

American Microsemiconductor Inc.

Major Products

LED as a means of illumination has been around for a long time. However, with the advent of surface mount technology, higher power and more reliable LED chips, surface mount LEDs are quickly finding their way into a myriad of applications ranging from tiny symbol illumination to large-scale display boards.

Surface mount LEDs are quickly displacing the incandescent bulbs and the through-hole LEDs due to improved cost performance.

1. **ELED** – High brightness surface mount light emitting diode (SMT LED).

AVAILABLE
NOW

A surface mount LED packaged in the PLCC outline available in super red, red, amber, orange, yellow, true green and blue. Its field of application encompasses a wide scope from general lighting to traffic control technology and even to street lighting. In automotive applications, surface mount LEDs are widely used for backlighting in instrument displays. As LED technology develops further, applications will grow rapidly with time.

2. **RGB ELED** - High brightness RGB point source SMT LED.

AVAILABLE
NOW

Similar to the ELED package but contains red, green and blue LED chips which appear when viewed to be a point source. The RGB capability will allow the LED to generate the whole spectrum of color and thus is very useful for large-scale advertisement displays, large-scale information board and billboards.

RGB LED is also identified as an alternative technology for flat panel displays. Flat panel displays are revolutionizing the way people look at their computer monitors. Thin, light, space saving, brighter, better for the environment... virtually everyone agrees that these monitors are the wave of the future.

3. **Super ELED & Super RGB ELED** – Super high brightness SMT LED & RGB SMT LED.

AVAILABLE
JAN 02

A high-power variant targeted for automotive and signage applications. For automotive, these high power components are ideal for brake lights and signaling. Another strong and rapidly growing area of application is for traffic light signals. LED traffic signals are almost a standard for many cities in the world including California and Singapore. In addition, by extending this package to the RGB chips, this component could be used for large-scale outdoor display boards.

4. Smaller **Super ELED & Super RGB ELED** – Super high brightness SMT LED & RGB SMT LED in a smaller package.

AVAILABLE
APR 02

A high-power variant intended for compact applications where space is the utmost constraint. This product should be ideal for backlighting applications in hand-phones and personal digital assistants (PDAs).

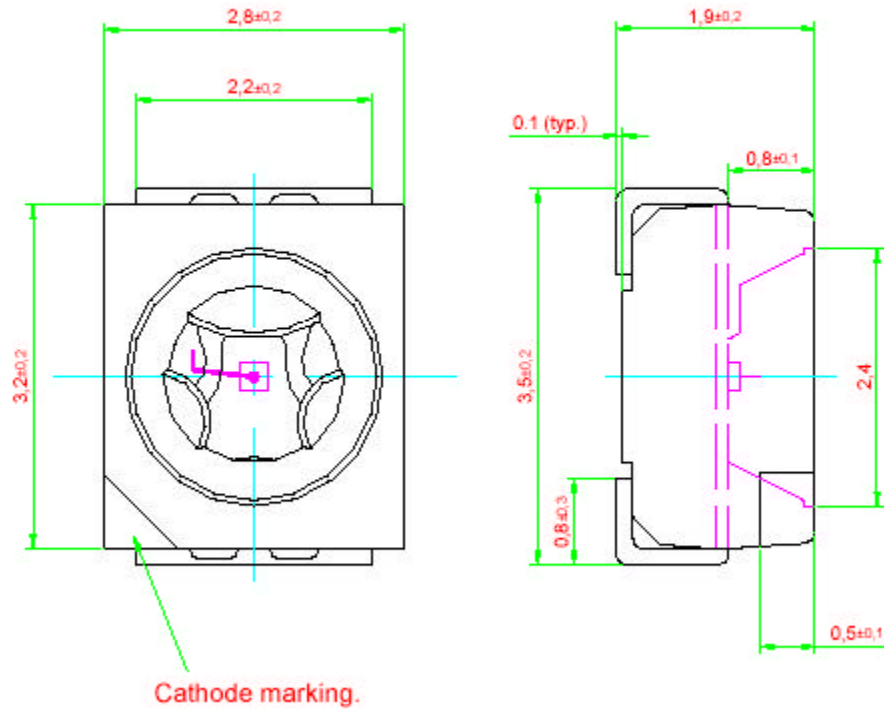
5. **Opto-Electronic Packages**

In addition to the SMT LED products, we will be able to supply custom opto-electronic packages. Several packages are currently being designed and developed. The current design focus is on:

- Standard packages with good reliability and mass volume production capability.
- High power packages for exterior applications.
- Miniaturized packages for compact applications.

All packages are being designed using a base metal lead-frame material for better thermal capability compared to the PCB base. The operating temperature range is improved to –40 to +100°C as compared to –30 to 85°C for the PCB base.

ELED



- High brightness surface mount LED.
- 120° viewing angle.
- Small package outline (LxWxH) of 2.8 x 3.2 x 1.8 mm.
- Qualified according to JEDEC moisture sensitivity Level 2.
- Compatible to both IR reflow soldering and TTW soldering.
- All packages designed using base metal frame for better thermal capability.

Part Number	Color	λ_{dom} (nm)	Luminous Intensity @ If = 20mA lv (mcd)
DDS-SJ8-P1Q1-1 <ul style="list-style-type: none"> • DDS-SJ8-P1 • DDS-SJ8-P2 • DDS-SJ8-Q1 	Super-red	632 ± 5	45.0 ... 92.0 45.0 ... 58.3 58.3 ... 71.5 71.5 ... 92.0
DDS-SJ8-Q1R2-1 <ul style="list-style-type: none"> • DDS-SJ8-Q1 • DDS-SJ8-Q2 • DDS-SJ8-R1 • DDS-SJ8-R2 			71.5 ... 180.0 71.5 ... 92.0 92.0 ... 112.5 112.5 ... 146.0 146.0 ... 180.0
DDS-SJ8-P Q-1 <ul style="list-style-type: none"> • DDS-SJ8-P • DDS-SJ8-Q 			45.0 ... 112.5 45.0 ... 71.5 71.5 ... 112.5
DDS-SJ8-Q R-1 <ul style="list-style-type: none"> • DDS-SJ8-Q • DDS-SJ8-R 			71.5 ... 180.0 71.5 ... 112.5 112.5 ... 180.0
DDR-SJ8-Q1R1-1 <ul style="list-style-type: none"> • DDR-SJ8-Q1 • DDR-SJ8-Q2 • DDR-SJ8-R1 	Red	625 ± 5	71.5 ... 146.0 71.5 ... 92.0 92.0 ... 112.5 112.5 ... 146.0
DDR-SJ8-R1S2-1 <ul style="list-style-type: none"> • DDR-SJ8-R1 • DDR-SJ8-R2 • DDR-SJ8-S1 • DDR-SJ8-S2 			112.5 ... 285.0 112.5 ... 146.0 146.0 ... 180.0 180.0 ... 232.5 232.5 ... 285.0
DDR-SJ8-R S-1 <ul style="list-style-type: none"> • DDR-SJ8-R • DDR-SJ8-S 			112.5 ... 285.0 180.0 ... 285.0 285.0 ... 450.0

Part Number	Color	λ_{dom} (nm)	Luminous Intensity @ If = 20mA Iv (mcd)
DDA-SJ8-Q1R1-1 <ul style="list-style-type: none"> • DDA-SJ8-Q1 • DDA-SJ8-Q2 • DDA-SJ8-R1 	Amber	615 ± 5	71.5 ... 146.0 71.5 ... 92.0 92.0 ... 112.5 112.5 ... 146.0
DDA-SJ8-R1S1-1 <ul style="list-style-type: none"> • DDA-SJ8-R1 • DDA-SJ8-R2 • DDA-SJ8-S1 			112.5 ... 232.5 112.5 ... 146.0 146.0 ... 180.0 180.0 ... 232.5
DDA-SJ8-S1T2-1 <ul style="list-style-type: none"> • DDA-SJ8-S1 • DDA-SJ8-S2 • DDA-SJ8-T1 • DDA-SJ8-T2 			180.0 ... 232.5 180.0 ... 232.5 232.5 ... 285.0 285.0 ... 367.5 367.5 ... 450.0
DDA-SJ8-S T-1 <ul style="list-style-type: none"> • DDA-SJ8-S • DDA-SJ8-T 			180.0 ... 450.0 180.0 ... 285.0 285.0 ... 450.0
DDO-SJ8-Q1R1-1 <ul style="list-style-type: none"> • DDO-SJ8-Q1 • DDO-SJ8-Q2 • DDO-SJ8-R1 	Orange	605 ± 5	71.5 ... 146.0 71.5 ... 92.0 92.0 ... 112.5 112.5 ... 146.0
DDO-SJ8-R1S1-1 <ul style="list-style-type: none"> • DDO-SJ8-R1 • DDO-SJ8-R2 • DDO-SJ8-S1 			112.5 ... 232.5 112.5 ... 146.0 146.0 ... 180.0 180.0 ... 232.5
DDO-SJ8-S1T2-1 <ul style="list-style-type: none"> • DDO-SJ8-S1 • DDO-SJ8-S2 • DDO-SJ8-T1 • DDO-SJ8-T2 			180.0 ... 232.5 180.0 ... 232.5 232.5 ... 285.0 285.0 ... 367.5 367.5 ... 450.0
DDO-SJ8-S T-1 <ul style="list-style-type: none"> • DDO-SJ8-S • DDO-SJ8-T 			180.0 ... 450.0 180.0 ... 285.0 285.0 ... 450.0

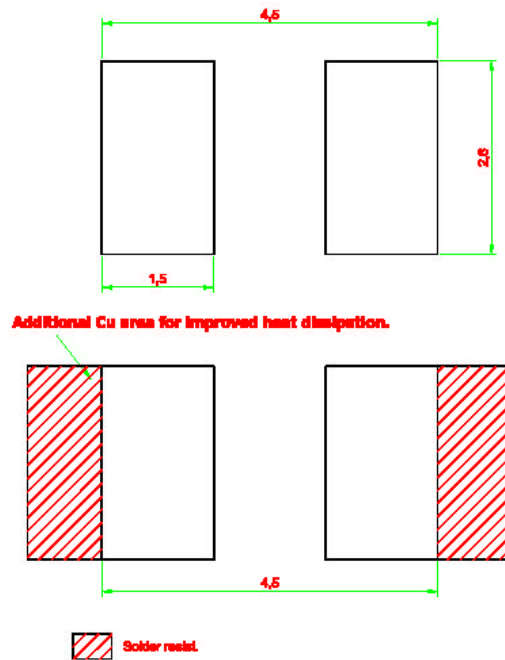
Part Number	Color	λ_{dom} (nm)	Luminous Intensity @ If = 20mA Iv (mcd)
DDY-SJ8-Q1R1-1 <ul style="list-style-type: none"> • DDY-SJ8-Q1 • DDY-SJ8-Q2 • DDY-SJ8-R1 	Yellow	587 ± 5	71.5 ... 146.0 71.5 ... 92.0 92.0 ... 112.5 112.5 ... 146.0
DDY-SJ8-R1S1-1 <ul style="list-style-type: none"> • DDY-SJ8-R1 • DDY-SJ8-R2 • DDY-SJ8-S1 			112.5 ... 232.5 112.5 ... 146.0 146.0 ... 180.0 180.0 ... 232.5
DDY-SJ8-S1T2-1 <ul style="list-style-type: none"> • DDY-SJ8-S1 • DDY-SJ8-S2 • DDY-SJ8-T1 • DDY-SJ8-T2 			180.0 ... 232.5 180.0 ... 232.5 232.5 ... 285.0 285.0 ... 367.5 367.5 ... 450.0
DDY-SJ8-S T-1 <ul style="list-style-type: none"> • DDY-SJ8-S • DDY-SJ8-T 			180.0 ... 450.0 180.0 ... 285.0 285.0 ... 450.0
DDT-SJ8-R1S1-1 <ul style="list-style-type: none"> • DDT-SJ8-R1 • DDT-SJ8-R2 • DDT-SJ8-S1 	True Green	525 ± 5	112.5 ... 232.5 112.5 ... 146.0 146.0 ... 180.0 180.0 ... 232.5
DDT-SJ8-S1T1-1 <ul style="list-style-type: none"> • DDT-SJ8-S1 • DDT-SJ8-S2 • DDT-SJ8-T1 • DDT-SJ8-T2 			180.0 ... 232.5 180.0 ... 232.5 232.5 ... 285.0 285.0 ... 367.5 367.5 ... 450.0
DDT-SJ8-S T-1 <ul style="list-style-type: none"> • DDT-SJ8-S • DDT-SJ8-T 			180.0 ... 450.0 180.0 ... 285.0 285.0 ... 450.0

