green | ---- | 2.60 | 2.95 | | |
| | | Red | ---- | 1.80 | 2.15 | | |
| | | Yellow | ---- | 1.80 | 2.15 | | |
| λ_P | Peak Wavelength | Blue | ---- | 463 | ---- | nm | $I_F = 20\text{ mA}$ |
| | | Green | ---- | 530 | ---- | | |
| | | Red | ---- | 630 | ---- | | |
| | | Yellow | ---- | 591 | ---- | | |
| λ_D | Dominant Wavelength | Blue | 460 | 465 | 470 | nm | $I_F = 20\text{ mA}$ |
| | | Green | 520 | 530 | 540 | | |
| | | Red | 619 | 624 | 629 | | |
| | | Yellow | 584 | 589 | 594 | | |
| $\Delta\lambda$ | Spectral Half Width | Blue | ---- | 22 | ---- | nm | $I_F = 20\text{ mA}$ |
| | | Green | ---- | 35 | ---- | | |
| | | Red | ---- | 15 | ---- | | |
| | | Yellow | ---- | 18 | ---- | | |
| $2\theta_{1/2}$ | 50% Power Angle | | ---- | 18 | ---- | deg | $I_F = 20\text{ mA}$ |

Notes:

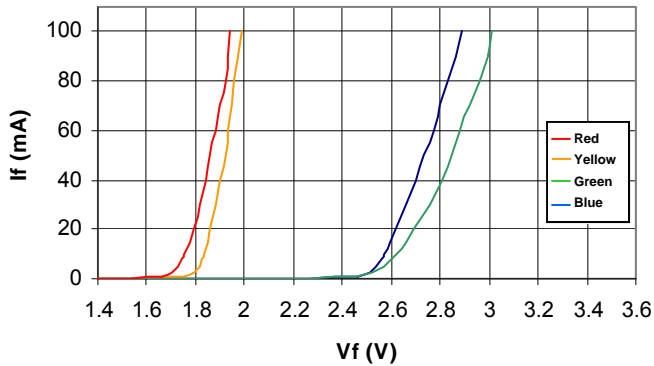
- All ranks will be included per delivery, rank ratio will be based on the chip distribution.
- To designate luminous intensity ranks, please contact OPTEK.
- Pb content <1000 PPM.

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

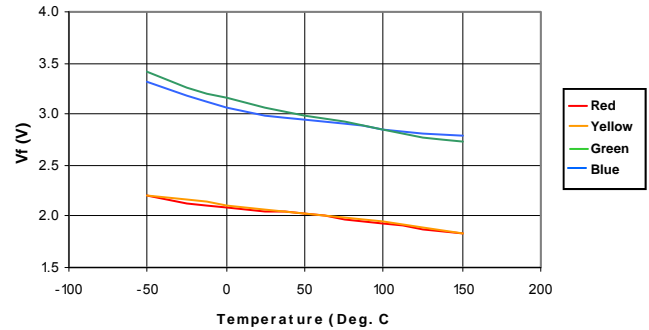
Typical Electro-Optical Characteristics Curves



