

Safer Brighter Smarter



EVERLIGHT
— AUTOMOTIVE

Agenda

01 Head lamp
introduction

02 Mini LED

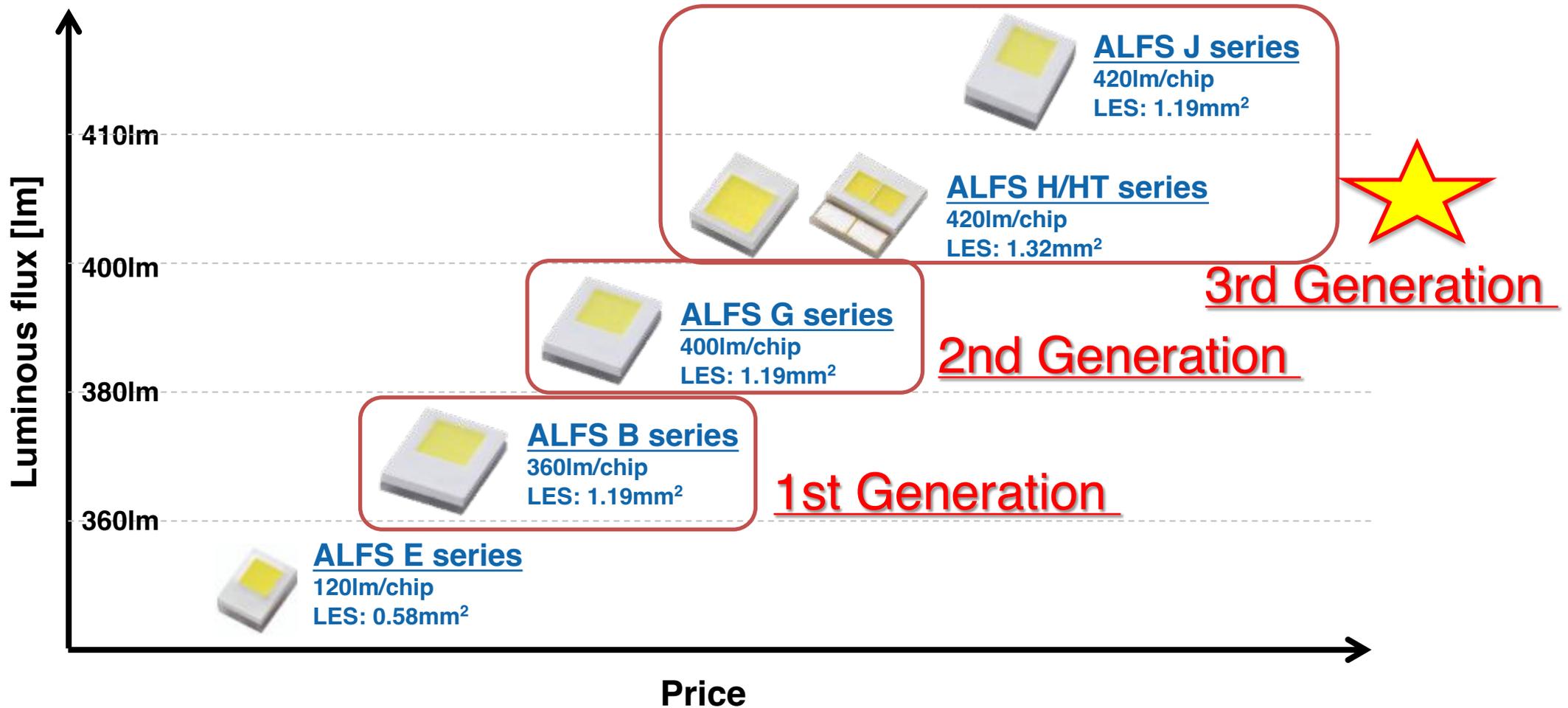
03 Smart White/ Color

01 Head lamp/
Projection

02 Mini LED

03 Smart White/ Color

ALFS Product Position

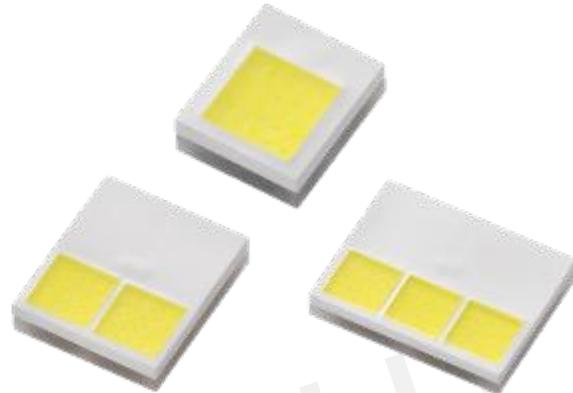


Product Overview: ALFS H series



Advantages & Benefits

- Size** Multiple Package (LES=1.15*1.15 mm)
- Key Feature**
 - Brightness min 400 lm/chip
 - High thermal conductivity of Ceramic substrate
 - AEC-Q102 qualified(Class A0)/USCAR/LM-80 planning
- Application** ● Head Lamp, DRL, Fog Lamp, Grille Light, Logo Lamp

