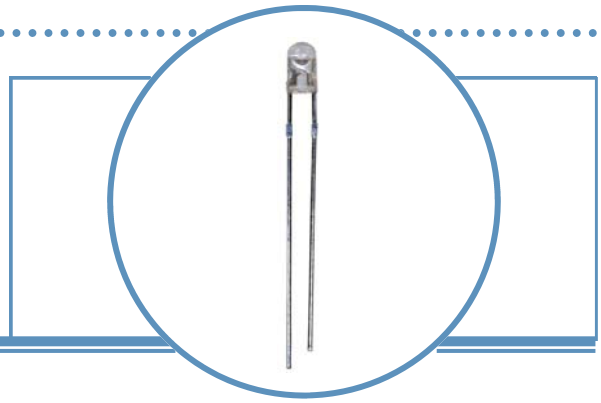
Round Through-Hole LED Lamp (3 mm)

TT electronics
OPTEK Technology

OVLBx4C7 Series

- High brightness with well-defined spatial radiation patterns
- UV-resistant epoxy lens
- Choice of blue, green, red or yellow
- No stand-offs

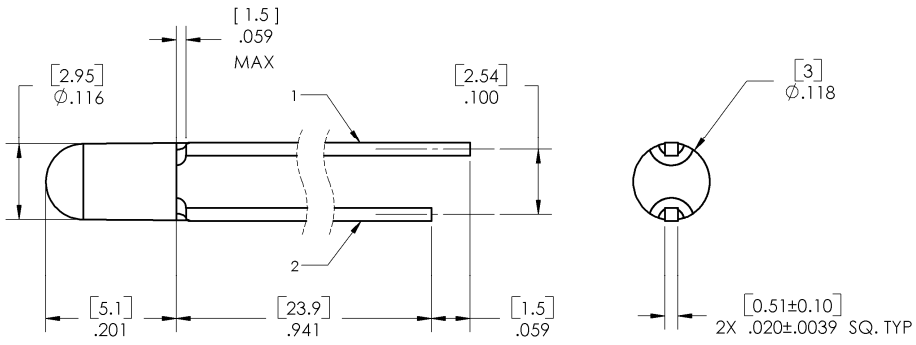


Each **OVLBx4C7** series device is a high-intensity LED mounted in a clear plastic T-1 package. The LED provides a well-defined and even emission pattern. Its UV-resistant epoxy lens makes this device an optimal solution for outdoor applications.

Applications

- Pedestrian signals
- Signage and architectural lighting
- Backlighting
- Automotive
- Outdoor/indoor displays

Part Number	Material	Emitted Color	Intensity Typ. mcd	Lens Color
OVLBB4C7	InGaN	Blue	900	Water Clear
OVLBG4C7	InGaN	Green	2000	Water Clear
OVLBR4C7	AlInGaP	Red	1800	Water Clear
OVLBY4C7	AlInGaP	Yellow	2400	Water Clear



1 ANODE 2 CATHODE

DIMENSIONS ARE IN: [MILLIMETERS] INCHES

RoHS Moisture

ATTENTION
OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES

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

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

Absolute Maximum Ratings
T_A = 25° C unless otherwise noted

Storage Temperature Range		-40 ~ +100 °C
Operating Temperature Range		-40 ~ +85 °C
Reverse Voltage		5 V
Continuous Forward Current	Blue, Green	20 mA
	Red, Yellow	30 mA
Peak Forward Current (10% Duty Cycle, 1 kHz)	Blue, Green	50 mA
	Red, Yellow	100 mA
Power Dissipation	Blue, Green	80 mW
	Red, Yellow	78 mW
Current Linearity vs Ambient Temperature	Blue, Green	-0.2 mA/° C
	Red, Yellow	-0.5 mA/° C
LED Junction Temperature		125° C
Lead Soldering Temperature (3 mm from the base of the epoxy bulb)[1]		260° C

Note:
1. Solder time less than 5 seconds at temperature extreme.

Electrical Characteristics
T_A = 25° C unless otherwise noted

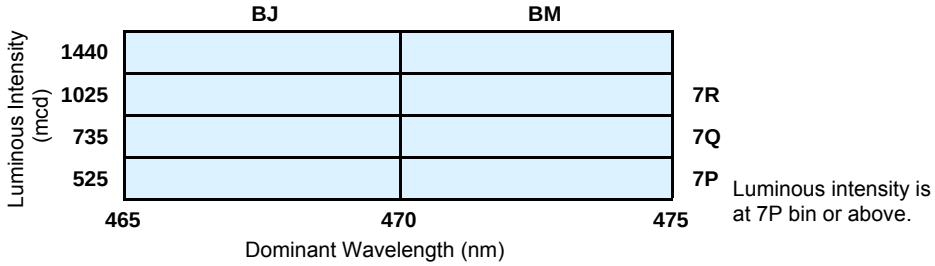
SYMBOL	PARAMETER	COLOR	MIN	TYP	MAX	UNITS	CONDITIONS
I_V	Luminous Intensity	Blue	525	900	----	mcd	I_F = 20 mA
		Green	1285	2000	----		
		Red	1135	1800	----		
		Yellow	1440	2400	----		
V_F	Forward Voltage	Blue	----	3.4	4.0	V	I_F = 20 mA
		Green	----	3.4	4.0		
		Red	----	2.2	2.6		
		Yellow	----	2.2	2.6		
I_R	Reverse Current	Blue	----	----	50	µA	V_R = 5 V
		Green	----	----	50		
		Red	----	----	10		
		Yellow	----	----	10		
λ_P	Peak Wavelength	Blue	----	466	----	nm	I_F = 20 mA
		Green	----	521	----		
		Red	----	633	----		
		Yellow	----	593	----		
λ_D	Dominant Wavelength	Blue	465	470	475	nm	I_F = 20 mA
		Green	519	525	531		
		Red	619	623	630		
		Yellow	585	589	595		
2Θ½H-H	50% Power Angle		----	45	----	deg	I_F = 20 mA

OPTEK Technology Inc. — 1645 Wallace Drive, Carrollton, Texas 75006
Phone: (972) 323-2200 or (800) 341-4747 FAX: (972) 323-2396 visibleLED@optekinc.com www.optekinc.com

Standard Bins (I_F = 20 mA)

Lamps are sorted to luminous intensity (I_V) and dominant wavelength (λ_D) bins shown.
Orders may be filled with any or all bins contained as below.

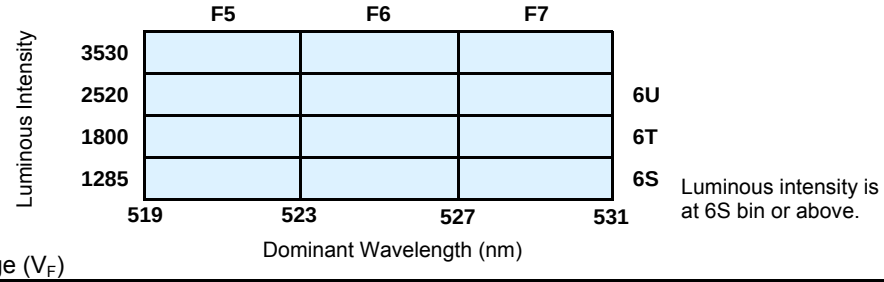
OVLBB4C7 (BLUE)



Forward Voltage (V_F)

Rank	H	J	K	L
Voltage	2.6–3.0	3.0–3.3	3.3–3.6	3.6–4.0

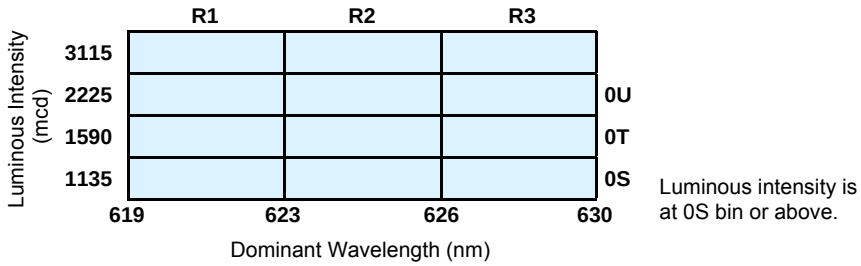
OVLBG4C7 (GREEN)



