PSA05-11EWA/GWA/YWA/SRWA

PSC05-11EWA/GWA/YWA/SRWA

PSA05-12EWA/GWA/YWA/SRWA

PSC05-12EWA/GWA/YWA/SRWA

## Features

- ●0.5 INCH CHARACTER HEIGHT.
- ●LOW CURRENT OPERATION.
- ●HIGH CONTRAST AND LIGHT OUTPUT.
- ●COMMON CATHODE AND COMMON ANODE AVAILABLE.
- ●EASY MOUNTING ON P.C. BOARDS OR SOCKETS.
- ●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.

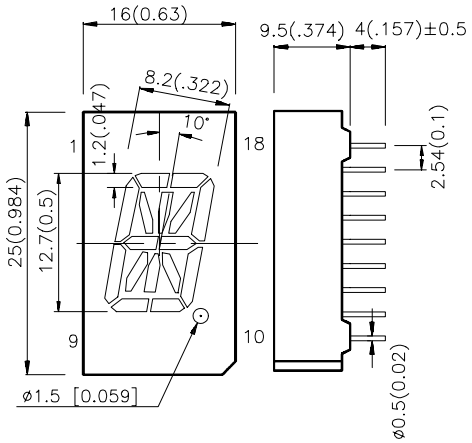
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

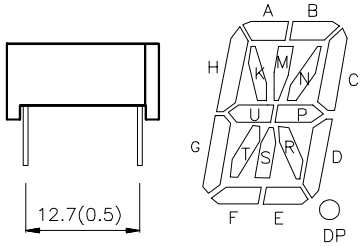
The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

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

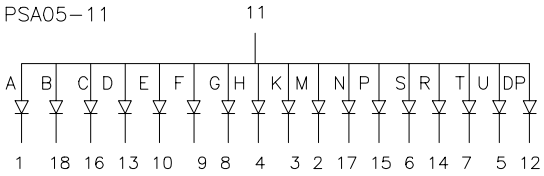
## Package Dimensions & Internal Circuit Diagram

PSA/PSC05−11
PSA/PSC05−12




PSA05−11

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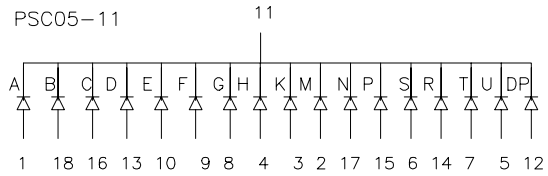


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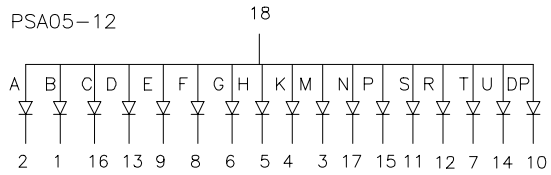
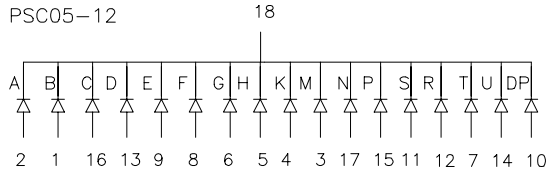



PSC05−12




Notes:
1. All dimensions are in millimeters (inches), Tolerance is ±0.25(0.01")unless otherwise noted.
2. Specifications are subject to change whitout notice.

## Selection Guide

| Part No. | Dice | Iv (ucd) @ 10 mA | | Description |
|---|---|---|---|---|
| | | Min. | Typ. | |
| PSA05-11EWA<br>PSA05-12EWA | HIGH EFFICIENCY RED (GaAsP/GaP) | 1200 | 4100 | Common Anode, Rt. Hand Decimal |
| PSC05-11EWA<br>PSC05-12EWA | | | | Common Cathode, Rt. Hand Decimal |
| PSA05-11GWA<br>PSA05-12GWA | GREEN (GaP) | 1900 | 4700 | Common Anode, Rt. Hand Decimal |
| PSC05-11GWA<br>PSC05-12GWA | | | | Common Cathode, Rt. Hand Decimal |
| PSA05-11YWA<br>PSA05-12YWA | YELLOW (GaAsP/GaP) | 1200 | 3000 | Common Anode, Rt. Hand Decimal |
| PSC05-11YWA<br>PSC05-12YWA | | | | Common Cathode, Rt. Hand Decimal |
| PSA05-11SRWA<br>PSA05-12SRWA | SUPER BRIGHT RED (GaAlAs) | 8000 | 18000 | Common Anode, Rt. Hand Decimal |
| PSC05-11SRWA<br>PSC05-12SRWA | | | | Common Cathode, Rt. Hand Decimal |

