

L-7104Ix HIGH EFFICIENCY RED	L-7104Gx GREEN
L-7104Ex ORANGE	L-7104Yx YELLOW
L-7104Nx PURE ORANGE	L-7104PGx PURE GREEN

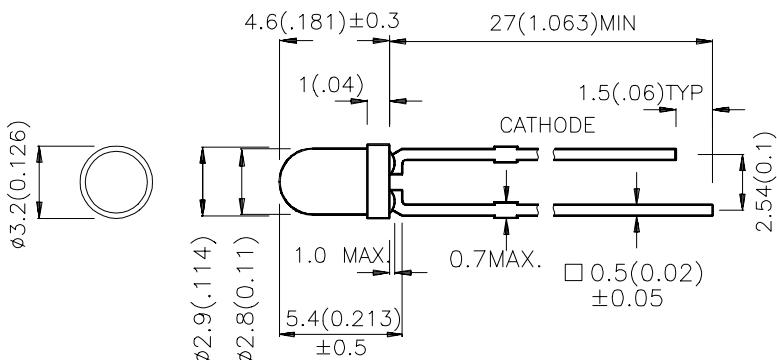
### Features

- HIGH INTENSITY.
- LOW POWER CONSUMPTION.
- POPULAR T-1 DIAMETER PACKAGE.
- GENERAL PURPOSE LEADS.
- RELIABLE AND RUGGED.
- LONG LIFE - SOLID STATE RELIABILITY.
- AVAILABLE ON TAPE AND REEL.

### Description

The High Efficiency Red and Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.  
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.  
The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.  
The Pure Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Pure Orange Light Emitting Diode.  
The Pure Green source color devices are made with Gallium Phosphide Pure Green 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 subject to change without notice.

## Selection Guide

Part No.	Dice	Lens Type	I <sub>v</sub> (mcd) @ 10 mA		Viewing Angle
			Min.	Typ.	
L-7104ID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	8	25	40°
L-7104IT		RED TRANSPARENT	20	60	34°
L-7104EC		WATER CLEAR	20	60	34°
L-7104ED	ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	8	20	40°
L-7104GD	GREEN (GaP)	GREEN DIFFUSED	8	20	40°
L-7104GT		GREEN TRANSPARENT	20	60	34°
L-7104GC		WATER CLEAR	20	60	34°
L-7104YD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	5	15	40°
L-7104YT		YELLOW TRANSPARENT	8	20	34°
L-7104YC		WATER CLEAR	8	20	34°
L-7104ND	PURE ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	8	30	40°
L-7104NT		ORANGE TRANSPARENT	20	50	34°
L-7104NC		WATER CLEAR	20	50	34°
L-7104PGD	PURE GREEN (GaP)	GREEN DIFFUSED	2	5	40°
L-7104PGT		GREEN TRANSPARENT	3	15	34°
L-7104PGC		WATER CLEAR	3	15	34°

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<sub>A</sub>=25°C

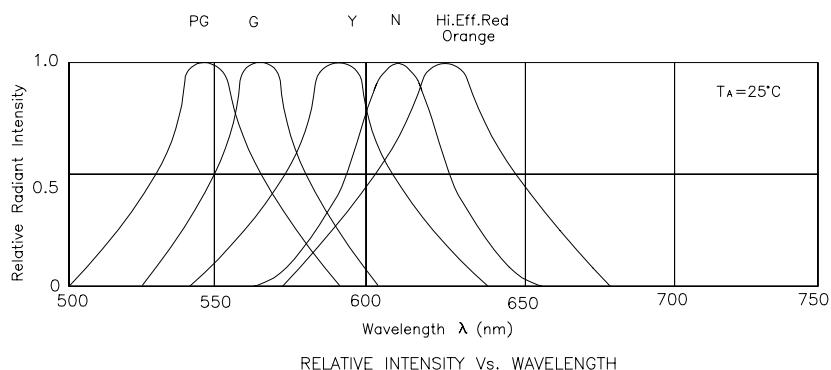
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ <sub>peak</sub>	Peak Wavelength	High Efficiency Red Orange Green Yellow Pure Orange Pure Green	627 627 565 590 607 555		nm	IF=20mA
λ D	Dominate Wavelength	High Efficiency Red Orange Green Yellow Pure Orange Pure Green	625 625 568 588 610 555		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	High Efficiency Red Orange Green Yellow Pure Orange Pure Green	45 45 30 35 35 30		nm	IF=20mA
C	Capacitance	High Efficiency Red Orange Green Yellow Pure Orange Pure Green	15 15 15 20 15 45		pF	VF=0V;f=1MHz
V <sub>F</sub>	Forward Voltage	High Efficiency Red Orange Green Yellow Pure Orange Pure Green	2.0 2.0 2.2 2.1 2.05 2.25	2.5 2.5 2.5 2.5 2.5 2.5	V	IF=20mA
I <sub>R</sub>	Reverse Current	All		10	uA	VR = 5V

