

Ennostar

2024

Automotive LED

Headlamp (High/Low Beam)



Core

- Ceramic package
- Non-notched emitting area
- Separate thermal and electric pad

	PF06N01	PF06N09	PF09N09
Dimensions	3.2 x 3.8 x 0.75 mm	2.4 x 3.1 x 0.77 mm	3.5 x 3.1 x 0.77 mm
Rated Current	1000 mA	1000 mA	1000 mA
Flux	660 lm	720 lm	1230 lm
Thermal Resistance	2.5 K/W	2.5 K/W	1.4 K/W
Max Current	1500 mA	1500 mA	1500 mA
Max Junction Temperature	150°C	150°C	150°C

Core L

- Ceramic package
- Non-notched emitting area
- Separate thermal and electric pad design

	PF06N03	PF09N01	PF12N04
Dimensions	2.0 x 5.2 x 0.75 mm	2.0 x 5.2 x 0.75 mm	2.0 x 7.0 x 0.75 mm
Rated Current	1200 mA	1200 mA	1200 mA
Flux	800 lm	1200 lm	1680 lm
Thermal Resistance	2.3 K/W	1.4 K/W	1.05 K/W
Max Current	1500 mA	1500 mA	1500 mA
Max Junction Temperature	150°C	150°C	150°C

Daytime Running Lamp (DRL)



Core

- Ceramic package
- Compact design for light guide
- Separate thermal and electric pad

	PF03N04	PF03N12
Dimensions	2.1 x 1.7 x 0.75 mm	2.1 x 1.7 x 0.8 mm
Rated Current	1000 mA	1000 mA
Flux	330 lm	370 lm
Thermal Resistance	4 K/W	4 K/W
Max Current	1200 mA	1200 mA
Max Junction Temperature	150°C	150 °C

3030E

- Economic design with standard color and power
- Low thermal resistance

	PC33N26	PC33N47
Dimensions	3.2 x 3.0 x 0.6 mm	3.2 x 3.0 x 0.6 mm
Rated Current	350 mA	150 mA
Flux	120 lm	50 lm
Thermal Resistance	15 K/W	20 K/W
Max Current	500 mA	200 mA
Max Junction Temperature	150 °C	150 °C

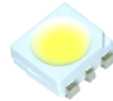
Daytime Running Lamp (DRL)



PLCC6

-PLCC6 footprint compatible

PC35N28



Dimensions	3.4x3.3x1.9mm
Rated Current	140mA
Flux	51 lm
Thermal Resistance	35 K/W
Max Current	200 mA
Max Junction Temperature	125°C

PLCC2

-PLCC2 footprint compatible

PC35N33



PC20N14



Dimensions	3.5 x 2.8 x 1.9 mm	2.2 x 1.6 x 0.55 mm
Rated Current	20 mA	10 mA
Flux	2500 mcd	3.6 lm
Thermal Resistance	130 K/W	79 K/W
Max Current	30 mA	40 mA
Max Junction Temperature	125°C	125°C



3030E

- Economic design with standard color and power
- Low thermal resistance

	PC33R49	PC33R46
Dimensions	3.2 x 3.0 x 0.6 mm	3.2 x 3.0 x 0.6 mm
Rated Current	140 mA	350 mA
Flux	27 lm	66 lm
Thermal Resistance	20 K/W	13 K/W
Max Current	200 mA	500 mA
Max Junction Temperature	150°C	150°C

PLCC6

- PLCC6 footprint compatible

	PC35R72	PC35R62(Super Red)
Dimensions	3.4 x 3.3 x 1.9 mm	3.4 x 3.3 x 1.9 mm
Rated Current	140 mA	140 mA
Flux	27 lm	17 lm
Thermal Resistance	40 K/W	40 K/W
Max Current	200 mA	200mA
Max Junction Temperature	135 °C	135 °C



3528 PLCC4

-PLCC4 footprint compatible

	PC35R75	PC35R61(Super Red)
Dimensions	3.5 x 2.8 x 1.9 mm	3.5 x 2.8 x 1.9 mm
Rated Current	50 mA	50 mA
Flux	10 lm	7 lm
Thermal Resistance	120 K/W	110 K/W
Max Current	70 mA	50mA
Max Junction Temperature	125 °C	125 °C

3528 PLCC2

-Standard PLCC2 footprint compatible

	PC35R73	PC35R29.1(Super Red)
Dimensions	3.5 x 2.8 x 1.9 mm	3.5 x 2.8 x 1.9 mm
Rated Current	20 mA	20 mA
Flux	1500 mcd	750 mcd
Thermal Resistance	80K/W	90 K/W
Max Current	30 mA	30mA
Max Junction Temperature	125°C	125°C

Indicator (Turn Signal)

Core

- Ceramic package
- Compact design for light guide
- Separate thermal and electric pad



PF03A06



Dimensions	2.1 x 1.7 x 0.75 mm
Rated Current	1000 mA
Flux	190 lm
Thermal Resistance	4 K/W
Max Current	1200 mA
Max Junction Temperature	150°C

3030E

- Economic design with standard color and power
- Low thermal resistance

PC33A48



PC33A18



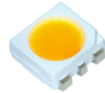
Dimensions	3.2 x 3.0 x 0.6 mm	3.2 x 3.0 x 0.6 mm
Rated Current	150 mA	350 mA
Flux	32 lm	88 lm
Thermal Resistance	20 K/W	20 K/W
Max Current	200 mA	450 mA
Max Junction Temperature	150°C	150°C

Indicator (Turn Signal)



PLCC6

-PLCC6 footprint compatible



	PC35A25	PC35A74
Dimensions	3.4 x 3.3 x 1.9 mm	3.4 x 3.3 x 1.9 mm
Rated Current	140 mA	140 mA
Flux	33 lm	9200 mcd
Thermal Resistance	40 K/W	75 K/W
Max Current	250 mA	200 mA
Max Junction Temperature	125°C	135°C

3528 PLCC4

-Standard PLCC4 footprint compatible



	PC35A22
Dimensions	3.5 x 2.8 x 1.9 mm
Rated Current	50 mA
Flux	12 lm
Thermal Resistance	80 K/W
Max Current	70 mA
Max Junction Temperature	125°C

PLCC6 RGB

-Multicolor design with RGB chip in one

PC35X26



Dimensions	3.4 x 3.3 x 1.9 mm
Rated Current	20 mA
Flux	R-800 mcd/G-2600 mcd/B-450 mcd
Thermal Resistance	160 K/W
Max Current	30 mA
Max Junction Temperature	125°C



3528 PLCC4

-Standard PLCC4 footprint compatible

PC35H19



Dimensions	3.5 x 2.8 x 1.9 mm
Rated Current	50 mA
Flux	17 lm
Thermal Resistance	80 K/W
Max Current	70 mA
Max Junction Temperature	125°C

Ambient Lighting

3030E

- Economic design with standard color and power
- Low thermal resistance

PC33X71



Dimensions	3.2 x 3.0 x 0.6 mm
Rated Current	150 mA
Flux	R/G/B: 22/38/10 lm
Thermal Resistance	R/G/B: 36/88/67 K/W
Max Current	200 mA
Max Junction Temperature	150 °C



PLCC2

- PLCC2 footprint compatible

PC35B32



PC35B34



Dimensions	3.5 x 2.8 x 1.9 mm	3.5 x 2.8 x 1.9 mm
Rated Current	20 mA	5 mA
Flux	400 mcd	500 mcd
Thermal Resistance	230 K/W	240 K/W
Max Current	30 mA	30 mA
Max Junction Temperature	125 °C	125 °C

PC35A31



PC35G30



Dimensions	3.5 x 2.8 x 1.9 mm	3.5 x 2.8 x 1.9 mm
Rated Current	20 mA	20 mA
Flux	1000 mcd	1650 mcd
Thermal Resistance	240 K/W	230 K/W
Max Current	30 mA	30 mA
Max Junction Temperature	125 °C	125 °C

Ambient Lighting



3638

-For interior lighting application



PC36X02

Dimensions	3.6 x 3.8 x 1.3 mm
Rated Current	R/G/B:30/11/11 mA
Flux	1400 mcd
Thermal Resistance	90 K/W
Max Current	R/G/B:30/11/11 mA
Max Junction Temperature	125 °C

4031

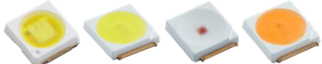
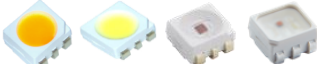
- For interior lighting application



PO40X01

Dimensions	4.0 x 3.1 x 0.65 mm
Rated Current	R/G/B: 50 mA
Flux	2310 mcd
Thermal Resistance	20 K/W
Max Current	R/G/B:50 mA
Max Junction Temperature	125 °C

LED Products Overview

Product	Headlamp	DRL	RCL/CHMSL	Indicator	Ambient Lighting
 Core L Series	○ PF06N03 ○ PF09N01 ○ PF12N04				
 Core Series	○ PF06N01 ○ PF06N09 ○ PF09N09	○ PF03N04 ○ PF03N12		● PF03A06	
 3030E		○ PC33N26 ○ PC33N47	● PC33R49 ● PC33R46	● PC33A48 ● PC33A18	■ PC33X71
 PLCC6		○ PC35N28	● PC35R72 ● PC35R62(SR)	● PC35A25 ● PC35A74	■ PC35X26
 PLCC4			● PC35R75 ● PC35R61(SR)	● PC35A22	○ PC35H19
 PLCC2		○ PC35N33 ○ PC20N14	● PC35R73 ● PC35R29.1(SR)		● PC35A31 ● PC35B32 ● PC35B34 ● PC35G30
 RGB IC					■ PC36X02 ■ PO40X01

Region	Patent Number	Title
US	11,538,970B2	LIGHT EMITTING DIODE DEVICE
	10,763,402B2	LIGHT-EMITTING DIODE PACKAGE
	9,812,432B2	LED CHIP PACKAGE
	9,659,914B2	LIGHT-EMITTING DIODE CHIP PACKAGE
	D782,425S	LEAD FRAME FOR LIGHT-EMITTING DIODE
	D709,040S	LIGHT EMITTING DIODE PACKAGE
	D697,876S	LIGHT EMITTING DIODE LEAD-FRAME
	D697,877S	LIGHT EMITTING DIODE PACKAGE
	D719,111S	LIGHT EMITTING DIODE LEAD-FRAME
	D718,726S	LIGHT EMITTING DIODE PACKAGE
	D678,225S	LIGHT EMITTING DIODE PACKAGE
	D668,624S	LIGHT EMITTING DIODE PACKAGE
	D664,505S	LIGHT EMITTING DIODE PACKAGE
	D634,284S	LEAD FRAME
	D634,285S	LEAD FRAME
	D638,378S	LEAD FRAME
	D634,286S	LEAD FRAME



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