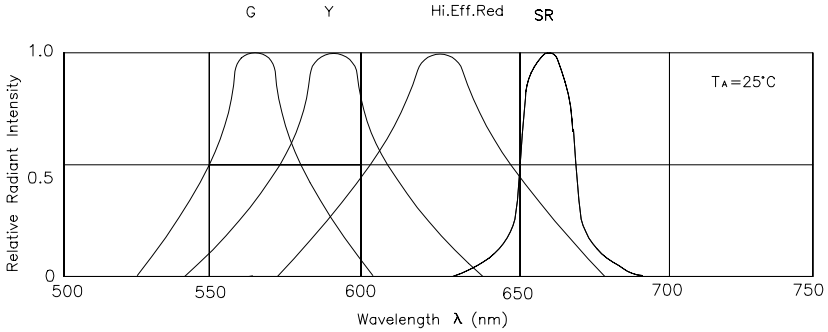
## Electrical / Optical Characteristics at $T_A$=25°C

| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|---|---|---|---|---|---|---|
| λpeak | Peak Wavelength | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red | 627<br>565<br>590<br>660 | | nm | IF=20mA |
| λD | Dominate Wavelength | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red | 625<br>568<br>588<br>640 | | nm | IF=20mA |
| Δλ1/2 | Spectral Line Halfwidth | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red | 45<br>30<br>35<br>20 | | nm | IF=20mA |
| C | Capacitance | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red | 15<br>15<br>20<br>45 | | pF | VF=0V;f=1MHz |
| $V_F$ | Forward Voltage | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red | 2.0<br>2.2<br>2.1<br>1.85 | 2.5<br>2.5<br>2.5<br>2.5 | V | IF=20mA |
| $I_R$ | Reverse Current | All | | 10 | uA | VR = 5V |

## Absolute Maximum Ratings at $T_A$=25°C

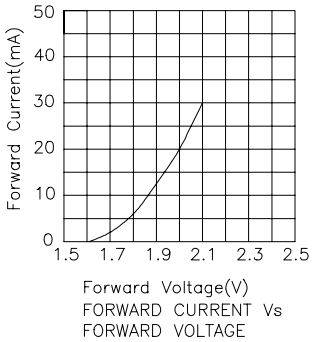
| Parameter | High Efficiency Red | Green | Yellow | Super Bright Red | Units |
|---|---|---|---|---|---|
| Power dissipation | 105 | 105 | 105 | 100 | mW |
| DC Forward Current | 30 | 25 | 30 | 30 | mA |
| Peak Forward Current [1] | 160 | 140 | 140 | 155 | mA |
| Reverse Voltage | 5 | 5 | 5 | 5 | V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