## Absolute Maximum Ratings at $T_A=25^\circ\text{C}$

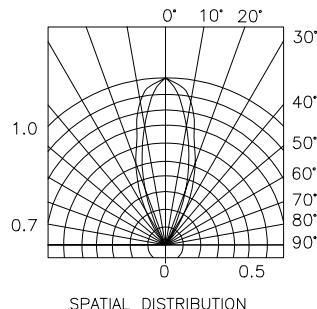
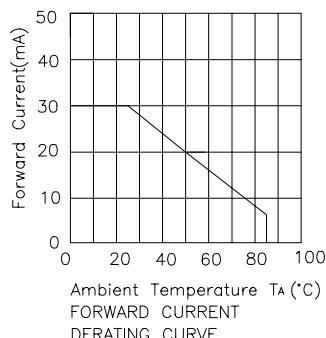
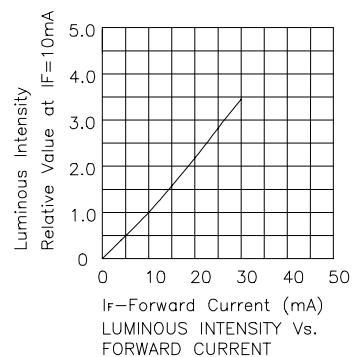
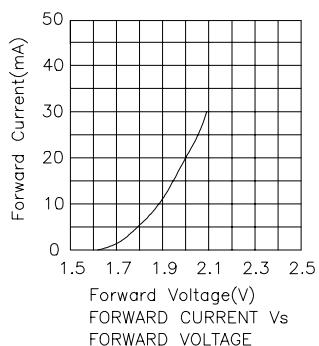
Parameter	High Efficiency Red	Orange	Green	Yellow	Pure Orange	Pure Green	Units
Power dissipation	105	105	105	105	105	105	mW
DC Forward Current	30	30	25	30	30	25	mA
Peak Forward Current [1]	160	160	140	140	145	135	mA
Reverse Voltage	5	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C						
Lead Soldering Temperature [2]	260°C For 5 Seconds						

Notes:

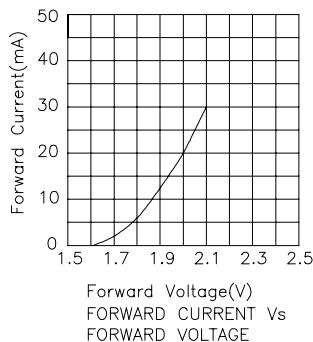
- 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.



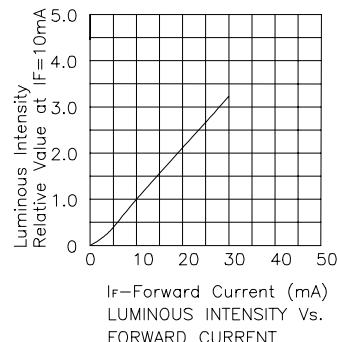
## High Efficiency Red L-7104ID,L-7104IT



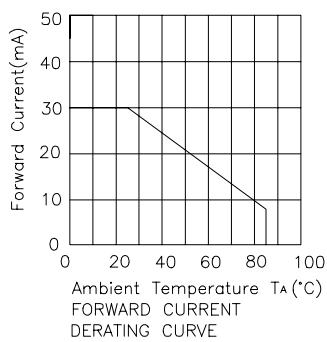
## High Efficiency Red L-7104EC Orange L-7104ED



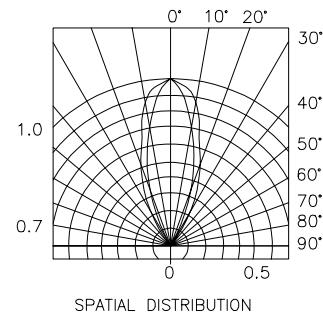
Forward Voltage(V)  
FORWARD CURRENT Vs  
FORWARD VOLTAGE



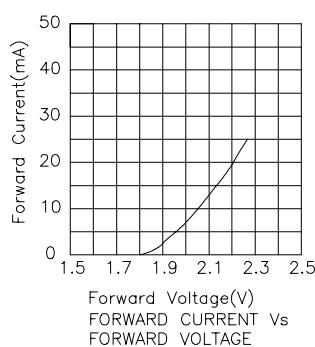
If=Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT



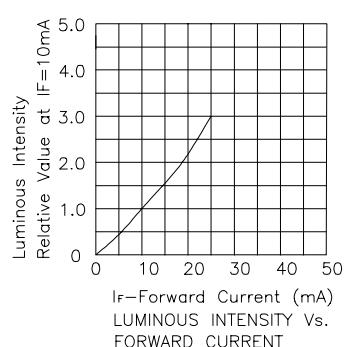
Ambient Temperature Ta (°C)  
FORWARD CURRENT  
DERATING CURVE



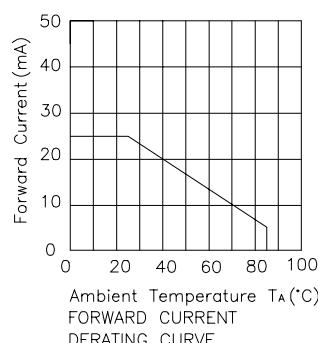
SPATIAL DISTRIBUTION



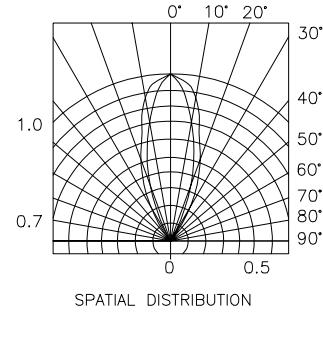
Forward Voltage(V)  
FORWARD CURRENT Vs  
FORWARD VOLTAGE



If=Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT

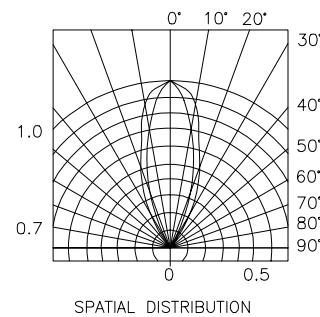
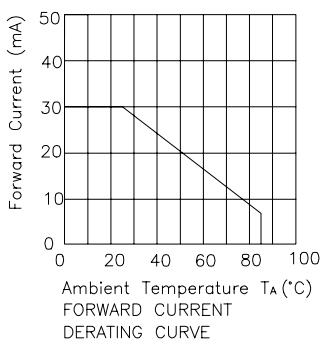
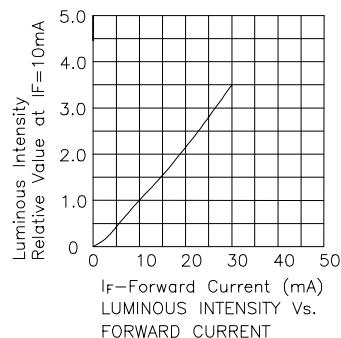
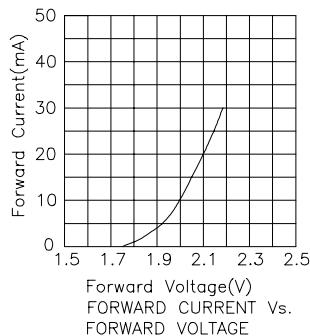


Ambient Temperature Ta (°C)  
FORWARD CURRENT  
DERATING CURVE

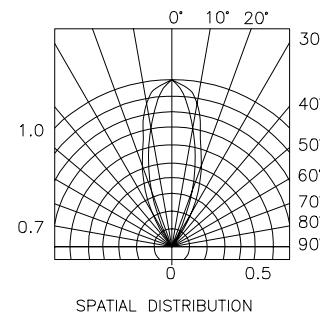
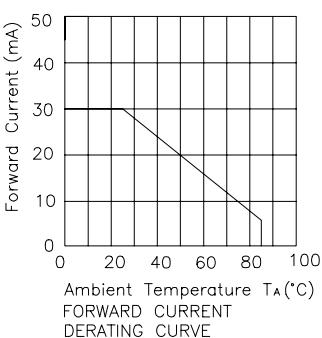
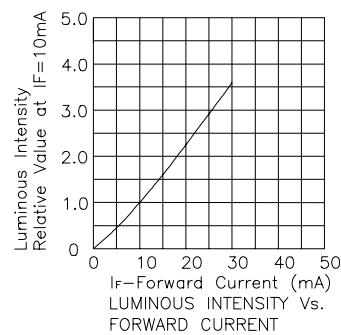
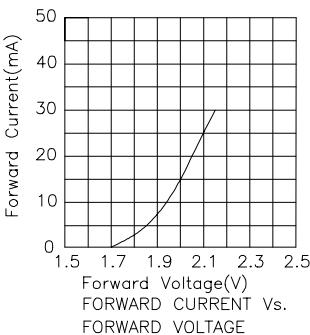


SPATIAL DISTRIBUTION

## Yellow L-7104YD,L-7104YC,L-7104YT



## Pure Orange L-7104ND,L-7104NC,L-7104NT



## Pure Green L-7104PGD,L-7104PGC,L-7104PGT