Part Number	Color	λ_{dom} (nm)	Luminous Intensity @ If = 20mA Iv (mcd)
DDB-SJ8-P1Q1-1 <ul style="list-style-type: none"> • DDB-SJ8-P1 • DDB-SJ8-P2 • DDB-SJ8-Q1 	Blue	470 ± 5	45.0 ... 92.0 45.0 ... 58.3 58.3 ... 71.5 71.5 ... 92.0
DDB-SJ8-Q1R2-1 <ul style="list-style-type: none"> • DDB-SJ8-Q1 • DDB-SJ8-Q2 • DDB-SJ8-R1 • DDB-SJ8-R2 			71.5 ... 146.0 71.5 ... 92.0 92.0 ... 112.5 112.5 ... 146.0 146.0 ... 180.0
DDB-SJ8-Q R-1 <ul style="list-style-type: none"> • DDB-SJ8-Q • DDB-SJ8-R 			71.5 ... 180.0 71.5 ... 112.5 112.5 ... 180.0

NOTE:

1. All part number above comes in a quantity of 8000 units per reel. Next possible quantity is 2000 units per reel with part number DDX-SJ2-X X-1.
2. Other luminous intensity groups are also available upon request.
3. Luminous intensity is measured with an accuracy of ±11%.

Recommended Solder Pad



Absolute Maximum Ratings

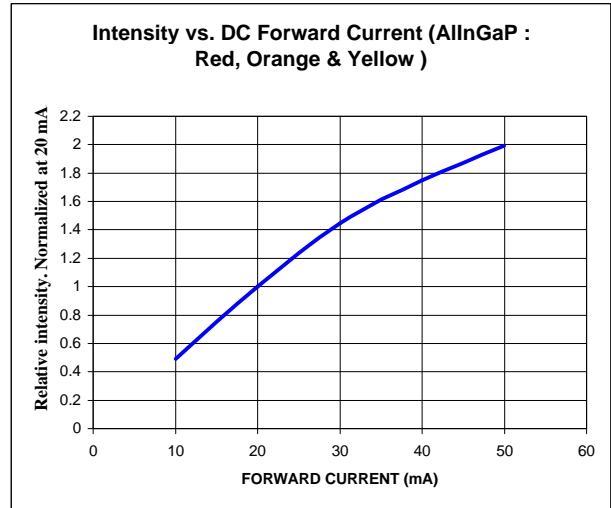
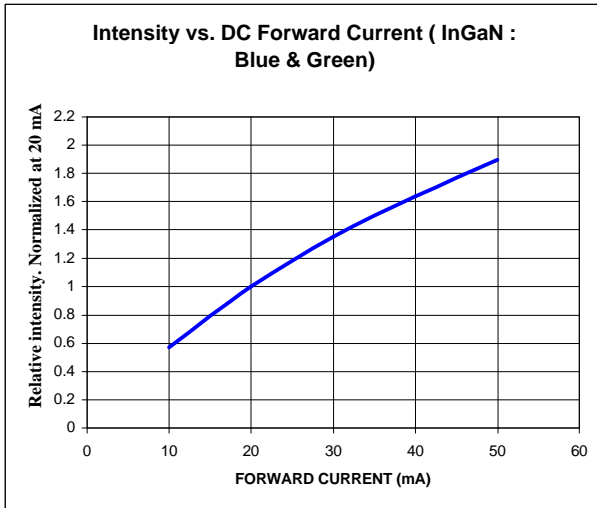
	Maximum Value	Unit
DC forward current.	30	mA
Peak forward current.	100	mA
Reverse voltage.	5	V
LED junction temperature.	125	°C
Operating temperature.	-40 ... +100	°C
Storage temperature.	-40 ... +100	°C

Characteristics.