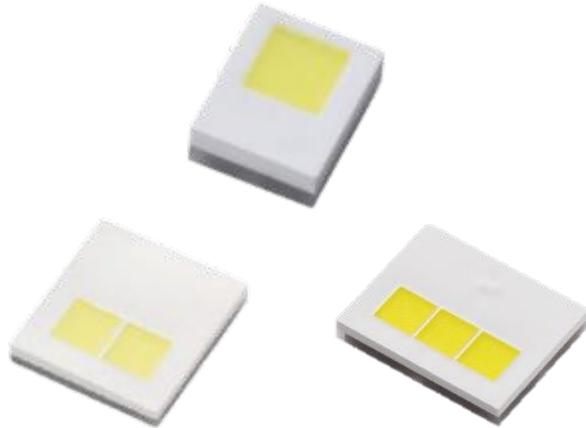


Electro Optical Characteristics @ Typ current / 25°C

Color	Part No.	PKG (mm)	Min/Typ Brightness (lm)	Test current (mA)	VF	Typical Rth K/W	CCT/ nm	LES (mm ²)	Status
White	ALFS1H-C010001H-AM	1.9x1.6x0.7	400 / 420	1000	2.9-3.8	4.0	5180-6680K	1.32	MP
White	ALFS2H-C010001H-AM	3.1x2.7x0.7	800 / 840	1000	5.8-7.6	2.8	5180-6680K	1.32	MP
White	ALFS3H-C010001H-AM	3.1x3.9x0.7	1200 / 1260	1000	8.7-11.4	1.8	5180-6680K	1.32	MP



Product Overview: ALFS J series



Advantages & Benefits

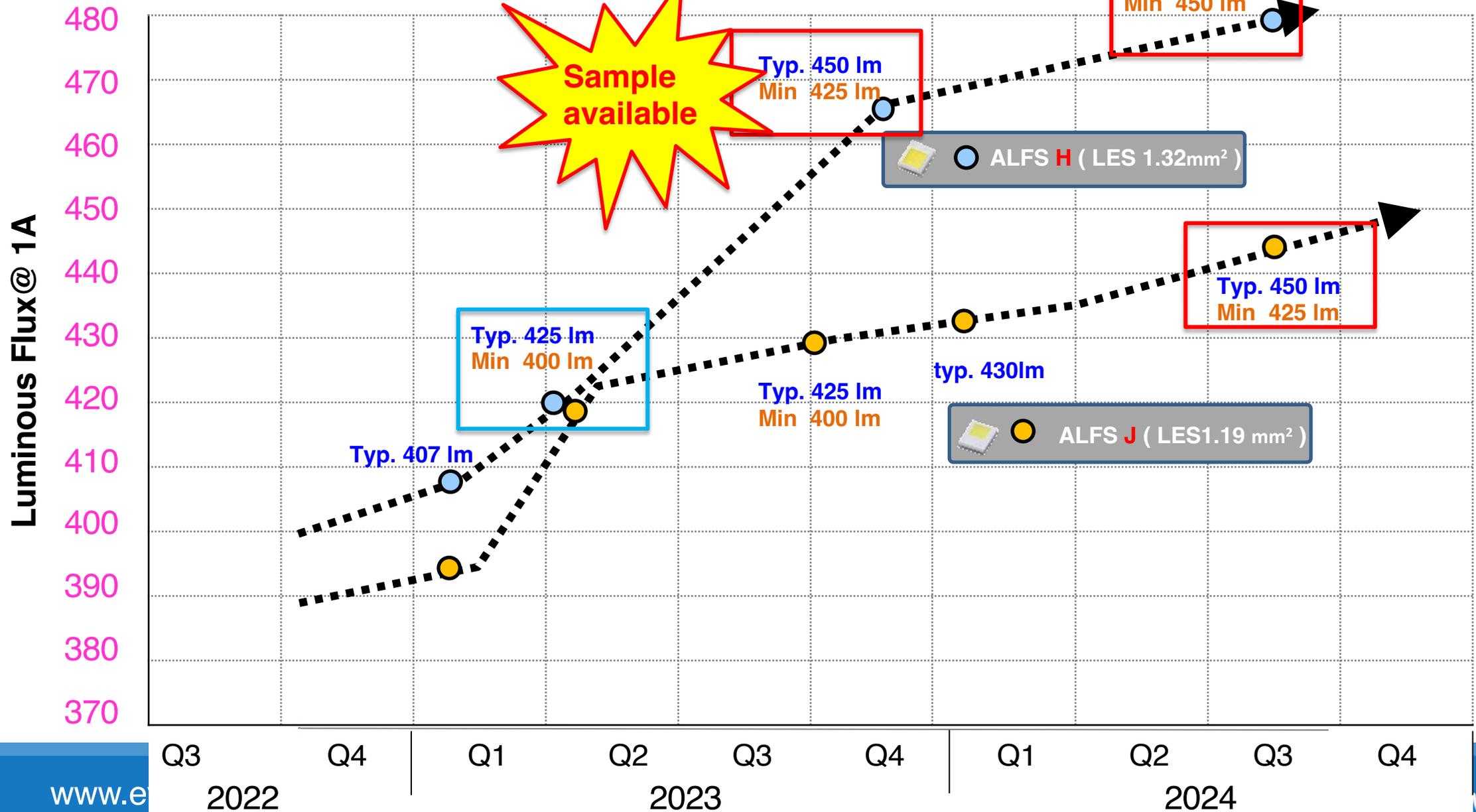
Size	Multiple Package(LES=1.09*1.09 mm)
Key Feature	<ul style="list-style-type: none"> ● Brightness min 415 lm/chip ● High thermal conductivity of Ceramic substrate ● AEC-Q102(Class A0)/USCAR/LM-80 planning
Application	● Head Lamp, DRL, Fog Lamp, Grille Light, Logo Lamp

