

SA04-11EWA/GWA/YWA/SRWA

SC04-11EWA/GWA/YWA/SRWA

SA04-12EWA/GWA/YWA/SRWA

SC04-12EWA/GWA/YWA/SRWA

### Features

- 0.4 INCH DIGIT HEIGHT.
- LOW CURRENT OPERATION.
- EXCELLENT CHARACTER APPEARANCE.
- EASY MOUNTING ON P.C. BOARDS OR SOCKETS.
- I.C. COMPATIBLE.
- CATEGORIZED FOR LUMINOUS INTENSITY,  
YELLOW AND GREEN CATEGORIZED FOR COLOR.
- MECHANICALLY RUGGED.
- STANDARD : GRAY FACE, WHITE SEGMENT.

### Description

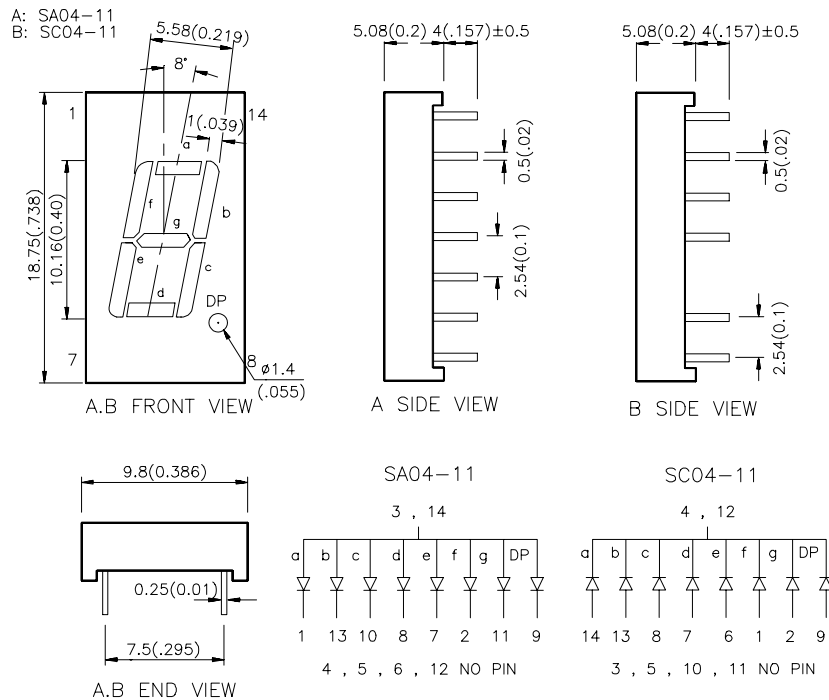
The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

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

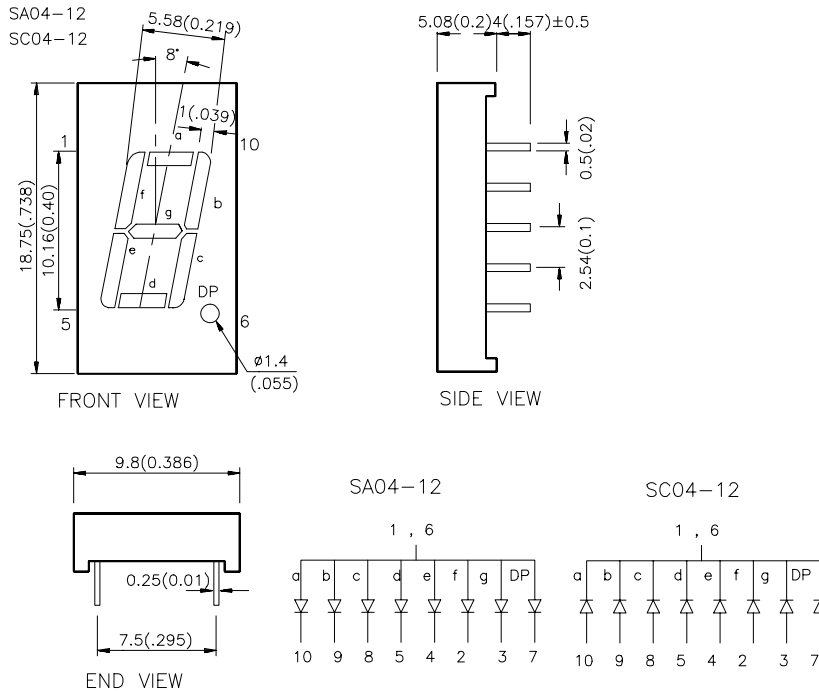
### Package Dimensions & Internal Circuit Diagram



#### Notes:

1. All dimensions are in millimeters (inches), Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
2. Specifications are subject to change without notice.

## Package Dimensions & Internal Circuit Diagram



### Notes:

1. All dimensions are in millimeters (inches), Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
2. Specifications are subject to change without notice.

## Selection Guide

Part No.	Dice	Iv (ucd) @ 10 mA		Description
		Min.	Typ.	
SA04-11EWA SA04-12EWA	HIGH EFFICIENCY RED (GaAsP/GaP)	3000	8000	Common Anode.Rt.Hand.Decimal
SC04-11EWA SC04-12EWA				Common Cathode.Rt.Hand.Decimal
SA04-11GWA SA04-12GWA	GREEN (GaP)	3600	12000	Common Anode.Rt.Hand.Decimal
SC04-11GWA SC04-12GWA				Common Cathode.Rt.Hand.Decimal
SA04-11YWA SA04-12YWA	YELLOW (GaAsP/GaP)	1900	4700	Common Anode.Rt.Hand.Decimal
SC04-11YWA SC04-12YWA				Common Cathode.Rt.Hand.Decimal
SA04-11SRWA SA04-12SRWA	SUPER BRIGHT RED (GaAlAs)	8000	18000	Common Anode.Rt.Hand.Decimal
SC04-11SRWA SC04-12SRWA				Common Cathode.Rt.Hand.Decimal

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

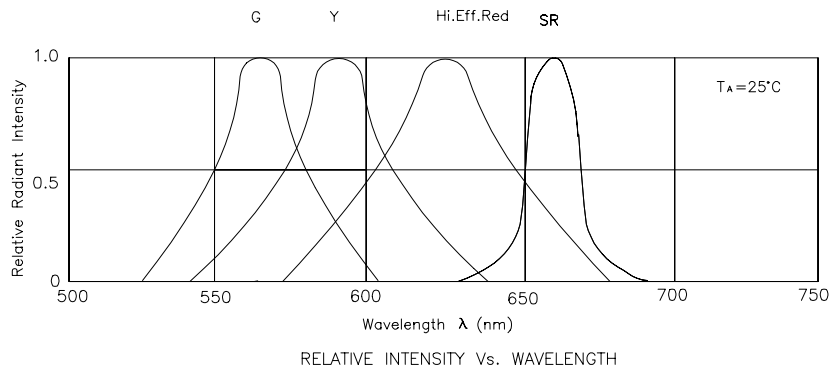
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{\text{peak}}$	Peak Wavelength	High Efficiency Red Green Yellow Super Bright Red	627 565 590 660		nm	IF=20mA
$\lambda_D$	Dominate Wavelength	High Efficiency Red Green Yellow Super Bright Red	625 568 588 640		nm	IF=20mA
$\Delta\lambda_{1/2}$	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
$V_F$	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
$I_R$	Reverse Current	All		10	$\mu\text{A}$	VR = 5V

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

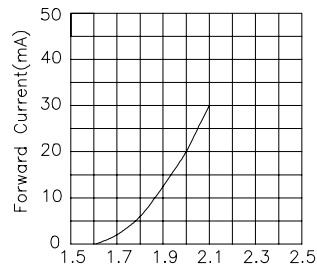
Parameter	High Efficiency Red	Green	Yellow	Super Bright Red	Units
Power dissipation	105	105	105	100	mW
DC Forward Current	30	25	30	30	mA
Peak Forward Current [1]	160	140	140	155	mA
Reverse Voltage	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C				
Lead Solder Temperature [2]	260°C For 5 Seconds				

### Notes:

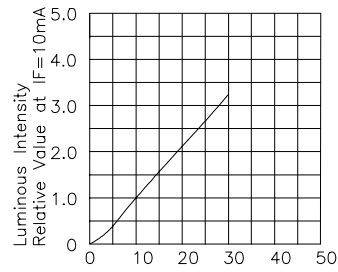
- 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.



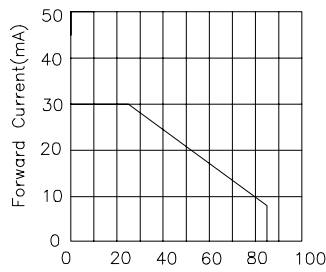
## High Efficiency Red



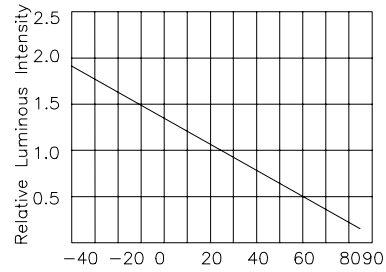
Forward Voltage(V)  
FORWARD CURRENT Vs  
FORWARD VOLTAGE



$I_F$ -Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT

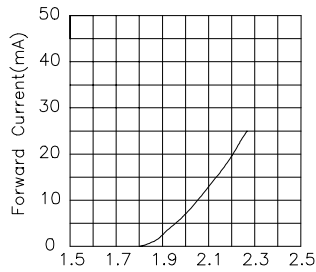


Ambient Temperature  $T_A$  (°C)  
FORWARD CURRENT  
DERATING CURVE

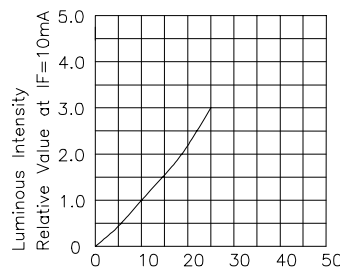


Ambient Temperature  $T_A$  (°C)  
LUMINOUS INTENSITY Vs.  
AMBIENT TEMPERATURE

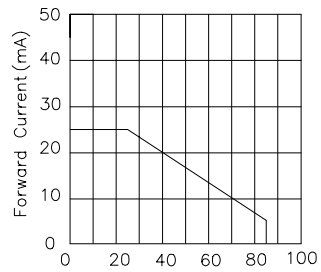
## Green



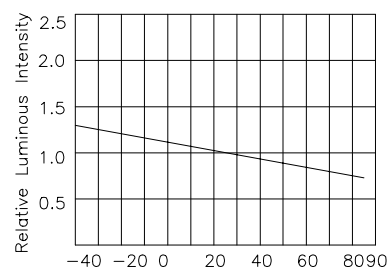
Forward Voltage(V)  
FORWARD CURRENT Vs  
FORWARD VOLTAGE



$I_F$ -Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT

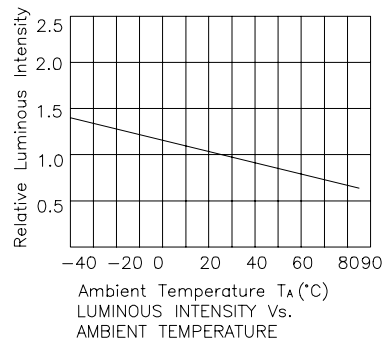
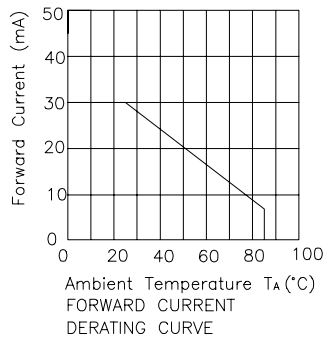
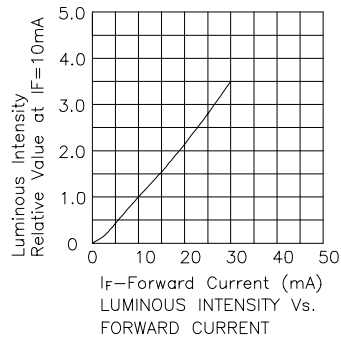
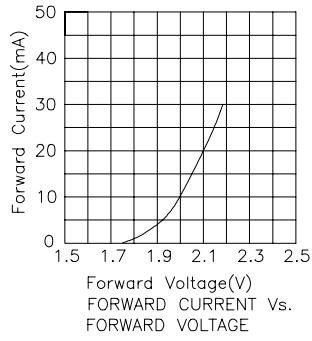


Ambient Temperature  $T_A$  (°C)  
FORWARD CURRENT  
DERATING CURVE



Ambient Temperature  $T_A$  (°C)  
LUMINOUS INTENSITY Vs.  
AMBIENT TEMPERATURE

## Yellow



## Super Bright Red