Forward Voltage (V_F)

Rank	H	J	K	L
Voltage	2.6–3.0	3.0–3.3	3.3–3.6	3.6–4.0

OVLBR4C7 (RED)



Forward Voltage

Rank	G	H	J	6
Voltage	1.8–2.0	2.0–2.2	2.2–2.4	2.4–2.6

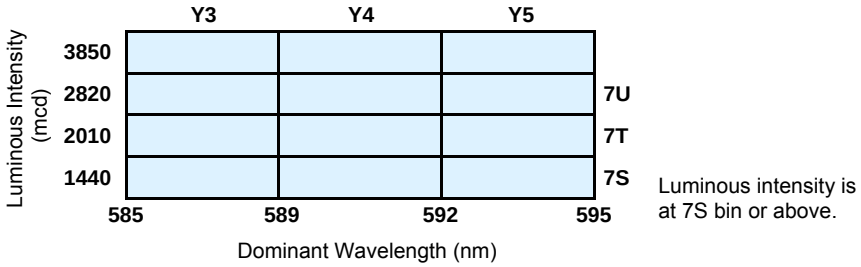
Important Notes:

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

Standard Bins (I_F = 20 mA)

Lamps are sorted to luminous intensity (I_V) and dominant wavelength (λ_D) bins shown.
Orders may be filled with any or all bins contained as below.

OVLBY4C7 (YELLOW)



Luminous intensity is at 7S bin or above.

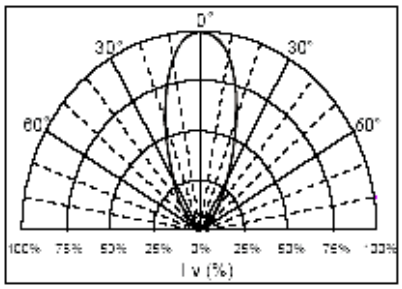
Forward Voltage (V_F)

Rank	G	H	J	6
Voltage	1.8–2.0	2.0–2.2	2.2–2.4	2.4–2.6

Important Notes:

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

Beam Pattern



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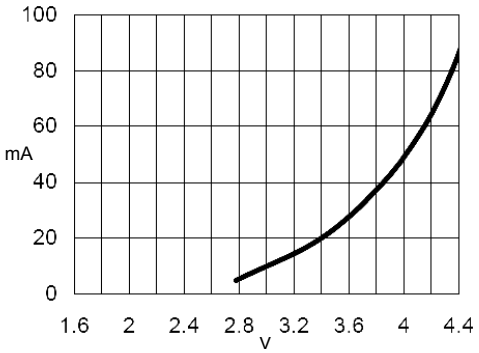
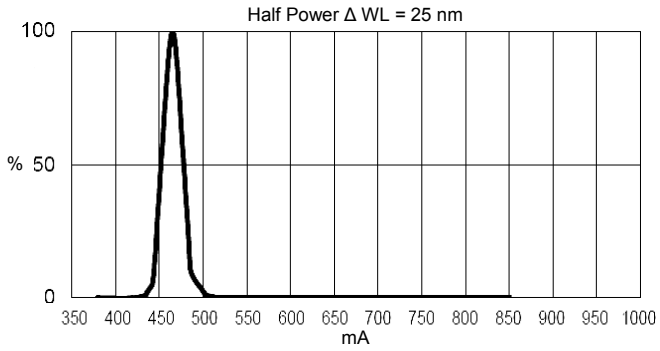
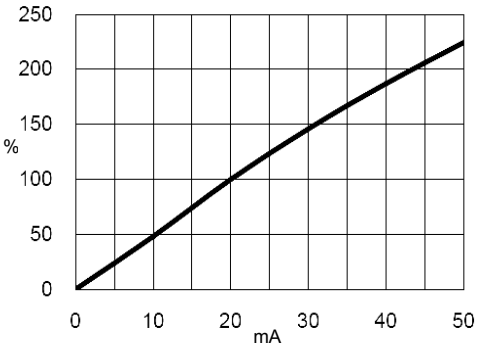
Typical Electro-Optical Characteristics Curves (BLUE)



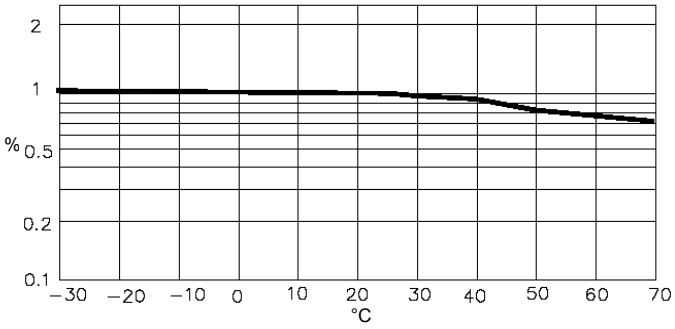
Forward Current vs Forward Voltage



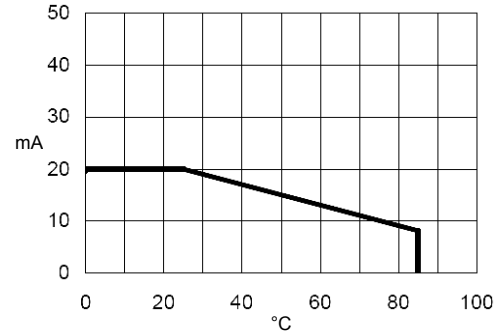
Relative Luminous Intensity vs Wavelength



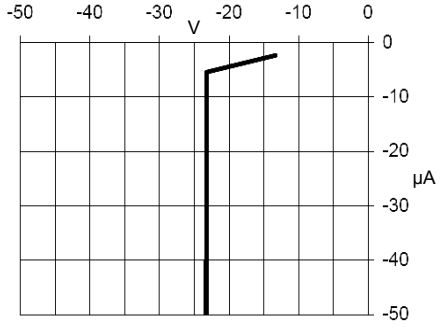
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Ambient Temperature

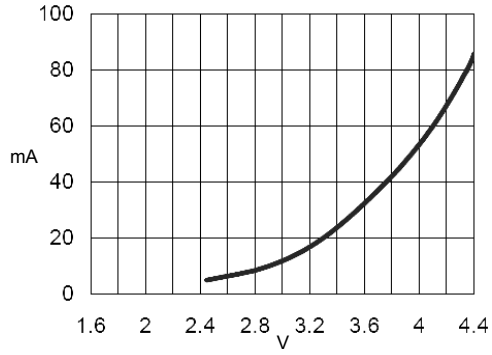


Forward Current vs Ambient Temperature

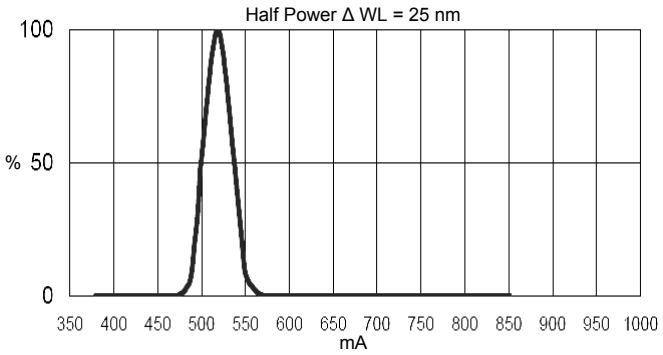


Reverse Current vs Reverse Voltage

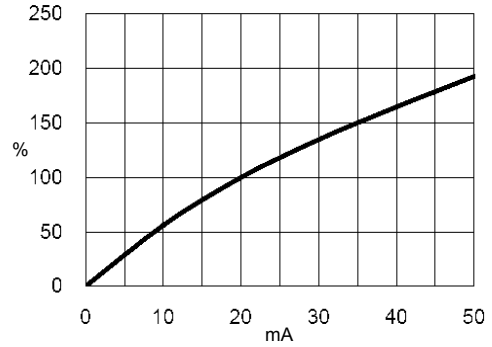
Typical Electro-Optical Characteristics Curves (GREEN)