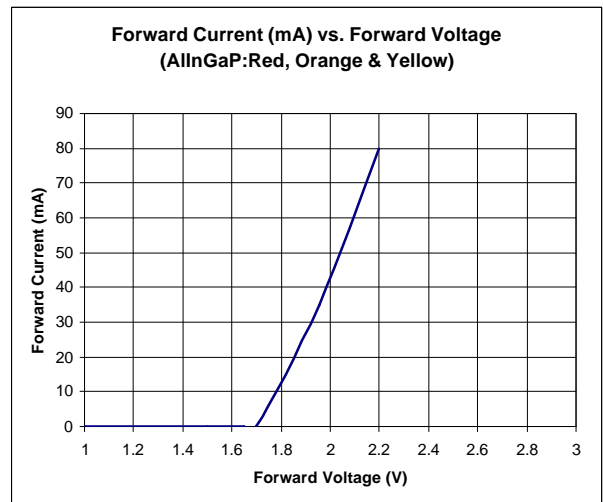
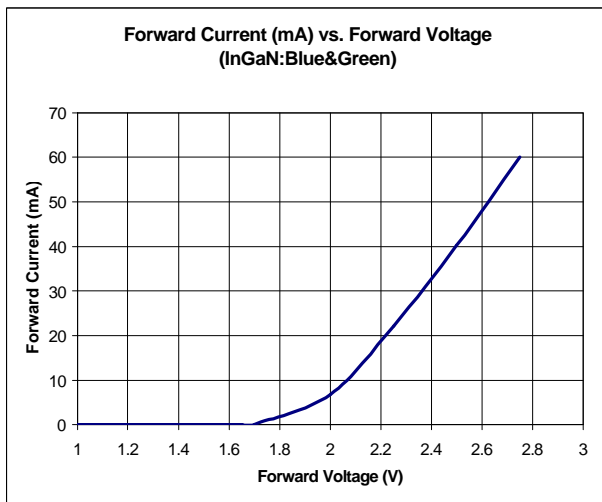
Part Number	Color	λ_{dom} (nm)
DDH-SJ8	Hyper-red	640
DDS-SJ8	Ultra-red	632
DDR-SJ8	Red	625
DDA-SJ8	Amber	615
DDO-SJ8	Orange	605
DDY-SJ8	Yellow	587
DDT-SJ8	True Green	525
DDB-SJ8	Blue	470

V_f at $I_f=20mA$		View angle
Typ.	Max	
2.1	2.4	120
2.2	2.4	
2.2	2.4	
2.2	2.4	
2.2	2.4	
2.2	2.4	
2.2	2.4	
3.7	4.2	
3.7	4.2	

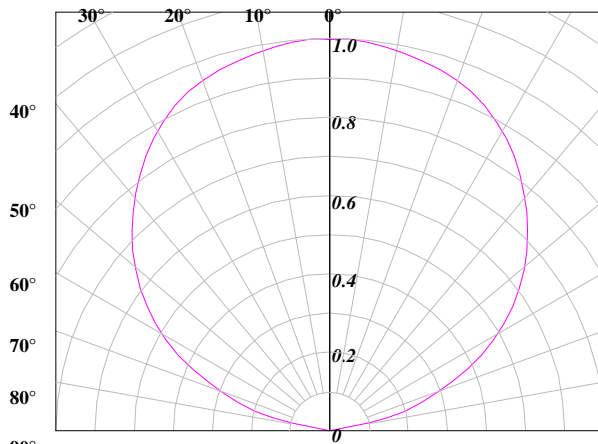
Relative luminous intensity vs. forward current.



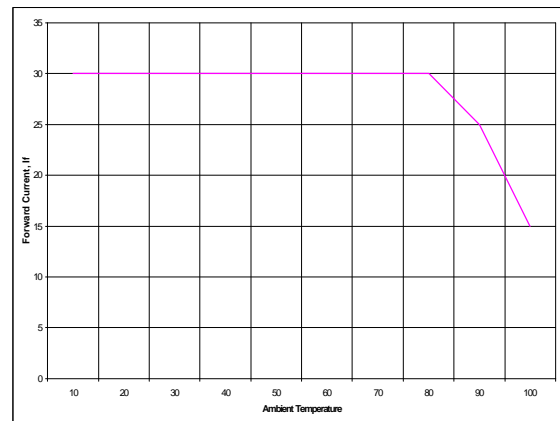
Forward current vs. forward voltage.



Radiation pattern.



Maximum forward current vs. temperature.



Taping And Orientation.

Reels come in quantity of 8000 units or 2000 units.

Reel diameters are 330 mm and 180 mm respectively.

