

Kingbright®

1.5mm SIDE LOOK LAMP

KM-4457

Features

- LOW POWER CONSUMPTION.
- SIDE LOOKING PACKAGE.
- RELIABLE AND RUGGED.
- EXCELLENT UNIFORMITY OF LIGHT OUTPUT.
- LONG LIFE SOLID STATE RELIABILITY.

Description

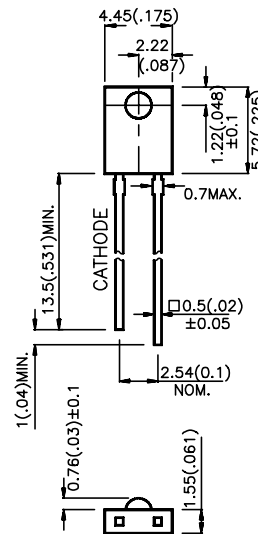
The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 (0.01 ") unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subjected to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Max.	2 θ 1/2
KM-4457ID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	8	50	170°
KM-4457EC	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	12.5	60	150°
KM-4457YD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	3.2	20	170°
KM-4457YC	YELLOW (GaAsP/GaP)	WATER CLEAR	8	40	150°
KM-4457SRD	SUPER BRIGHT RED (GaAIAs)	RED DIFFUSED	100	160	170°
KM-4457SRC	SUPER BRIGHT RED (GaAIAs)	WATER CLEAR	160	220	150°
KM-4457SGD	SUPER BRIGHT GREEN (GaP)	GREEN DIFFUSED	8	40	170°
KM-4457SGC	SUPER BRIGHT GREEN (GaP)	WATER CLEAR	12.5	50	150°

Notes:

1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

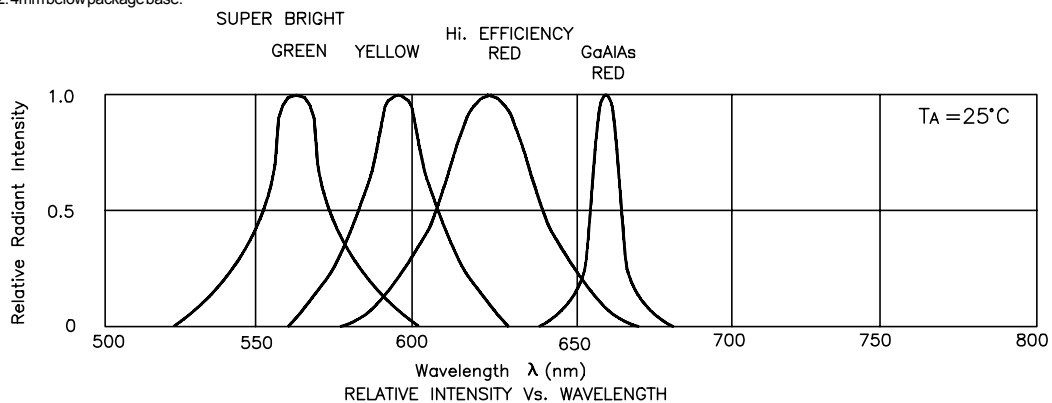
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	High Efficiency Red Yellow Super Bright Red Super Bright Green	625 590 660 565		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Yellow Super Bright Red Super Bright Green	45 35 20 30		nm	IF=20mA
C	Capacitance	High Efficiency Red Yellow Super Bright Red Super Bright Green	12 10 95 45		pF	VF=0V;f=1MHz
V _F	Forward Voltage	High Efficiency Red Yellow Super Bright Red Super Bright Green	2.0 2.1 1.85 2.2	2.5 2.5 2.5 2.5	V	IF=20mA
I _R	Reverse Current	All	10		uA	VR = 5V

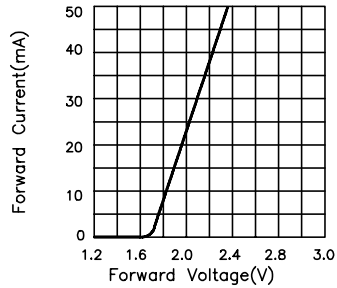
Absolute Maximum Ratings at T_A=25°C

Parameter	High Efficiency Red	Yellow	Super Bright Red	Super Bright Green	Units
Power dissipation	105	105	100	105	mW
DC Forward Current	30	30	30	25	mA
Peak Forward Current [1]	150	150	150	150	mA
Reverse Voltage	5	5	5	5	V
Operating/Storage Temperature	-40 °C To +85 °C				
Lead Soldering Temperature [2]	260 °C For 5 Seconds				

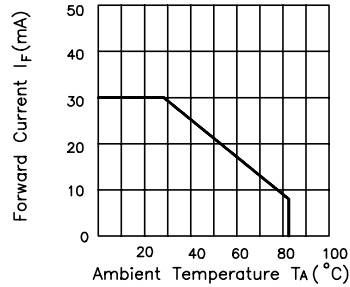
Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.



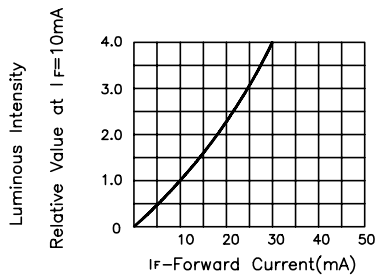
High Efficiency Red KM-4457ID, KM-4457EC



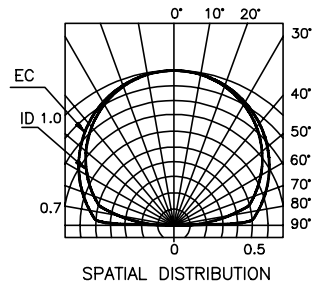
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

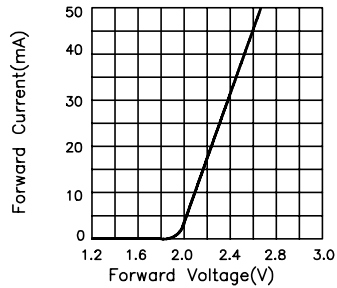


LUMINOUS INTENSITY Vs. FORWARD CURRENT

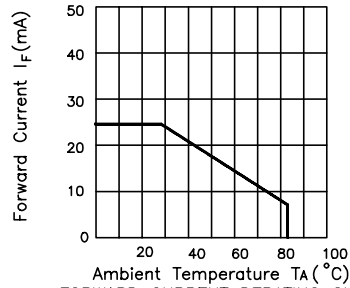


SPATIAL DISTRIBUTION

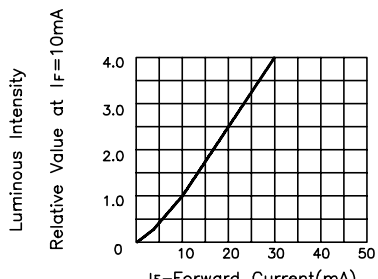
Green KM-4457SGD, KM-4457SGC



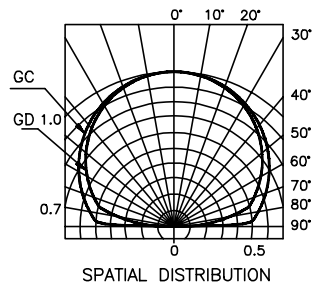
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

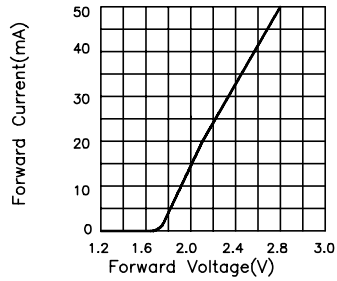


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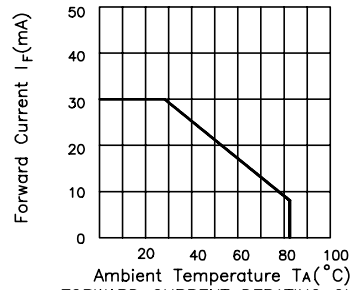


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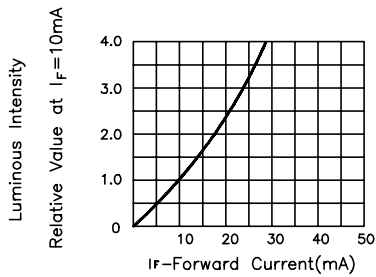
Yellow KM-4457YD, KM-4457YC



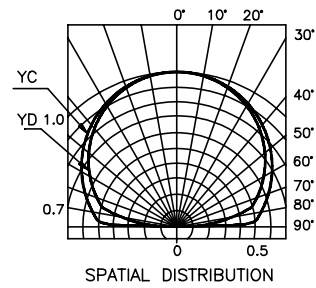
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

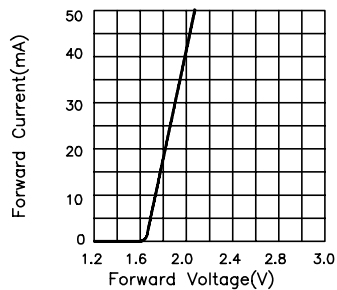


LUMINOUS INTENSITY Vs. FORWARD CURRENT

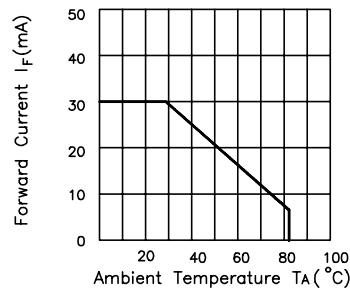


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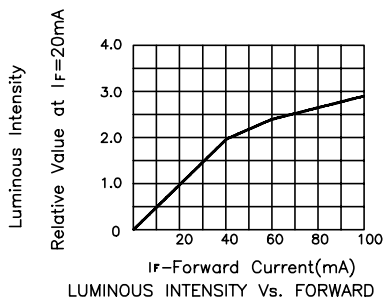
Super Bright Red KM-4457SRD, KM-4457SRC



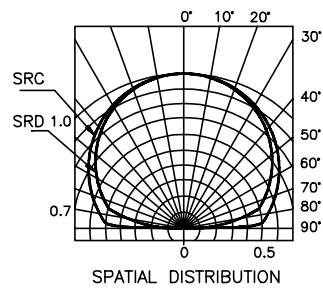
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION