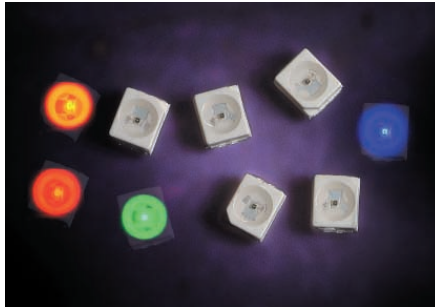


# Agilent HSMx-A10x-xxxxx PLCC-2 SMT LED

## Product Brief



### Background

An industry leader in high brightness LED technology, Agilent Technologies offers a wide range of surface-mount (SMT) LEDs, including Subminiature lamps, ChipLEDs and High flux LEDs. As more applications demand SMT LEDs, we have introduced the Agilent PLCC-2 SMT LEDs. These new products deliver top emission in the industry-standard PLCC-2 package.

### About the products

This surface-mount LED comes in PLCC-2 standard package dimension. It has a substrate made up of a molded plastic reflector sitting on top of a bent lead frame. The die is attached within the reflector cavity and the cavity is encapsulated by an Agilent proprietary epoxy blend.

The PLCC-2 SMT LED products with a viewing angle of  $120^\circ$  is ideal for instruments/switch/icon backlighting. Its external reflector makes easy coupling with light pipe/light guide for an even-larger area backlighting. The package design coupled with careful selection of component materials allow these products to perform with high reliability in a larger temperature range  $-40^\circ\text{C}$  to  $100^\circ\text{C}$ . The high reliability feature is crucial to Automotive Interior and Indoor ESS.

This package is also designed to be compatible with both IR-solder reflow and through-the-wave soldering.

The new Agilent TLED will carry the part number HSMx-A10x-xxxxx.

### Features and Benefits

- **Industry Standard PLCC-2 SMT package**
  - No change in existing board layout, drop-in replacement for the existing PLCC-2 SMT LEDs
- **High brightness using AlInGaP and InGaN dice technologies**
  - Only supplier using TS AlInGaP material
- **Available in multiple colors**
  - Broad range of colors: Red, Red-Orange, Orange, Amber, Yellow-Green, Emerald Green, Green, Cyan and Blue
- **Super wide viewing angle at  $120^\circ$** 
  - Well-suited for backlighting applications
- **High volume, high reliability**
  - Cost effective solution
- **Compatible with both IR and TTW soldering process**
- **Black reflector surface**
  - for reduce contrast in ESS
- **High brightness performance – only PLCC-2 SMT LED supplier offering TS AlInGaP material**



### Special Product Features and Benefits

- **Mold Clamp**
  - provides highest reliability performance by eliminating leadframe-epoxy delamination after solder reflow
- **Reflector Step Down**
  - perfect SMT pick-up due to epoxy overfill being eliminated


















- **Package Bottom Chamfer**
  - perfect lead forming giving high reliability performance (no lead over-formed), and no “tomb-stoning” defect after solder reflow

### Target Markets and Applications

- **Interior automotive**
  - Instrument panel backlighting
  - Central console backlighting
  - Cabin backlighting

- **Electronic Signs and Signals**
  - Interior full color sign
  - Variable message sign
- **Office Automation, Electrical Appliances, Industrial Equipment**
  - Front panel backlighting
  - Push button backlighting
  - Display backlighting

### Part Numbers and Typical Product Performance

| Part Number      | Color   | Dominant Wavelength $\lambda_D$ (nm) | Viewing Angle $2\theta_{1/2}$ (°) | Intensity, $I_v$ @ 20mA |           | Vf @ 20mA Typical (V) |
|------------------|---|--------------------------------------|-----------------------------------|-------------------------|-----------|-----------------------|
|                  |   |                                      |                                   | Min (mcd)               | Typ (mcd) |                       |
| HSMS-A100-J00J1  |  GaP Red                 | 626                                  | 120                               | 4                       | 15        | 2.2                   |
| HSMH-A100-L00J1  |  AS AlGaAs Red           | 637                                  | 120                               | 10                      | 50        | 1.9                   |
| HSMC-A100-Q00J1  |  AS AllnGaP Red          | 626                                  | 120                               | 63                      | 100       | 1.9                   |
| HSMZ-A100-R00J1  |  TS AllnGaP Red          | 630                                  | 120                               | 100                     | 400       | 2.2                   |
| HSMJ-A100-Q00J1  |  AS AllnGaP Red Orange   | 615                                  | 120                               | 63                      | 200       | 1.9                   |
| HSMV-A100-R00J1  |  TS AllnGaP Red Orange | 617                                  | 120                               | 100                     | 350       | 2.2                   |
| HSM D-A100-J00J1 |  GaP Orange            | 602                                  | 120                               | 4                       | 15        | 2.2                   |
| HSM L-A100-Q00J1 |  AS AllnGaP Orange     | 605                                  | 120                               | 63                      | 160       | 1.9                   |
| HSM Y-A100-J00J1 |  GaP Amber             | 585                                  | 120                               | 4                       | 15        | 2.2                   |
| HSM A-A100-Q00J1 |  AS AllnGaP Amber      | 590                                  | 120                               | 63                      | 100       | 1.9                   |
| HSM U-A100-R00J1 |  TS AllnGaP Amber      | 592                                  | 120                               | 100                     | 270       | 2.2                   |
| HSM G-A100-J02J1 |  GaP Yellow            | 569                                  | 120                               | 4                       | 18        | 2.2                   |
| HSM G-A100-H01J1 |  GaP Emerald Green     | 560                                  | 120                               | 2.5                     | 8         | 2.2                   |
| HSM M-A100-S00J1 |  InGaN Green           | 525                                  | 120                               | 160                     | 280       | 3.7                   |
| HSM K-A100-S00J1 |  InGaN Cyan            | 505                                  | 120                               | 160                     | 280       | 3.5                   |
| HSM B-A100-J00J1 |  GaN Blue              | 462                                  | 120                               | 4                       | 15        | 4.0                   |
| HSM N-A100-P00J1 |  InGaN Blue            | 470                                  | 120                               | 40                      | 70        | 3.5                   |

#### Notes:

1. The luminous intensity  $I_v$ , is measured at the mechanical axis of the lamp package. The actual peak of the spatial radiation pattern may not be aligned with this axis.
2. The dominant wavelength,  $\lambda_D$ , is derived from the CIE Chromaticity Diagram and represents the color of the device.
3.  $\theta_{1/2}$  is the off-axis angle where the luminous intensity is 1/2 the peak intensity.

For product information and a complete list of Agilent contacts and distributors, please go to our web site.

[www.agilent.com/semiconductors](http://www.agilent.com/semiconductors)

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