

LED for Automotive



Table of Contents

LITEON is the leading global provider of optoelectronic components, offering broad portfolio of LEDs and sensors for automotive applications.

Our automotive grade products are qualified to the latest AEC qualification standard (AEC-Q101 / Q102) and our manufacturing facilities are IATF-16949 certified, ensuring the highest levels of quality and service to our customers.

02	Creating Infinite Possibilities for a Bright Future
04	Products & Solutions
06	Lighting the Way : LED Headlights
10	Better Visibility and Safety : DRL and Fog Light
14	Driving Impressions : Rear Lights
18	Be alert, be aware : Signaling Light
22	Invisible, but High Power VCSEL Array Module : IR Illumination
24	More than Illumination : Interior Lighting
28	Distinct Driving Delight More than Illumination : Ambient Lighting
32	Product List
38	Range of Available Color
40	Worldwide Contacts



Creating infinite possibilities for a bright future

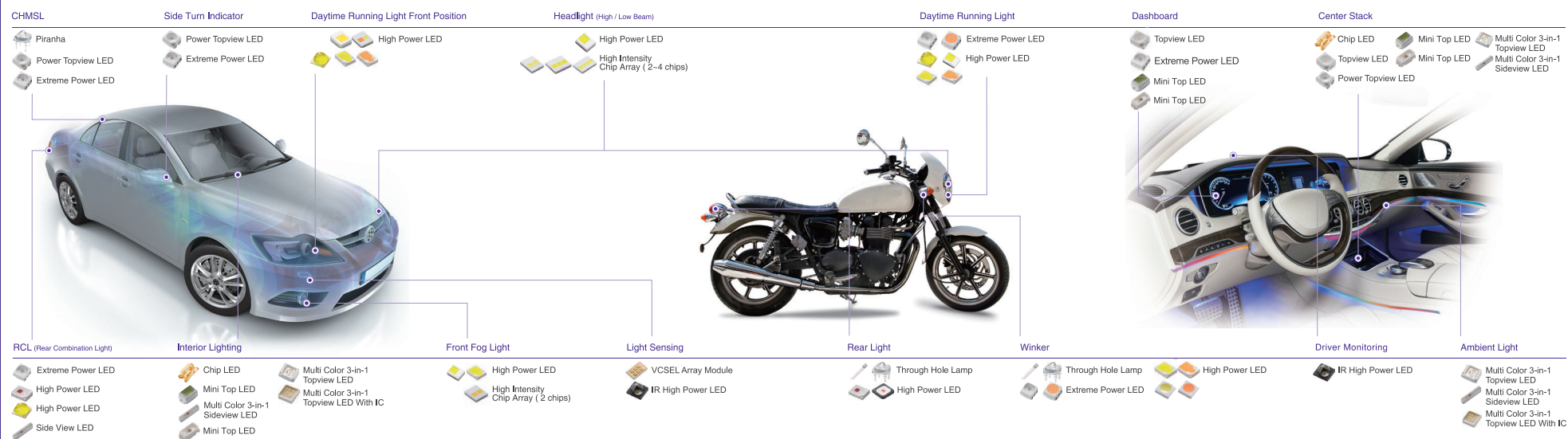
LITEON is the leading global provider of optoelectronic components, with a comprehensive portfolio ranging from Visible LEDs, LED Numeric Displays, and Invisible Infrared Emitting and Detecting Components, Optical Sensors, Photocouplers and UV LEDs.

Offering one of the industry's broadest product portfolios, LITEON's optoelectronic based product solutions are used in a wide variety of applications covering various segments of the computer, communications, consumer, and industrial.

With a clear vision to be "Best Partner in Optoelectronic, Eco-Friendly and Intelligent Technologies", we are driven to create extraordinary value and competitive advantage for our customers through innovative technology, superior flexibility manufacturing capabilities and professional services.

Together, we work to enrich lives and shape the future!

For more information, please visit us online at www.liteon.com/opto



LED Headlights

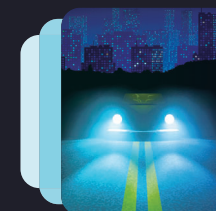
Lighting the Way

With technology development and innovations, LED makes automotive headlight system getting brighter, smarter and smaller. LITEON headlight LED is designed specifically to provide best color uniformity and consistency, highest lumen output, excellent heat dissipation.

LITEON automotive LED line-up provides greater design freedom to the designer, enables the designer to create infinite possibilities of lighting configurations through various combination of single chip and multi-chip LEDs.

LITEON single-chip and multi-chip LED solution for headlights.

- High luminous flux within 1mm² light emitting area at high temperature.
- Premium Color Consistency: Low color difference between packages, and even different lots.
- Excellent color uniformity: $du'v' < 0.012$ within $\pm 60^\circ$ for front exterior lighting package.
- Robust design, capable of being used in the temperature range -40~125°C, a harsh environment of exterior lighting.
- Low thermal resistance and maximum 1.5A driving current for flexible design.
- Color binning based on ECE/SAE standard MSL Level 1 acc. to JEDEC J-STD-020.



Part No.
Dimension in (mm)
Luminous Flux
View Angle
Thermal Resistance
Max Forward Current I _F
Max Junction Temp. (T _J)
Operating Temp.



High Intensity Chip Array

High Power LED_H1L

LTPA-H2S	LTPA-H3S	LTPA-H4S	LTPA-H1L
3.1x3.8x0.76	4.2x3.8x0.76	5.3x3.8x0.76	2.75x2.0x0.76
○ 720 lm @1000 mA	○ 1080 lm @1000 mA	○ 1440 lm @1000 mA	350 lm @1000 mA
120°	118°	118°	118°
1.6°C/W	1.3°C/W	1.1°C/W	5°C/W
1.5 A	1.5 A	1.5 A	1.5 A
150°C	150°C	150°C	150°C
-40 ~ 125°C	-40 ~ 125°C	-40 ~ 125°C	-40 ~ 125°C

DRL and Fog Light

Better Visibility and Safety

Daytime running light (DRL) and Fog light are designed to increase visibility in specific conditions to reduce the risk of accidents. LED offer higher energy efficiency, higher reliability and require smaller space than traditional light sources, make designers with greater freedom over styling and design.

LITEON defines uniform color, high efficiency, and high brightness LED solutions with extremely robust material and structure designs for resisting high temperature for these applications.



- Premium Color Consistency, color range difference between 2 packages, even different lots.
- Prevents sulfur corrosion and enhances its reliability and robustness.
- High luminous flux at high temperature, 90% relative Luminous Flux at $T_j = 100^{\circ}\text{C}$.
- Robust package design with 8kV ESD Protection.



DRL and Fog Light

Part No.
Dimension in (mm)
Luminous Flux
View Angle
Thermal Resistance
Max Forward Current I _F
Max Junction Temp. (T _J)
Operating Temp.



High Power LED_H1L



High Intensity Chip Array



High Power LED_C35



High Power LED_2720



High Power LED_2720

High Power LED_H1L	High Intensity Chip Array	High Power LED_C35	High Power LED_2720	High Power LED_2720
LTPA-H1L	LTPA-H2L	LTPA-C35	LTPA-2720	LTPA-2720
2.75x2.0x0.76	2.75x2.0x0.8	3.45x3.45x2.13	2.75x2.0x0.6	2.75x2.0x0.6
● ○ 170 lm / 350 lm @1000 mA	● ○ 46 lm / 70 lm @200 mA	● ○ 90 lm / 140 lm @350 mA	○ 115 lm @350 mA	● 70 lm @300 mA
118°	118°	118°	120°	120°
5°C/W	8.3°C/W & 7.8°C/W	9.5°C/W	13°C/W	13°C/W
1.5 A	700 mA	500 / 700 mA	400 mA	400 mA
150°C	150°C	150°C	150°C	150°C
-40 ~ 125°C	-40 ~ 125°C	-40 ~ 125°C	-40 ~ 125°C	-40 ~ 125°C

Rear Lights

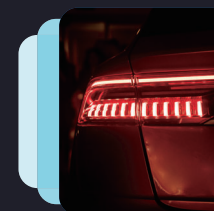
Driving Impressions

LED rear lights create styling and distinctive design opportunities for vehicles. With innovations in technology, LED provide many more possibilities in light development, make rear lights become highly individualized. The most important thing is the LEDs reach their full luminous extremely quickly make the driver behind sees the brake lights sooner.

LITEON developed the most reliable and robust solutions for rear lights with optimize structure and manufacturing process.

LITEON Piranha and PLCC product solutions for rear combination light (RCL) and center high mounted stop light (CHMSL).

- Advanced thermal management and packaging solution to provide the highest quality and reliability.
- Longer life at higher operating temperatures, upgraded from 100°C to 110°C.
- Prevents sulfur corrosion and enhances its reliability and robustness.
- Advanced and compact 2720 platform with 100% automated optical inspection (AOI) for die attachment and wire bonding, ensuring the highest levels of quality.
- 100% laser marking for 2720 series to provide effective and reliable traceability.



