

3mm LEDs

Order code	Manufacturer code	Description
56-0300	L-424HDT	RED CYLINDRICAL 3MM LED
56-0305	L-424GDT	GREEN CYLINDRICAL 3MM LED
56-0310	L-424YDT	YELLOW CYLINDRICAL 3MM LED
56-0315	L-424EDT	AMBER CYLINDRICAL 3MM LED

3mm LEDs	Page 1 of 6
The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 04/07/2003

Kingbright®

T-1 (3mm) CYLINDRICAL LED LAMPS

L-424H BRIGHT RED L-424G GREEN
 L-424I HIGH EFFICIENCY RED L-424Y YELLOW
 L-424E ORANGE
 L-424SR SUPER BRIGHT RED

Features

- CYLINDRICAL TYPE, TOP DIFFUSED.
- LOW POWER CONSUMPTION.
- I.C. COMPATIBLE.
- RELIABLE AND RUGGED.
- LONG LIFE - SOLID STATE RELIABILITY.
- AVAILABLE ON TAPE AND REEL.

Description

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

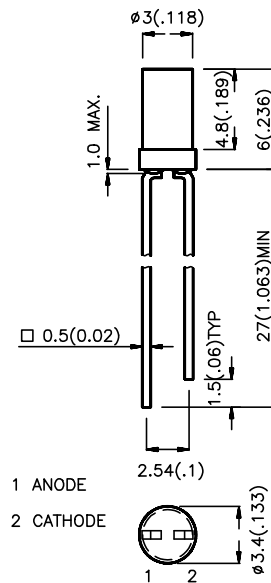
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

The High Efficiency Red and Orange 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 $\pm 0.25(0.01)$ 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) @ 10 mA		Viewing Angle
			Min.	Max.	$\theta_{1/2}$
L-424HDT	BRIGHT RED (GaP)	RED DIFFUSED	0.5	3.2	100°
L-424IDT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	3.2	12.5	100°
L-424EDT	ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	3.2	12.5	100°
L-424GDT	GREEN (GaP)	GREEN DIFFUSED	1.3	8	100°
L-424YDT	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	1.3	8	100°
L-424SRDT	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	*40	*80	100°

- Notes:
1. $\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
 2. * Luminous intensity with asterisk is measured at 20mA.

Electrical / Optical Characteristics at T_A=25°C

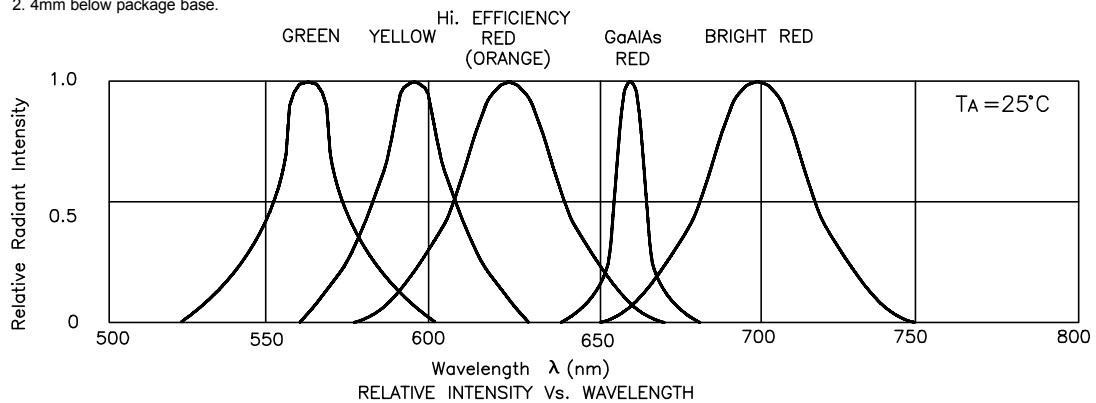
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	700 625 625 565 590 660		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	45 45 45 30 35 20		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	40 12 12 45 10 95		pF	VF=0V;f=1MHz
V _F	Forward Voltage	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	2.0 2.0 2.0 2.2 2.1 1.85	2.5 2.5 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

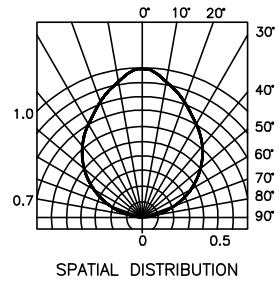
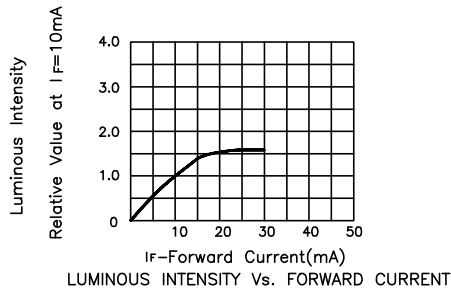
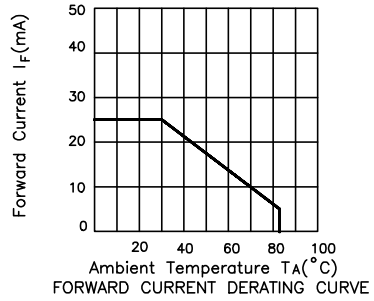
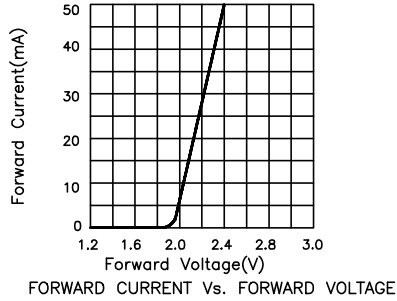
Parameter	Bright Red	High Efficiency Red	Orange	Green	Yellow	Super Bright Red	Units
Power dissipation	120	105	105	105	105	100	mW
DC Forward Current	25	30	30	25	30	30	mA
Peak Forward Current [1]	150	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C						
Lead Soldering Temperature [2]	260°C For 5 Seconds						

Notes:

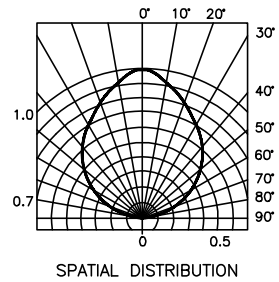
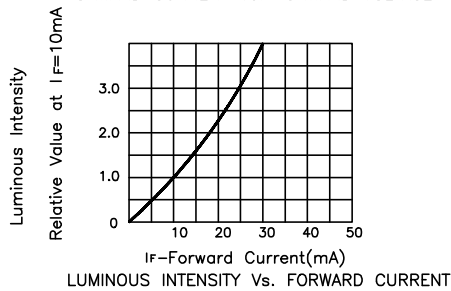
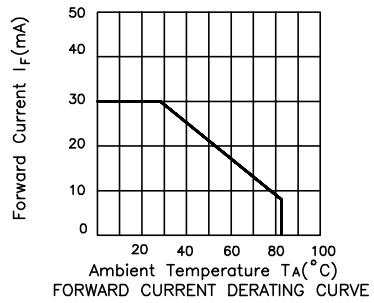
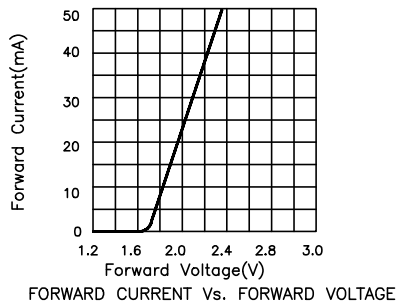
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.



