



Summer 2023

# LED Components

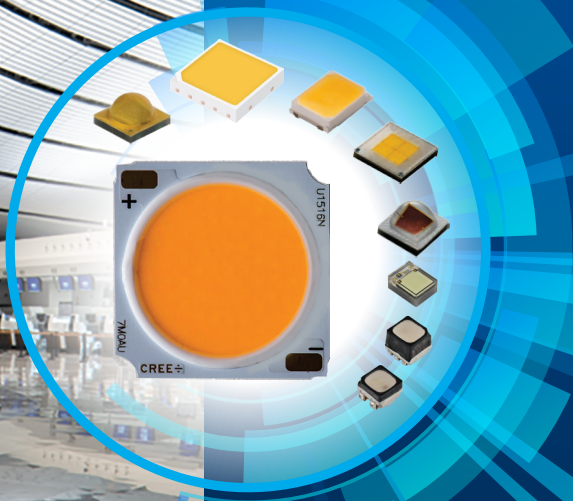
## Product & Application Guide

High-Power General Lighting

Mid-Power General Lighting

Specialty Lighting

Video Screens





## **APPLICATIONS**

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## **PRODUCTS**








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## XLamp® LEDs

- Industry's best lumen density and optical control
- Excellent L90 lifetimes across the entire portfolio
- XP-G3 S Line provides industry's best sulfur resistance and best-in-class efficacy

LEDs		Footprint (mm)	Voltage Class (V)	Typical LPW @ 85 °C	Maximum Drive Current (A)	Maximum Power (W)
	XT-E High Efficacy	3.45	3	169 @ 1 W	1.50	5
	XP-G2 Standard		3	172 @ 1 W	1.50	5
	XP-G3 S Line		3	195 @ 1 W 173 @ 2 W	2.00	6
	XP-L2		3	165 @ 3 W	3.00	10
	XHP35.2 High Density		12	165 @ 4 W	1.50	20
	XHP50.3 High Density	5.00	6 12	148 @ 8 W	3.00 1.50	18
	XHP70.3 High Density	7.00	6 12	150 @ 12 W	7.20 3.60	45

## J Series® LEDs

- JR5050C E Class LEDs deliver industry's highest efficacy for high power LEDs, with up to 3 times the light output of competing 5050 LEDs at the same LPW

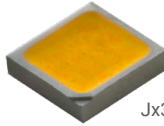
LEDs		Footprint (mm)	Voltage Class (V)	Typical LPW @ 85 °C	Maximum Drive Current (A)	Maximum Power (W)
	JR5050C E Class	5.00	6	216 @ 1 W 204 @ 2 W	1.000	6
	JR5050B K Class		6 30	203 @ 1 W 190 @ 2 W	1.000 0.240	6
	JR5050 P Class		6 9 24	197 @ 1 W 183 @ 2 W	1.000 0.660 0.240	6



- Precision Dimming provides a simplified approach to improve unacceptable LED light output with current dimming - available on select 2835 LEDs
- 70, 80 & 90 CRI options for complete 6500 K–2700 K CCT range
- 2200 K CCT and 98 CRI options available



Jx2835



Jx3030 HE



Jx3030

### J Series® LEDs: 2835

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 80 CRI		3000 K, 80 CRI		Max. Current (mA)
				Typical Flux (lm)	Typical LPW	Typical Flux (lm)	Typical LPW	
3-V	JB2835B / G	55	2.67	32.1	219	30.2	206	480
	JB2835B / J	55	2.68	31.0	210	29.1	197	480
	JE2835B / N	150	2.86	78.1	182	73.8	172	240
	JE2835B / P	150	3.04	77.0	169	72	158	240
	JE2835 / R	150	2.95	73.5	166	70.5	159	240
	JB2835 / W	60	2.91	30.4	174	29.1	167	150
6-V	JK2835 / P	150	6.07	154	169	146	160	240
	JK2835B / W	150	6.35	137	144	131	138	200
9-V	JK2835B / U	100	9.10	143	157	132	145	120
	JK2835B / W	100	9.15	132	144	124	136	120
18-V	JK2835B / U	50	18.1	141	156	133	147	60
	JK2835 / X	50	18.2	126	138	119	131	60

### J Series LEDs: 3030

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 80 CRI		3000 K, 80 CRI		Max. Current (mA)
				Typical Flux (lm)	Typical LPW	Typical Flux (lm)	Typical LPW	
3-V	JB3030 HE / B	65	2.70	36.5	208	34.1	194	480
	JB3030 HE / D	65	2.79	36.2	200	33.8	186	240
	JB3030 / P	65	2.81	33.8	185	31.7	174	240
	JK3030 / P	350	3.15	154	140	144	131	400
6-V	JK3030 HE / B	150	6.00	153	170	143	159	240
	JK3030 / P	150	6.14	148.5	161	141	153	240



**XLamp® LEDs: High Intensity**

- Breakthrough intensity of XP-P now available in full range of CCT/CRI options
- XHP High Intensity LEDs now available in 95 CRI minimum

LEDs		LES (mm)	CCT & CRI Options	Maximum Light Output* (lm)	Voltage Class (V)	Maximum Drive Current (A)
	XP-P	~1	6500K-2700K 70, 80, 90	489	3	2.50
	XQ-E High Intensity		6500K-1800K 70, 80, 90	383	3	1.50
	XE-G (Element G)	~2	6500K-2200K 70, 80, 90	659	3	3.00
	XD16 Premium White		7000K-2200K 70, 80, 90	602	3	2.00
	XHP35.2 High Intensity	~3	7000K-2700K 70, 80, 90, 95	1,613	12	1.50
	XP-L High Intensity		6500K-2700K 70, 80, 90	1,035	3	3.00
	XHP50.3 High Intensity	~4	7000K-2700K 70, 80, 90, 95	1,990	6 12	3.00 1.50
	XHP70.3 High Intensity		7000K-2700K 70, 80, 90, 95	4,677	6 12	7.20 3.60

\* Performance shown for 3000K, 80 CRI, Tc = 55 °C

**XLamp® LEDs: COB**

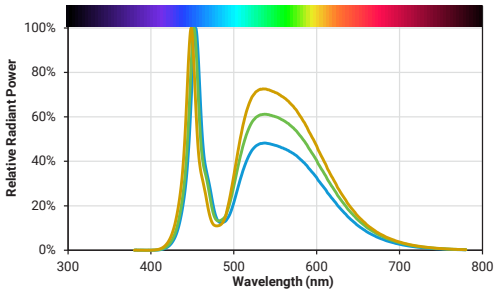
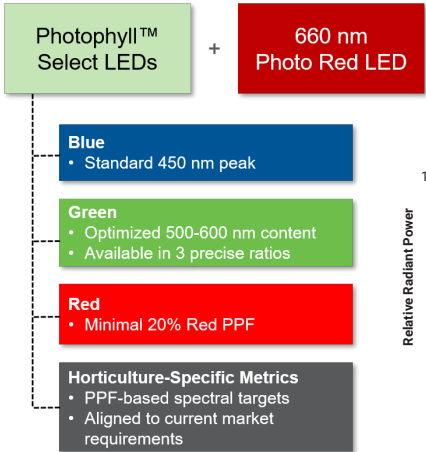
- Pro9™ versions deliver up to 15% higher efficacy for 90 & 95 CRI
- High Fidelity (98 CRI) & Specialty options

LES Type	Product Family	LES (mm)							
		3.3	4.2	4.5	6	8.5	9	9.8	12
Cree LED	CMBxxxx				1306 1304		1516 1510 1507		1825 1818
Citizen	CHAxxxx	0304	0410		0612	0825			
	CMUxxxx							1013 1010 1006 1003	



- Photophyll™ Select LEDs: new phosphor-converted LED color with blue and green spectral output tuned for horticulture applications
- Reported DLC Horticulture lifetimes up to Q90 >109K hrs

LED Platform	J Series® 5050		XLamp® XP		J Series 2835 3V
Footprint (mm)	5.0 x 5.0		3.45 x 3.45		2.8 x 3.5
Max Power (W)	6		4-6		1
Photophyll™ Select			 XP-G3		 G Class
White	 JR5050C E Class	 JR5050B K Class	 XP-G3 S Line	 G Class	
450 nm			 XP-G3		 N Class
660 nm			 XP-G3 S Line	 XP-E2	 N Class
730 nm			 XP-E2		 N Class
PC Purple					 N Class

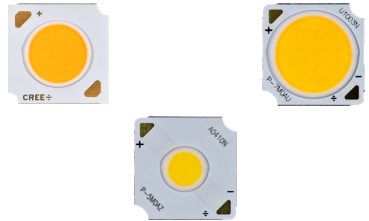




### XLamp® COB LEDs: Premium Color

- Pro9™ versions deliver up to 15% higher efficacy for 90 & 95 CRI
- Standard 2-step color consistency on most offerings

Colors	CRI	4000K	3500K	3100K below BBL	3000K	3000K below BBL	2700K
Fidelity	98	40H	35H		30H		27H
Specialty	90			31Q		30Q 30U	
	95					L7C	



LES Type	Product Family	LES (mm)							
		3.3	4.2	4.5	6	8.5	9	9.8	12
Cree LED	CMBxxxx				1306 1304		1516 1510 1507		1825 1818
Citizen	CHAxxxx	0304	0410		0612	0825			
	CMUxxxx							1013 1010 1006 1003	

### J Series® LEDs

- 3-step color consistency options

Colors	CRI	5000K	4000K	3000K	2700K
Fidelity	98	50E	40E	30E	27E












LEDs	Voltage Class	Typical Drive Current (mA)	4000 K, 98 CRI		3000 K, 98 CRI		Max. Drive Current (mA)
			Typ. lm	Typ. LPW	Typ. lm	Typ. LPW	
JE2835B N Class	3-V	150	59.5	139	55.5	129	240
JE2835B P Class	3-V	150	59	129	55	121	240









### Single Color LEDs

- Higher max current ratings for XLamp XQ-E HD, XQ-E HI & XP-E2
- New colors for XLamp XQ-E HD & HI: Cyan, PC Cyan, PC Lime

									
	XLamp Element G	XLamp XP-G3	XLamp XQ-E High Intensity	XLamp XQ-E High Density	XLamp XP-E2	XLamp XB-D	XLamp XQ-A	JE2835 3V N Class	CLX6F
	10 W max	6 W max	5 W max	5 W max	5 W max	3 W max	1 W max	0.8 W max	0.4 W max
White	•	•	•	•	•	•	•		•
Violet	•							•	
Royal Blue	•	•	•	•	•	•		•	
Blue	•		•	•	•	•	•	•	•
PC Blue	•		•				•		
Cyan	•		•	•				•	
PC Cyan	•		•	•					
Green	•		•	•	•	•	•	•	•
PC Mint	•							•	
PC Lime	•		•	•				•	
PC Yellow	•								
Amber	•				•	•		•	•
PC Amber	•		•	•	•	•	•	•	•
PC Red-Orange	•							•	
Red-Orange	•		•	•	•	•	•	•	
PC Red	•								
Red	•		•	•	•	•	•	•	•
Photo Red	•	•		•	•			•	






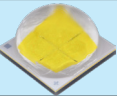
### Multi-Color LEDs

						
	XLamp XM-L Color Gen 2 High Density	XLamp XM-L Color Gen 2 High Intensity	CLQ6x	CLR6A	CLW6A	CLX6F
	1.75 A max	1.75 A max	200 mA max	65 mA max	30 mA max	35 mA max
RGBW	•	•	•	•	•	
RGBA			•			
RGB			•			•








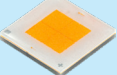
## XLamp® LEDs: Lumen Optimized

- Optimized for maximum lumen output at high drive current

	XLamp LED	Footprint (mm)	Voltage Class	Lumens @ Max Current <sup>1</sup> (lm)	Lumens @ Overdrive Current <sup>2</sup> (lm)	Overdrive Flux Bin Tested	Light Source Size <sup>3</sup> (mm)
	XT-E HE	3.45	3V	511 @ 1.5A	762 @ 3.0A	S4	2.0 x 2.0
	XP-G3		3V	776 @ 2.0A	1,316 @ 4.5A	S7	2.3 x 2.3
	XP-L2		3V	1,172 @ 3.0A	1,858 @ 6.0A	W3	3.0 x 3.0
	XM-L3	5.00	3V	1,526 @ 5.0A	1,967 @ 6.1A	U5	3.0 x 3.0
	XHP50.3 HD		3V 6V	2,067 @ 6.0A 2,067 @ 3.0A	3,066 @ 10A 3,066 @ 5.0A	K2	3.9 x 3.9
	XHP70.3 HD	7.00	6V	4,857 @ 7.2A	N/R <sup>4</sup>	—	5.3 x 5.3

## XLamp® LEDs: Beam Distance Optimized

- Optimized for maximum beam distance

	XLamp LED	Footprint (mm)	Voltage Class	Lumens @ Max Current <sup>1</sup> (lm)	Lumens @ Overdrive Current <sup>2</sup> (lm)	Overdrive Flux Bin Tested	Light Source Size <sup>3</sup> (mm)
	XD16 Premium	1.6	3V	642 @ 2.0A	856 @ 3.0A	S3	1.4 x 1.4
	XE-G	2.05 x 1.6	3V	711 @ 3.0A	N/R <sup>4</sup>	—	1.3 x 1.3
	XP-P	3.45	3V	614 @ 3.0A	N/R <sup>4</sup>	—	1.0 x 1.0
	XP-L HI		3V	992 @ 3.0A	1,399 @ 5.0A	V3	2.1 x 2.1
	XHP50.3 HI	5.00	3V 6V	1,929 @ 6.0A 1,929 @ 3.0A	2,752 @ 10A 2,752 @ 5.0A	J4	3.0 x 3.0
	XHP70.3 HI	7.00	6V	4,523 @ 7.2A	N/R <sup>4</sup>	—	3.9 x 3.9



- Simulated light output with highest available flux bin at maximum rated current.
- Measured light output with stated flux bin after 30 seconds of operation. Overdrive performance ratings are provided for reference in portable lighting applications only and are not a specification.
- Apparent optical source size as seen by the optic. These values are not LED die sizes.
- Running this LED above maximum current is not recommended since peak lumen output occurs at maximum current.

VIDEO SCREENS – FULL-COLOR SCREENS



### Surface Mount RGB

- Application optimized: IPX8 waterproofing, matte surface for contrast, small size
- Proven lifetime for displays that last under all viewing conditions

Package Size (mm)	LEDs	Angle (°)	Typ. Red Intensity (mcd)	Typ. Green Intensity (mcd)	Typ. Blue Intensity (mcd)	IPX8 Rated
1.0 x 1.0	 UHD111A-FKA	120	35	60	12	
1.5 x 1.5	 CLMUD-FKA	110	54	180	30	
	 CLMUD-FKC	110	450	750	145	
1.6 x 1.7	 CLMWB-FKC	120	525	1,030	210	•
2.0 x 2.0	 CLMVC-FKA	120	80	225	43	
	 CLMVC-FKC	120	420	650	145	
2.19 x 1.8	 CLMXB-FKA	120	275	565	95	•
2.19 x 1.85	 CLMXB-FKC	120	515	1200	240	•
2.8 x 2.8	 CLY6C-FKC	110	500	900	245	•
	 CLY6D-FKC	110	750	1,350	240	•
3.5 x 3.4	 CLX6E-FKC	110	750	1,100	270	•
	 CLX6F-FKC	110	800	1,400	270	•
9.4 x 4.2	 CV94A-FGC	90/45	1,600	2,800	560	•
	 CV94D-FCC	30	6,000	12,000	2,300	•















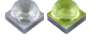


### Through-Hole: P2

Product Series		Angle (°)	Typ. Red Intensity (mcd)	Typ. Green Intensity (mcd)	Typ. Blue Intensity (mcd)
4 mm Oval	C4SMA	90/45	1,500	2,500	900
	C4SMB	90/45	2,800	7,500	1,400
	S4SMS	105/50	1,200	3,800	660
	C4SMM	115/65	1,050	1,800	380
5 mm Oval	C566D	70/30	3,000	8,200	2,000
	C5SMF	100/40	2,200	4,400	1,100

Photo: Prismview, A Samsung Electronics Company






















- Small form factor enables compact and more-aerodynamic light bars
- Industry’s best lumen density and optical control
- New XLamp Element G (XE-G) LEDs deliver breakthrough light output and lumen density and are available in 17 colors plus a full range of white
- Common XLamp XQ package for color and white LEDs simplifies design

Power Class	LEDs	Footprint (mm)	Maximum Power (W)	White	Blue / PC Blue	PC Amber	Red-Orange
High Power (1+ W)	XLamp XB-D	2.45	3				
	XLamp XE-G (Element G)	2.05 x 1.60	13				
	XLamp XQ-E High Density	1.60	5				
	XLamp XQ-E High Intensity	1.60	5				
Mid Power (0.5 W)	XLamp XQ-A	1.60	0.8				

Power Class	LEDs	Footprint (mm)	Maximum Power (W)	White	Amber	Orange	Red
Low Power (<0.5 W)	CP41B CP41A	7.6	0.1				

XLAMP® WHITE LEDS

- High-power LEDs that deliver the industry's highest lumen density and efficacy
- Excellent L90 lifetimes across the entire portfolio

LEDs		Footprint (mm)	Voltage Class (V)	Maximum Light Output (lm)	Maximum Drive Current (A)	Maximum Power (W)
	XQ-A	1.6	3	90	0.30	0.8
	XQ-E High Density		3	454	1.50	5
	XQ-E High Intensity		3	453	1.50	5
	XD16 Premium		3	688	2.00	6
	Element G (XE-G)	2.05 x 1.6	3	829	3.00	11
	XB-D	2.45	3	328	1.00	3
	XP-E2	3.45	3	457	1.50	5
	XT-E High Efficacy		3	535	1.50	5
	XP-P		3	658	3.00	10
	XP-G2 Standard		3	646	1.50	6
	XP-G3 Standard & S Line		3	837	2.00	6
	XP-L2		3	1,269	3.00	10
	XHP35.2 High Intensity		12	1,808	1.50	20
	XHP35.2 High Density		12	2,084	1.50	20
	XM-L3	5.00	3	1,783	5.00	16
	XHP50.3 High Intensity		3 6 12	2,191	6.00 3.00 1.50	18
	XHP50.3 High Density		3 6 12	2,520	6.00 3.00 1.50	18
	XHP70.3 High Intensity	7.00	6 12	5,157	7.20 3.60	45
	XHP70.3 High Density		6 12	5,511	7.20 3.60	45

- Excellent value for general and specialty lighting applications in the industry's most common LED package sizes

**J Series LEDs: 5050**

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 70 CRI		3000 K, 80 CRI		Max. Current (mA)
				Typ lm	Typ LPW	Typ lm	Typ LPW	
6-V	JR5050C / E	400	5.63	480	213	424	188	1000
	JR5050B / K	400	5.67	455	201	404	178	1000
	JR5050 / P	400	5.77	442	192	394	171	1000
	JR5050 / Q	400	5.8	425	183	385	166	1000
9-V	JR5050 / P	260	8.56	434	195	383	172	660
	JR5050 / Q	260	8.6	415	186	372	166	660
24-V	JR5050 / P	100	23.08	442	192	394	171	240
	JR5050 / Q	100	23.5	430	183	385	164	240
30-V	JR5050B / K	80	28.35	455	201	404	178	240
36-V	JR5050 / Q	65	34.5	415	185	372	166	165

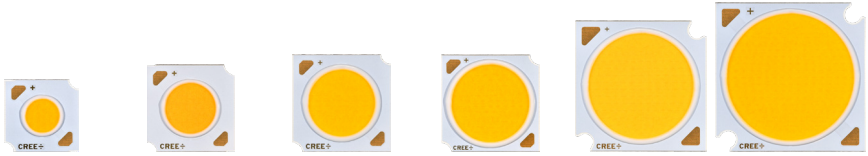
**J Series LEDs: 3030**

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 70 CRI		3000 K, 80 CRI		Max. Current (mA)
				Typ lm	Typ LPW	Typ lm	Typ LPW	
3-V	JB3030 HE / B	65	2.70	38.3	218	34.1	194	480
	JB3030 HE / D	65	2.79	37.9	209	33.8	186	240
	JB3030 / P	65	2.81	35.7	196	31.7	174	240
	JK3030 / P	350	3.15	164	149	144	131	400
6-V	JK3030 HE / B	150	6.00	160	178	143	159	240
	JK3030 / P	150	6.14	159	173	141	153	240

**J Series LEDs: 2835**

Voltage Class	Product / Class	Typ. Current (mA)	Typ. Voltage (V)	4000 K, 80 CRI		3000 K, 80 CRI		Max. Current (mA)
				Typ lm	Typ LPW	Typ lm	Typ LPW	
3-V	JB2835B / G	55	2.67	32.1	219	30.2	206	480
	JB2835B / J	55	2.68	31.0	210	29.1	197	480
	JE2835B / N	150	2.86	78.1	182	73.8	172	240
	JE2835B / P	150	3.04	77.0	169	72	158	240
	JE2835 / R	150	2.95	73.5	166	70.5	159	240
	JB2835 / W	60	2.91	30.4	174	29.1	167	150
6-V	JK2835 / P	150	6.07	154	169	146	160	240
	JK2835B / W	150	6.35	137	144	131	138	200
9-V	JK2835B / U	100	9.10	143	157	132	145	120
	JK2835B / W	100	9.15	132	144	124	136	120
18-V	JK2835B / U	50	18.1	141	156	133	147	60
	JK2835 / X	50	18.2	126	138	119	131	60

XLAMP® COB LEDs: CREE LED SOCKETS

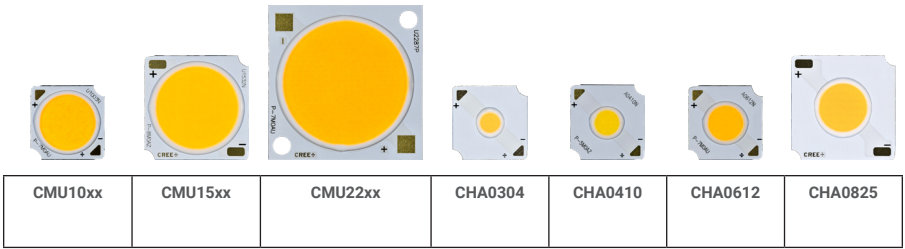


CMB1304 CMB1306	CMB1507 CMB1510 CMB1516	CMB1818 CMB1825	CMB1840	CMB2550	CMB3090
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**XLamp CMB LED Family (XLamp CXA, CXB and CMA Compatible)**

- Industry-leading lumen density and efficacy for drop-in upgrades

Light Emitting Surface (mm)	XLamp	Voltage Class	Typ. Current (A)	Typ. Voltage (V)	Max. Current (A)	Max. Power (W)	Standard Version 3000 K, 80 CRI		Pro9™ Version 3000 K, 90 CRI	
							Typ lm	Typ LPW	Typ lm	Typ LPW
6	CMB1304	9V	0.400	8.3	1.200	12	545	164	545	164
		18V	0.200	16.7	0.600	12	545	164	545	164
		36V	0.100	33.3	0.300	12	545	164	545	164
	CMB1306	18V	0.400	16.7	1.200	23	998	149	1,002	150
		36V	0.200	33.3	0.600	23	998	149	1,002	150
9	CMB1507	18V	0.400	16.8	1.200	23	1,106	167	1,110	167
		36V	0.200	33.5	0.600	23	1,106	167	1,110	167
	CMB1510	18V	0.700	17.0	1.800	35	1,874	157	1,827	154
		36V	0.350	34.0	0.900	35	1,874	157	1,827	154
	CMB1516	36V	0.450	34.0	1.200	46	2,416	158	2,427	159
12	CMB1818	36V	0.500	33.5	1.500	57	2,762	165	2,720	162
	CMB1825	36V	0.700	34.0	1.800	69	3,703	156	3,717	156
14	CMB1840	36V	1.100	34.4	2.400	91	5,693	150	5,773	153
19	CMB2550	36V	1.400	34.0	3.600	137	7,491	157	7,513	158
23	CMB3090	48V	1.800	45.4	3.600	176	12,405	152	12,441	152
		72V	1.200	68.1	2.400	176	12,405	152	12,441	152



### XLamp CMU LED Family (Citizen Standard Compatible)

- Higher max. current, min. flux values and typical efficacy than competitors

Light Emitting Surface (mm)	XLamp	Voltage Class	Typ. Current (A)	Typ. Voltage (V)	Max. Current (A)	Max. Power (W)	Standard Version 3000 K, 80 CRI		Pro9™ Version 3000 K, 90 CRI	
							Typ lm	Typ LPW	Typ lm	Typ LPW
9.8	CMU1003	36V	0.090	33.7	0.240	9	495	163	522	172
	CMU1006	36V	0.180	33.7	0.480	17	975	161	1,032	170
	CMU1010	36V	0.270	33.7	0.720	26	1,493	158	1,524	167
	CMU1013	36V	0.360	33.7	0.960	35	1,879	155	1,992	164
14.5	CMU1516	36V	0.450	33.7	1.200	43	2,454	162	2,575	170
	CMU1519	36V	0.540	33.7	1.440	52	2,914	160	3,057	168
	CMU1526	36V	0.720	33.7	1.920	69	3,808	157	3,995	165
	CMU1532	36V	0.900	33.7	2.400	86	4,732	156	4,963	164
22	CMU2236	36V	0.990	33.7	2.640	95	5,419	162	5,737	172
	CMU2239	36V	1.080	33.7	2.880	104	5,909	162	6,253	172
	CMU2258	54V	1.080	50.5	2.880	156	8,651	159	9,154	168
	CMU2287	54V	1.620	50.5	4.320	233	12,625	154	13,361	163

### XLamp CHA LED Family (Citizen High Intensity Compatible)

- Smaller LES options with similar lumen density to CXA2 HD family

Light Emitting Surface (mm)	XLamp	Voltage Class	Typ. Current (A)	Typ. Voltage (V)	Max. Current (A)	Max. Power (W)	Standard Version 3000 K, 80 CRI		Pro9™ Version 3000 K, 90 CRI	
							Typ lm	Typ LPW	Typ lm	Typ LPW
3.3	CHA0304	21V	0.175	21	0.300	7	449	122	460	125
4.2	CHA0410	12V	0.525	12	0.900	12	783	124	801	127
		36V	0.175	36	0.300	12	783	124	801	127
6.0	CHA0612	18V	0.700	18	1.200	24	1,587	126	1,623	129
		36V	0.350	36	0.600	24	1,587	126	1,623	129
8.5	CHA0825	36V	0.700	36	1.200	47	3,214	128	3,528	140

# COLOR LEDS

LED	XLamp® XE-G	XLamp XP-G3	XLamp XQ-E HI	XLamp XQ-E HD	XLamp XP-E2	XLamp XB-D	XLamp XQ-A	JE2835 3-V N	CLX6F
<b>Footprint (mm)</b>	1.6x2.05	3.45x3.45	1.6x1.6	1.6x1.6	3.45x3.45	2.45x2.45	1.6x1.6	2.8x3.5	3.5x3.4
<b>White</b>									
<b>Violet 400-420 nm</b>									
<b>Royal Blue 450-465 nm</b>									
<b>Blue 465-480 nm</b>									
<b>PC Blue</b>									
<b>Cyan 490-510 nm</b>									
<b>PC Cyan</b>									
<b>Green 520-535 nm</b>									
<b>PC Mint</b>									
<b>PC Lime</b>									
<b>PC Yellow</b>									
<b>Amber 585-595 nm</b>									
<b>PC Amber</b>									
<b>PC Red-Orange</b>									
<b>Red-Orange 610-620 nm</b>									
<b>PC Red</b>									
<b>Red 620-630 nm</b>									
<b>Photo Red 650-670 nm</b>									
<b>Far Red 720-740 nm</b>									

LED Family	XLamp® XM-L Color Gen 2 HD	XLamp XM-L Color Gen 2 HI	CLQ6x	CLR6A	CLW6A	CLX6F
<b>Color Options</b>	RGBW	RGBW	RGBW, RGBA, RGB	RGBW	RGBW	RGB
<b>Footprint (mm)</b>	5.0 x 5.0	5.0 x 5.0	5.2 x 5.0	3.8 x 3.8	3.5 x 3.5	3.5 x 3.4

Please see the Full Color Screens page for the SMD multi-color High Brightness LEDs.

### PLCC Surface Mount

Size (mm)	Product Series	Angles (°)	Blue	Cyan	Green	Amber	Orange	Red	Cool White	Warm White
3.2 x 2.8	CLA	120							•	•
3.2 x 2.8	CLM1	120	•	•	•	•		•		
3.2 x 2.7 3.2 x 2.8	CLM2	30	•	•	•	•		•		
		30 min	•	•	•	•		•		
		50				•		•		
		60	•		•	•		•		
2.7 x 2.0	CLM3	120	•		•	•		•	•	
3.2 x 2.7	CLM4	120	•		•	•	•			
6.0 x 5.0	CLP6	120				•		•	•	
3.5 x 3.4	CLX6	110-120	•		•	•		•	•	

### Through-Hole: P2

Product Series		Angle (°)	Blue	Green	Red	Amber	Cool White	Warm White
5 mm Round	C503D C503C C503B	15	•	•	•	•	•	
		15 min				•		
		23			•	•		
		30	•	•	•	•		
		30 min	•	•	•	•		
	C543A	20					•	
	C512A	25					•	
	C513A	55					•	•
C535A	110					•		
4 mm Oval	C4SM	90/45	•	•	•			
		105/50	•	•	•			
		115/65	•	•	•			
5 mm Oval	C566	70/30			•	•		
	C5SMF	100/40	•	•	•	•		

### Through-Hole: P4

Product Series		Angle (°)	Amber	Orange	Red	Cool White
CP41B CP41A	40		•	•	•	
	60					•
	70		•	•	•	
	90					•
	100		•	•	•	



Cree LED  
4001 E. Hwy. 54, Suite 2000  
Durham, NC 27709 USA  
Phone: +1.919.313.5330  
[www.cree-led.com](http://www.cree-led.com)

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