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

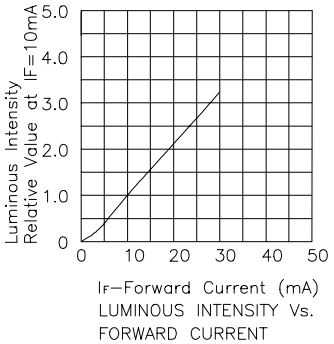



RELATIVE INTENSITY Vs. WAVELENGTH

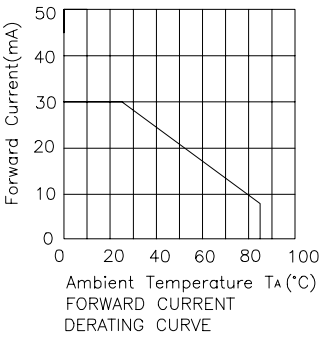
## High Efficiency Red



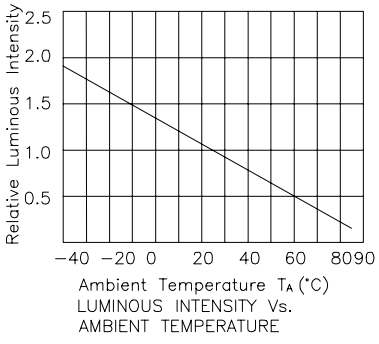

FORWARD CURRENT Vs
FORWARD VOLTAGE




LUMINOUS INTENSITY Vs.
FORWARD CURRENT

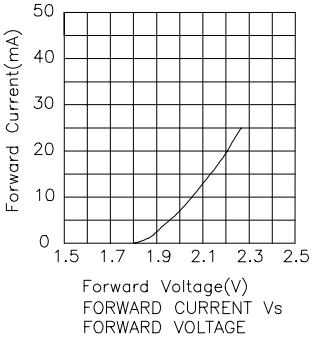



FORWARD CURRENT
DERATING CURVE

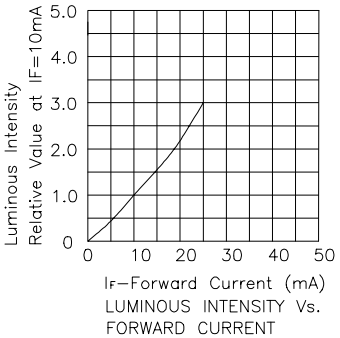



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

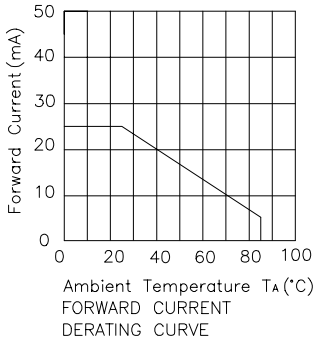
## Green



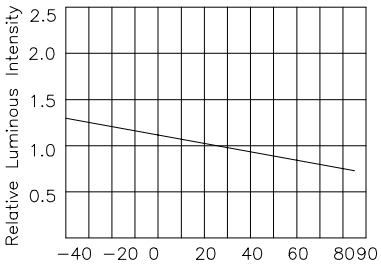

FORWARD CURRENT Vs
FORWARD VOLTAGE




LUMINOUS INTENSITY Vs.
FORWARD CURRENT

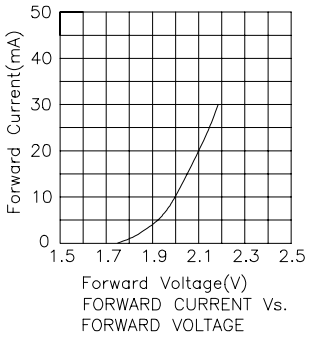



FORWARD CURRENT
DERATING CURVE

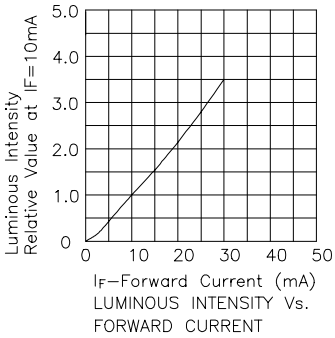



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

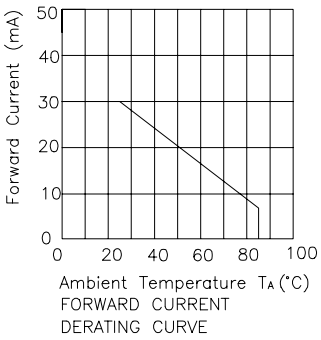
## Yellow



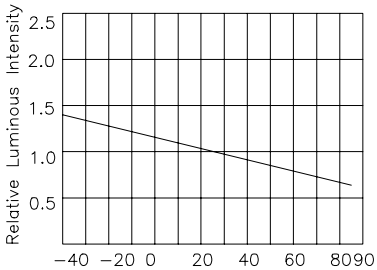

FORWARD CURRENT Vs.
FORWARD VOLTAGE




LUMINOUS INTENSITY Vs.
FORWARD CURRENT

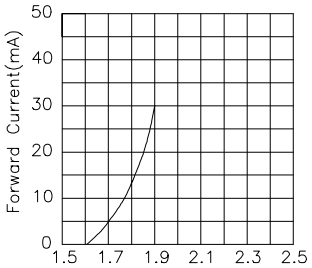



FORWARD CURRENT
DERATING CURVE

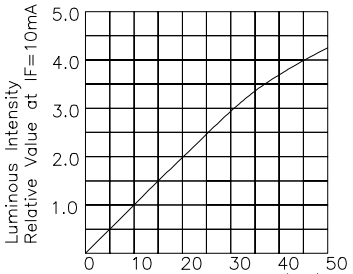



LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

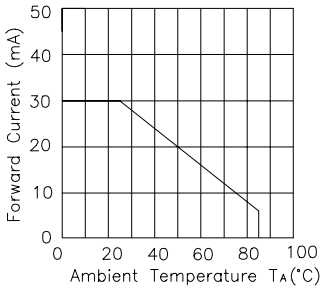
**Super Bright Red**



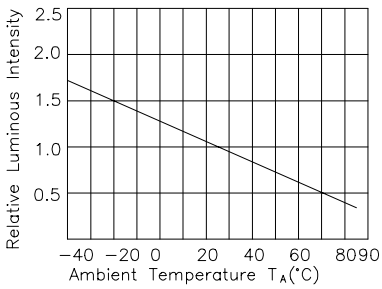

FORWARD CURRENT Vs
FORWARD VOLTAGE




LUMINOUS INTENSITY Vs.
FORWARD CURRENT




FORWARD CURRENT
DERATING CURVE




LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE