Kingbright®

SUBMINIATURE SOLID STATE LAMPS

KM-24-003 SERIES KM-24-009 SERIES

KM-24-008 SERIES

Features

- •SUBMINIATURE PACKAGE.
- •WIDE VIEWING ANGLE.
- •GULL WING, YOKE LEADS, Z-BEND
- •LONG LIFE SOLID STATE RELIABILITY.
- •LOW PAKAGE PROFILE.

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.

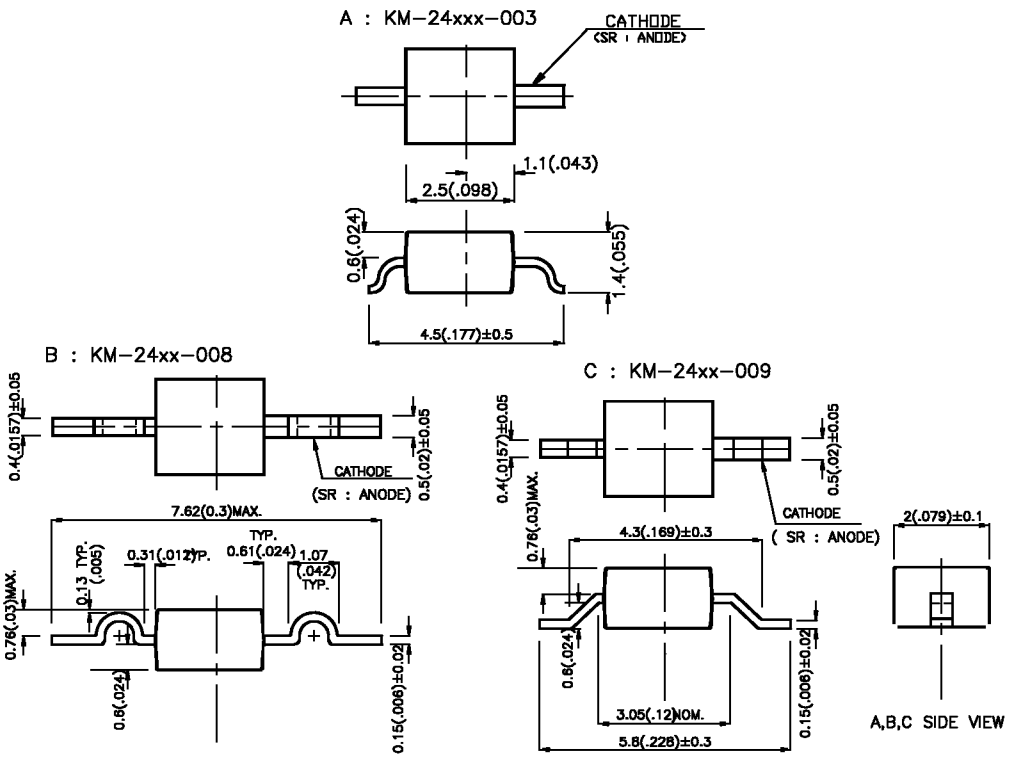
The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

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

The Super Bright Yellow source color devices are made with DH InGaAlP on GaAs substrate 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.	2θ1/2
KM-24ID-003	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	8	32	140°
KM-24EC-003		WATER CLEAR	8	32	140°
KM-24IT-003		RED TRANS.	8	32	140°
KM-24YD-003	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	3.2	8	140°
KM-24YC-003		WATER CLEAR	3.2	8	140°
KM-24YT-003		YELLOW TRANS.	3.2	8	140°
KM-24SRD-003	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	40	100	140°
KM-24SRC-003		WATER CLEAR	40	100	140°
KM-24SRT-003		RED TRANS.	40	100	140°
KM-24SGD-003	SUPER BRIGHT GREEN (GaP)	GREEN DIFFUSED	5	20	140°
KM-24SGC-003		WATER CLEAR	5	20	140°
KM-24SGT-003		GREEN TRANS.	5	20	140°
KM-24SYD-003	SUPER BRIGHT YELLOW (InGaAlP)	YELLOW DIFFUSED	40	80	140°
KM-24SYC-003		WATER CLEAR	40	80	140°
KM-24SYT-003		YELLOW TRANS.	40	80	140°

*Luminous intensity of KM-24xxx-008/009 series is same as the above in accordance with dice and lens type.