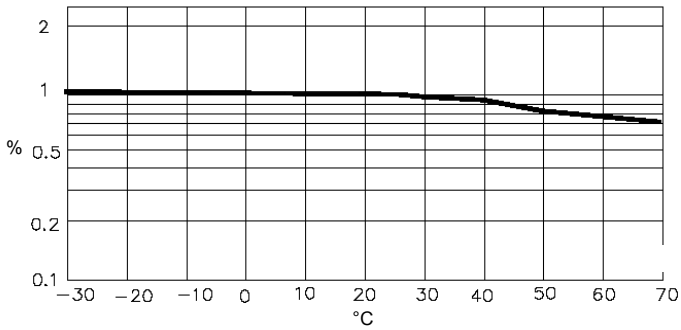
Forward Current vs Forward Voltage



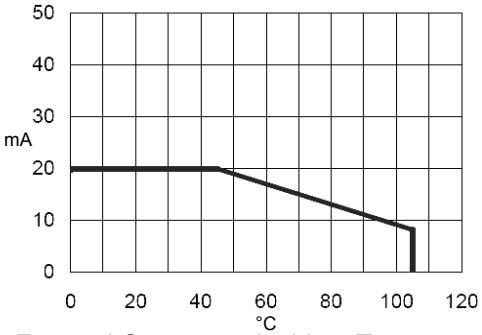
Relative Luminous Intensity vs Wavelength



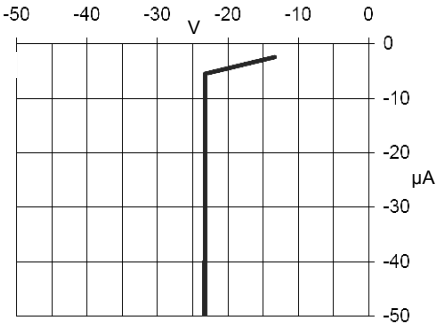
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Ambient Temperature



Forward Current vs Ambient Temperature



Reverse Current vs Reverse Voltage

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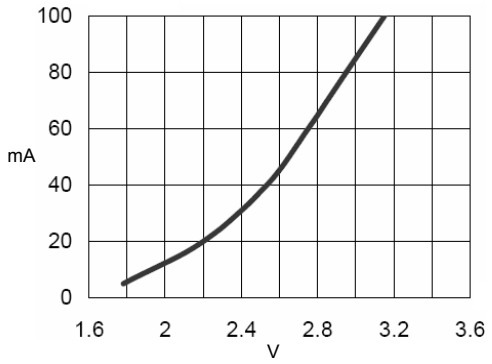
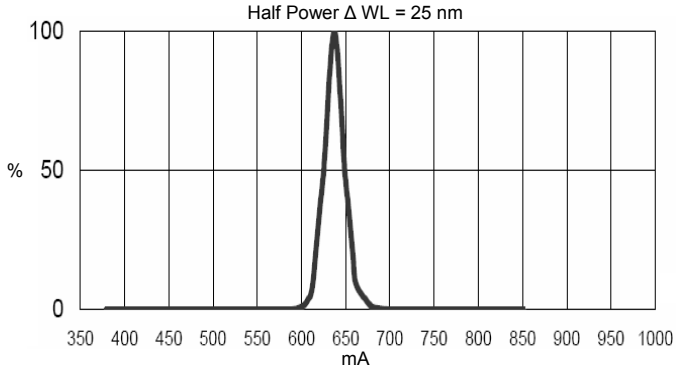
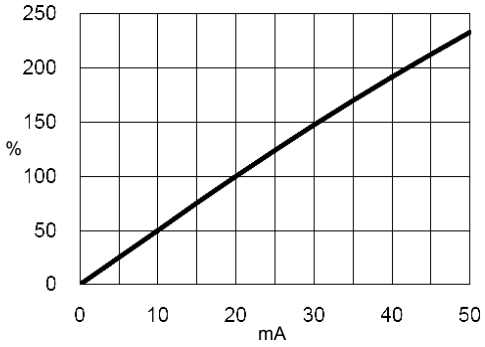
Typical Electro-Optical Characteristics Curves (RED)



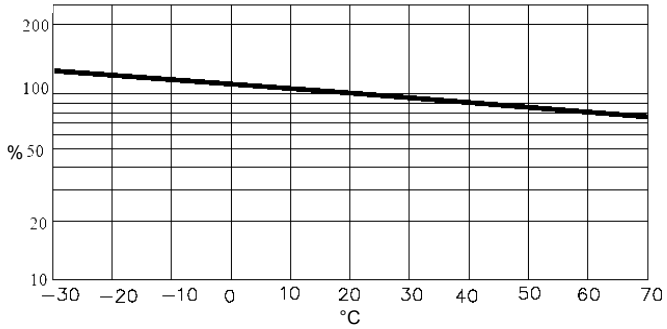
Forward Current vs Forward Voltage



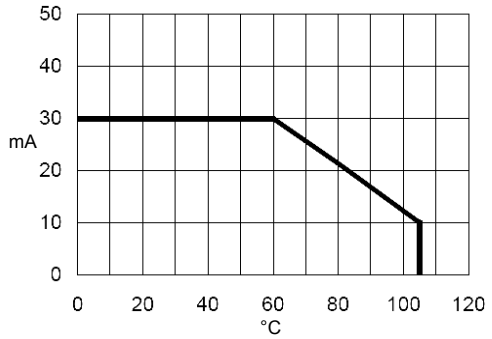
Relative Luminous Intensity vs Wavelength



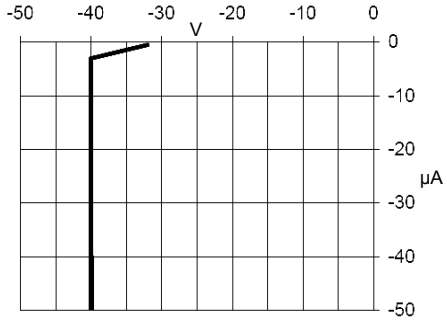
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Ambient Temperature

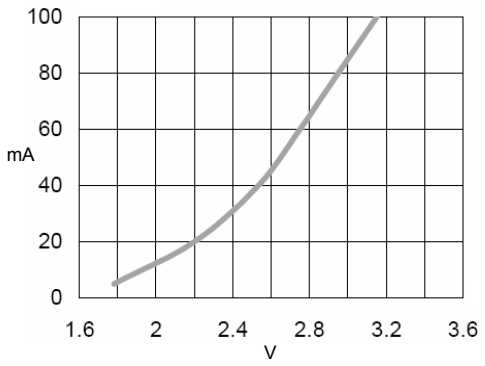


Forward Current vs Ambient Temperature

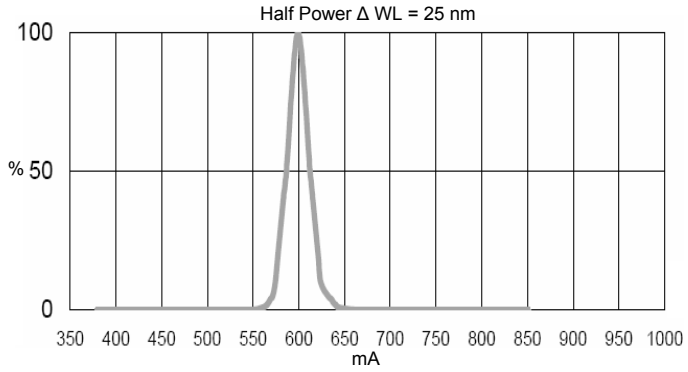


Reverse Current vs Reverse Voltage

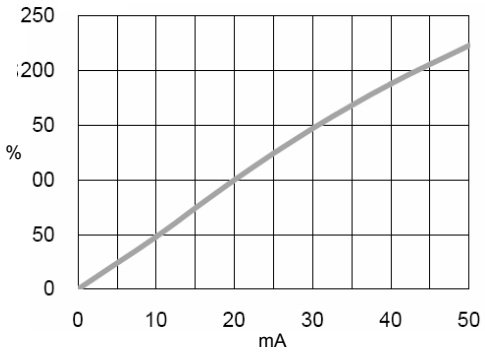
Typical Electro-Optical Characteristics Curves (YELLOW)



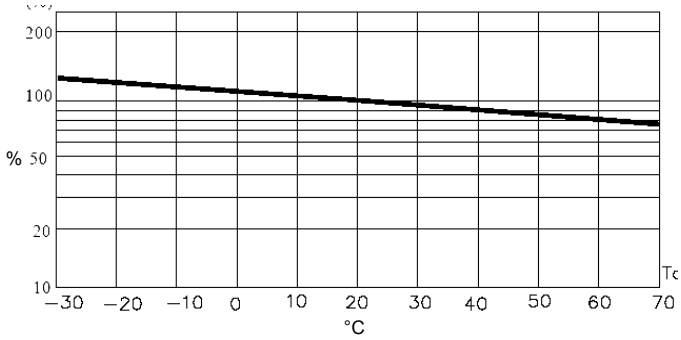
Forward Current vs Forward Voltage



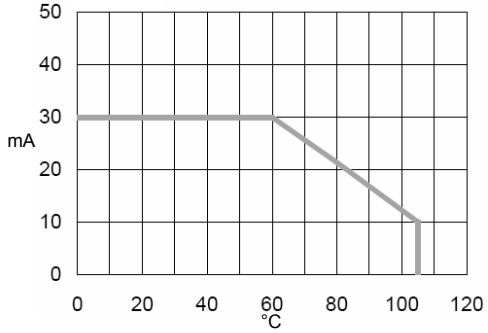
Relative Luminous Intensity vs Wavelength



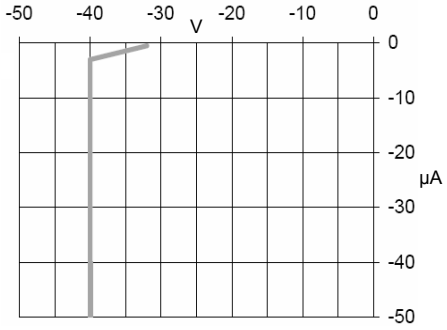
Relative Luminous Intensity vs Forward Current



Relative Luminous Intensity vs Ambient Temperature



Forward Current vs Ambient Temperature



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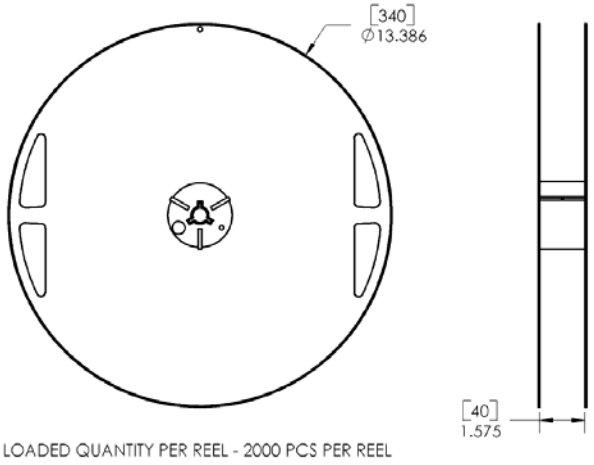
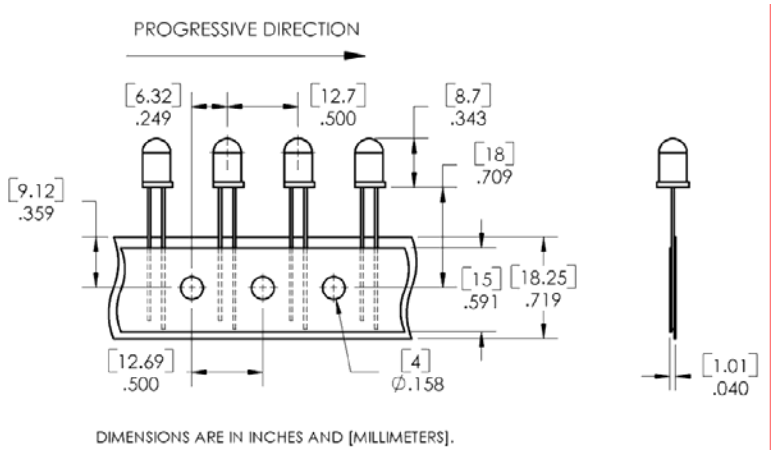
Packing Information: Available on 13-inch reel



Carrier Tape Dimensions: Loaded quantity 2000 pieces per reel



Moisture Resistant Packaging