



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° 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° C to 100° 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°**
 - Well-suited for backlighting applications
- **High volume, high reliability**
 - Cost effective solution
- **Compatible with both IR and TTV 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 λ_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, λ_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.

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