Electro Optical Characteristics @ Typ current / 25°C

Color	Part No.	PKG (mm)	Min/Typ Brightness (lm)	Test current (mA)	VF	Typical Rth K/W	CCT/ nm	LES (mm ²)	Status
White	ALFS1J-C010001H-AM	1.9x1.6x0.7	415/ 430	1000	2.75-3.5	4.0	5180-6680K	1.19	MP
White	ALFS2J-C010001H-AM	3.1x2.7x0.7	830/ 860	1000	2.75-3.5	3.0	5180-6680K	1.19	MP
White	ALFS3J-C010001H-AM	3.1x3.9x0.7	1245/ 1320	1000	2.75-3.5	2.1	5180-6680K	1.19	MP



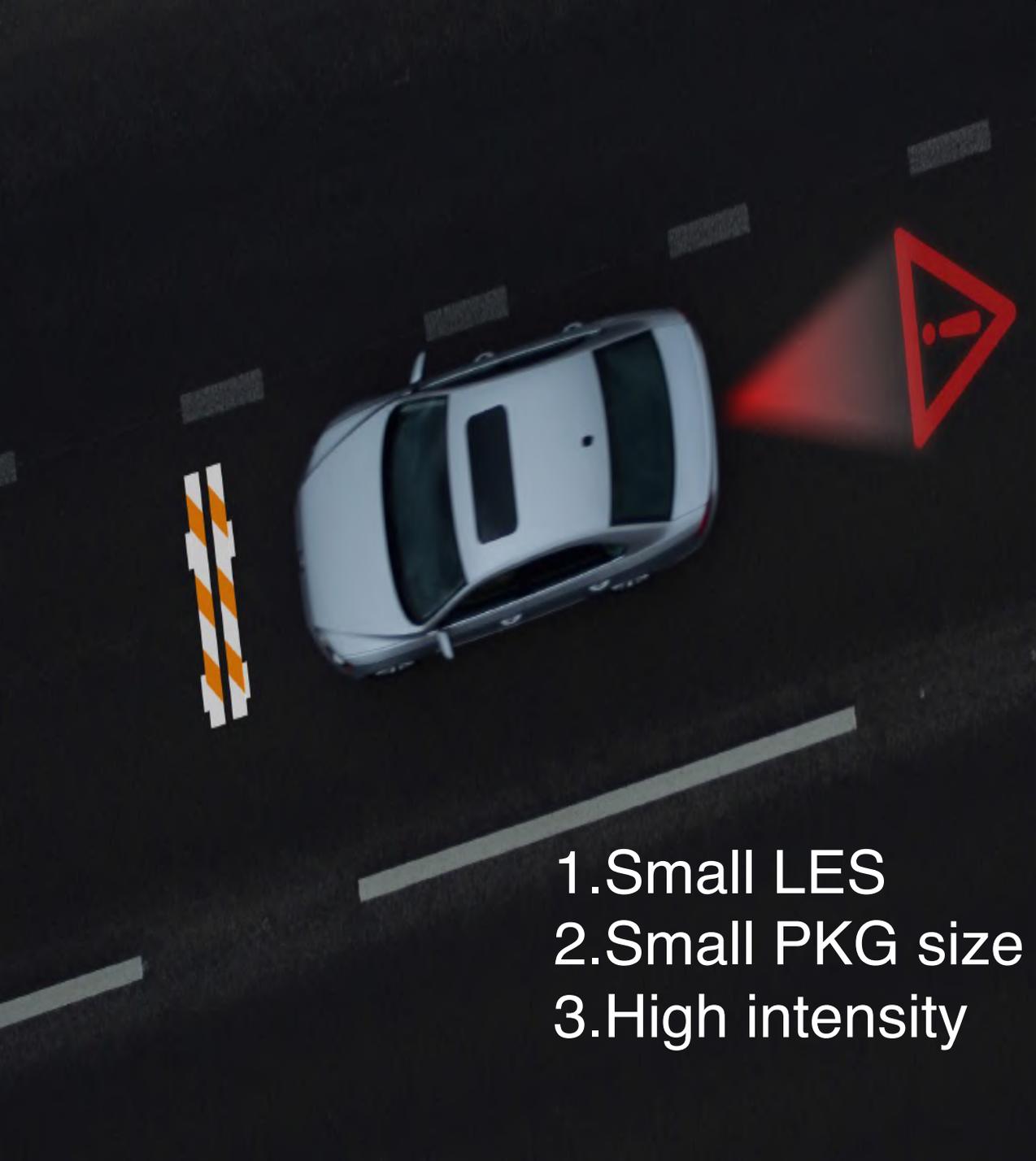
ALFS Package Road map



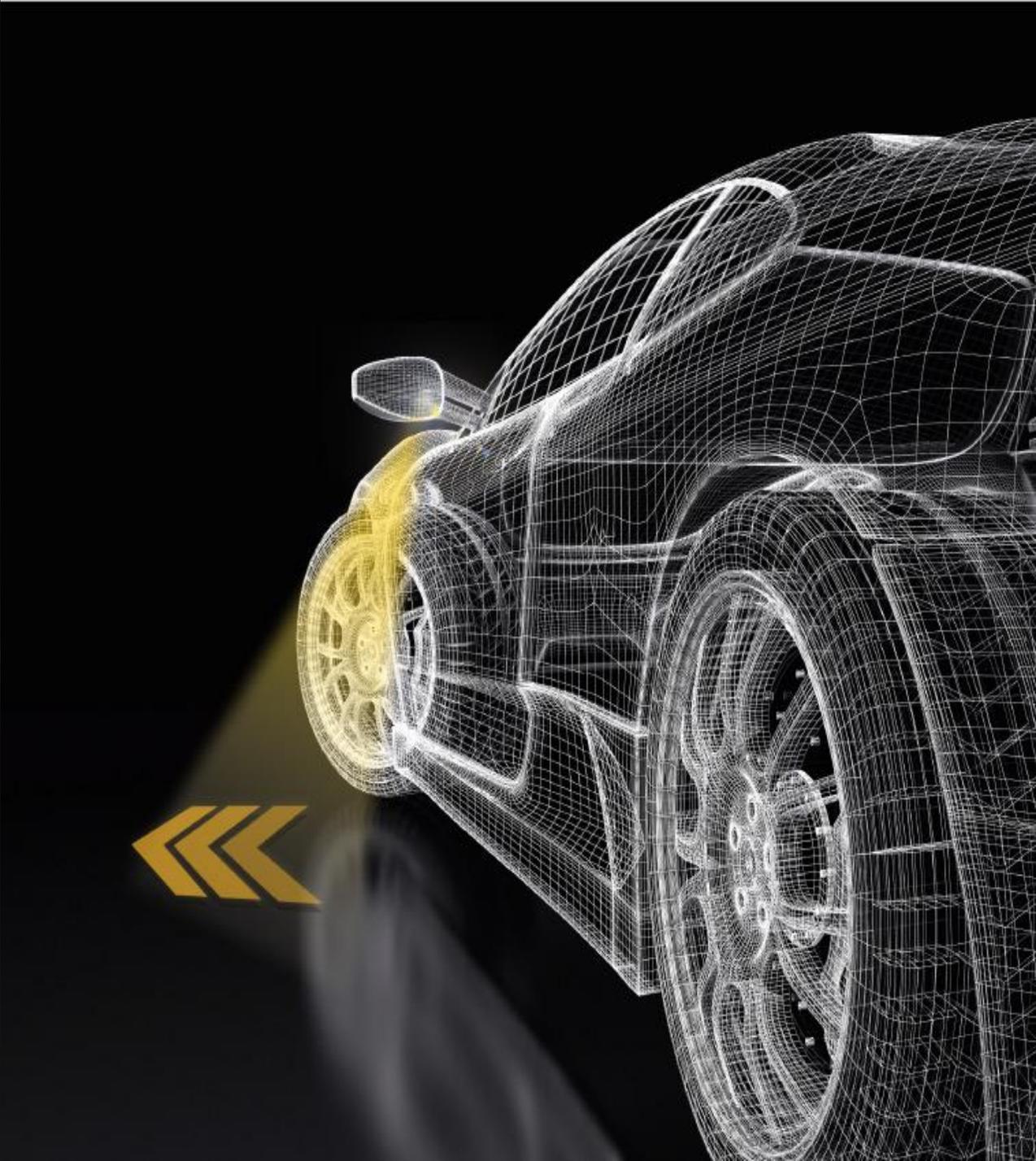


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HELLO



- 1.Small LES
- 2.Small PKG size
- 3.High intensity



Product Overview: ALFS E series



Advantages & Benefits

Size	1.2 x 1.6 x 0.7(mm)(LES=0.76*0.76 mm)
Key Feature	<ul style="list-style-type: none"> ● Brightness min 100 lm/chip ● High thermal conductivity of Ceramic substrate ● AEC-Q102 qualified(Class A0)/USCAR/LM-80 planning
Application	● Head Lamp, DRL, Fog Lamp

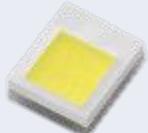
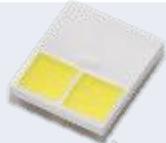
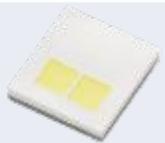
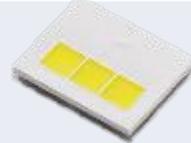
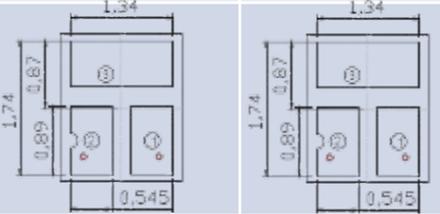
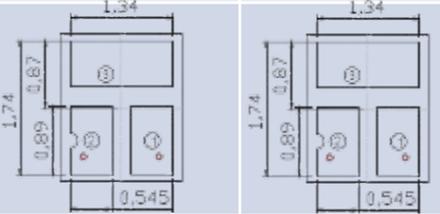
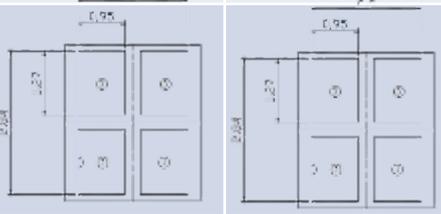
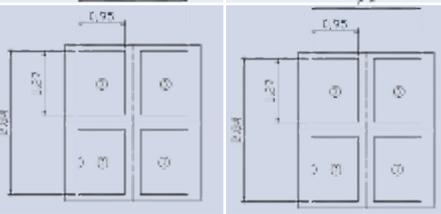
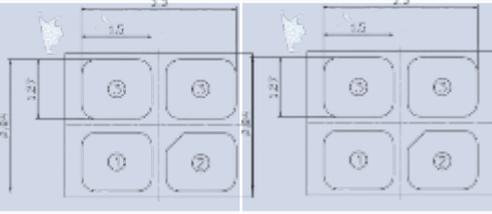
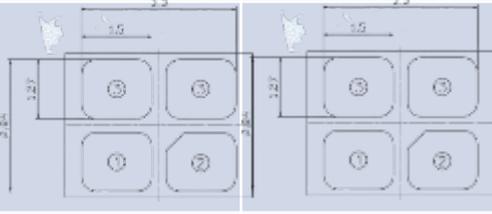
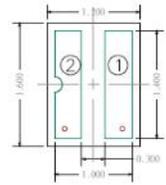
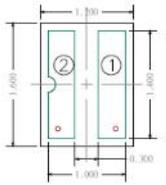


Electro Optical Characteristics @ Typ current / 25°C

Color	Part No.	PKG (mm)	Min/Typ Brightness (lm)	Test current (mA)	VF	Typical Rth K/W	CCT/ nm	LES (mm ²)	Status
White	ALFS1E-C03501H-AM	1.2x1.6x0.7	120 / 140	350	2.9-3.8	TBD	5180-6680K	0.58	B
White	ALFS1E-C07001H-AM	1.2x1.6x0.7	200 / 250	700	2.9-3.8	4.2	5180-6680K	0.58	B
PC Amber	ALFS1E-PA7001H-AM	1.2x1.6x0.7	100 / 130	700	2.9-3.8	4.3	X:0.57,Y:0.42	0.58	B



Product Information: ALFS series

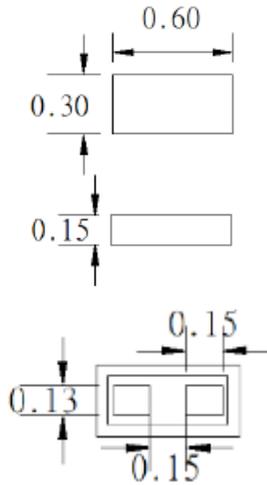
	Everlight	Everlight	Everlight	Everlight	Everlight	Everlight	Everlight	Everlight
PN	ALFS1H	ALFS1J	ALFS2H	ALFS2J	ALFS3H	ALFS3J	ALFS1E White	ALFS1E PC Amber
Photo								
PAD								
Dimension (m)	1.90 x 1.60 x 0.70	1.90 x 1.60 x 0.70	3.1 x 2.7 x 0.7	3.1 x 2.7 x 0.7	3.1 x 4.02 x 0.7	3.1 x 4.02 x 0.7	1.2 x 1.6 x 0.7	1.2 x 1.6 x 0.7
LES (mm)	1.15 x 1.15 (1.32 mm ²)	1.09 x 1.09 (1.19 mm ²)	1.15 x 1.15 (1.32 mm ²)	1.09 x 1.09 (1.19 mm ²)	1.15 x 1.15 (1.32 mm ²)	1.09 x 1.09 (1.19 mm ²)	0.76*0.76 (0.58 mm ²)	0.76*0.76 (0.58 mm ²)
IF (mA)	50-1000-1500	50-1000-1500	50-1000-1500	50-1000-1500	50-1000-1500	50-1000-1500	50-700-800	50-700-800
Flux	Typ:410lm	Typ:425lm	Typ:820lm	Typ:850lm	Typ:1230lm	Typ:1275lm	Typ:250lm	Typ:130lm
Rth (max)	4	4	2.8	3.0	1.8	2.1	4.2	4.3

01 Head lamp
introduction

02 Mini LED

03 Smart White/ Color

MiniLED 0603 Overview



Advantages & Benefits

Size	✓ 0.6*0.3*0.15 (mm)
Key Feature	✓ CSP design ✓ AEC-Q102 qualified
Application	✓ Tail lamp



Electro Optical Characteristics @ Typ current / 25°C

Color	Part No.	V_F	Intensity (mcd)	IF typ (mA)	IF max (mA)	Max T_j (°C)	Wavelength (nm)	Status
Red	CSP0603-UR005XH-AM	1.5-2.5	Up to 224	5	20	125	615-630	MP

Product Overview—EL 0808 (mini LED)



Advantages & Benefits

Size	✓ 0.8 x 0.8 x 0.45 (mm)
Key Feature	<ul style="list-style-type: none"> ✓ Au Plating ✓ EMC lead frame for better thermal resistance ✓ AEC-Q102 planning
Application	✓ Exterior/Interior Lighting

Electro Optical Characteristics @ Typ current / 25°C

Color	VF (V)	Min lumen @25°C(lm)	IF typ (mA)	IF max (mA)	Max Tj (°C)	Rth (k/w)	LES (mm²)
RGB	2.1	TBD	5	20	125	TBD	0,64



Roadmap of MiniLED

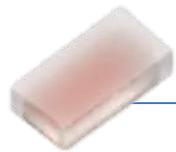
2023 H1

2023 H2

2024 H1

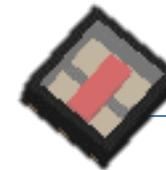
2024 H2

● Available ● Under development ● Concept



CSP0603 Super Red/White

- ✓ 0.6*0.3*0.15 (mm)
- ✓ CSP design



CSPXXX RGB

- ✓ CSP design
- ✓ RGB color



01 Head lamp
introduction

02 Mini LED

03 Smart White/ Color



Conventional Interior light



Smart White

Tunable color temperature will provide pleasant interior lighting



Conventional Exterior Light



Smart Color

New exterior functions require new color concept

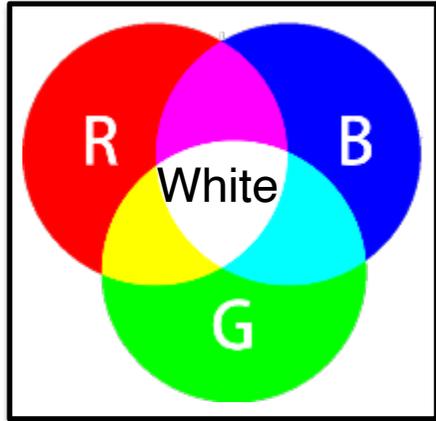


Present

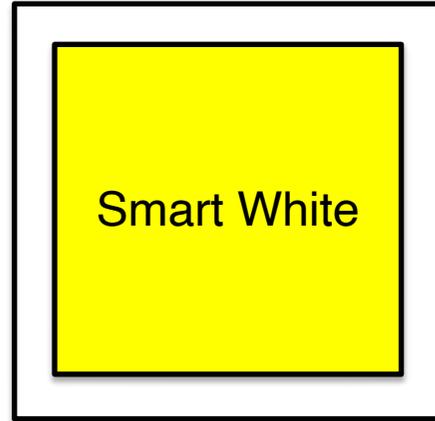


Vision

Why we need SMART WHITE ?



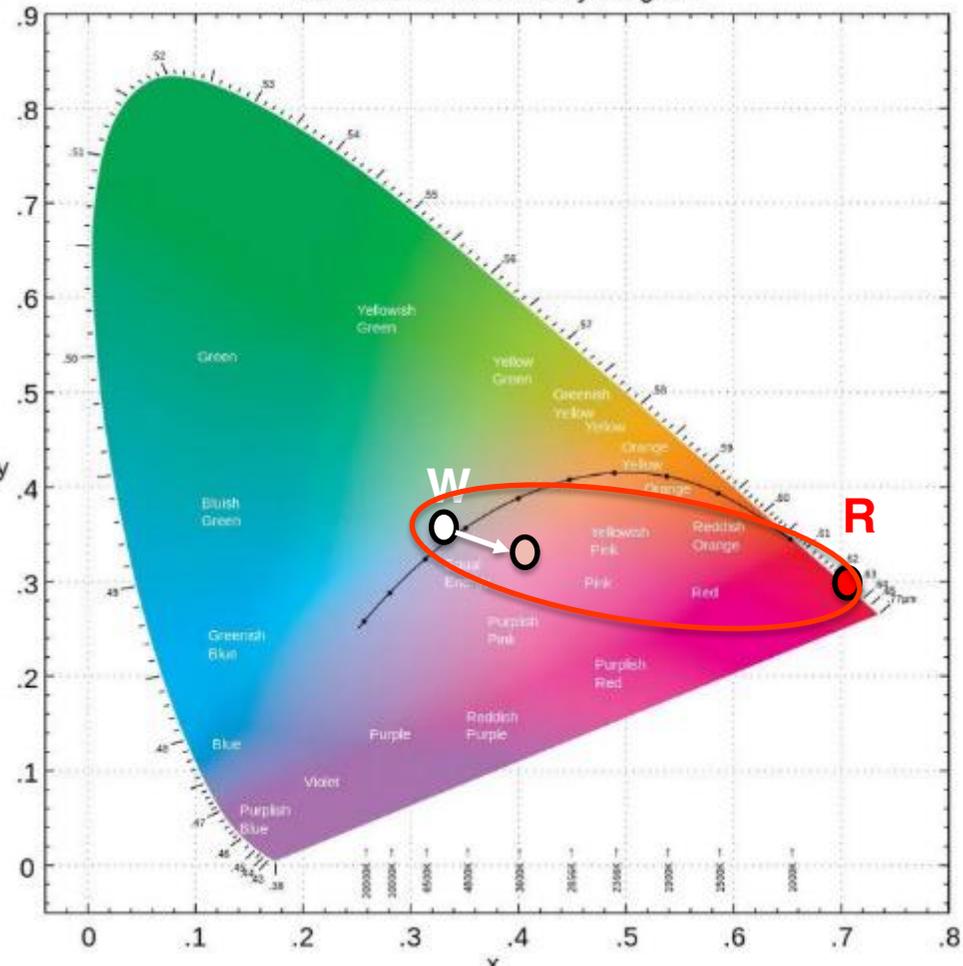
VS



- Pre- Calibration?
- Brightness?
- High Quality White, such as CRI?
- Homogenous light pattern?
- Tunable White?

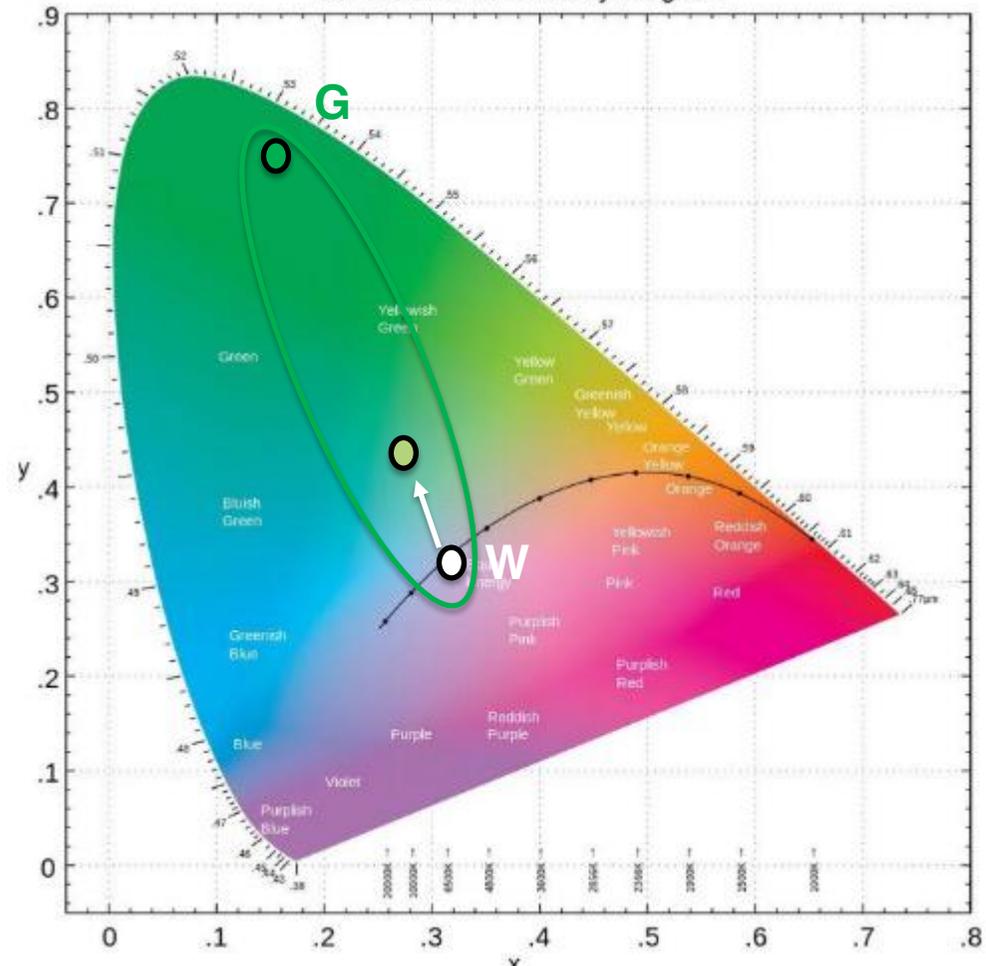
What is SMART COLOR?

C.I.E. 1931 Chromaticity Diagram

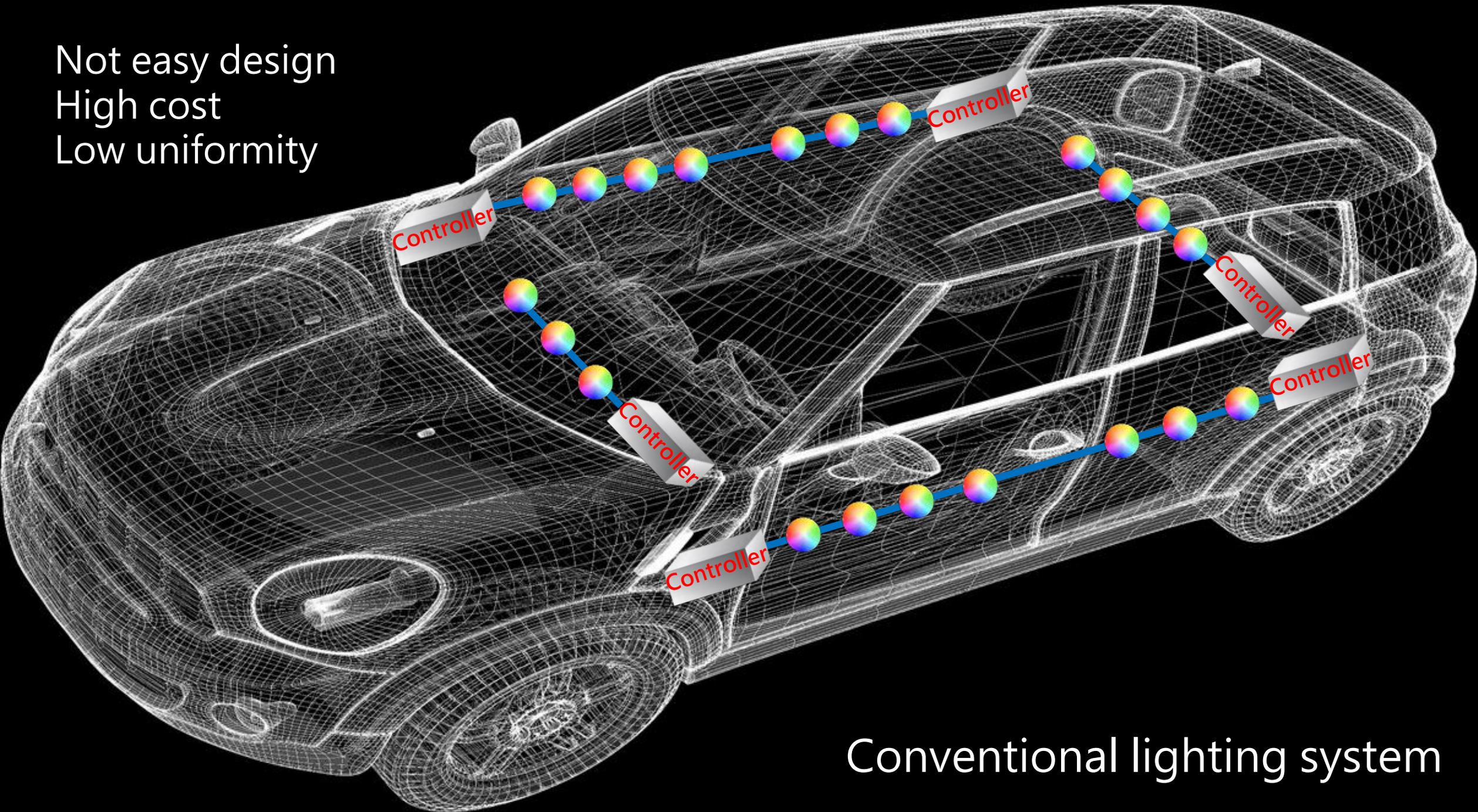


- Pre calibrated
- Tunable Colors
- Different color option

C.I.E. 1931 Chromaticity Diagram

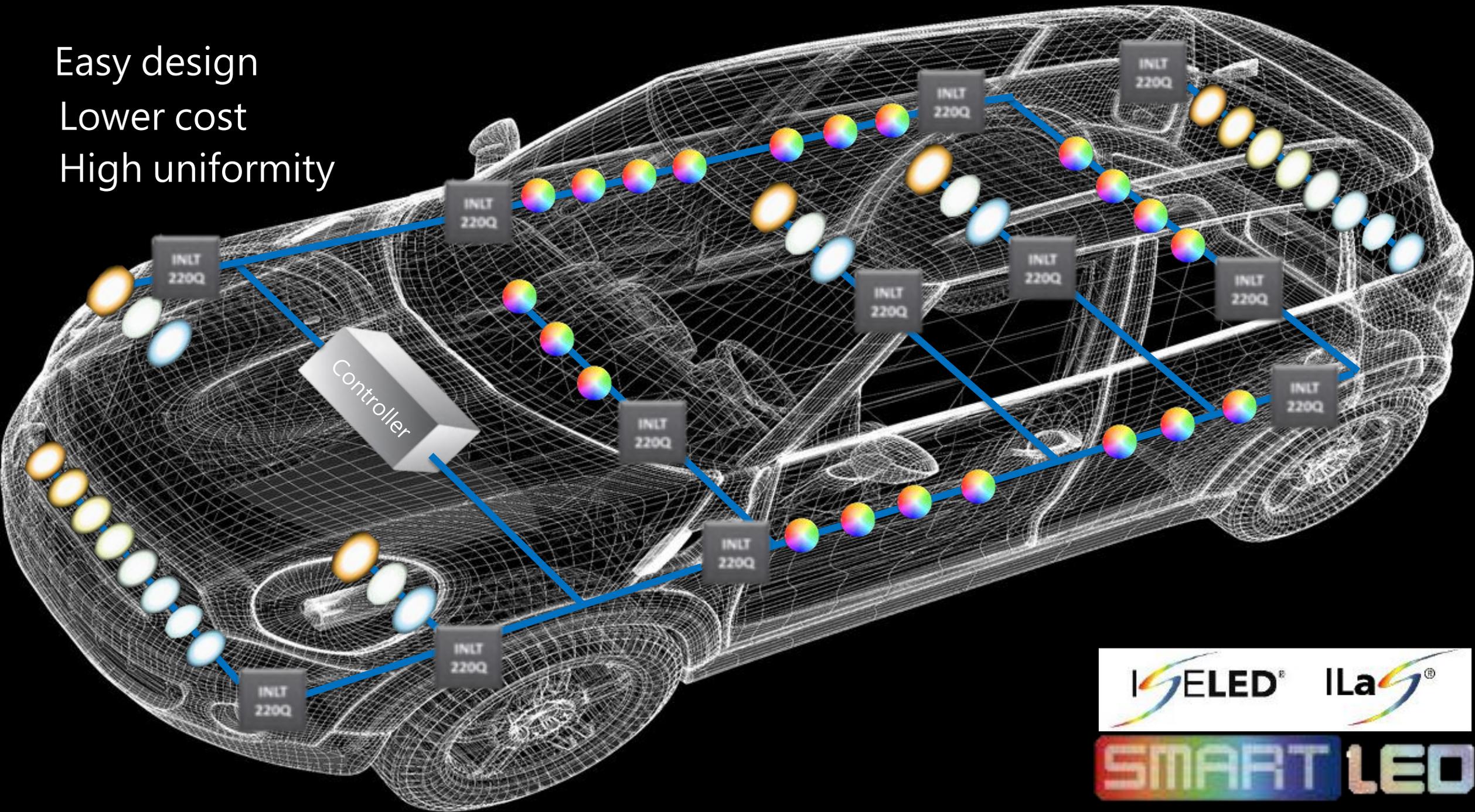


Not easy design
High cost
Low uniformity



Conventional lighting system

Easy design
Lower cost
High uniformity



Smart White and Smart Color

SMART WHITE

- >Pre- calibrated
- >High Quality White color
- >Tunable color Temperature

SMART COLOR

- >Pre calibrated
- >Tunable colors
- >Customized colors

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Roadmap of Smart LED

2023 H1

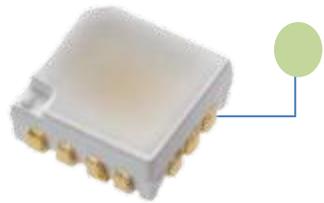
2023 H2

2024 H1

2024 H2

2025 H1

● Available ● Under development ● Concept



EL3534 Smart RGB

- IC w/ embedded memory
- Pre-calibrated to D65
- ISELED protocol

B Sample Available



EL3534H Smart RGB

EL3534H Smart RGB

- IC w/ embedded memory
- Pre-calibrated to D65
- ISELED protocol
- Enhance White brightness

AECQ-102 2023/9

MP 2023 Q4



SMART WHITE

- Pre calibrated White LED
- ISELED protocol
- Tunable color temperature
- High intensity



SMART COLOR

- Pre calibrated Colors
- ISELED protocol
- Tunable Colors
- High Intensity

Smart Color

A sample 2023/11

B sample 2024/5

AECQ-102 2024/10

MP 2024/12

A photograph of a modern, multi-story building with a glass facade, illuminated at night. The building is the central focus, with its lights glowing against the dark sky. The foreground shows a paved area and some trees, also lit up. The overall scene is a professional and modern architectural setting.

THANKS FOR YOUR ATTENTION

感謝您的聆聽

EVERLIGHT

— One Source For Every Need —