Note:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

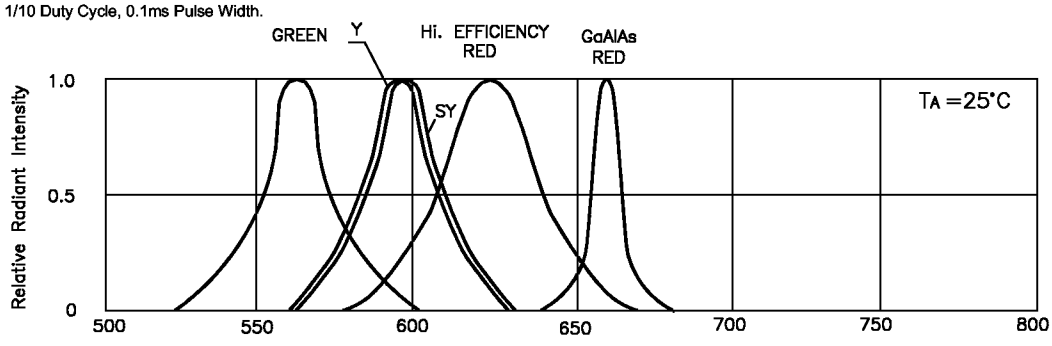
Electrical / Optical Characteristics at T_A=25° C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	High Efficiency Red Super Bright Green Yellow Super Bright Red Super Bright Yellow	625 565 590 660 595		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Super Bright Green Yellow Super Bright Red Super Bright Yellow	45 30 35 20 20		nm	IF=20mA
C	Capacitance	High Efficiency Red Super Bright Green Yellow Super Bright Red Super Bright Yellow	12 45 10 95 33		pF	VF=0V;f=1MHz
V_F	Forward Voltage	High Efficiency Red Super Bright Green Yellow Super Bright Red Super Bright Yellow	2.0 2.2 2.1 1.85 2.0	2.5 2.5 2.5 2.5 2.4	V	IF=20mA
I_R	Reverse Current	All	10		uA	VR = 5V

Absolute Maximum Ratings at T_A=25° C

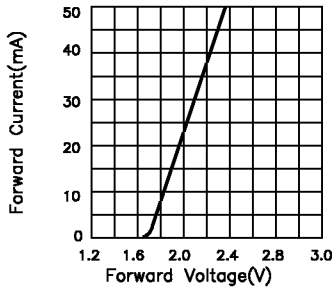
Parameter	High Efficiency Red	Yellow	Super Bright Red	Super Bright Green	Super Bright Yellow	Units
Power dissipation	105	105	100	105	125	mW
DC Forward Current	30	30	30	25	30	mA
Peak Forward Current [1]	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	V
Operating/Storage Temperature	-40 °C To +85 °C					

Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

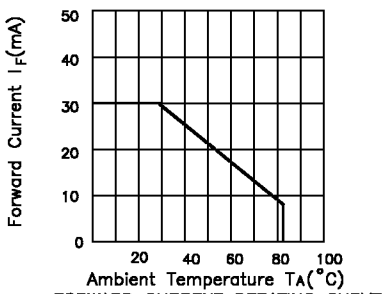


RELATIVE INTENSITY Vs. WAVELENGTH

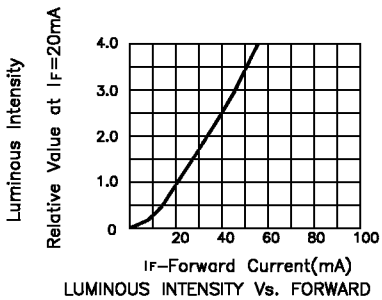
High Efficiency Red KM-24 Series



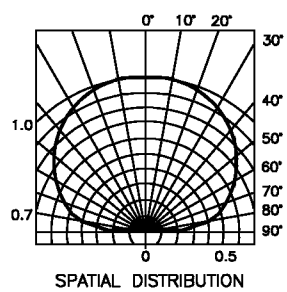
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

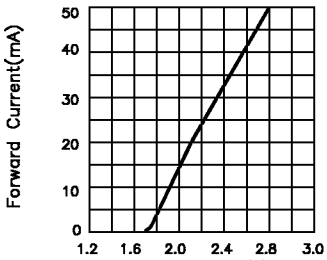


LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

Yellow KM-24 Series



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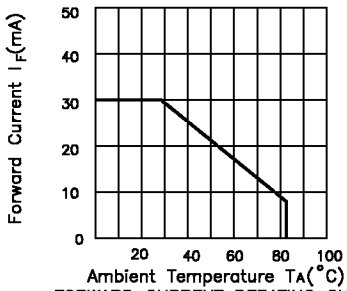

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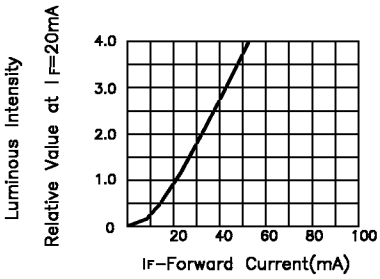
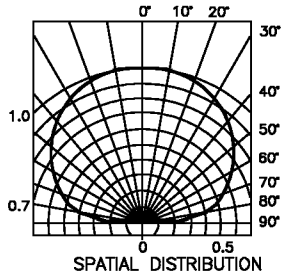
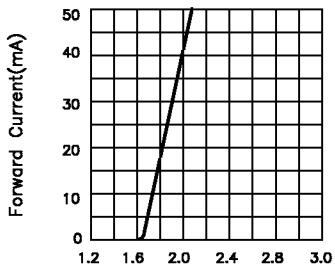




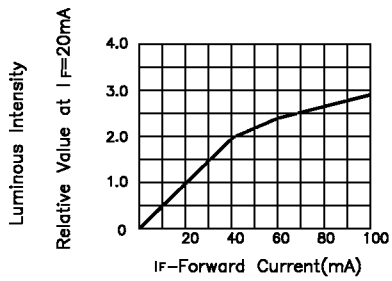
SPATIAL DISTRIBUTION

Super Bright Red KM-24 Series

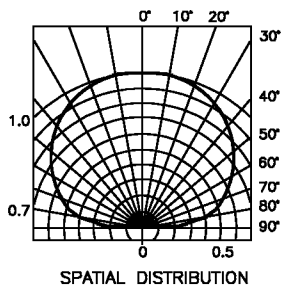


FORWARD CURRENT Vs. FORWARD VOLTAGE

FORWARD CURRENT DERATING CURVE

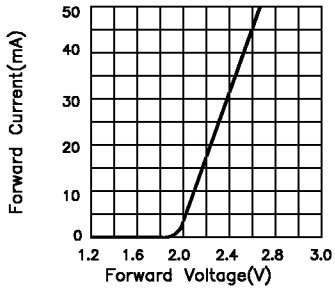


LUMINOUS INTENTSITY Vs. FORWARD CURRENT

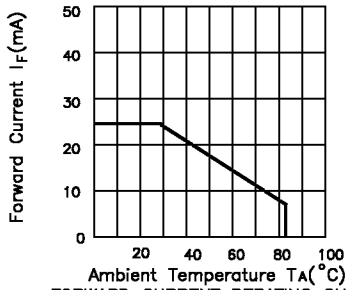


SPATIAL DISTRIBUTION

Super Bright Green KM-24 Series



FORWARD CURRENT Vs. FORWARD VOLTAGE



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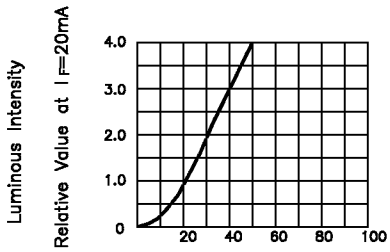
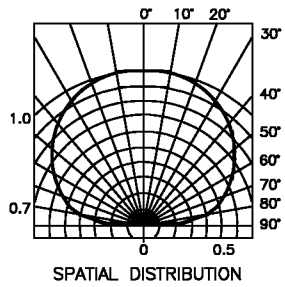
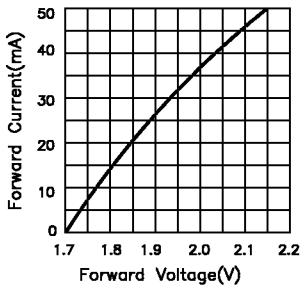


LUMINOUS INTENSITY Vs. FORWARD CURRENT

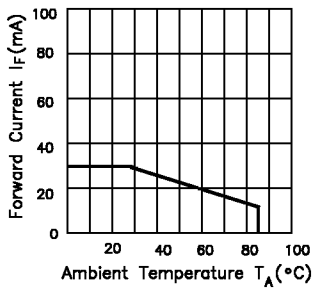


SPATIAL DISTRIBUTION

Super Bright Yellow KM-24 Series



FORWARD CURRENT Vs. FORWARD VOLTAGE



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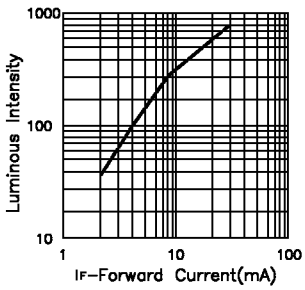
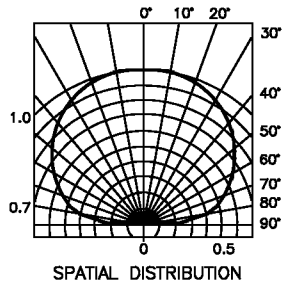
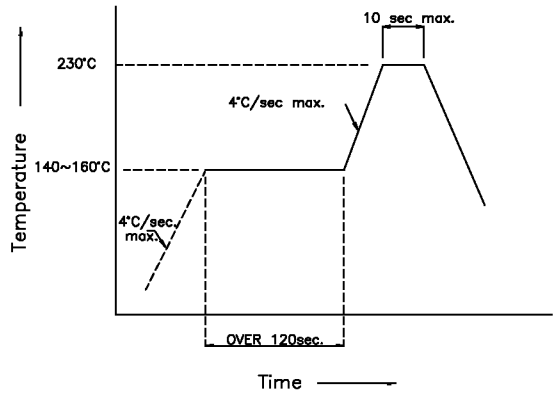


LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

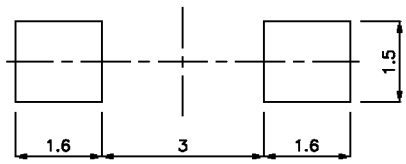
KM-24 Series SMT Reflow Soldering Instructions



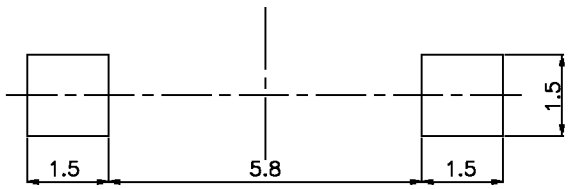
KM-24 Series Recommended Soldering Pattern

(Units : mm)

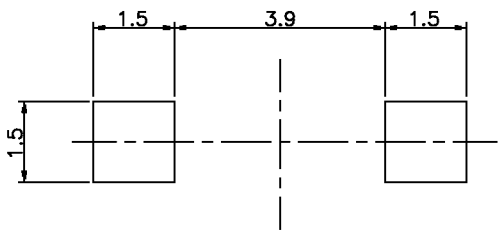
KM−24xx−003



KM−24xx−008



KM−24xx−009



KM-24 Series Tape Specifications

(Units : mm)