Rear Lights



Part No.
Dimension in (mm)
Luminous Flux
View Angle
Thermal Resistance
Max Forward Current If
Max Junction Temp. (Tj)
Operating Temp.

							
High Power LED_S38	High Power LED_2720			PLCC6 Top LED_G6S	High Power LED_E67	Side LED_S008	Piranha_918
LTPA-S38	LTPA-2720	LTPA-2720	LTPA-2720	LTSA-G6S	LTSA-E67	LTSA-S008	LTSA-918
3.75x3.75x0.7	2.75x2.0x0.6	2.75x2.0x0.6	2.75x2.0x0.6	3.4x3.3x1.9	3.5x2.8x1.9	4.5x1.25x0.8	3φx7.62x7.62
● 60 lm @350 mA	● 40 lm @200 mA	● 70 lm @350 mA	● 110 lm @700 mA	● 7100 mcd @140 mA	● 3200 mcd @50 mA	● 4.2 lm @60 mA	● 6 lm @50 mA
120°	120°	120°	120°	120°	120°	120°	30°
7.5°C/W	17°C/W	15°C/W	9°C/W	30°C/W	110°C/W	90°C/W	70°C/W
700 mA	250 mA	500 mA	1000 mA	200 mA	70 mA	90 mA	50 mA
150°C	150°C	150°C	150°C	125°C	125°C	120°C	110°C
-40 ~ 125°C	-40 ~ 125°C	-40 ~ 125°C	-40 ~ 125°C	-40 ~ 110°C	-40 ~ 100°C	-40 ~ 100°C	-40 ~ 100°C

Signaling Lights

Be Alert, Be Aware

Signaling lights are an important safety feature for vehicles.

LITEON offer a variety of high-quality, affordability, and customizable LEDs for signaling lights to meet customers' needs ranging from police lights, motorcycle wipers, beacons, school bus warning lights, tow truck side marker light.

- Robust design structure, coupled with high performance specifications, ensures high quality and reliability.
- High color purity LED: Red, Green, Blue, Amber.
- Phosphor converted amber light, high brightness solution for design flexibility.
- Low thermal resistance which allows for higher driving currents and reduces the loss in optical flux due to self-heating.



Signaling Lights



Part No.
Dimension in mm
Luminous Flux
View Angle
Thermal Resistance
Max Forward Current I _F
Max Junction Temp. (T _J)
Operating Temp.



High Power LED_H1L



High Power LED_C35



High Power LED_2720



High Power LED_2720



Extreme Power LED_G6S



Power Topview LED_E67R

LTPA-H1L	LTPA-C35	LTPA-2720	LTPA-2720	LTSA-G6S	LTSA-E67R
2.75x2.0x0.76	3.45x3.45x2.13	2.75x2.0x2.6	2.75x2.0x2.6	3.4x3.3x1.9	3.5x2.8x1.9
● 170 lm @1000 mA	● 90 lm @350 mA	● 80 lm @300 mA	● 40 lm @150 mA	● 5600 mcd @140 mA	● 4500 mcd @50 mA
118°	118°	120°	120°	120°	120°
5°C/W	15°C/W	13°C/W	20°C/W	30°C/W	130°C/W
1.5 A	500 mA	400 mA	240 mA	200 mA	80 mA
150°C	125°C	150°C	150°C	125°C	125°C
-40 ~ 125°C	-40 ~ 125°C	-40 ~ 125°C	-40 ~ 125°C	-40 ~ 110°C	-40 ~ 100°C

IR illumination

Invisible, High Power LED and VCSEL Array Module

LITEON defines a series of invisible high power LED and VCSEL solutions for coming advanced technologies in vehicles. Especially, an ultra-compact infrared, 940nm high power VCSEL array module for automotive LiDAR application. It can be modulated to high frequencies and exhibit a narrow wavelength emission spectrum which makes it the perfect LiDAR source solutions.

- Optimal power density in compact package.
- Narrower wavelength bandwidth.
- Customizable VCSEL array with multi-series and multi-parallel combination.
- High power conversion efficiency.

VCSEL array module.



- The VCSEL array module is mainly applied to automotive LiDAR.
- Industrial light detection and ranging.
- 3D mapping, such as topographical surveys.

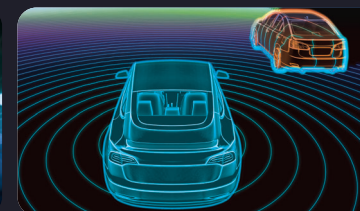
IR high power LED.



940nm high power LEDs are with lens structure to deliver different optical angle to fit different demands on field of view of camera. The LEDs are mostly applied to



- Driver monitoring
- IR illumination
- Optical sensing



Interior Lighting

More than Illumination

LED interior lighting provides unique atmosphere and create great possibilities to make your car stylish and individual. The innovative interior lighting system create the right atmosphere, illuminate center console and background elements in various colors, or pair your color profile based on an interactive setting.

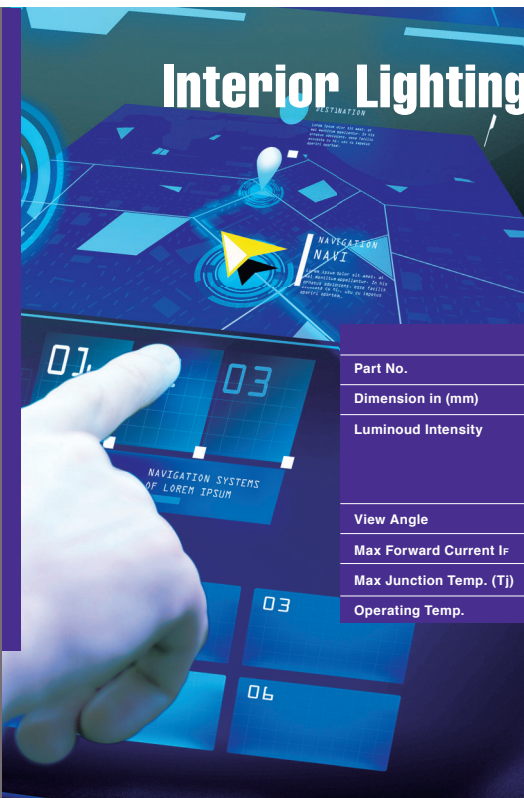
LITEON interior lighting solution provides the right LEDs in all relevant performance classes and package sizes, cover the complete brightness range, colors and even colors on demand.

LITEON compact LED and multi color LED solutions for interior lighting.

- Broad product portfolio with different form factor to fit all interior requirement.
- Full-range color engineering to support imagination on the backlight of interior switches and ambient light decoration.
- Tight CIE color range <0.02 to ensure the best color uniformity.
- Excellent color and brightness technologies to allow customized solutions for fitting various cover transparency.



Interior Lighting



Part No.

Dimension in (mm)

Luminoud Intensity

View Angle

Max Forward Current If

Max Junction Temp. (Tj)

Operating Temp.

Topview LED_T67R



LTSA-T67R

3.5x2.8x1.9

● 2800 mcd @50 mA
● 2800 mcd @50 mA
● 2240 mcd @20 mA
○ 2240 mcd @20 mA

120°

50 mA

125°C

-40 ~ 100°C

Mini Top LED_M67K



LTSA-M67K

2.3x1.4x1.3

● 180 mcd @20 mA
● 180 mcd @20 mA
● 1400 mcd @20 mA
● 280 mcd @20 mA
● 1800 mcd @20 mA

120°

30 mA

125°C

-40 ~ 100°C

Mini Top LED_E608



LTSA-E608

1.6x0.75x0.55

● 400 mcd @10 mA
● 400 mcd @10 mA
● 700 mcd @10 mA
● 150 mcd @10 mA
○ 1120 mcd @10 mA

120°

30 mA

125°C

-40 ~ 110°C

Compact Chip LED Series



LTSA-C191

1.6x0.8x0.55

● 112 mcd @20mA
● 180 mcd @20mA
● 28 mcd @20mA
● 180mcd @20mA
● 71mcd @10mA

130°

-

110°C

-40 ~ 100°C

Sideview LED_S089



LTSA-S089

3.0x1.4x1.4

● 8 lm @20 mA
○ 9 lm @20 mA

120°

50 mA

110°C

-40 ~ 100°C

Ambient Lighting

Distinct Driving Delight More than Illumination

Ambient lighting brings unique atmosphere for distinct driving delight. The multi color components generate widely color gamut is suitable for dynamic hue variation design or particular scene.

LITEON ambient lighting solution provides variety packages form sideview multi-chip LEDs to PLCC topview multi-chip LEDs for various vehicle interior lighting design.

LITEON multi-color LED solutions for ambient lighting.

- Versatile multi-color package solutions covering top emitting and side emitting LEDs for flexibly fitting mechanical structure around the cabinet.
- Wavelength selectable to fulfill every color mixing requirement.
- Robust design with qualification of the whole new AECQ102 standard.
- Superior design of automotive-grade side LEDs with industry-leading thin structure (<1mm thickness) for customers to easily design in the ambient of vehicles.
- New technologies to support smart and smooth ambient lighting with simple bin handling.



Ambient Lighting

Part No.
Dimension in (mm)
Luminoud Intensity
View Angle
Max Forward Current If
Max Junction Temp. (Tj)
Operating Temp.



Multi Color 3-in-1
Topview LED_G683

LTSA-G683

3.5x2.8x1.45

● 710 mcd @20 mA
● 1400 mcd @20 mA
● 220 mcd @20 mA

120°

30 mA

115°C

-40 ~ 110°C



Multi Color 3-in-1
Topview LED_G38T

LTSA-G38T

3.4x3.3x1.9

● 850 mcd @20 mA
● 1700 mcd @20 mA
● 220 mcd @20 mA

120°

50 mA

125°C

-40 ~ 110°C



Multi Color 3-in-1
Topview LED with IC_E351

LTSA-E351

3.5x3.5x1.06

○ 1500 mcd @20 mA

120°

25 mA

125°C

-40 ~ 110°C



Multi Color 3-in-1
Sideview LED_S008

LTSA-S008

4.5x1.25x0.8

● 710 mcd @20 mA
● 1700 mcd @20 mA
● 220 mcd @20 mA

120°

● 30 mA / ● 20 mA

125°C

-40 ~ 100°C



Multi Color 3-in-1
Sideview LED_S33H

LTSA-S33H

3.0x1.0x0.5

● 600 mcd @20 mA
● 1100 mcd @20 mA
● 220 mcd @20 mA

130°

20 mA

125°C

-40 ~ 100°C



High Power LED_H1L

Part No.	Correlated color temperature (K)	Typ. Luminous Flux Φ _v (lm)	View Angle 2θ _{1/2}	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max. Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
LTPA-H1LCFS1C56	○ 5600K	350	120°	3.4	1000	5	1500	150	-40~125
LPTA-H1LCFS1AAB	● PC Amber	170	120°	3.4	1000	5	1500	150	-40~125



High Intensity Chip Array

Part No.	Correlated color temperature (K)	Typ. Luminous Flux Φ _v (lm)	View Angle 2θ _{1/2}	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max. Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
LTPA-H2SCFS2C56	○ 5600K	720	118°	6.8	1000	1.6	1500	150	-40~125
LTPA-H3SCFS3C56	○ 5600K	1080	118°	10.2	1000	1.3	1500	150	-40~125
LTPA-H4SCFS4C56	○ 5600K	1440	118°	13.6	1000	1.1	1500	150	-40~125



High Power LED_H2L

Part No.	Color	CIE(x,y)	Typ. Luminous Flux Φ _v (lm)	View Angle 2θ _{1/2}	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max. Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
LTPA-H2LGFT1A1C	○ Cool White	(0.330, 0.340)	46	118°	3.0	200	8.3	700	150	-40~125
	● PC Amber	(0.570, 0.420)	70	118°	3.0	200	7.8	700	150	-40~125



High Power LED_S38

Part No.	Color	λ _d (nm)	Typ. Luminous Flux Φ _v (lm)	View Angle 2θ _{1/2}	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max. Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
LTPA-S38PUANPKAA	● Red	624	60	120°	2.2	350	4.7	700	150	-40~125



High Power LED_P35

Part No.	Color	λ _d (nm) / CIE(x,y)	Typ. Luminous Flux Φ _v (lm)	View Angle 2θ _{1/2}	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max. Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
LTPA-P353SCWP	○ Cool White	(0.325, 0.340)	125	120°	3.2	350	10	500	125	-40~100
LTPA-P353SCBPPA	● PC Amber	(0.570, 0.420)	90	120°	3.2	350	10	500	125	-40~100



High Power LED_2720

Part No.	Color	λ _d (nm) / CIE(x,y)	Typ. Luminous Flux Φ _v (lm)	View Angle 2θ _{1/2}	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max. Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
LTPA-2720RKTU	● Super Red	630	26	120°	2.4	200	17	250	150	-40~125
LTPA-2720EKTU	● Red	620	40	120°	2.4	200	17	250	150	-40~125
LTPA-2720ZWETU	○ Cool White	(0.325, 0.340)	80	120°	3.1	200	13	250	150	-40~125
LTPA-2720ZAETU	● PC Amber	(0.570, 0.420)	40	120°	3.1	150	20	250	150	-40~125
LTPA-2720QRKTU	● Super Red	630	50	120°	2.4	350	15	500	150	-40~125
LTPA-2720QEKU	● Red	620	70	120°	2.4	350	15	500	150	-40~125
LTPA-2720QWETU	○ Cool White	(0.325, 0.340)	115	120°	3.1	350	13	700	150	-40~125
LTPA-2720ZAETU	● PC Amber	(0.570, 0.420)	80	120°	3.1	300	13	350	150	-40~125



High Power LED_C35

Part No.	Color	λ _d (nm) / CIE(x,y)	Typ. Luminous Flux Φ _v (lm)	View Angle 2θ _{1/2}	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max. Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
LTPA-C353SANGKE	● Red	624	16	118°	2.2	100	15	150	125	-40~100
LTPA-C353SANGTG	● True Green	525	22	118°	3.4	100	15	150	125	-40~100
LTPA-C353SANGTB	● Blue	470	7	118°	3.2	100	15	150	125	-40~100
LTPA-C353SAWE	○ Cool White	(0.325, 0.340)	230	118°	3.2	700	9.5	1000	125	-40~125
LTPA-C353SBWP	○ Cool White	(0.325, 0.340)	130	118°	3.2	350	15	500	125	-40~125
LTPA-C353SBBPPA	● PC Amber	(0.570, 0.420)	110	118°	3.2	350	15	500	125	-40~125
LTPA-C353SBNPKE	● Super Red	630	58	118°	2.2	350	15	500	125	-40~125



PLCC6 Topview LED_G6S

Part No.	Color	λ _d (nm) / CIE(x,y)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ _{1/2}	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max. Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
LTSA-G6SPVEKTU	● Red	624	5600	120°	2.2	140	30	200	125	-40~110
LTSA-G6SPVAKTU	● Amber	615	7100	120°	2.2	140	30	200	125	-40~110
LTSA-G6SPVSKTU	● Yellow	590	5600	120°	2.2	140	30	200	125	-40~110
LTSA-G6SPZWETU	○ Cool White	(0.320, 0.313)	11200	120°	3.2	140	45	200	125	-40~110
LTSA-G6SPZAETU	● PC Amber	(0.572, 0.420)	7100	120°	3.2	140	45	200	125	-40~110
LTSA-G6SPZGETU	● Green	520	9000	120°	3.1	140	45	200	125	-40~110



PLCC4 Topview LED_E67

Part No.	Color	λd(nm) / CIE(x,y)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ (°)	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
L TSA-E67RVEWTU	● Red	624	2800	120°	2.2	50	110	70	125	-40~100
L TSA-E67RVAWTU	● Amber	615	2800	120°	2.2	50	110	70	125	-40~100
L TSA-E67RVSWTU	● Yellow	590	2800	120°	2.2	50	110	70	125	-40~100
L TSA-E67RUWETU	○ Cool White	(0.320, 0.313)	4500	120°	3.2	50	120	80	125	-40~100
L TSA-E67RUAETU	● PC Amber	(0.570, 0.420)	2240	120°	3.2	30	120	80	125	-40~100



PLCC2 Top LED_T67R

Part No.	Color	λd(nm) / CIE(x,y)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ(°)	Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max. Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)	
L TSA-T67RVEWTA	● Red		624	2800	120°	2.3	50	120	50	125	-40~100
L TSA-T67RVWTA	● Red		630	650	120°	2.0	20	130	50	125	-40~100
L TSA-T67RVSWTA	● Yellow		590	2800	120°	2.3	50	120	50	125	-40~100
L TSA-T67RUWETA	○ Cool White	(0.320, 0.313)		2240	120°	3.0	20	120	50	125	-40~100
L TSA-T67RUAETA	● PC Amber	(0.570, 0.420)		2240	120°	3.0	20	120	50	125	-40~100



PLCC2 Topview LED_2835

Part No.	Color	CIE(x,y)	Typ. Luminous Flux Φv (lm)	View Angle 2θ(°)	Typ. Forward Voltage Vf (V)	Forward Current If (mA)	Thermal Resistance Rθ(j-a) (°C/W)	Max Forward Current If (mA)	Max. Junction Temperature Tj (°C)	Operating Temperature Range (°C)
L TSA-2835ZWET	○ Cool White	(0.325, 0.340)	55	120°	3.2	150	20	200	125	-40~100
L TSA-2835ZAET	● PC Amber	(0.570, 0.420)	45	120°	3.2	150	20	200	125	-40~100



Sideview LED_S089

Part No.	Color	λd(nm) / CIE(x,y)	Typ. Luminous Flux Φv (lm)	View Angle 2θ(°)	Typ. Forward Voltage Vf (V)	Forward Current If (mA)	Thermal Resistance Rθ(j-a) (°C/W)	Max Forward Current If (mA)	Max. Junction Temperature Tj (°C)	Operating Temperature Range (°C)
L TSA-S089ZWET	○ Cool White	(0.320, 0.313)	9	120°	3.0	20	260	50	115	-40~100
L TSA-S089VEKT	● Red	625	8	120°	2.0	50	280	50	115	-40~100



Mini Top LED_M67K

Part No.	Color	λd(nm) / CIE(x,y)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ(°)	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
L TSA-M67KKEWTA	● Red	62	180	120°	2.0	20	200	30	125	-40~100
L TSA-M67FVSWTA	● Yellow	590	180	120°	2.0	20	200	30	125	-40~100
L TSA-M67KZGWTA	● True Green	525	1400	120°	3.0	20	180	30	125	-40~100
L TSA-M67KZBWT	● Blue	470	280	120°	3.0	20	180	30	125	-40~100
L TSA-M67KZWETA	○ Cool White	(0.300, 0.300)	2000	120°	3.0	20	180	30	125	-40~100



Mini Topview LED_E608

Part No.	Color	λd(nm) / CIE(x,y)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ(°)	Typ. Forward Voltage V _f (V)	Forward Current I _f (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max Forward Current I _f (mA)	Max. Junction Temperature T _j (°C)	Operating Temperature Range (°C)
L TSA-E608KRWTA	● Super Red	630	140	120°	2.1	20	120	30	125	-40~110
L TSA-E608QEWTA	● Red	620	900	120°	2.2	20	130	30	125	-40~110
L TSA-E608KSWTA	● Yellow	590	900	120°	2.2	20	130	30	125	-40~110
L TSA-E608TGWTA	● True Green	530	800	120°	3.0	20	150	20	125	-40~110
L TSA-E608UWETA	○ Cool White	(0.31, 0.31)	2500	120°	3.0	20	150	30	125	-40~110



Multi Color 3-in-1 Sideview_S33H

Part No.	Color	λd(nm) / CIE(x,y)	Typ. Luminous Intensity Iv (mcd)	View Angle 2θ(°)	Typ. Forward Voltage Vf (V)	Forward Current If (mA)	Thermal Resistance Rθ(j-a) (°C/W)	Max Forward Current If (mA)	Max. Junction Temperature Tj (°C)	Operating Temperature Range (°C)
LTSA-S33HBRGDTA	● Red	620	650	130°	2.0	20	220	20	125	-40~100
	● True Green	520	1120	130°	2.9	20	220	20	95	-40~100
	● Blue	468	220	130°	2.9	20	220	20	95	-40~100



Multi Color 3-in-1 Sideview LED_S008

Part No.	Color	λd(nm)	Typ. Luminous Flux Φv (mcd)	View Angle 2θ(°)	Typ. Forward Voltage Vf (V)	Forward Current If (mA)	Thermal Resistance Rθ(j-a) (°C/W)	Max Forward Current If (mA)	Max. Junction Temperature Tj (°C)	Operating Temperature Range (°C)
L TSA-S008RGBWA	● Red	624	180	130°	2.0	5	450	20	125	-40~100
	● True Green	530	180	130°	2.8	5	370	20	125	-40~100
	● Blue	470	112	130°	2.8	5	370	20	125	-40~100
L TSA-S0083RU	● Red	630	500	120°	2.0	20	450	30	125	-40~100



Multi Color 3-in-1 Topview LED_G38T

Part No.	Color	λd(nm)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ(°)	Typ. Forward Voltage V _f (V)	Forward Current I _F (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max Forward Current I _F (mA)	Max. Junction Temperature T _J (°C)	Operating Temperature Range (°C)
LTSA-G38TEGBWU	Red	624	850	120°	2.0	20	140	50	125	-40~110
	True Green	530	1700	120°	3.0	20	220	50	125	-40~110
	Blue	455	220	120°	3.0	20	170	50	125	-40~110



Multi Color 3-in-1 Topview LED_G683

Part No.	Color	λd(nm)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ(°)	Typ. Forward Voltage V _f (V)	Forward Current I _F (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max Forward Current I _F (mA)	Max. Junction Temperature T _J (°C)	Operating Temperature Range (°C)
LTSA-G683ZBEGWU	Red	624	560	120°	2.0	20	170	30	115	-40~110
	True Green	530	1400	120°	3.0	20	170	30	115	-40~110
	Blue	470	280	120°	3.0	20	170	30	115	-40~110



Multi Color 3-in-1 Topview LED_E351

Part No.	Color	CIE(x,y)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ(°)	Typ. Forward Voltage V _f (V)	Forward Current I _F (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max Forward Current I _F (mA)	Max. Junction Temperature T _J (°C)	Operating Temperature Range (°C)
LTSA-E351CEGBW	Red	-	-	-	-	20	-	25	125	-40~110
	True Green	-	-	-	-	19	-	25	125	-40~110
	Blue	-	-	-	-	13	-	25	125	-40~110
	White	(0.28, 0.3)	1500	120°	5.0	-	-	-	125	-40~110



0603 Chip LED_C191

Part No.	Color	λd(nm) / CIE(x,y)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ(°)	Typ. Forward Voltage V _f (V)	Forward Current I _F (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max Forward Current I _F (mA)	Max. Junction Temperature T _J (°C)	Operating Temperature Range (°C)
LTSA-C191KRKTA	Red	627	112	130°	2.0	20	450	30	110	-40~100
LTSA-C191KSKTA	Yellow	587	180	130°	2.0	20	450	30	110	-40~100
LTSA-C191KGKTA	Yellow green	571	28	130°	2.0	20	450	30	110	-40~100
LTSA-C191KFKTA	Amber	607	180	130°	2.0	20	450	30	110	-40~100
LTSA-C191JBKNA	Blue	467	71	130°	3.0	10	370	20	110	-40~100



30° Piranha

Part No.	Color	λd(nm)	Typ. Luminous Flux Φ _v (lm)	View Angle 2θ(°)	Typ. Forward Voltage V _f (V)	Forward Current I _F (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max Forward Current I _F (mA)	Max. Junction Temperature T _J (°C)	Operating Temperature Range (°C)
LTLA918VEJ3K	Red	624	6	30°	2.2	50	70	50	110	-40~100
LTLA918VYJ3K	Yellow	590	6	30°	2.2	50	70	50	110	-40~100



5mm Through Hole Lamp

Part No.	Color	λd(nm)	Typ. Luminous Intensity I _v (mcd)	View Angle 2θ(°)	Typ. Forward Voltage V _f (V)	Forward Current I _F (mA)	Thermal Resistance R _{θ(j-a)} (°C/W)	Max Forward Current I _F (mA)	Max. Junction Temperature T _J (°C)	Operating Temperature Range (°C)
LTL2V3EW3K	Red	624	7000	30°	2.2	20	320	50	115	-40~100
LTL2V3YW3K	Yellow	590	12000	30°	2.2	20	320	50	115	-40~100

Range of Available Color

Application	Package	Range of Available Color										
		Cool White	Soft Blue	Bright Cyan	Ice Blue	PC Amber	Blue 470nm	True Green 530nm	Yellow 590nm	Amber 615nm	Red 624nm	Super Red 633nm
Interior	C191 (Chip 0603)	✓					✓	✓	✓		✓	
	M67K (Mini Topview LED)	✓			✓		✓	✓	✓		✓	
	T67 (Topview LED)	✓			✓		✓	✓	✓		✓	
	S089 (Sideview LED)	✓			✓						✓	✓
	E608 (Mini Topview LED)	✓			✓		✓	✓	✓		✓	✓
Interior / Exterior	E67R (Power Topview LED)	✓							✓	✓	✓	
	G6SP (Extreme Topview LED)	✓			✓				✓	✓	✓	
	2835 (Topview LED)	✓				✓			✓	✓	✓	
Exterior	LTLA2x3 (Through Hole Lamp)								✓		✓	
	LTLA916 (Piranha)								✓	✓		
	LTLA918 (Piranha)								✓		✓	
	2720	✓				✓			✓		✓	✓
	P3535	✓				✓						
	C3535	✓				✓	✓	✓	✓	✓	✓	✓
	S38									✓		
	H1L	✓										
	H2S (2 Chips)	✓										
	H3S (3 Chips)	✓										
	H4S (4 Chips)	✓										
	H2L (2 Chips)	✓										

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