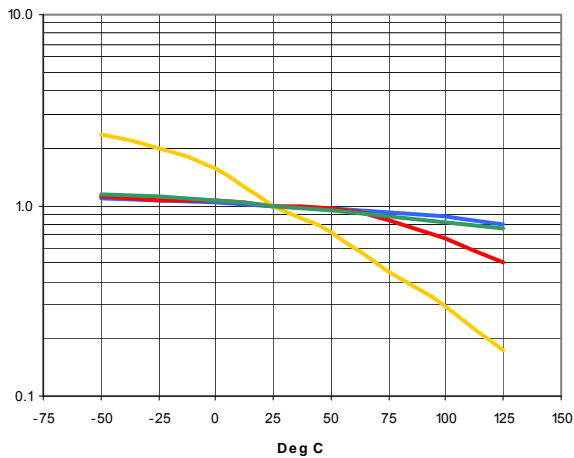
Intensity vs Forward Current



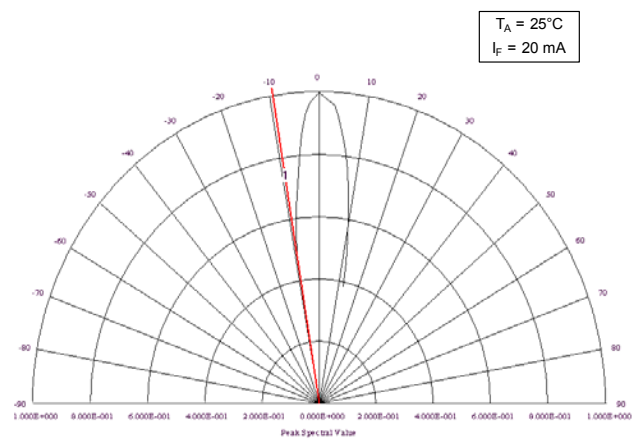
Forward Voltage vs Forward Current



Forward Voltage vs Temperature



Relative Intensity vs Temperature



Spatial Intensity Distribution

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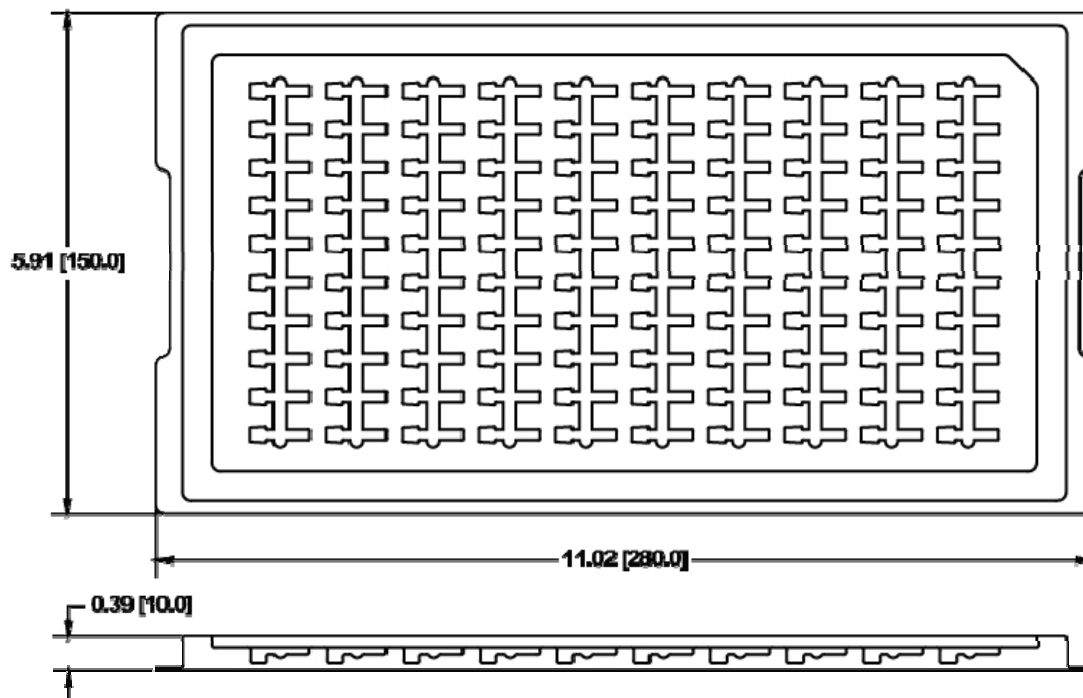
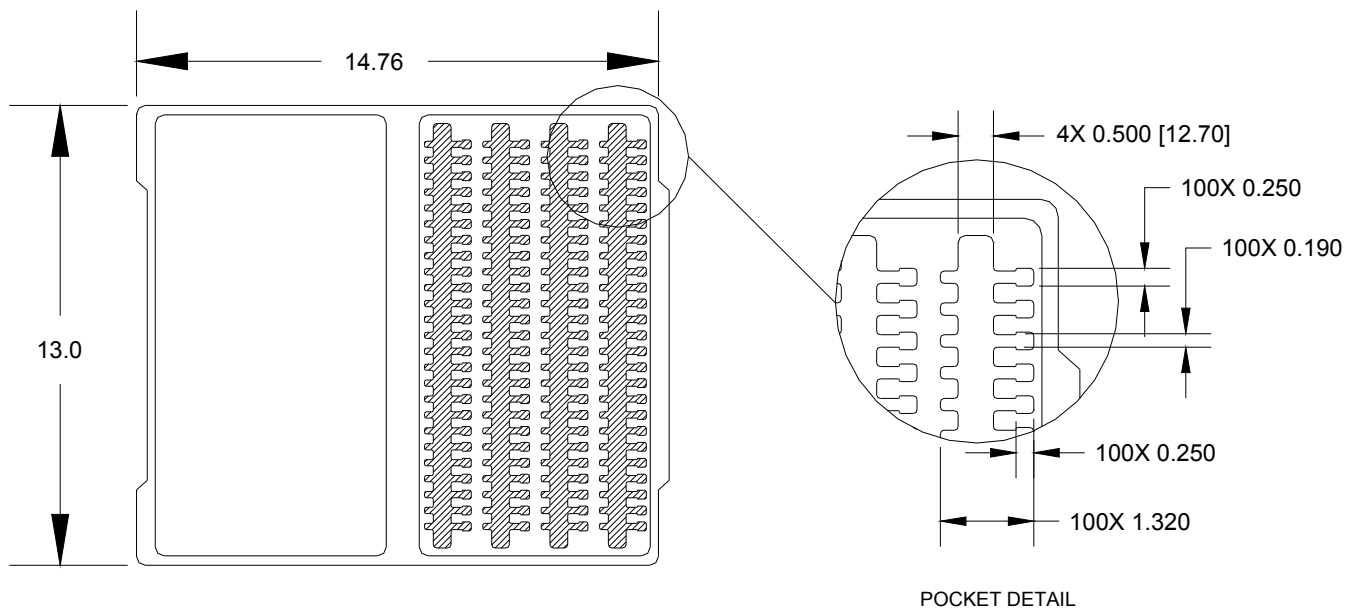
Hi-Reliability Visible LED Lamp

OVM4x, OVM4xTX, OVM4xTXV



Shipping Information:

Optek UV LEDs are shipped in either of the below noted conductive trays made for ESD sensitive devices. Each tray contains up to 100 pieces and is then sealed in a plastic ESD bag. Tray dimensions are in inches (mm).



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[4306D23](#) [4363D1/5](#) [WP1503SRC/J4](#) [WP153GDT](#) [WP153YDT](#) [WP1543SGC](#) [WP1543SURC](#) [WP53MGD](#)