

DC-20/20EWA	HIGH EFFICIENCY RED
DC-20/20GWA	GREEN
DC-20/20YWA	YELLOW
DC-20/20SRWA	SUPER BRIGHT RED

### Features

- SUITABLE FOR LEVEL INDICATORS.
- LOW CURRENT OPERATION.
- EXCELLENT ON/OFF CONTRAST.
- WIDE VIEWING ANGLE.
- END STACKABLE.
- MECHANICALLY RUGGED.
- BI-COLOR VERSION AVAILABLE.
- DIFFERENT COLORS IN ONE UNIT AVAILABLE.
- STANDARD : GRAY FACE, WHITE SEGMENT

### Description

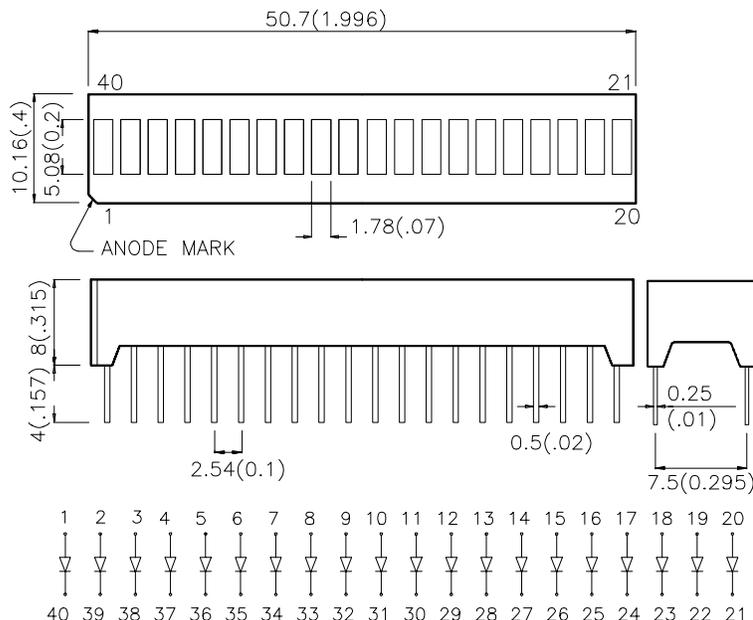
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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 & Internal Circuit Diagram



#### 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	Iv (ucd) @ 10 mA		Description
		Min.	Typ.	
DC-20/20EWA	HIGH EFFICIENCY RED (GaAsP/GaP)	2200	9000	20 Segments Bargraph-Display
DC-20/20GWA	GREEN (GaP)	3600	9000	
DC-20/20YWA	YELLOW (GaAsP/GaP)	3600	9000	
DC-20/20SRWA	SUPER BRIGHT RED (GaAlAs)	9000	31000	

## Electrical / Optical Characteristics at T<sub>A</sub>=25°C

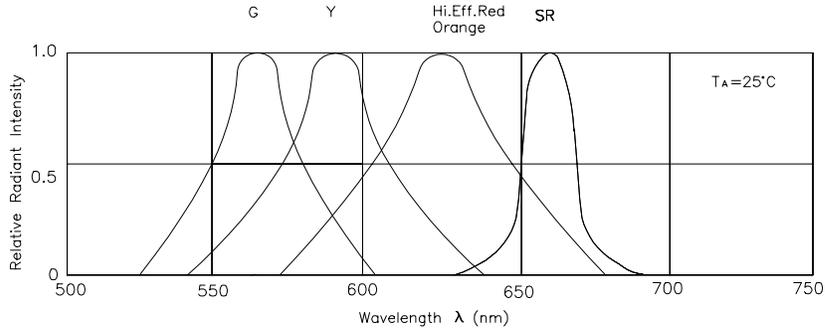
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	High Efficiency Red Green Yellow Super Bright Red	627 565 590 660		nm	IF=20mA
$\lambda_D$	Dominate Wavelength	High Efficiency Red Green Yellow Super Bright Red	625 568 588 640		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Green Yellow Super Bright Red	45 30 35 20		nm	IF=20mA
C	Capacitance	High Efficiency Red Green Yellow Super Bright Red	15 15 20 45		pF	VF=0V;f=1MHz
V <sub>F</sub>	Forward Voltage	High Efficiency Red Green Yellow Super Bright Red	2.0 2.2 2.1 1.85	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<sub>A</sub>=25°C

Parameter	High Efficiency Red	Green	Yellow	Super Bright Red	Units
Power dissipation	105	105	105	100	mW
DC Forward Current	30	25	30	30	mA
Peak Forward Current [1]	160	140	140	155	mA
Reverse Voltage	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C				
Lead Solder Temperature [2]	260°C For 5 Seconds				

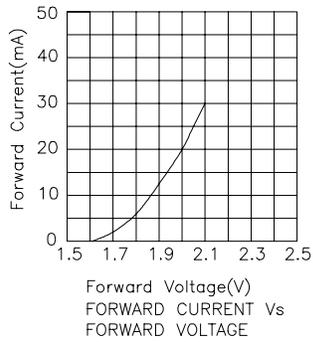
Notes:

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

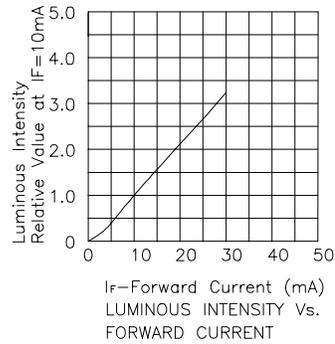


RELATIVE INTENSITY Vs. WAVELENGTH

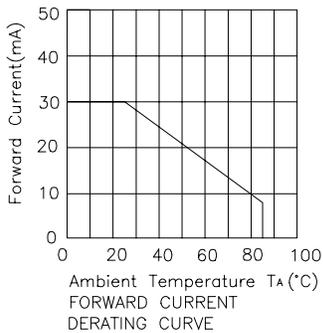
## High Efficiency Red DC-20/20EWA



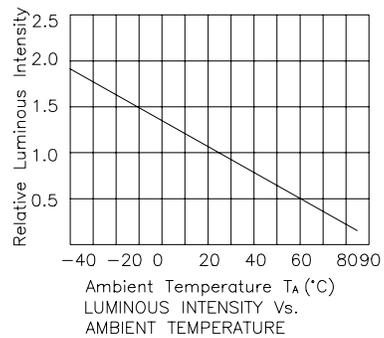
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT

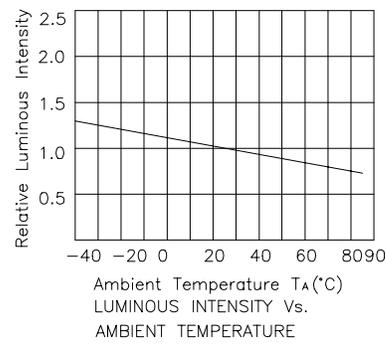
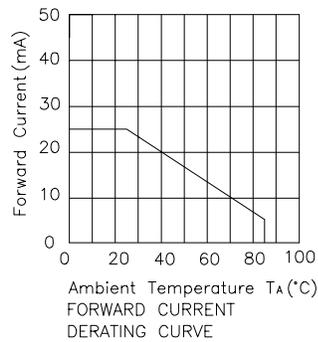
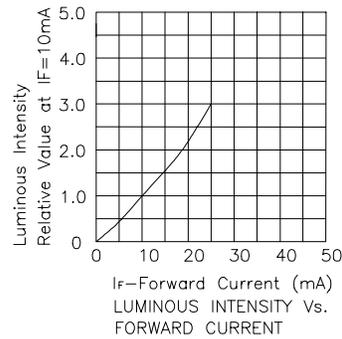
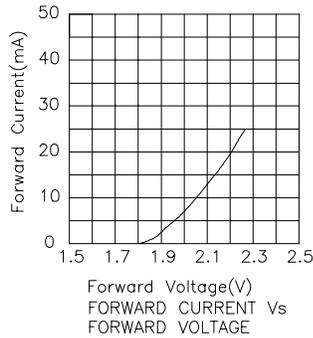


FORWARD CURRENT DERATING CURVE

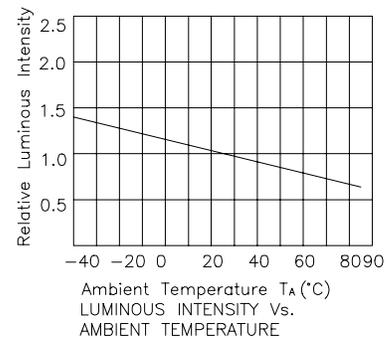
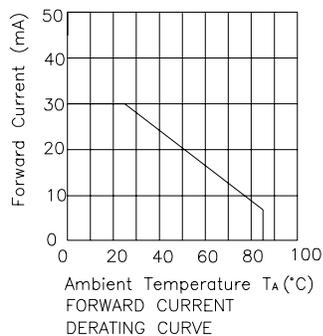
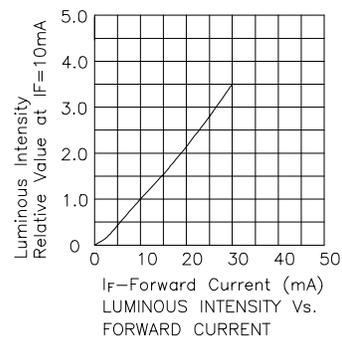
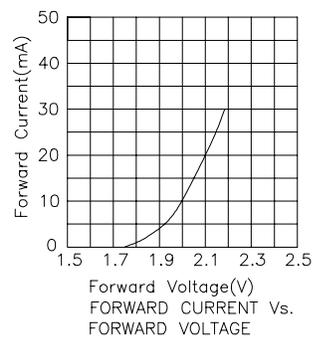


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

## Green DC-20/20GWA



## Yellow DC-20/20YWA



## Super Bright Red DC-20/20SRWA

