

Features

- 3.2mmx1.6mm SMT LED, 1.0mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.

APTR3216 SERIES

Description

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

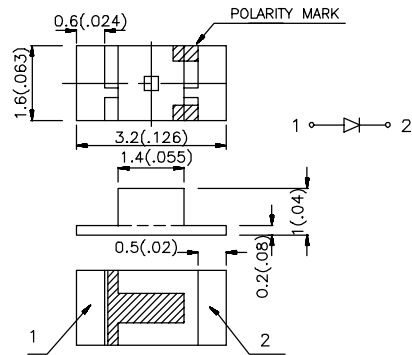
The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Super Bright 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 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 $\pm 0.2(0.0079)$ 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.	Typ.	2 θ 1/2
APTR3216HD	BRIGHT RED (GaP)	RED DIFFUSED	0.8	1.2	120°
APTR3216HC	BRIGHT RED (GaP)	WATER CLEAR	0.8	1.2	120°
APTR3216ID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	5	12	120°
APTR3216EC	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	5	12	120°
APTR3216SGD	SUPER BRIGHT GREEN (GaP)	GREEN DIFFUSED	3	12	120°
APTR3216SGC	SUPER BRIGHT GREEN (GaP)	WATER CLEAR	3	12	120°
APTR3216QYW	SUPER BRIGHT GREEN (GaP)	WHITE DIFFUSED	3	12	120°
APTR3216YD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	3	8	120°
APTR3216YC	YELLOW (GaAsP/GaP)	WATER CLEAR	3	8	120°
APTR3216SRDPRV	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	40	70	120°
APTR3216SRCPRV	SUPER BRIGHT RED (GaAlAs)	WATER CLEAR	40	70	120°
APTR3216SRWPRV	SUPER BRIGHT RED (GaAlAs)	WHITE DIFFUSED	40	70	120°

Note:

1. $\theta 1/2$ is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

Electrical / Optical Characteristics at $T_A=25^\circ\text{C}$

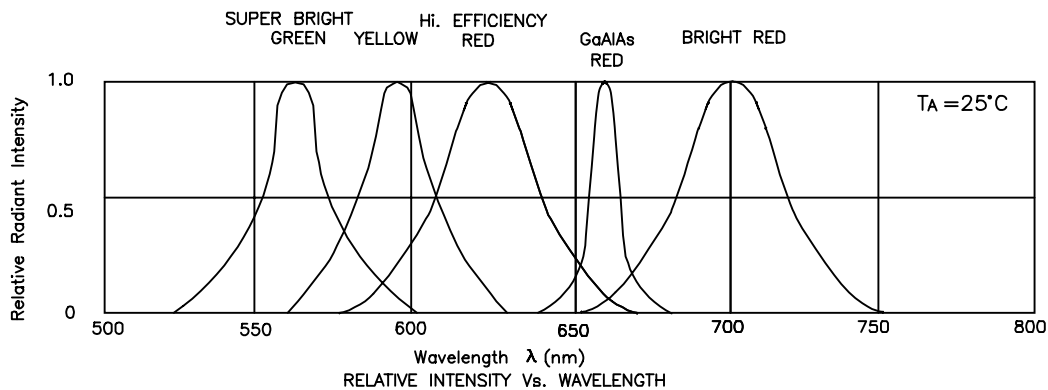
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Bright Red High Efficiency Red Super Bright Green Yellow Super Bright Red	700 625 565 590 660		nm	$I_F=20\text{mA}$
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	Bright Red High Efficiency Red Super Bright Green Yellow Super Bright Red	45 45 30 35 20		nm	$I_F=20\text{mA}$
C	Capacitance	Bright Red High Efficiency Red Super Bright Green Yellow Super Bright Red	40 12 45 10 95		pF	$V_F=0\text{V}; f=1\text{MHz}$
V_F	Forward Voltage	Bright Red High Efficiency Red Super Bright Green Yellow Super Bright Red	2.0 2.0 2.2 2.1 1.85	2.5 2.5 2.5 2.5 2.5	V	$I_F=20\text{mA}$
I_R	Reverse Current	All		10	μA	$V_R = 5\text{V}$

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

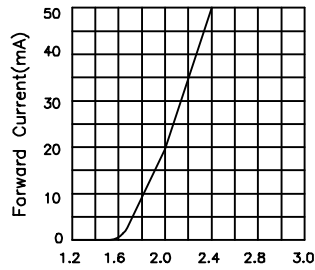
Parameter	Bright Red	High Efficiency Red	Super Bright Green	Yellow	Super Bright Red	Units
Power dissipation	120	105	105	105	100	mW
DC Forward Current	25	30	25	30	30	mA
Peak Forward Current [1]	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C					
Lead Soldering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

Notes:

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



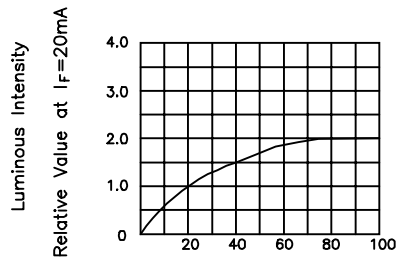
Bright Red APTR3216HD,APTR3216HC



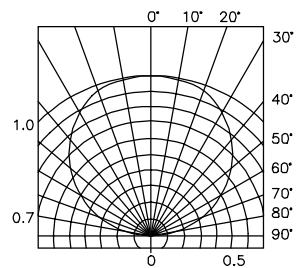
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

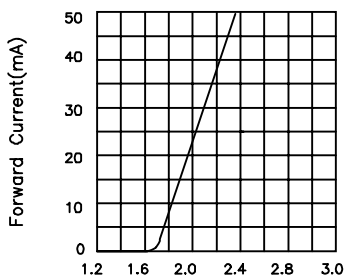


LUMINOUS INTENSITY Vs. FORWARD CURRENT

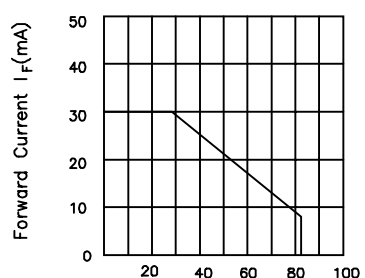


SPATIAL DISTRIBUTION

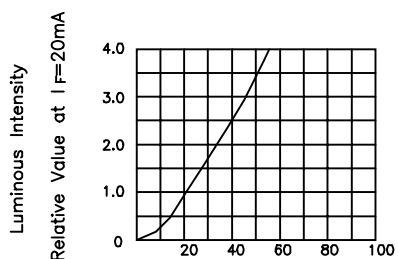
High Efficiency Red APTR3216ID,APTR3216EC



FORWARD CURRENT Vs. FORWARD VOLTAGE

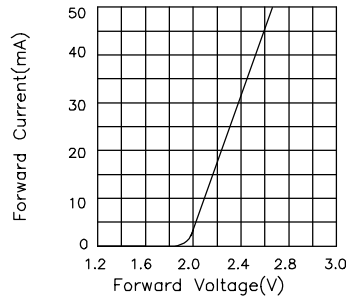


FORWARD CURRENT DERATING CURVE

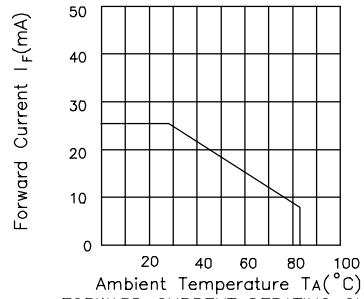


SPATIAL DISTRIBUTION

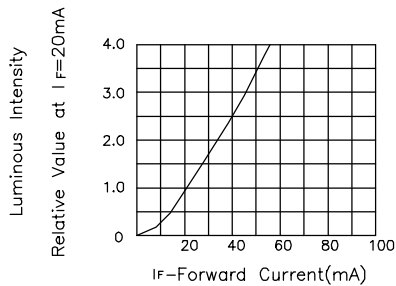
Super Bright Green APTR3216SGD,APTR3216SGC,APTR3216QYW



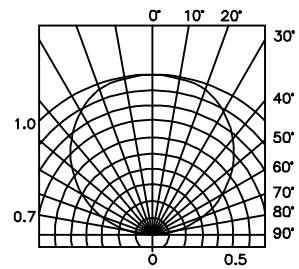
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

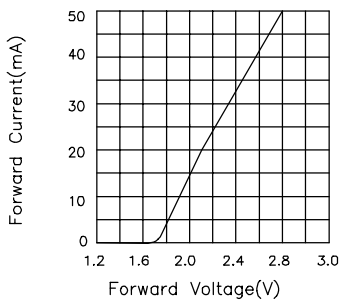


LUMINOUS INTENSITY Vs. FORWARD CURRENT

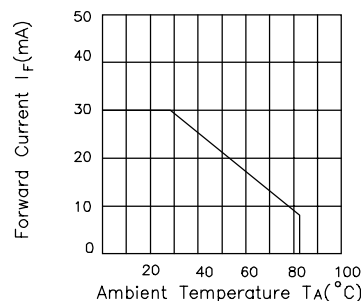


SPATIAL DISTRIBUTION

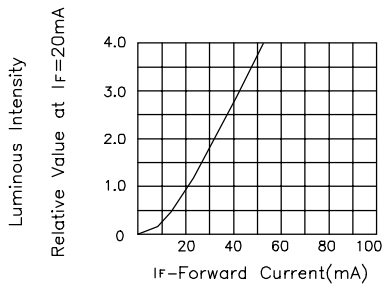
Yellow APTR3216YD,APTR3216YC



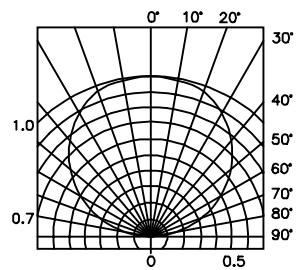
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

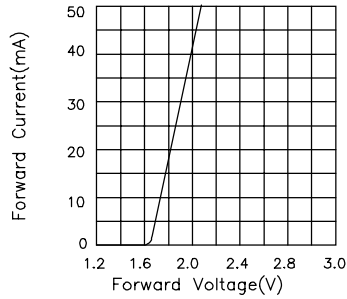


LUMINOUS INTENSITY Vs. FORWARD CURRENT

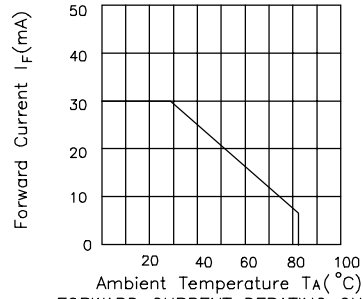


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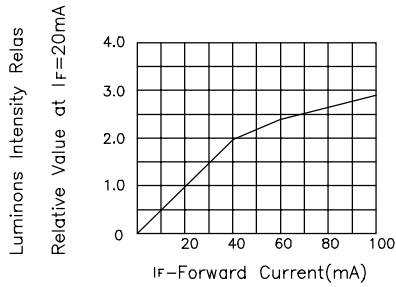
Super Bright Red APTR3216SRDPRV, APTR3216SRCPRV, APTR3216SRWPRV



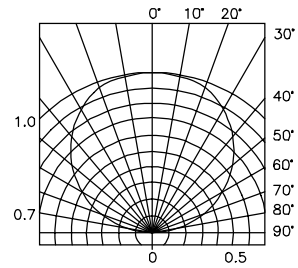
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

APTR3216 SERIES SMT Reflow Soldering Instructions