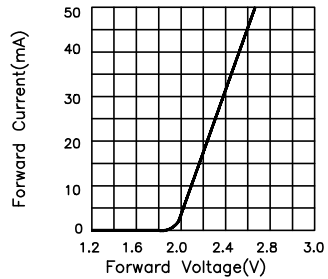
Bright Red L-424HDT



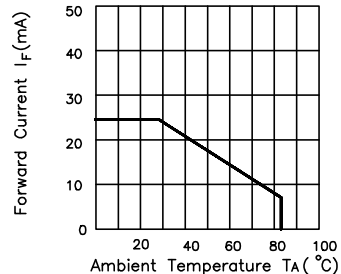
High Efficiency Red L-424IDT Orange L-424EDT



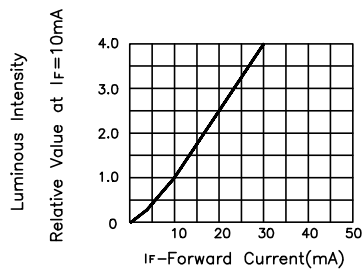
Green L-424GDT



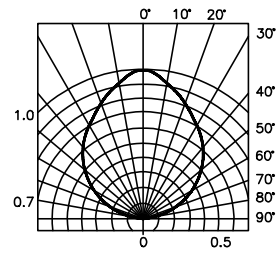
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

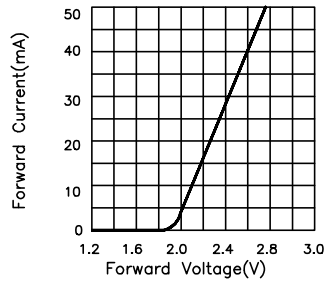


LUMINOUS INTENSITY Vs. FORWARD CURRENT

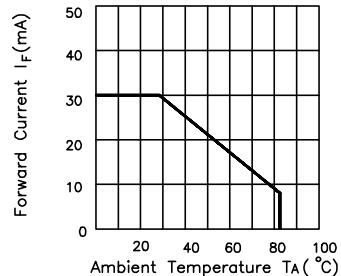


SPATIAL DISTRIBUTION

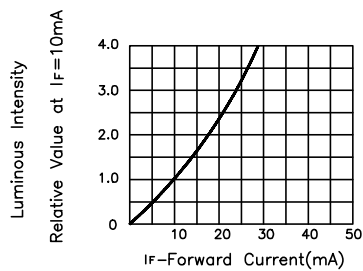
Yellow L-424YDT



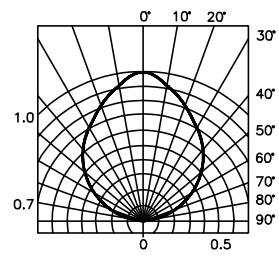
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

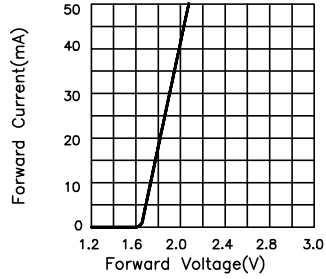


LUMINOUS INTENSITY Vs. FORWARD CURRENT

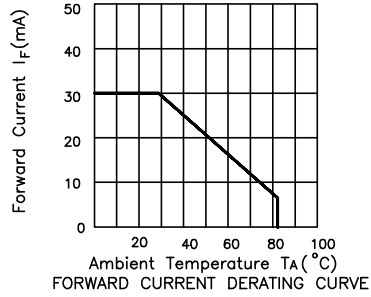


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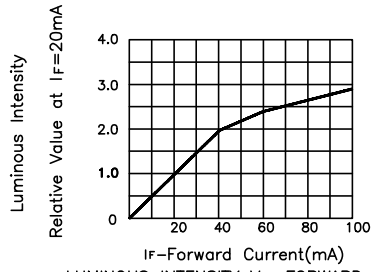
Super Bright Red L-424SRDT



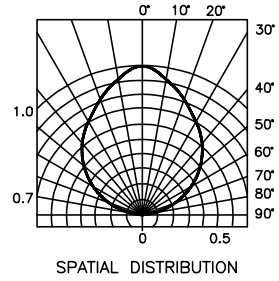
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION