

SAMSUNG

TCI LED
professional led applications

COBs & LEDs
Packages

COBs & LEDs Packages

Overview & Technology

Samsung Electronics Co., Ltd. is a global leader in consumer electronics and the core components that go into them.



Samsung Electronics



1969

Company
Founded



Vision 2020

Inspire the World,
Create the Future



309,630+

Employees
in 79 Countries

Innovation & Market Leadership



7

Design Centers



37

R&D Centers

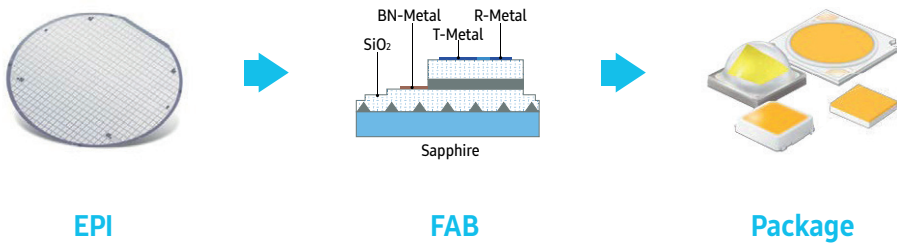


5th

Best Global Brand 2021

Samsung aspires to create new technologies and innovative products that inspire the world, while delivering new value to enhance the lives of customers, partners and employees.

Vertically Integrated Solution Provider



Reliable, On-Time Delivery without Delays



Life and LED Business Solution Partner

LED technology has started a new era of innovation and game-changing trends affecting diverse applications and lighting industries.

In particular, as countries around the world strengthen energy conservation programs and push for related legislation enforcement,

demand for energy-efficient lighting is on the rise at a rapid pace.

Samsung's LED Business aims to achieve excellence as a long life,

energy saving and eco-friendly light source supplier in lighting applications.

Samsung's advanced semiconductor manufacturing expertise serves as a strong foundation to deliver state-of-the-art LED devices.



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Specialty Lighting

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Package

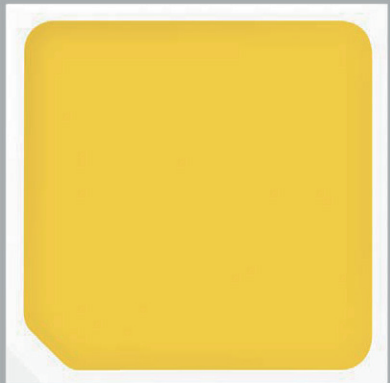
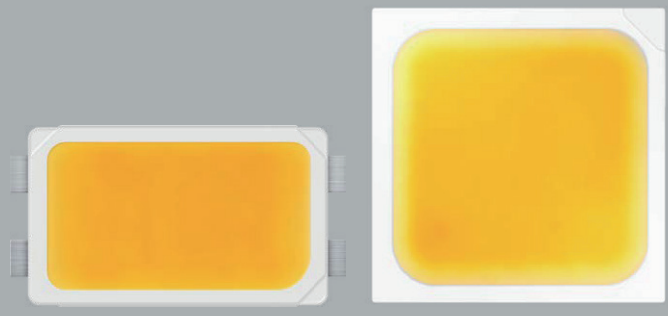
CSP LEDs

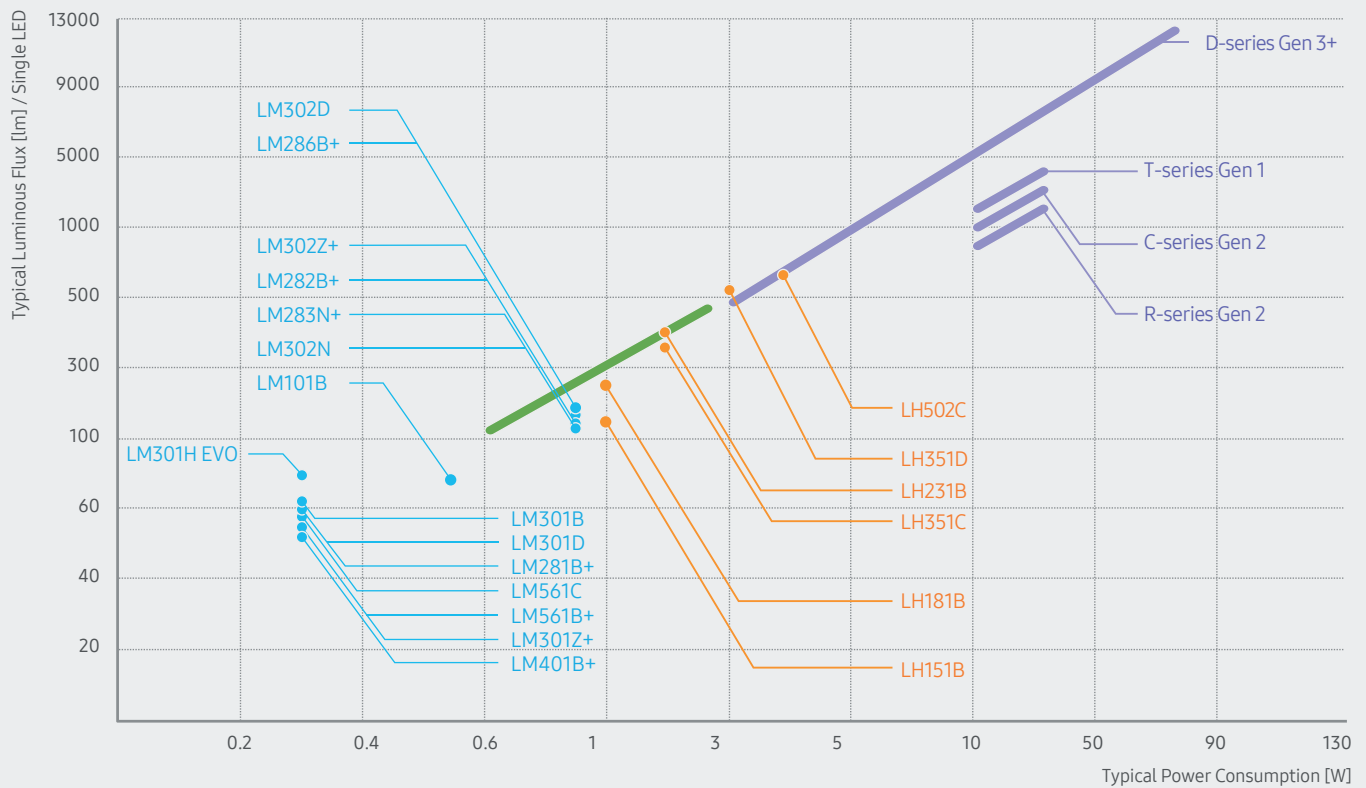
Mid Power LEDs

High Power LEDs

COB LEDs







Mid Power LEDs

- High efficacy
- Great design flexibility
- Suitable for almost all lights

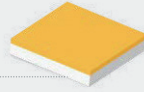
Chip-on-Board LEDs

- Chip on Board solution
- Outstanding color rendering & consistency
- MR/PAR, spotlight, high/low bay light

High Power LEDs

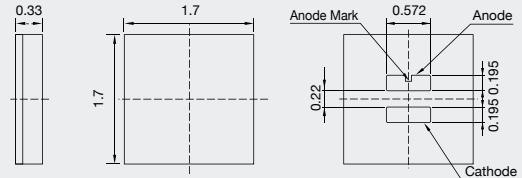
- Ultra high flux
- Provides excellent color consistency
- Street, tunnel and sports lights

LM101B



Compact form factor for design flexibility

- 0.5W class mid-power 3V LED
- Compact footprint: 1.7mm × 1.7mm



[150mA, 85°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SCP7WT78HEL1W☆S06E	SF	63	67
			SG	67	71
			SH	71	75
	3000	SCP7VT78HEL1V☆S06E	SF	63	67
			SG	67	71
			SH	71	75
	3500	SCP7UT78HEL1U☆S06E	SF	63	67
			SG	67	71
			SH	71	75
	4000	SCP7TT78HEL1T☆S06E	SG	67	71
			SH	71	75
			SJ	75	70
	5000	SCP7RT78HEL1R☆S06E	SG	67	71
			SH	71	75
			SJ	75	70
	5700	SCP7QT78HEL1Q☆S06E	SF	63	67
			SG	67	71
			SH	71	75
6500	SCP7PT78HEL1P☆S06E	SF	63	67	
		SG	67	71	
		SH	71	75	
80+	2000	SCP8ZT78HEL1Z☆S06E	SA	43	47
			SB	47	51
			SC	51	55
	2200	SCP8YT78HEL1Y☆S06E	SB	47	51
			SC	51	55
			SD	55	59
	2700	SCP8WT78HEL1W☆S06E	SE	59	63
			SF	63	67
			SG	67	71
	3000	SCP8VT78HEL1V☆S06E	SE	59	63
			SF	63	67
			SG	67	71
	3500	SCP8UT78HEL1U☆S06E	SF	63	67
			SG	67	71
			SH	71	75
	4000	SCP8TT78HEL1T☆S06E	SF	63	67
			SG	67	71
			SH	71	75
5000	SCP8RT78HEL1R☆S06E	SF	63	67	
		SG	67	71	
		SH	71	75	
5700	SCP8QT78HEL1Q☆S06E	SF	63	67	
		SG	67	71	
		SH	71	75	
6500	SCP8PT78HEL1P☆S06E	SE	59	63	
		SF	63	67	
		SG	67	71	

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
90+	2700	SCP9WT78HEL1W☆S06E	SB	47	51
			SC	51	55
			SD	55	59
	3000	SCP9VT78HEL1V☆S06E	SB	47	51
			SC	51	55
			SD	55	59
	3500	SCP9UT78HEL1U☆S06E	SB	47	51
			SC	51	55
			SD	55	59
	4000	SCP9TT78HEL1T☆S06E	SC	51	55
			SD	55	59
			SE	59	63
5000	SCP9RT78HEL1R☆S06E	SC	51	55	
		SD	55	59	
		SE	59	63	

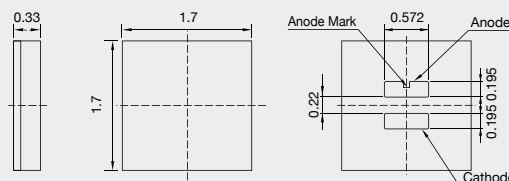
Note: "☆" can be "L" (MacAdam 5-step), "U" (MacAdam 3-step)

LH151B



Compact form factor for design flexibility

- 2W class high power CSP
- Suitable for high/low bay lighting
- Compact footprint: 1.7mm x 1.7mm



[350mA, 85°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SCP7WT93KEL1W◇J36E	J1, K1, M1	120	150
	3000	SCP7VT93KEL1V◇M36E	K1, M1, N1	130	160
	3500	SCP7UT93KEL1U◇M36E	M1, N1, P1	140	170
	4000	SCP7TT93KEL1T◇N36E	N1, P1, Q1	150	180
	5000	SCP7RT93KEL1R◇N36E	N1, P1, Q1	150	180
	5700	SCP7QT93KEL1Q◇M36E	M1, N1, P1	140	170
	6500	SCP7PT93KEL1P◇M36E	M1, N1, P1	140	170
80+	2700	SCP8WT93KEL1W◇J36E	J1, K1, M1	120	150
	3000	SCP8VT93KEL1V◇J36E	J1, K1, M1	120	150
	3500	SCP8UT93KEL1U◇K36E	K1, M1, N1	130	160
	4000	SCP8TT93KEL1T◇K36E	K1, M1, N1	130	160
	5000	SCP8RT93KEL1R◇M36E	M1, N1, P1	140	170
	5700	SCP8QT93KEL1Q◇K36E	K1/M1/N1	130	160
	6500	SCP8PT93KEL1P◇K36E	K1, M1, N1	130	160
90+	2700	SCP9WT93KEL1W◇G36E	G1, H1, J1	100	130
	3000	SCP9VTF1HEL1V◇G36E	G1, H1, J1	100	130
	3500	SCP9UTF1HEL1U◇G36E	G1/H1/J1	100	130
	4000	SCP9TTF1HEL1T◇H36E	H1/J1/K1	110	140
	5000	SCP9RTF1HEL1R◇H36E	H1/J1/K1	110	140

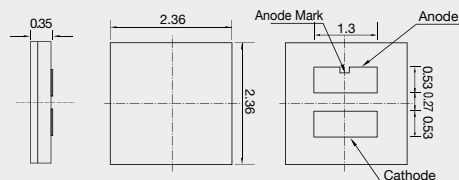
* "◇" can be "L" (MacAdam 5-step ellipse bin), "U" (MacAdam 3-step ellipse bin) of the color binning

LH181B



Compact form factor for design flexibility

- 3W class high power CSP
- Higher performance by applying new structure
- Compact footprint: 2.36mm x 2.36mm



[350mA, 85°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2200	SCP7YTF1HEL1Y◇K34E	K1, M1, N1	130	160
	2700	SCP7WTF1HEL1W◇M34E	M1, N1, P1	140	170
	3000	SCP7VTF1HEL1V◇N34E	N1, P1, Q1	150	180
	3500	SCP7UTF1HEL1U◇P34E	P1, Q1, R1	160	190
	4000	SCP7TTF1HEL1T◇P34E	P1, Q1, R1	160	190
	5000	SCP7RTF1HEL1R◇P34E	P1, Q1, R1	160	190
	5700	SCP7QTF1HEL1Q◇P34E	P1, Q1, R1	160	190
	6500	SCP7PTF1HEL1P◇N34E	N1, P1, Q1	150	180
80+	2200	SCP8YTF1HEL1Y◇H34E	H1, J1, K1	110	140
	2700	SCP8WTF1HEL1W◇K34E	K1, M1, N1	130	160
	3000	SCP8VTF1HEL1V◇M34E	M1, N1, P1	140	170
	3500	SCP8UTF1HEL1U◇N34E	N1, P1, Q1	150	180
	4000	SCP8TTF1HEL1T◇N34E	N1, P1, Q1	150	180
	5000	SCP8RTF1HEL1R◇N34E	N1, P1, Q1	150	180
	5700	SCP8QTF1HEL1Q◇N34E	N1, P1, Q1	150	180
	6500	SCP8PTF1HEL1P◇M34E	M1, N1, P1	140	170
90+	2700	SCP9WTF1HEL1W◇G34E	G1, H1, J1	100	130
	3000	SCP9VTF1HEL1V◇H34E	H1, J1, K1	110	140
	3500	SCP9UTF1HEL1U◇H34E	H1, J1, K1	110	140
	4000	SCP9TTF1HEL1T◇H34E	H1, J1, K1	110	140
	5000	SCP9RTF1HEL1R◇H34E	H1, J1, K1	110	140

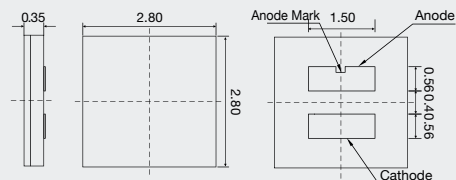
* "◇" can be "K" (MacAdam 5-step ellipse bin), "U" (MacAdam 3-step ellipse bin) of the color binning

LH231B



Compact form factor for design flexibility

- 5W class super high power CSP
- Suitable for highbay lighting, stadium lighting
- Compact footprint: 2.8mm x 2.8mm



[700mA, 85°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SCP7WTJ5HEL1W Δ MF6E	MB, NB, PB	250	310
	3000	SCP7VTJ5HEL1V Δ PF6E	PB, QB, RB	290	350
	3500	SCP7UTJ5HEL1U Δ PF6E	PB, QB, RB	290	350
	4000	SCP7TTJ5HEL1T Δ QF6E	QB, RB, SB	310	370
	5000	SCP7RTJ5HEL1R Δ QF6E	QB, RB, SB	310	370
	5700	SCP7QTJ5HEL1Q Δ QF6E	QB, RB, SB	310	370
	6500	SCP7PTJ5HEL1P Δ PF6E	PB, QB, RB	290	350
80+	2700	SCP8WTJ5HEL1W Δ MF6E	MB, NB, PB	250	310
	3000	SCP8VTJ5HEL1V Δ NF6E	NB, PB, QB	270	330
	3500	SCP8UTJ5HEL1U Δ NF6E	NB, PB, QB	270	330
	4000	SCP8TTJ5HEL1T Δ PF6E	PB, QB, RB	290	350
	5000	SCP8RTJ5HEL1R Δ PF6E	PB, QB, RB	290	350
	5700	SCP8QTJ5HEL1Q Δ PF6E	PB, QB, RB	290	350
	6500	SCP8PTJ5HEL1P Δ NF6E	NB, PB, QB	270	330
90+	2700	SCP9WTJ5HEL1W Δ HF6E	HB, JB, KB	190	250
	3000	SCP9VTJ5HEL1V Δ JF6E	JB, KB, MB	210	270
	3500	SCP9UTJ5HEL1U Δ JF6E	JB, KB, MB	210	270
	4000	SCP9TTJ5HEL1T Δ JF6E	JB, KB, MB	210	270

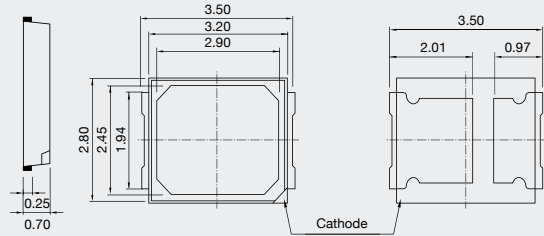
* "☆" can be "L" (MacAdam 5-step ellipse bin), "U" (MacAdam 3-step ellipse bin) of the color binning

LM281B+ Pro



Designed for better lm/\$

- 0.5W class mid power LED
- Suitable for ambient lights, downlights & lamps
- Standard footprint: 2.8mm x 3.5mm



[65mA, 25°C]

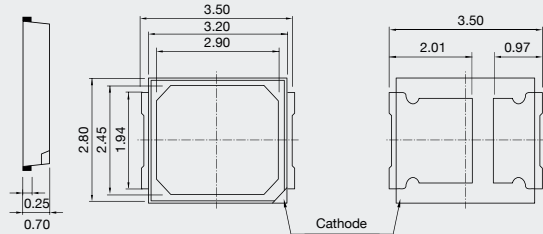
CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
80+	2700	SPMWH1228MD5WAW0VK	VK	32.5	34.5	
		SPMWH1228MD5WAW0VL	VL	34	36	
	3000	SPMWH1228MD5WAV0VK	VK	33.5	35.5	
		SPMWH1228MD5WAV0VL	VL	35	37	
	3500	SPMWH1228MD5WAU0VK	VK	34	36	
		SPMWH1228MD5WAU0VL	VL	35.5	37.5	
	4000	SPMWH1228MD5WAT0VK	VK	35	37	
		SPMWH1228MD5WAT0VL	VL	36.5	38.5	
	5000	SPMWH1228MD5WAR0VK	VK	35.5	37.5	
		SPMWH1228MD5WAR0VL	VL	36.5	38.5	
	5700	SPMWH1228MD5WAQ0VK	VK	35	37	
		SPMWH1228MD5WAQ0VL	VL	36.5	38.5	
	6500	SPMWH1228MD5WAP0VK	VK	35	37	
		SPMWH1228MD5WAP0VL	VL	36.5	38.5	
	90+	2700	SPMWH1228MD7WAW0VK	VK	27.5	29.5
			SPMWH1228MD7WAW0VL	VL	28.5	30.5
3000		SPMWH1228MD7WAV0VK	VK	28.5	30.5	
		SPMWH1228MD7WAV0VL	VL	29.5	31.5	
3500		SPMWH1228MD7WAU0VK	VK	29.5	31.5	
		SPMWH1228MD7WAU0VL	VL	30.5	32.5	
4000		SPMWH1228MD7WAT0VK	VK	30.5	32.5	
		SPMWH1228MD7WAT0VL	VL	31.5	33.5	
5000		SPMWH1228MD7WAR0VK	VK	31.0	33.0	
		SPMWH1228MD7WAR0VL	VL	31.5	33.5	
5700		SPMWH1228MD7WAQ0VK	VK	31	33	
		SPMWH1228MD7WAQ0VL	VL	31.5	33.5	
6500		SPMWH1228MD7WAP0VK	VK	30.5	32.5	
		SPMWH1228MD7WAP0VL	VL	31.5	33.5	

LM281B+ Pro



Designed for better lm/\$

- 0.5W class mid power LED
- Suitable for ambient lights, downlights & lamps
- Standard footprint: 2.8mm x 3.5mm



[150mA, 25°C]

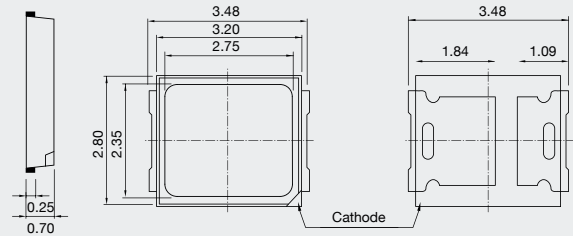
CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
80+	2700	SPMWH1228FD5WAW0VG	VG	66.5	70.5	
		SPMWH1228FD5WAW0VJ	VJ	70.5	74.5	
	3000	SPMWH1228FD5WAV0VG	VG	68.5	72.5	
		SPMWH1228FD5WAV0VJ	VJ	72.5	76.5	
	3500	SPMWH1228FD5WAU0VG	VG	69.5	73.5	
		SPMWH1228FD5WAU0VJ	VJ	73.5	77.5	
	4000	SPMWH1228FD5WAT0VG	VG	72	76	
		SPMWH1228FD5WAT0VJ	VJ	76	80	
	5000	SPMWH1228FD5WAR0VG	VG	73	77	
		SPMWH1228FD5WAR0VJ	VJ	77	81	
	5700	SPMWH1228FD5WAQ0VG	VG	72.5	76.5	
		SPMWH1228FD5WAQ0VJ	VJ	76.5	80.5	
	6500	SPMWH1228FD5WAP0VG	VG	72	76	
		SPMWH1228FD5WAP0VJ	VJ	76	80	
	90+	2700	SPMWH1228FD7WAW0VG	VG	56.5	60.5
			SPMWH1228FD7WAW0VJ	VJ	59.5	63.5
3000		SPMWH1228FD7WAV0VG	VG	58	62	
		SPMWH1228FD7WAV0VJ	VJ	61	65	
3500		SPMWH1228FD7WAU0VG	VG	59	63	
		SPMWH1228FD7WAU0VJ	VJ	62	66	
4000		SPMWH1228FD7WAT0VG	VG	61	65	
		SPMWH1228FD7WAT0VJ	VJ	64	68	
5000		SPMWH1228FD7WAR0VG	VG	62	66	
		SPMWH1228FD7WAR0VJ	VJ	65	69	
5700		SPMWH1228FD7WAQ0VG	VG	61.5	65.5	
		SPMWH1228FD7WAQ0VJ	VJ	64.5	68.5	
6500		SPMWH1228FD7WAP0VG	VG	61	65	
		SPMWH1228FD7WAP0VJ	VJ	64	68	

LM281B+



Designed for better lm/\$

- 0.5W class mid power LED
- Suitable for ambient lights, downlights & lamps
- Standard footprint: 2.8mm x 3.5mm



[150mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+	2700	SPMWH1228FD5WAW0SA	SA	54.5	58.5
		SPMWH1228FD5WAW0SC	SC	58.5	62.5
		SPMWH1228FD5WAW0SE	SE	62.5	66.5
		SPMWH1228FD5WAW0RG	RG	66.5	70.5
		SPMWH1228FD5WAW0RJ	RJ	70.5	74.5
	3000	SPMWH1228FD5WAV0SA	SA	56.5	60.5
		SPMWH1228FD5WAV0SC	SC	60.5	64.5
		SPMWH1228FD5WAV0SE	SE	64.5	68.5
		SPMWH1228FD5WAV0RG	RG	68.5	72.5
		SPMWH1228FD5WAV0RJ	RJ	72.5	76.5
	3500	SPMWH1228FD5WAU0SA	SA	57.5	61.5
		SPMWH1228FD5WAU0SC	SC	61.5	65.5
		SPMWH1228FD5WAU0SE	SE	65.5	69.5
		SPMWH1228FD5WAU0RG	RG	69.5	73.5
		SPMWH1228FD5WAU0RJ	RJ	73.5	77.5
	4000	SPMWH1228FD5WAT0SA	SA	60	64
		SPMWH1228FD5WAT0SC	SC	64	68
		SPMWH1228FD5WAT0SE	SE	68	72
		SPMWH1228FD5WAT0RG	RG	72	76
		SPMWH1228FD5WAT0RJ	RJ	76	80
5000	SPMWH1228FD5WAR0SA	SA	61	65	
	SPMWH1228FD5WAR0SC	SC	65	69	
	SPMWH1228FD5WAR0SE	SE	69	73	
	SPMWH1228FD5WAR0RG	RG	73	77	
	SPMWH1228FD5WAR0RJ	RJ	77	81	
5700	SPMWH1228FD5WAQ0SA	SA	60.5	64.5	
	SPMWH1228FD5WAQ0SC	SC	64.5	68.5	
	SPMWH1228FD5WAQ0SE	SE	68.5	72.5	
	SPMWH1228FD5WAQ0RG	RG	72.5	76.5	
	SPMWH1228FD5WAQ0RJ	RJ	76.5	80.5	
6500	SPMWH1228FD5WAP0SA	SA	60	64	
	SPMWH1228FD5WAP0SC	SC	64	68	
	SPMWH1228FD5WAP0SE	SE	68	72	
	SPMWH1228FD5WAP0RG	RG	72	76	
	SPMWH1228FD5WAP0RJ	RJ	76	80	

Package

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
90+	2700	SPMWH1228FD7WAW0SA	SA	44.5	48.5
		SPMWH1228FD7WAW0SC	SC	48.5	52.5
		SPMWH1228FD7WAW0SE	SE	52.5	56.5
		SPMWH1228FD7WAW0RG	RG	56.5	60.5
		SPMWH1228FD7WAW0RJ	RJ	59.5	63.5
	3000	SPMWH1228FD7WAV0SA	SA	46	50
		SPMWH1228FD7WAV0SC	SC	50	54
		SPMWH1228FD7WAV0SE	SE	54	58
		SPMWH1228FD7WAV0RG	RG	58	62
		SPMWH1228FD7WAV0RJ	RJ	61	65
	3500	SPMWH1228FD7WAU0SA	SA	47	51
		SPMWH1228FD7WAU0SC	SC	51	55
		SPMWH1228FD7WAU0SE	SE	55	59
		SPMWH1228FD7WAU0RG	RG	59	63
		SPMWH1228FD7WAU0RJ	RJ	62	66
	4000	SPMWH1228FD7WAT0SA	SA	49	53
		SPMWH1228FD7WAT0SC	SC	53	57
		SPMWH1228FD7WAT0SE	SE	57	61
		SPMWH1228FD7WAT0RG	RG	61	65
		SPMWH1228FD7WAT0RJ	RJ	64	68
	5000	SPMWH1228FD7WAR0SA	SA	50	54
		SPMWH1228FD7WAR0SC	SC	54	58
		SPMWH1228FD7WAR0SE	SE	58	62
		SPMWH1228FD7WAR0RG	RG	62	66
		SPMWH1228FD7WAR0RJ	RJ	65	69
	5700	SPMWH1228FD7WAQ0SA	SA	49.5	53.5
		SPMWH1228FD7WAQ0SC	SC	53.5	57.5
		SPMWH1228FD7WAQ0SE	SE	57.5	61.5
SPMWH1228FD7WAQ0RG		RG	61.5	65.5	
SPMWH1228FD7WAQ0RJ		RJ	64.5	68.5	
6500	SPMWH1228FD7WAP0SA	SA	49	53	
	SPMWH1228FD7WAP0SC	SC	53	57	
	SPMWH1228FD7WAP0SE	SE	57	61	
	SPMWH1228FD7WAP0RG	RG	61	65	
	SPMWH1228FD7WAP0RJ	RJ	64	68	

[65mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+	2700	SPMWH1228MD5WAW0RK	RK	32.5	34.5
	3000	SPMWH1228MD5WAV0RK	RK	33.5	35.5
	3500	SPMWH1228MD5WAU0RK	RK	34	36
	4000	SPMWH1228MD5WAT0RK	RK	35	37
	5000	SPMWH1228MD5WAR0RK	RK	35.5	37.5
	5700	SPMWH1228MD5WAQ0RK	RK	35	37
	6500	SPMWH1228MD5WAP0RK	RK	35	37

[65mA, 25°C]

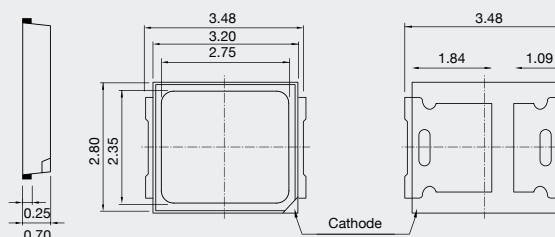
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
90+	2700	SPMWH1228MD7WAWORK	RK	27.5	29.5
	3000	SPMWH1228MD7WAVORK	RK	28.5	30.5
	3500	SPMWH1228MD7WAUORK	RK	29.5	31.5
	4000	SPMWH1228MD7WATORK	RK	30.5	32.5
	5000	SPMWH1228MD7WARORK	RK	32	34
	5700	SPMWH1228MD7WAQORK	RK	31	33
	6500	SPMWH1228MD7WAPORK	RK	30.5	32.5

LM282B+



Designed for better lm/\$

- 1W class mid power 6V LED
- Suitable for downlights, ambient lights & lamps
- Standard footprint: 2.8mm x 3.5mm



[150mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
80+	2700	SPMWH1221FQ5GBW0SA	SA	111	121	
		SPMWH1221FQ5GBW0SB	SB	121	131	
	3000	SPMWH1221FQ5GBV0SA	SA	115	125	
		SPMWH1221FQ5GBV0SB	SB	125	135	
	3500	SPMWH1221FQ5GBU0SA	SA	117	127	
		SPMWH1221FQ5GBU0SB	SB	127	137	
	4000	SPMWH1221FQ5GBT0SA	SA	121	131	
		SPMWH1221FQ5GBT0SB	SB	131	141	
		5000	SPMWH1221FQ5GBR0SA	SA	123	133
			SPMWH1221FQ5GBR0SB	SB	133	143
	5700	SPMWH1221FQ5GBQ0SA	SA	122	132	
		SPMWH1221FQ5GBQ0SB	SB	132	142	
		6500	SPMWH1221FQ5GBP0SA	SA	121	131
			SPMWH1221FQ5GBP0SB	SB	131	141
90+	2700	SPMWH1221FQ7GBW0SA	SA	93	103	
		SPMWH1221FQ7GBW0SB	SB	103	113	
	3000	SPMWH1221FQ7GBV0SA	SA	97	107	
		SPMWH1221FQ7GBV0SB	SB	107	117	
	3500	SPMWH1221FQ7GBU0SA	SA	98	108	
		SPMWH1221FQ7GBU0SB	SB	108	118	
	4000	SPMWH1221FQ7GBT0SA	SA	102	112	
		SPMWH1221FQ7GBT0SB	SB	112	122	
		5000	SPMWH1221FQ7GBR0SA	SA	103	113
			SPMWH1221FQ7GBR0SB	SB	113	123
	5700	SPMWH1221FQ7GBQ0SA	SA	102	112	
		SPMWH1221FQ7GBQ0SB	SB	112	122	
		6500	SPMWH1221FQ7GBP0SA	SA	102	112
			SPMWH1221FQ7GBP0SB	SB	112	122

* Color coordinates: Considering the color shift during high temp. operation, provided at hot temp. color shift coordinates.

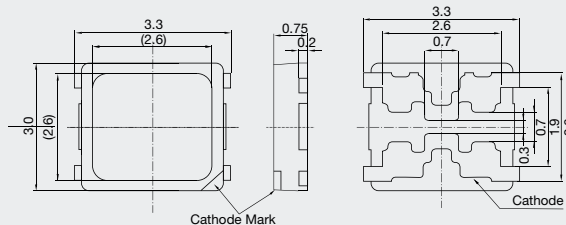


LM301B



High performance, highest lm/W for fluorescent lamp replacement

- 0.2W, 3V mid-power LED
- Standard footprint: 3.0mm x 3.0mm



[65mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
70+	3000	SPMWH32AMD3XAV0S0	SJ	34	36	
			SK	36	38	
			SL	38	40	
	3500	SPMWH32AMD3XAU0S0	SJ	34	36	
			SK	36	38	
			SL	38	40	
	4000	SPMWH32AMD3XAT0S0	SK	36	38	
			SL	38	40	
			SM	40	42	
	5000	SPMWH32AMD3XAR0S0	SK	36	38	
			SL	38	40	
			SM	40	42	
80+	2700	SPMWH32AMD5XAW0S0	SH	32	34	
			SJ	34	36	
			SK	36	38	
	3000	SPMWH32AMD5XAW0SJ	SJ	34	36	
			SPMWH32AMD5XAV0S0	SJ	34	36
			SK	36	38	
	3500	SPMWH32AMD5XAV0SK	SL	38	40	
			SK	36	38	
			SJ	34	36	
	4000	SPMWH32AMD5XAU0S0	SK	36	38	
			SL	38	40	
			SL	38	40	
4000	SPMWH32AMD5XAU0SL	SK	36	38		
		SL	38	40		
		SM	40	42		
5000	SPMWH32AMD5XAT0S0	SL	38	40		
		SM	40	42		
		SL	38	40		
5000	SPMWH32AMD5XAT0SL	SK	36	38		
		SL	38	40		
		SM	40	42		
5700	SPMWH32AMD5XAR0S0	SK	36	38		
		SL	38	40		
		SM	40	42		
5700	SPMWH32AMD5XAR0SL	SK	36	38		
		SL	38	40		
		SM	40	42		
6500	SPMWH32AMD5XAQ0S0	SK	36	38		
		SL	38	40		
		SM	40	42		
6500	SPMWH32AMD5XAQ0SL	SK	36	38		
		SL	38	40		
		SM	40	42		
6500	SPMWH32AMD5XAP0S0	SK	36	38		
		SL	38	40		
		SM	40	42		
6500	SPMWH32AMD5XAP0SL	SK	36	38		
		SL	38	40		
		SM	40	42		

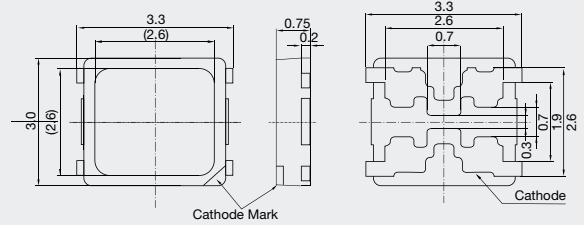


LM301B



High performance, highest lm/W for fluorescent lamp replacement

- 0.2W, 3V mid-power LED
- Standard footprint: 3.0mm x 3.0mm



[65mA, 25°C]

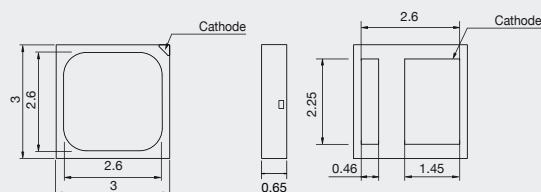
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
90+	2700	SPMWH32AMD7XAW0S0	SF	28	30
			SG	30	32
	3000	SPMWH32AMD7XAV0S0	SF	28	30
			SG	30	32
	3500	SPMWH32AMD7XAU0S0	SG	30	32
			SH	32	34
	4000	SPMWH32AMD7XAT0S0	SG	30	32
			SH	32	34
	5000	SPMWH32AMD7XAR0S0	SG	30	32
			SH	32	34
	5700	SPMWH32AMD7XAQ0S0	SG	30	32
			SH	32	34
	6500	SPMWH32AMD7XAP0S0	SG	30	32
			SH	32	34

LM301D



Balanced lm/\$ for ambient

- 0.2W, 3V mid power LED
- EMC resin for high reliability
- Standard footprint: 3.0mm x 3.0mm



[65mA, 25°C]

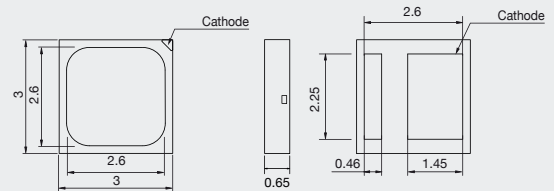
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	3000	SPMWH3326MS3WAV0SD	SD	34.5	37
	3500	SPMWH3326MS3WAU0SD	SD	35	37.5
	4000	SPMWH3326MS3WAT0SD	SD	36	38.5
	5000	SPMWH3326MS3WAR0SD	SD	37	39.5
80+	2700	SPMWH3326MS5WAV0SD	SD	31.5	34.5
	3000	SPMWH3326MS5WAV0SD	SD	32.5	35.5
	3500	SPMWH3326MS5WAU0SD	SD	33.5	36.5
	4000	SPMWH3326MS5WAY0SD	SD	34.5	37.5
	5000	SPMWH3326MS5WAR0SD	SD	35	38
	5700	SPMWH3326MS5WAQ0SD	SD	34.5	37.5
90+	6500	SPMWH3326MS5WAP0SD	SD	34.5	37.5
	2700	SPMWH3326MS7WAV0SD	SD	26.5	29
	3000	SPMWH3326MS7WAV0SD	SD	27.5	30
	3500	SPMWH3326MS7WAU0SD	SD	28.5	31
	4000	SPMWH3326MS7WAY0SD	SD	29.5	32
	5000	SPMWH3326MS7WAR0SD	SD	30	32.5
	5700	SPMWH3326MS7WAQ0SD	SD	29	31.5
	6500	SPMWH3326MS7WAP0SD	SD	29	31.5

LM302D



Balanced lm/\$ for ambient

- 0.9W, 6V mid power LED
- EMC resin for high reliability
- Standard footprint: 3.0mm x 3.0mm



[65mA, 25°C]

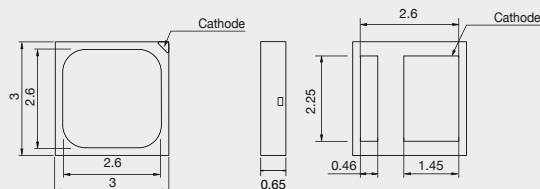
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SPMWH3327FS3GAW0SF	SF	145	155
	3000	SPMWH3327FS3GAV0SF	SF	150	160
	3500	SPMWH3327FS3GAU0SF	SF	152	162
	4000	SPMWH3327FS3GAT0SF	SF	158	168
	5000	SPMWH3327FS3GAR0SF	SF	158	168
80+	2700	SPMWH3327FS5GAW0SF	SF	129	139
	3000	SPMWH3327FS5GAV0SF	SF	134	144
	3500	SPMWH3327FS5GAU0SF	SF	139	149
	4000	SPMWH3327FS5GAT0SF	SF	142	152
	5000	SPMWH3327FS5GAR0SF	SF	144	154
	5700	SPMWH3327FS5GAQ0SF	SF	143	153
	6500	SPMWH3327FS5GAP0SF	SF	142	152
90+	2700	SPMWH3327FS7GAW0SF	SF	110	120
	3000	SPMWH3327FS7GAV0SF	SF	114	124
	3500	SPMWH3327FS7GAU0SF	SF	118	128
	4000	SPMWH3327FS7GAT0SF	SF	121	131
	5000	SPMWH3327FS7GAR0SF	SF	123	133
	5700	SPMWH3327FS7GAQ0SF	SF	122	132
	6500	SPMWH3327FS7GAP0SF	SF	121	131

LM301Z+



Balanced lm/\$ for highbay

- 0.2W, 3V mid power LED
- EMC resin for high reliability
- Standard footprint: 3.0mm x 3.0mm



[65mA, 25°C]

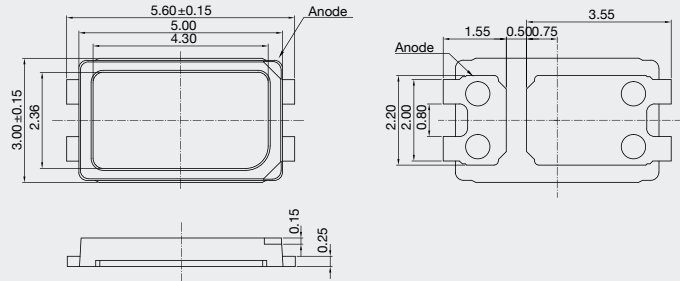
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	3000	SPMWH3326MP3WAV0S0	S0	33	36
	3500	SPMWH3326MP3WAU0S0	S0	34	37
	4000	SPMWH3326MP3WAT0S0	S0	35	38
	5000	SPMWH3326MP3WAR0S0	S0	35	38
	5700	SPMWH3326MP3WAQ0S0	S0	35	38
	6500	SPMWH3326MP3WAP0S0	S0	34	37
80+	2700	SPMWH3326MP5WAW0S0	S0	30	33
	3000	SPMWH3326MP5WAV0S0	S0	31	34
	3500	SPMWH3326MP5WAU0S0	S0	32	35
	4000	SPMWH3326MP5WAT0S0	S0	33	36
	5000	SPMWH3326MP5WAR0S0	S0	33.5	36.5
	5700	SPMWH3326MP5WAQ0S0	S0	33	36
90+	6500	SPMWH3326MP5WAP0S0	S0	33	36
	2700	SPMWH3326MP7WAW0S0	S0	25	28
	3000	SPMWH3326MP7WAV0S0	S0	26	29
	3500	SPMWH3326MP7WAU0S0	S0	27	30
	4000	SPMWH3326MP7WAT0S0	S0	28	31
	5000	SPMWH3326MP7WAR0S0	S0	28	31
	5700	SPMWH3326MP7WAQ0S0	S0	28	31
	6500	SPMWH3326MP7WAP0S0	S0	28	31

LM561B+



Balanced lm/\$ for ambient

- 0.3 W class mid power LED
- High efficacy for distributed light
- Standard footprint: 5.6mm x 3.0mm



[65mA, 25°C]

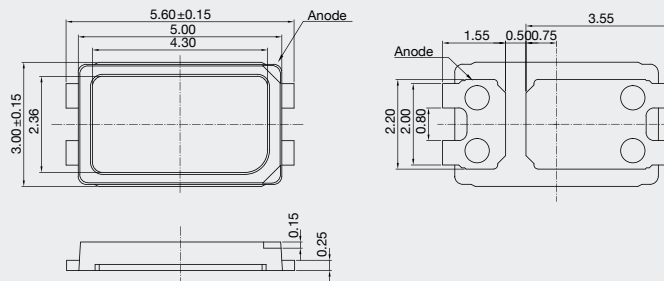
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SPMWHT541MP3WAW0S0	S5	32	34
			S6	34	36
			S7	36	38
	3000	SPMWHT541MP3WAV0S0	S5	32.5	34.5
			S6	34.5	36.5
			S7	36.5	38.5
	3500	SPMWHT541MP3WAU0S0	S5	33	35
			S6	35	37
			S7	37	39
	4000	SPMWHT541MP3WAT0S0	S5	34	35.8
			S6	35.8	38
			S7	38	40
	5000	SPMWHT541MP3WAR0S0	S4	33	35
			S5	35	37
			S6	37	39
80+	2700	SPMWHT541MP5WAW0S4	S4	30	32
		SPMWHT541MP5WAW0S5	S5	32	34
		SPMWHT541MP5WAV0S4	S4	30.5	32.5
	3000	SPMWHT541MP5WAV0S5	S5	32.5	34.5
		SPMWHT541MP5WAV0S6	S6	34.5	36.5
		SPMWHT541MP5WAU0S4	S4	31	33
	3500	SPMWHT541MP5WAU0S5	S5	33	35
		SPMWHT541MP5WAU0S6	S6	35	37
		SPMWHT541MP5WAT0S4	S4	32	34
	4000	SPMWHT541MP5WAT0S5	S5	34	36
		SPMWHT541MP5WAT0S6	S6	36	38
		SPMWHT541MP5WAR0S4	S4	33	35
	5000	SPMWHT541MP5WAR0S5	S5	35	37
		SPMWHT541MP5WAQ0S4	S4	32.5	34.5
		SPMWHT541MP5WAQ0S5	S5	34.5	36.5
6500	SPMWHT541MP5WAP0S4	S4	32	34	
	SPMWHT541MP5WAP0S5	S5	34	36	

LM561B+



Balanced lm/\$ for ambient

- 0.3 W class mid power LED
- High efficacy for distributed light
- Standard footprint: 5.6mm x 3.0mm



[65mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
90+	2700	SPMWHT541MP7WAW0S0	S1	24	26	
			S2	26	28	
			S3	28	30	
	3000	SPMWHT541MP7WAV0S0	S1	24.5	26.5	
			S2	26.5	28.5	
			S3	28.5	30.5	
	3500	SPMWHT541MP7WAW0S0	S1	25	27	
			S2	27	29	
			S3	29	31	
	4000	SPMWHT541MP7WAT0S0	S1	26	28	
			S2	28	30	
			S3	30	32	
	5000	SPMWHT541MP7WAR0S0	S1	27	29	
			S2	29	31	
			S3	31	33	
	5700	SPMWHT541MP7WAQ0S0	S1	26.5	28.5	
			S2	28.5	30.5	
			S3	30.5	32.5	
	6500	SPMWHT541MP7WAP0S0	S1	26	28	
			S2	28	30	
			S3	30	32	
	90+ Premium Efficacy	2700	SPMWHT541MJ7WAW0S0	SB	26	28
				SC	28	30
		3000	SPMWHT541MJ7WAV0S0	SB	27	29
SC				29	31	
3500		SPMWHT541MJ7WAW0S0	SB	28	30	
			SC	30	32	
4000		SPMWHT541MJ7WAT0S0	SB	29	31	
			SC	31	33	
5000		SPMWHT541MJ7WAR0S0	SB	30	32	
			SC	32	34	
5700		SPMWHT541MJ7WAQ0S0	SB	29	31	
			SC	31	33	
6500	SPMWHT541MJ7WAP0S0	SB	28	30		
		SC	30	32		

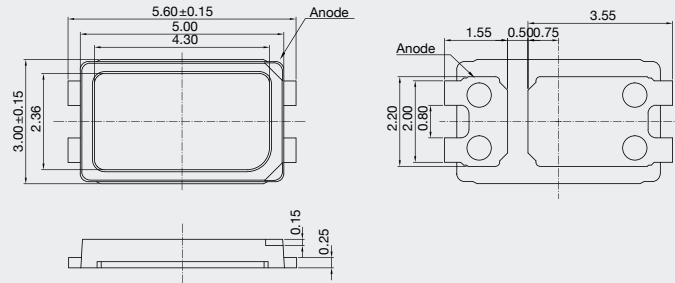


LM561C



Balanced lm/\$ for ambient

- 0.3W class mid power LED
- High efficacy for distributed light
- Standard footprint: 5.6mm x 3.0mm



[65mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	3000	SPMWHT541ML3XAV0S0	S5	32.5	34.5
			S6	34.5	36.5
			S7	36.5	38.5
	3500	SPMWHT541ML3XAU0S0	S5	33	35
			S6	35	37
			S7	37	39
	4000	SPMWHT541ML3XAT0S0	S5	34	36
			S6	36	38
			S7	38	40
	5000	SPMWHT541ML3XAR0S0	S5	35	37
			S6	37	39
			S7	39	41
80+	2700	SPMWHT541ML5XAW0S0	S4	30	32
			S5	32	34
	3000	SPMWHT541ML5XAV0S0	S5	32.5	34.5
			S6	34.5	36.5
	3500	SPMWHT541ML5XAU0S0	S5	33	35
			S6	35	37
	4000	SPMWHT541ML5XAT0S0	S5	34	36
			S6	36	38
	5000	SPMWHT541ML5XAR0S0	S5	35	37
			S6	37	39
	5700	SPMWHT541ML5XAQ0S0	S5	34.5	36.5
			S6	36.5	38.5
6500	SPMWHT541ML5XAP0S0	S5	34	36	
		S6	36	38	

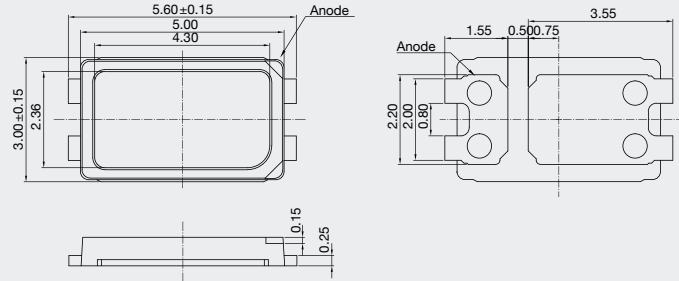


LM561C



Balanced lm/\$ for ambient

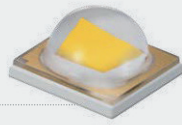
- 0.3W class mid power LED
- High efficacy for distributed light
- Standard footprint: 5.6mm x 3.0mm



[65mA, 25°C]

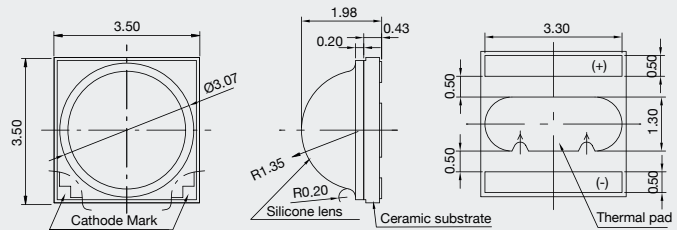
CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
90+	2700	SPMWHT541ML7XAW0S0	S1	24	26	
			S2	26	28	
			S3	28	30	
	3000	SPMWHT541ML7XAV0S0	S1	24.5	26.5	
			S2	26.5	28.5	
			S3	28.5	30.5	
	3500	SPMWHT541ML7XAU0S0	S1	25	27	
			S2	27	29	
			S3	29	31	
	4000	SPMWHT541ML7XAT0S0	S1	26	28	
			S2	28	30	
			S3	30	32	
	5000	SPMWHT541ML7XAR0S0	S1	27	29	
			S2	29	31	
			S3	31	33	
	5700	SPMWHT541ML7XAQ0S0	S1	26.5	28.5	
			S2	28.5	30.5	
			S3	30.5	32.5	
	6500	SPMWHT541ML7XAP0S0	S1	26	28	
			S2	28	30	
			S3	30	32	
	90+ Premium Efficacy	2700	SPMWHT541MK7XAW0S0	SB	28	30
				SC	30	32
		3000	SPMWHT541MK7XAV0S0	SB	28	30
SC				30	32	
3500		SPMWHT541MK7XAU0S0	SB	29	31	
			SC	31	33	
4000		SPMWHT541MK7XAT0S0	SB	30	32	
			SC	32	34	
5000		SPMWHT541MK7XAR0S0	SB	31	33	
			SC	33	35	
5700		SPMWHT541MK7XAQ0S0	SB	30	32	
			SC	32	34	
6500	SPMWHT541MK7XAP0S0	SB	30	32		
		SC	32	34		

LH351B



Cost effective solution for outdoor & directional lighting applications

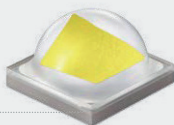
- Operates at a maximum current of up to 1.5A
- Footprint: 3.5mm x 3.5mm



[350mA, 85°C]

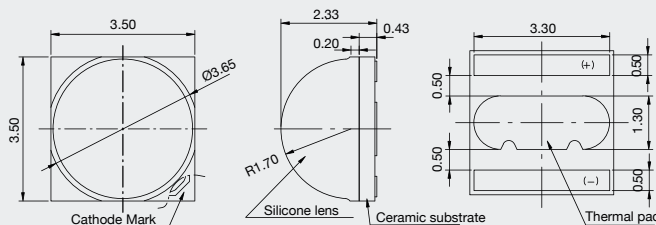
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2200	SPHWH2L3D30CD4Y0K3	K1, M1, N1	130	160
		SPHWH2L3D30CD4W0K3	K1, M1, N1	130	160
	2700	SPHWH2L3D30CD4W0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4W0N3	N1, P1, Q1	150	180
	3000	SPHWH2L3D30CD4V0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4V0N3	N1, P1, Q1	150	180
	3500	SPHWH2L3D30CD4U0K3	K1, M1, N1	130	160
		SPHWH2L3D30CD4U0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4U0N3	N1, P1, Q1	150	180
	4000	SPHWH2L3D30CD4T0N3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4T0P3	P1, Q1, R1	160	190
		SPHWH2L3D30CD4T0Q2	Q1, R1	170	180
		SPHWH2L3D30CD4T0Q3	Q1, R1, S1	170	200
		SPHWH2L3D30CD4R0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4R0N3	N1, P1, Q1	150	180
	5000	SPHWH2L3D30CD4R0P3	P1, Q1, R1	160	190
		SPHWH2L3D30CD4R0Q2	Q1, R1	170	190
		SPHWH2L3D30CD4R0Q3	Q1, R1, S1	170	200
	5700	SPHWH2L3D30CD4Q0N3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4Q0P3	P1, Q1, R1	160	190
		SPHWH2L3D30CD4Q0Q2	Q1, R1	170	190
	6500	SPHWH2L3D30CD4Q0Q3	Q1, R1, S1	170	200
		SPHWH2L3D30CD4P0N3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4P0P3	P1, Q1, R1	160	190
80+	2200	SPHWH2L3D30ED4Y0G3	G1, H1, J1	100	130
		SPHWH2L3D30ED4W0J3	J1, K1, M1	120	150
	2700	SPHWH2L3D30ED4W0K3	K1, M1, N1	130	160
		SPHWH2L3D30ED4V0J3	J1, K1, M1	120	150
	3000	SPHWH2L3D30ED4V0K3	K1, M1, N1	130	160
		SPHWH2L3D30ED4V0M3	M1, N1, P1	140	170
	3500	SPHWH2L3D30ED4U0K3	K1, M1, N1	130	160
		SPHWH2L3D30ED4U0M3	M1, N1, P1	140	170
	4000	SPHWH2L3D30ED4T0K3	K1, M1, N1	130	160
		SPHWH2L3D30ED4T0M3	M1, N1, P1	140	170
	5000	SPHWH2L3D30ED4R0M3	M1, N1, P1	140	170
		SPHWH2L3D30ED4R0N3	N1, P1, Q1	150	180
	5700	SPHWH2L3D30ED4Q0M3	M1, N1, P1	140	170
		SPHWH2L3D30ED4P0K3	K1, M1, N1	130	160
	6000	SPHWH2L3D30ED4P0M3	M1, N1, P1	140	170
SPHWH2L3D30ED4P0Q3		Q1, R1, S1	140	170	
90+	2700	SPHWH2L3D30GD4W0F3	F1, G1, H1	90	120
		SPHWH2L3D30GD4W0G3	G1, H1, J1	100	130
	3000	SPHWH2L3D30GD4V0G3	G1, H1, J1	100	130
		SPHWH2L3D30GD4V0H3	H1, J1, K1	110	140
	3500	SPHWH2L3D30GD4U0G3	G1, H1, J1	100	130
		SPHWH2L3D30GD4U0H3	H1, J1, K1	110	140
	4000	SPHWH2L3D30GD4T0J3	J1, K1, M1	120	150
		SPHWH2L3D30GD4T0P3	P1, Q1, R1	120	150
	5000	SPHWH2L3D30GD4T0K3	K1, M1, N1	130	160

LH351C



High performance suitable for street, high/low bay & sports lighting applications

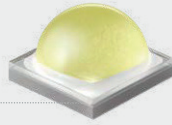
- Operates at a maximum current of up to 2.0A
- Footprint: 3.5mm x 3.5mm



[700mA, 85°C]

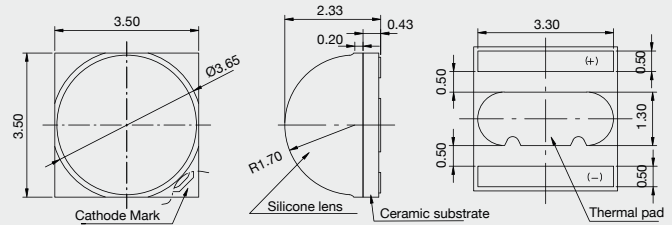
CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
70+	2200	SPHWHTL3D50CE4Y0MF	MB, NB, PB	250	310	
		SPHWHTL3D50CE4W0MF	MB, NB, PB	250	310	
	2700	SPHWHTL3D50CE4W0NF	NB, PB, QB	270	330	
		SPHWHTL3D50CE4V0NF	NB, PB, QB	270	330	
	3000	SPHWHTL3D50CE4V0PF	PB, QB, RB	290	350	
		SPHWHTL3D50CE4V0QF	QB, RB, SB	310	370	
	3500	SPHWHTL3D50CE4U0PF	PB, QB, RB	290	350	
		SPHWHTL3D50CE4U0QF	QB, RB, SB	310	370	
	4000	SPHWHTL3D50CE4T0PF	PB, QB, RB	290	350	
		SPHWHTL3D50CE4T0QF	QB, RB, SB	310	370	
	5000	SPHWHTL3D50CE4T0RF	RB, SB, TB	330	390	
		SPHWHTL3D50CE4R0PF	PB, QB, RB	290	350	
	5700	SPHWHTL3D50CE4R0QF	QB, RB, SB	310	370	
		SPHWHTL3D50CE4R0RF	RB, SB, TB	330	390	
	6500	SPHWHTL3D50CE4Q0PF	PB, QB, RB	310	370	
		SPHWHTL3D50CE4Q0QF	QB, RB, SB	310	370	
	6500	SPHWHTL3D50CE4P0PF	PB, QB, RB	290	350	
		SPHWHTL3D50CE4PTQF	QB, RB, SB	310	370	
	75+	3000	SPHWHTL3D50DE4V0PF	PB, QB, RB	290	350
			SPHWHTL3D50DE4U0PF	PB, QB, RB	290	350
4000		SPHWHTL3D50DE4T0PF	PB, QB, RB	290	350	
		SPHWHTL3D50DE4RTPF	PB, QB, RB	290	350	
5000		SPHWHTL3D50DE4RTQF	QB, RB, SB	310	370	
		SPHWHTL3D50DE4QTQF	QB, RB, SB	310	370	
80+	2700	SPHWHTL3D50EE4W0MF	MB, NB, PB	250	310	
		SPHWHTL3D50EE4W0NF	NB, PB, QB	270	330	
	3000	SPHWHTL3D50EE4V0NF	NB, PB, QB	270	330	
		SPHWHTL3D50EE4V0PF	PB, QB, RB	290	350	
	3500	SPHWHTL3D50EE4U0NF	NB, PB, QB	270	330	
		SPHWHTL3D50EE4U0PF	PB, QB, RB	290	350	
	4000	SPHWHTL3D50EE4T0PF	PB, QB, RB	290	350	
		SPHWHTL3D50EE4T0QF	QB, RB, SB	310	370	
	5000	SPHWHTL3D50EE4R0PF	PB, QB, RB	290	350	
		SPHWHTL3D50EE4R0QF	QB, RB, SB	310	370	
	5700	SPHWHTL3D50EE4Q0NF	NB, PB, QB	270	330	
		SPHWHTL3D50EE4Q0PF	PB, QB, RB	290	350	
90+	2700	SPHWHTL3D50GE4W0HF	HB, JB, KB	190	250	
		SPHWHTL3D50GE4W0JF	JB, KB, MB	210	270	
	3000	SPHWHTL3D50GE4V0JF	JB, KB, MB	210	270	
		SPHWHTL3D50GE4U0JF	JB, KB, MB	210	270	
	3500	SPHWHTL3D50GE4U0KF	KB, MB, NB	230	290	
		SPHWHTL3D50GE4T0JF	JB, KB, MB	210	270	
	4000	SPHWHTL3D50GE4T0KF	KB, MB, NB	230	290	
		SPHWHTL3D50GE4RTKF	KB, MB, NB	230	290	
	5000	SPHWHTL3D50GE4RTMF	MB, NB, PB	250	310	
		SPHWHTL3D50GE4QTKF	KB, MB, NB	230	290	
	5700	SPHWHTL3D50GE4QTMF	MB, NB, PB	250	310	

LH351D



Best solution for high lumen output:
street & sports lighting applications

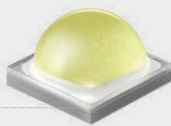
- Operates at a maximum current of up to 3.0A
- Footprint: 3.5mm x 3.5mm



[1050mA, 85°C]

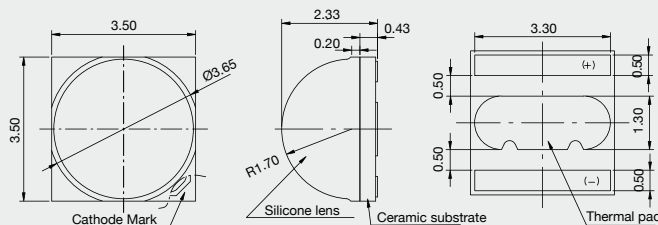
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SPHWHTL3DA0CF4W0U6	U2, V2, W2	420	460
		SPHWHTL3DA0CF4W0V6	V2, W2, Y2	440	480
	3000	SPHWHTL3DA0CF4V0W6	W2, Y2, Z2	460	500
		SPHWHTL3DA0CF4V0Y6	Y2, Z2, 12	480	540
	3500	SPHWHTL3DA0CF4U0W6	W2, Y2, Z2	460	500
	4000	SPHWHTL3DA0CF4T0W6	W2, Y2, Z2	460	520
		SPHWHTL3DA0CF4T0Y6	Y2, Z2, 12	480	540
	5000	SPHWHTL3DA0CF4R0Y6	Y2, Z2, 12	480	520
		SPHWHTL3DA0CF4R0Z6	Z2, 12, 22	500	540
	5700	SPHWHTL3DA0CF4Q0Y6	Y2, Z2, 12	480	520
	6500	SPHWHTL3DA0CF4P0Y6	Y2, Z2, 12	480	520

LH351D



Best solution for high lumen output:
street & sports lighting applications

- Operates at a maximum current of up to 3.0A
- Footprint: 3.5mm x 3.5mm



[1050mA, 85°C]

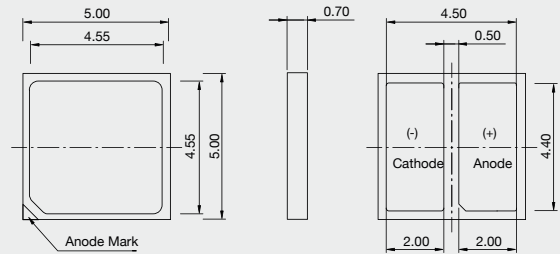
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+	2700	SPHWHTL3DA0EF4W0S6	S2, T2, U2	380	420
		SPHWHTL3DA0EF4W0T6	T2, U2, V2	400	440
	3000	SPHWHTL3DA0EF4V0T6	T2, U2, V2	400	440
		SPHWHTL3DA0EF4V0U6	U2, V2, W2	420	460
	3500	SPHWHTL3DA0EF4U0T6	T2, U2, V2	400	440
		SPHWHTL3DA0EF4U0U6	U2, V2, W2	420	460
	4000	SPHWHTL3DA0EF4T0U6	U2, V2, W2	420	460
		SPHWHTL3DA0EF4T0V6	V2, W2, Y2	440	520
	5000	SPHWHTL3DA0EF4R0U6	U2, V2, W2	420	460
		SPHWHTL3DA0EF4R0V6	V2, W2, Y2	440	520
	5300	SPHWHTL3DA0EF4QRU6	U2, V2, W2	420	460
		SPHWHTL3DA0EF4QRV6	V2, W2, Y2	440	520
	5700	SPHWHTL3DA0EF4Q0U6	U2, V2, W2	420	460
		SPHWHTL3DA0EF4Q0V6	V2, W2, Y2	440	520
	6000	SPHWHTL3DA0EF4PQU6	U2, V2, W2	420	460
		SPHWHTL3DA0EF4PQV6	V2, W2, Y2	440	520
	6500	SPHWHTL3DA0EF4P0U6	U2, V2, W2	420	460
		SPHWHTL3DA0EF4P0V6	V2, W2, Y2	440	520
90+	2700	SPHWHTL3DA0GF4W0M6	M2, N2, P2	280	320
		SPHWHTL3DA0GF4W0N6	N2, P2, Q2	300	340
	3000	SPHWHTL3DA0GF4V0N6	N2, P2, Q2	300	340
		SPHWHTL3DA0GF4V0P6	P2, Q2, R2	320	360
	3500	SPHWHTL3DA0GF4U0N6	N2, P2, Q2	300	340
		SPHWHTL3DA0GF4U0P6	P2, Q2, R2	320	360
	4000	SPHWHTL3DA0GF4T0P6	P2, Q2, R2	320	360
		SPHWHTL3DA0GF4T0Q6	Q2, R2, S2	340	380
	5000	SPHWHTL3DA0GF4R0R6	R2, S2, T2	360	400
		SPHWHTL3DA0GF4R0S6	S2, T2, U2	380	420
	5700	SPHWHTL3DA0GF4Q0S6	S2, T2, U2	380	420
		SPHWHTL3DA0GF4PQR6	R2, S2, T2	360	400
6000	SPHWHTL3DA0GF4PQS6	S2, T2, U2	380	420	

LH502C



Designed for best lm/\$ with high luminous flux

- 6V high power LED
- EMC mold resin for high reliability
- Improved color quality
- Anti-sulfuriaztion
- ESD Class 3B (max 8kV)
- Suitable for street light, high/low bay light & spot light
- Design flexible footprint: 5.0mm × 5.0mm



[640mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Typ.
70+	2200	SPHWH1L5N603YEY★A2	A2	510	550
	2700	SPHWH1L5N603YEW★A2	A2	590	630
	3000	SPHWH1L5N603YEV★A2	A2	620	658
	3500	SPHWH1L5N603YEU★A2	A2	640	679
	4000	SPHWH1L5N603YET★A2	A2	660	700
	5000	SPHWH1L5N603YER★A2	A2	660	700
	5700	SPHWH1L5N603YEQ★A2	A2	650	693
	6500	SPHWH1L5N603YEP★A2	A2	640	686
80+	2200	SPHWH1L5N605YEY★A2	A2	440	490
	2700	SPHWH1L5N605YEW★A2	A2	540	580
	3000	SPHWH1L5N605YEV★A2	A2	570	605
	3500	SPHWH1L5N605YEU★A2	A2	580	625
	4000	SPHWH1L5N605YET★A2	A2	600	644
	5000	SPHWH1L5N605YER★A2	A2	600	644
	5700	SPHWH1L5N605YEQ★A2	A2	600	638
	6500	SPHWH1L5N605YEP★A2	A2	590	631
90+	2200	SPHWH1L5N607YEY★A2	A2	400	440
	2700	SPHWH1L5N607YEW★A2	A2	450	490
	3000	SPHWH1L5N607YEV★A2	A2	470	510
	3500	SPHWH1L5N607YEU★A2	A2	480	520
	4000	SPHWH1L5N607YET★A2	A2	490	530
	5000	SPHWH1L5N607YER★A2	A2	490	530
	5700	SPHWH1L5N607YEQ★A2	A2	490	530

★Can be replaced with '5' for the Mac5 color binning, or '3' for the Mac3 color binning

D-series Gen 3

Full line-up for various applications: MR/PAR, spotlights, downlights & high bay lights


- Industry-leading light efficacy in COB lineups
- Better thermal resistance than Gen 2
- High reliability satisfying DLC Premium standards
- Completed 6,000 hours of LM-80 testing


T _J =85°C	LC003D Gen 3	LC006D Gen 3	LC009D Gen 3	LC013D Gen 3	LC016D Gen 3	LC019D Gen 3	LC026D Gen 3	LC033D Gen 3	LC040D Gen 3	LC060D Gen 3	LC080D Gen 3
LES	9.8mm			14.5mm				22mm			
Typical	3.0W (90 mA)	6.1W (180 mA)	9.1W (270 mA)	12.2W (360 mA)	15.2W (450 mA)	18.3W (540 mA)	24.3W (720 mA)	30.4W (900 mA)	36.5W (1080 mA)	54.8W (1080 mA)	82.1W (1620 mA)
Max.	8.7W (230 mA)	17.4W (460 mA)	26.1W (690 mA)	34.8W (920 mA)	43.5W (1150 mA)	52.2W (1380 mA)	69.6W (1840 mA)	86.9W (2300 mA)	104.3W (2760 mA)	152.9W (2760 mA)	229.3W (4140 mA)
Dimension											
Size	13.5mm x 13.5mm			19mm x 19mm				28mm x 28mm			


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)	
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)		
 LC003D Gen 3	80+	2700	MacAdam 1step	SPHWHAHDNA25YZW1D3			90mA 33.8V	
			MacAdam 2step	SPHWHAHDNA25YZW2D3	475	156		
			MacAdam 3step	SPHWHAHDNA25YZW3D3				
		3000	MacAdam 1step	SPHWHAHDNA25YZV1D3				
			MacAdam 2step	SPHWHAHDNA25YZV2D3	499	164		
			MacAdam 3step	SPHWHAHDNA25YZV3D3				
		3500	MacAdam 1step	SPHWHAHDNA25YZU1D3				
			MacAdam 2step	SPHWHAHDNA25YZU2D3	514	169		
			MacAdam 3step	SPHWHAHDNA25YZU3D3				
	4000	MacAdam 1step	SPHWHAHDNA25YZT1D3					
		MacAdam 2step	SPHWHAHDNA25YZT2D3	524	172			
		MacAdam 3step	SPHWHAHDNA25YZT3D3					
	5000	MacAdam 2step	SPHWHAHDNA25YZR2D3					
		MacAdam 3step	SPHWHAHDNA25YZR3D3	529	174			
		MacAdam 2step	SPHWHAHDNA25YZQ2D3	529	174			
	5700	MacAdam 3step	SPHWHAHDNA25YZQ3D3					
		6500	MacAdam 2step	SPHWHAHDNA25YZP2D3	524	172		
			MacAdam 3step	SPHWHAHDNA25YZP3D3				
	90+	2700	MacAdam 1step	SPHWHAHDNA27YZW1D3				
			MacAdam 2step	SPHWHAHDNA27YZW2D3	407	134		
			MacAdam 3step	SPHWHAHDNA27YZW3D3				
		3000	MacAdam 1step	SPHWHAHDNA27YZV1D3				
			MacAdam 2step	SPHWHAHDNA27YZV2D3	428	141		
			MacAdam 3step	SPHWHAHDNA27YZV3D3				
		3500	MacAdam 1step	SPHWHAHDNA27YZU1D3				
			MacAdam 2step	SPHWHAHDNA27YZU2D3	441	145		
			MacAdam 3step	SPHWHAHDNA27YZU3D3				
4000		MacAdam 1step	SPHWHAHDNA27YZT1D3					
		MacAdam 2step	SPHWHAHDNA27YZT2D3	450	148			
		MacAdam 3step	SPHWHAHDNA27YZT3D3					
5000		MacAdam 2step	SPHWHAHDNA27YZR2D3	453	149			
		MacAdam 3step	SPHWHAHDNA27YZR3D3					


Package


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)	
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)		
 LC006D Gen 3	80+	2700	MacAdam 1step	SPHWWAHDNB25YZW1D3			180mA 33.8V	
			MacAdam 2step	SPHWWAHDNB25YZW2D3	946	155		
			MacAdam 3step	SPHWWAHDNB25YZW3D3				
		3000	MacAdam 1step	SPHWWAHDNB25YZV1D3				
			MacAdam 2step	SPHWWAHDNB25YZV2D3	994	163		
			MacAdam 3step	SPHWWAHDNB25YZV3D3				
		3500	MacAdam 1step	SPHWWAHDNB25YZU1D3				
			MacAdam 2step	SPHWWAHDNB25YZU2D3	1023	168		
			MacAdam 3step	SPHWWAHDNB25YZU3D3				
		4000	MacAdam 1step	SPHWWAHDNB25YZT1D3				
			MacAdam 2step	SPHWWAHDNB25YZT2D3	1043	171		
			MacAdam 3step	SPHWWAHDNB25YZT3D3				
	5000	MacAdam 2step	SPHWWAHDNB25YZR2D3					
		MacAdam 3step	SPHWWAHDNB25YZR3D3	1052	173			
		MacAdam 2step	SPHWWAHDNB25YZQ2D3	1052	173			
	6500	MacAdam 3step	SPHWWAHDNB25YZQ3D3					
		MacAdam 2step	SPHWWAHDNB25YZP2D3	1043	171			
		MacAdam 3step	SPHWWAHDNB25YZP3D3					
	90+	2700	MacAdam 1step	SPHWWAHDNB27YZW1D3				
			MacAdam 2step	SPHWWAHDNB27YZW2D3	809	133		
			MacAdam 3step	SPHWWAHDNB27YZW3D3				
		3000	MacAdam 1step	SPHWWAHDNB27YZV1D3				
			MacAdam 2step	SPHWWAHDNB27YZV2D3	851	140		
			MacAdam 3step	SPHWWAHDNB27YZV3D3				
3500		MacAdam 1step	SPHWWAHDNB27YZU1D3					
		MacAdam 2step	SPHWWAHDNB27YZU2D3	877	144			
		MacAdam 3step	SPHWWAHDNB27YZU3D3					
4000		MacAdam 1step	SPHWWAHDNB27YZT1D3					
		MacAdam 2step	SPHWWAHDNB27YZT2D3	895	147			
		MacAdam 3step	SPHWWAHDNB27YZT3D3					
5000	MacAdam 2step	SPHWWAHDNB27YZR2D3						
	MacAdam 3step	SPHWWAHDNB27YZR3D3	902	148				


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)	
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)		
 LC009D Gen 3	70+	3000	MacAdam 2step	SPHWAHDNC23YZV2D3	1594	174	270mA 33.8V	
			MacAdam 3step	SPHWAHDNC23YZV3D3				
		4000	MacAdam 2step	SPHWAHDNC23YZT2D3	1624	177		
			MacAdam 3step	SPHWAHDNC23YZT3D3				
		5000	MacAdam 2step	SPHWAHDNC23YZR2D3	1653	180		
			MacAdam 3step	SPHWAHDNC23YZR3D3				
	80+	2700	MacAdam 1step	SPHWAHDNC25YZW1D3	1405	154		
			MacAdam 2step	SPHWAHDNC25YZW2D3				
			MacAdam 3step	SPHWAHDNC25YZW3D3				
		3000	MacAdam 1step	SPHWAHDNC25YZV1D3	1476	162		
			MacAdam 2step	SPHWAHDNC25YZV2D3				
			MacAdam 3step	SPHWAHDNC25YZV3D3				
		3500	MacAdam 1step	SPHWAHDNC25YZU1D3	1519	166		
			MacAdam 2step	SPHWAHDNC25YZU2D3				
			MacAdam 3step	SPHWAHDNC25YZU3D3				
		4000	MacAdam 1step	SPHWAHDNC25YZT1D3	1550	170		
			MacAdam 2step	SPHWAHDNC25YZT2D3				
			MacAdam 3step	SPHWAHDNC25YZT3D3				
	MacAdam 2step		SPHWAHDNC25YZR2D3	1563				171
	MacAdam 3step		SPHWAHDNC25YZR3D3					
	5000		MacAdam 2step	SPHWAHDNC25YZQ2D3				1563
	5700	MacAdam 3step	SPHWAHDNC25YZQ3D3					
	6500	MacAdam 2step	SPHWAHDNC25YZP2D3	1550	170			
		MacAdam 3step	SPHWAHDNC25YZP3D3					
2700		MacAdam 1step	SPHWAHDNC27YZW1D3			1202	132	
		MacAdam 2step	SPHWAHDNC27YZW2D3					
		MacAdam 3step	SPHWAHDNC27YZW3D3					
90+		3000	MacAdam 1step			SPHWAHDNC27YZV1D3	1264	139
	MacAdam 2step		SPHWAHDNC27YZV2D3					
	MacAdam 3step		SPHWAHDNC27YZV3D3					
	3500	MacAdam 1step	SPHWAHDNC27YZU1D3	1302	143			
		MacAdam 2step	SPHWAHDNC27YZU2D3					
		MacAdam 3step	SPHWAHDNC27YZU3D3					
	4000	MacAdam 1step	SPHWAHDNC27YZT1D3	1329	146			
		MacAdam 2step	SPHWAHDNC27YZT2D3					
		MacAdam 3step	SPHWAHDNC27YZT3D3					
5000	MacAdam 2step	SPHWAHDNC27YZR2D3	1340	147				
	MacAdam 3step	SPHWAHDNC27YZR3D3						


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC013D Gen 3	70+	2200	MacAdam 2step	SPHWAHDND23YZY2D3	1755	144	360mA 33.8V
			MacAdam 3step	SPHWAHDND23YZY3D3			
		2700	MacAdam 2step	SPHWAHDND23YZW2D3	1975	162	
			MacAdam 3step	SPHWAHDND23YZW3D3			
		3000	MacAdam 2step	SPHWAHDND23YZV2D3	2094	171	
			MacAdam 3step	SPHWAHDND23YZV3D3			
		4000	MacAdam 2step	SPHWAHDND23YZT2D3	2133	174	
			MacAdam 3step	SPHWAHDND23YZT3D3			
		5000	MacAdam 2step	SPHWAHDND23YZR2D3	2171	177	
			MacAdam 3step	SPHWAHDND23YZR3D3			
	5700	MacAdam 2step	SPHWAHDND23YZQ2D3	2125	175		
		MacAdam 3step	SPHWAHDND23YZQ3D3				
	80+	2700	MacAdam 1step	SPHWAHDND25YZW1D3	1845	152	
			MacAdam 2step	SPHWAHDND25YZW2D3			
			MacAdam 3step	SPHWAHDND25YZW3D3			
		3000	MacAdam 1step	SPHWAHDND25YZV1D3	1939	159	
			MacAdam 2step	SPHWAHDND25YZV2D3			
			MacAdam 3step	SPHWAHDND25YZV3D3			
		3500	MacAdam 1step	SPHWAHDND25YZU1D3	1996	164	
			MacAdam 2step	SPHWAHDND25YZU2D3			
MacAdam 3step			SPHWAHDND25YZU3D3				
4000		MacAdam 1step	SPHWAHDND25YZT1D3	2036	167		
	MacAdam 2step	SPHWAHDND25YZT2D3					
	MacAdam 3step	SPHWAHDND25YZT3D3					
5000	MacAdam 2step	SPHWAHDND25YZR2D3	2053	169			
	MacAdam 3step	SPHWAHDND25YZR3D3					
5700	MacAdam 2step	SPHWAHDND25YZQ2D3	2053	169			
	MacAdam 3step	SPHWAHDND25YZQ3D3					
6500	MacAdam 2step	SPHWAHDND25YZP2D3	2036	167			
	MacAdam 3step	SPHWAHDND25YZP3D3					
90+	2700	MacAdam 1step	SPHWAHDND27YZW1D3	1579	130		
		MacAdam 2step	SPHWAHDND27YZW2D3				
		MacAdam 3step	SPHWAHDND27YZW3D3				
	3000	MacAdam 1step	SPHWAHDND27YZV1D3	1661	137		
		MacAdam 2step	SPHWAHDND27YZV2D3				
		MacAdam 3step	SPHWAHDND27YZV3D3				
	3500	MacAdam 1step	SPHWAHDND27YZU1D3	1710	141		
		MacAdam 2step	SPHWAHDND27YZU2D3				
		MacAdam 3step	SPHWAHDND27YZU3D3				
	4000	MacAdam 1step	SPHWAHDND27YZT1D3	1745	143		
MacAdam 2step		SPHWAHDND27YZT2D3					
MacAdam 3step		SPHWAHDND27YZT3D3					
5000	MacAdam 2step	SPHWAHDND37YZR2D3	1760	145			
	MacAdam 3step	SPHWAHDND37YZR3D3					


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC016D Gen 3	70+	2200	MacAdam 2step	SPHWAHDNE23YZY2D3	2238	147	450mA 33.8V
			MacAdam 3step	SPHWAHDNE23YZY3D3			
		2700	MacAdam 2step	SPHWAHDNE23YZW2D3	2470	162	
			MacAdam 3step	SPHWAHDNE23YZW3D3			
		3000	MacAdam 2step	SPHWAHDNE23YZV2D3	2697	176	
			MacAdam 3step	SPHWAHDNE23YZV3D3			
		4000	MacAdam 2step	SPHWAHDNE23YZT2D3	2747	180	
			MacAdam 3step	SPHWAHDNE23YZT3D3			
		5000	MacAdam 2step	SPHWAHDNE23YZR2D3	2797	183	
			MacAdam 3step	SPHWAHDNE23YZR3D3			
		5700	MacAdam 2step	SPHWAHDNE23YZQ2D3	2737	180	
			MacAdam 3step	SPHWAHDNE23YZQ3D3			
	80+	2700	MacAdam 1step	SPHWAHDNE25YZW1D3	2376	156	
			MacAdam 2step	SPHWAHDNE25YZW2D3			
			MacAdam 3step	SPHWAHDNE25YZW3D3			
		3000	MacAdam 1step	SPHWAHDNE25YZV1D3	2497	164	
			MacAdam 2step	SPHWAHDNE25YZV2D3			
			MacAdam 3step	SPHWAHDNE25YZV3D3			
		3500	MacAdam 1step	SPHWAHDNE25YZU1D3	2570	169	
			MacAdam 2step	SPHWAHDNE25YZU2D3			
			MacAdam 3step	SPHWAHDNE25YZU3D3			
		4000	MacAdam 1step	SPHWAHDNE25YZT1D3	2622	172	
			MacAdam 2step	SPHWAHDNE25YZT2D3			
			MacAdam 3step	SPHWAHDNE25YZT3D3			
5000	MacAdam 2step	SPHWAHDNE25YZR2D3	2644	174			
	MacAdam 3step	SPHWAHDNE25YZR3D3					
	MacAdam 2step	SPHWAHDNE25YZQ2D3			2644	174	
MacAdam 3step	SPHWAHDNE25YZQ3D3						
6500	MacAdam 2step	SPHWAHDNE25YZP2D3	2622	172			
	MacAdam 3step	SPHWAHDNE25YZP3D3					
90+	2700	MacAdam 1step	SPHWAHDNE27YZW1D3	2033	134		
		MacAdam 2step	SPHWAHDNE27YZW2D3				
		MacAdam 3step	SPHWAHDNE27YZW3D3				
	3000	MacAdam 1step	SPHWAHDNE27YZV1D3	2139	141		
		MacAdam 2step	SPHWAHDNE27YZV2D3				
		MacAdam 3step	SPHWAHDNE27YZV3D3				
	3500	MacAdam 1step	SPHWAHDNE27YZU1D3	2203	145		
		MacAdam 2step	SPHWAHDNE27YZU2D3				
		MacAdam 3step	SPHWAHDNE27YZU3D3				
	4000	MacAdam 1step	SPHWAHDNE27YZT1D3	2248	148		
		MacAdam 2step	SPHWAHDNE27YZT2D3				
		MacAdam 3step	SPHWAHDNE27YZT3D3				
5000	MacAdam 1step	SPHWAHDNE27YZR1D3	2267	149			
	MacAdam 3step	SPHWAHDNE27YZR3D3					


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)	
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)		
 LC019D Gen 3	70+	2200	MacAdam 2step	SPHWAHDNF23YZY2D3	2673	146	540mA 33.8V	
			MacAdam 3step	SPHWAHDNF23YZY3D3				
		2700	MacAdam 2step	SPHWAHDNF23YZW2D3	2960	162		
			MacAdam 3step	SPHWAHDNF23YZW3D3				
		3000	MacAdam 2step	SPHWAHDNF23YZV2D3	3220	175		
			MacAdam 3step	SPHWAHDNF23YZV3D3				
		4000	MacAdam 2step	SPHWAHDNF23YZT2D3	3280	179		
			MacAdam 3step	SPHWAHDNF23YZT3D3				
		5000	MacAdam 2step	SPHWAHDNF23YZR2D3	3339	182		
			MacAdam 3step	SPHWAHDNF23YZR3D3				
		5700	MacAdam 2step	SPHWAHDNF23YZQ2D3	3269	179		
			MacAdam 3step	SPHWAHDNF23YZQ3D3				
		80+	2700	MacAdam 1step	SPHWAHDNF25YZW1D3	2837		155
				MacAdam 2step	SPHWAHDNF25YZW2D3			
				MacAdam 3step	SPHWAHDNF25YZW3D3			
			3000	MacAdam 1step	SPHWAHDNF25YZV1D3	2982		163
				MacAdam 2step	SPHWAHDNF25YZV2D3			
				MacAdam 3step	SPHWAHDNF25YZV3D3			
3500	MacAdam 1step		SPHWAHDNF25YZU1D3	3069	168			
	MacAdam 2step		SPHWAHDNF25YZU2D3					
	MacAdam 3step		SPHWAHDNF25YZU3D3					
4000	MacAdam 1step		SPHWAHDNF25YZT1D3	3130	171			
	MacAdam 2step		SPHWAHDNF25YZT2D3					
	MacAdam 3step		SPHWAHDNF25YZT3D3					
	MacAdam 2step	SPHWAHDNF25YZR2D3						
	MacAdam 3step	SPHWAHDNF25YZR3D3						
	MacAdam 2step	SPHWAHDNF25YZQ2D3						
5000	MacAdam 2step	SPHWAHDNF25YZP2D3	3157	173				
	MacAdam 3step	SPHWAHDNF25YZP3D3						
5700	MacAdam 2step	SPHWAHDNF25YZQ2D3	3157	173				
	MacAdam 3step	SPHWAHDNF25YZQ3D3						
	6500	MacAdam 2step			SPHWAHDNF25YZP2D3	3130	171	
		MacAdam 3step			SPHWAHDNF25YZP3D3			
	90+	2700			MacAdam 1step	SPHWAHDNF27YZW1D3	2428	133
					MacAdam 2step	SPHWAHDNF27YZW2D3		
MacAdam 3step			SPHWAHDNF27YZW3D3					
3000		MacAdam 1step	SPHWAHDNF27YZV1D3	2554	140			
		MacAdam 2step	SPHWAHDNF27YZV2D3					
		MacAdam 3step	SPHWAHDNF27YZV3D3					
3500		MacAdam 1step	SPHWAHDNF27YZU1D3	2630	144			
		MacAdam 2step	SPHWAHDNF27YZU2D3					
		MacAdam 3step	SPHWAHDNF27YZU3D3					
4000		MacAdam 1step	SPHWAHDNF27YZT1D3	2684	147			
		MacAdam 2step	SPHWAHDNF27YZT2D3					
		MacAdam 3step	SPHWAHDNF27YZT3D3					
	MacAdam 2step	SPHWAHDNF27YZR2D3						
	5000	MacAdam 2step	SPHWAHDNF27YZR2D3			2707	148	
		MacAdam 3step	SPHWAHDNF27YZR3D3					

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC026D Gen 3	70+	2200	MacAdam 2step	SPHWAHDNG23YZY2D3	3511	144	720mA 33.8V
			MacAdam 3step	SPHWAHDNG23YZY3D3			
		2700	MacAdam 2step	SPHWAHDNG23YZW2D3	3950	162	
			MacAdam 3step	SPHWAHDNG23YZW3D3			
		3000	MacAdam 2step	SPHWAHDNG23YZV2D3	4230	174	
			MacAdam 3step	SPHWAHDNG23YZV3D3			
		4000	MacAdam 2step	SPHWAHDNG23YZT2D3	4308	177	
			MacAdam 3step	SPHWAHDNG23YZT3D3			
		5000	MacAdam 2step	SPHWAHDNG23YZR2D3	4387	180	
			MacAdam 3step	SPHWAHDNG23YZR3D3			
		5700	MacAdam 2step	SPHWAHDNG23YZQ2D3	4294	176	
			MacAdam 3step	SPHWAHDNG23YZQ3D3			
	80+	2700	MacAdam 1step	SPHWAHDNG25YZW1D3	3727	153	
			MacAdam 2step	SPHWAHDNG25YZW2D3			
			MacAdam 3step	SPHWAHDNG25YZW3D3			
		3000	MacAdam 1step	SPHWAHDNG25YZV1D3	3917	161	
			MacAdam 2step	SPHWAHDNG25YZV2D3			
			MacAdam 3step	SPHWAHDNG25YZV3D3			
		3500	MacAdam 1step	SPHWAHDNG25YZU1D3	4032	166	
			MacAdam 2step	SPHWAHDNG25YZU2D3			
			MacAdam 3step	SPHWAHDNG25YZU3D3			
		4000	MacAdam 1step	SPHWAHDNG25YZT1D3	4112	169	
			MacAdam 2step	SPHWAHDNG25YZT2D3			
			MacAdam 3step	SPHWAHDNG25YZT3D3			
5000	MacAdam 2step	SPHWAHDNG25YZR2D3	4147	170			
	MacAdam 3step	SPHWAHDNG25YZR3D3					
	MacAdam 2step	SPHWAHDNG25YZQ2D3			4147	170	
MacAdam 3step	SPHWAHDNG25YZQ3D3						
6500	MacAdam 2step	SPHWAHDNG25YZP2D3	4112	169			
	MacAdam 3step	SPHWAHDNG25YZP3D3					
90+	2700	MacAdam 1step	SPHWAHDNG27YZW1D3	3190	131		
		MacAdam 2step	SPHWAHDNG27YZW2D3				
		MacAdam 3step	SPHWAHDNG27YZW3D3				
	3000	MacAdam 1step	SPHWAHDNG27YZV1D3	3355	138		
		MacAdam 2step	SPHWAHDNG27YZV2D3				
		MacAdam 3step	SPHWAHDNG27YZV3D3				
	3500	MacAdam 1step	SPHWAHDNG27YZU1D3	3455	142		
		MacAdam 2step	SPHWAHDNG27YZU2D3				
		MacAdam 3step	SPHWAHDNG27YZU3D3				
	4000	MacAdam 1step	SPHWAHDNG27YZT1D3	3526	145		
		MacAdam 2step	SPHWAHDNG27YZT2D3				
		MacAdam 3step	SPHWAHDNG27YZT3D3				
5000	MacAdam 2step	SPHWAHDNG27YZR2D3	3556	146			
	MacAdam 3step	SPHWAHDNG27YZR3D3					

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC033D Gen 3	70+	2200	MacAdam 2step	SPHWAHDNH23YZY2D3	4308	142	900mA 33.8V
			MacAdam 3step	SPHWAHDNH23YZY3D3			
		2700	MacAdam 2step	SPHWAHDNH23YZW2D3	4940	162	
			MacAdam 3step	SPHWAHDNH23YZW3D3			
		3000	MacAdam 2step	SPHWAHDNH23YZV2D3	5235	172	
			MacAdam 3step	SPHWAHDNH23YZV3D3			
		4000	MacAdam 2step	SPHWAHDNH23YZT2D3	5332	175	
			MacAdam 3step	SPHWAHDNH23YZT3D3			
		5000	MacAdam 2step	SPHWAHDNH23YZR2D3	5429	178	
			MacAdam 3step	SPHWAHDNH23YZR3D3			
		5700	MacAdam 2step	SPHWAHDNH23YZQ2D3	5313	175	
			MacAdam 3step	SPHWAHDNH23YZQ3D3			
	80+	2700	MacAdam 1step	SPHWAHDNH25YZW1D3	4612	152	
			MacAdam 2step	SPHWAHDNH25YZW2D3			
			MacAdam 3step	SPHWAHDNH25YZW3D3			
		3000	MacAdam 1step	SPHWAHDNH25YZV1D3	4847	159	
			MacAdam 2step	SPHWAHDNH25YZV2D3			
			MacAdam 3step	SPHWAHDNH25YZV3D3			
		3500	MacAdam 1step	SPHWAHDNH25YZU1D3	4989	164	
			MacAdam 2step	SPHWAHDNH25YZU2D3			
			MacAdam 3step	SPHWAHDNH25YZU3D3			
		4000	MacAdam 1step	SPHWAHDNH25YZT1D3	5089	167	
			MacAdam 2step	SPHWAHDNH25YZT2D3			
			MacAdam 3step	SPHWAHDNH25YZT3D3			
5000	MacAdam 2step	SPHWAHDNH25YZR2D3	5132	169			
	MacAdam 3step	SPHWAHDNH25YZR3D3					
5700	MacAdam 2step	SPHWAHDNH25YZQ2D3	5132	169			
	MacAdam 3step	SPHWAHDNH25YZQ3D3					
6500	MacAdam 2step	SPHWAHDNH25YZP2D3	5089	167			
	MacAdam 3step	SPHWAHDNH25YZP3D3					
90+	2700	MacAdam 1step	SPHWAHDNH27YZW1D3	3947	130		
		MacAdam 2step	SPHWAHDNH27YZW2D3				
		MacAdam 3step	SPHWAHDNH27YZW3D3				
	3000	MacAdam 1step	SPHWAHDNH27YZV1D3	4152	136		
		MacAdam 2step	SPHWAHDNH27YZV2D3				
		MacAdam 3step	SPHWAHDNH27YZV3D3				
	3500	MacAdam 1step	SPHWAHDNH27YZU1D3	4276	141		
		MacAdam 2step	SPHWAHDNH27YZU2D3				
		MacAdam 3step	SPHWAHDNH27YZU3D3				
	4000	MacAdam 1step	SPHWAHDNH27YZT1D3	4364	143		
		MacAdam 2step	SPHWAHDNH27YZT2D3				
		MacAdam 3step	SPHWAHDNH27YZT3D3				
5000	MacAdam 2step	SPHWAHDNH27YZR2D3	4401	145			
	MacAdam 3step	SPHWAHDNH27YZR3D3					

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC040D Gen 3	70+	2200	MacAdam 2step	SPHWAHDNK23YZY2D3	5346	146	1080mA 33.8V
			MacAdam 3step	SPHWAHDNK23YZY3D3			
		2700	MacAdam 2step	SPHWAHDNK23YZW2D3	5930	162	
			MacAdam 3step	SPHWAHDNK23YZW3D3			
		3000	MacAdam 2step	SPHWAHDNK23YZV2D3	6440	176	
			MacAdam 3step	SPHWAHDNK23YZV3D3			
		4000	MacAdam 2step	SPHWAHDNK23YZT2D3	6560	180	
			MacAdam 3step	SPHWAHDNK23YZT3D3			
		5000	MacAdam 2step	SPHWAHDNK23YZR2D3	6679	183	
			MacAdam 3step	SPHWAHDNK23YZR3D3			
		5700	MacAdam 2step	SPHWAHDNK23YZQ2D3	6537	179	
			MacAdam 3step	SPHWAHDNK23YZQ3D3			
	80+	2700	MacAdam 1step	SPHWAHDNK25YZW1D3	5675	155	
			MacAdam 2step	SPHWAHDNK25YZW2D3			
			MacAdam 3step	SPHWAHDNK25YZW3D3			
		3000	MacAdam 1step	SPHWAHDNK25YZV1D3	5963	163	
			MacAdam 2step	SPHWAHDNK25YZV2D3			
			MacAdam 3step	SPHWAHDNK25YZV3D3			
		3500	MacAdam 1step	SPHWAHDNK25YZU1D3	6138	168	
			MacAdam 2step	SPHWAHDNK25YZU2D3			
			MacAdam 3step	SPHWAHDNK25YZU3D3			
		4000	MacAdam 1step	SPHWAHDNK25YZT1D3	6261	172	
			MacAdam 2step	SPHWAHDNK25YZT2D3			
			MacAdam 3step	SPHWAHDNK25YZT3D3			
5000	MacAdam 2step	SPHWAHDNK25YZR2D3	6313	173			
	MacAdam 3step	SPHWAHDNK25YZR3D3					
	MacAdam 2step	SPHWAHDNK25YZQ2D3			6313	173	
MacAdam 3step	SPHWAHDNK25YZQ3D3						
6500	MacAdam 2step	SPHWAHDNK25YZP2D3	6261	172			
	MacAdam 3step	SPHWAHDNK25YZP3D3					
	2700	MacAdam 1step			SPHWAHDNK27YZW1D3	4856	133
MacAdam 2step		SPHWAHDNK27YZW2D3					
MacAdam 3step		SPHWAHDNK27YZW3D3					
90+	3000	MacAdam 1step	SPHWAHDNK27YZV1D3	5108	140		
		MacAdam 2step	SPHWAHDNK27YZV2D3				
		MacAdam 3step	SPHWAHDNK27YZV3D3				
	3500	MacAdam 1step	SPHWAHDNK27YZU1D3	5260	144		
		MacAdam 2step	SPHWAHDNK27YZU2D3				
		MacAdam 3step	SPHWAHDNK27YZU3D3				
	4000	MacAdam 1step	SPHWAHDNK27YZT1D3	5369	147		
		MacAdam 2step	SPHWAHDNK27YZT2D3				
		MacAdam 3step	SPHWAHDNK27YZT3D3				
	5000	MacAdam 2step	SPHWAHDNK27YZR2D3	5415	148		
		MacAdam 3step	SPHWAHDNK27YZR3D3				
	5700	MacAdam 2step	SPHWAHDNK27YZQ2D3	5300	145		
MacAdam 3step		SPHWAHDNK27YZQ3D3					

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)	
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)		
 LC060D Gen 3	70+	2200	MacAdam 2step	SPHWAHDNL231ZY2D3	7900	144	1080mA 50.7V	
			MacAdam 3step	SPHWAHDNL231ZY3D3				
		2700	MacAdam 2step	SPHWAHDNL231ZW2D3	9000	164		
			MacAdam 3step	SPHWAHDNL231ZW3D3				
		3000	MacAdam 2step	SPHWAHDNL231ZV2D3	9518	174		
			MacAdam 3step	SPHWAHDNL231ZV3D3				
		4000	MacAdam 2step	SPHWAHDNL231ZT2D3	9694	177		
			MacAdam 3step	SPHWAHDNL231ZT3D3				
		5000	MacAdam 2step	SPHWAHDNL231ZR2D3	9870	180		
			MacAdam 3step	SPHWAHDNL231ZR3D3				
		5700	MacAdam 2step	SPHWAHDNL231ZQ2D3	9661	176		
			MacAdam 3step	SPHWAHDNL231ZQ3D3				
		80+	2700	MacAdam 1step	SPHWAHDNL251ZW1D3	8386		153
				MacAdam 2step	SPHWAHDNL251ZW2D3			
	MacAdam 3step			SPHWAHDNL251ZW3D3				
	3000		MacAdam 1step	SPHWAHDNL251ZV1D3	8813	161		
			MacAdam 2step	SPHWAHDNL251ZV2D3				
			MacAdam 3step	SPHWAHDNL251ZV3D3				
	3500		MacAdam 1step	SPHWAHDNL251ZU1D3	9071	166		
			MacAdam 2step	SPHWAHDNL251ZU2D3				
			MacAdam 3step	SPHWAHDNL251ZU3D3				
	4000		MacAdam 1step	SPHWAHDNL251ZT1D3	9253	169		
			MacAdam 2step	SPHWAHDNL251ZT2D3				
			MacAdam 3step	SPHWAHDNL251ZT3D3				
	5000		MacAdam 2step	SPHWAHDNL251ZR2D3	9330	170		
			MacAdam 3step	SPHWAHDNL251ZR3D3				
		MacAdam 2step	SPHWAHDNL251ZQ2D3	9330				170
	MacAdam 3step	SPHWAHDNL251ZQ3D3						
6500	MacAdam 2step	SPHWAHDNL251ZP2D3	9253	169				
	MacAdam 3step	SPHWAHDNL251ZP3D3						
90+	2700	MacAdam 1step	SPHWAHDNL271ZW1D3	7177	131			
		MacAdam 2step	SPHWAHDNL271ZW2D3					
		MacAdam 3step	SPHWAHDNL271ZW3D3					
	3000	MacAdam 1step	SPHWAHDNL271ZV1D3	7549	138			
		MacAdam 2step	SPHWAHDNL271ZV2D3					
		MacAdam 3step	SPHWAHDNL271ZV3D3					
	3500	MacAdam 1step	SPHWAHDNL271ZU1D3	7774	142			
		MacAdam 2step	SPHWAHDNL271ZU2D3					
		MacAdam 3step	SPHWAHDNL271ZU3D3					
	4000	MacAdam 1step	SPHWAHDNL271ZT1D3	7934	145			
		MacAdam 2step	SPHWAHDNL271ZT2D3					
		MacAdam 3step	SPHWAHDNL271ZT3D3					
	5000	MacAdam 2step	SPHWAHDNL271ZR2D3	8002	146			
		MacAdam 3step	SPHWAHDNL271ZR3D3					
5700	MacAdam 2step	SPHWAHDNL271ZQ2D3	7832	143				
	MacAdam 3step	SPHWAHDNL271ZQ3D3						

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)	
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)		
 LC080D Gen 3	70+	2200	MacAdam 2step	SPHWAHDNM231ZY2D3	11169	134	1620mA 50.7V	
			MacAdam 3step	SPHWAHDNM231ZY3D3				
		2700	MacAdam 2step	SPHWAHDNM231ZW2D3	13600	164		
			MacAdam 3step	SPHWAHDNM231ZW3D3				
		3000	MacAdam 2step	SPHWAHDNM231ZV2D3	14115	172		
			MacAdam 3step	SPHWAHDNM231ZV3D3				
		4000	MacAdam 2step	SPHWAHDNM231ZT2D3	14376	175		
			MacAdam 3step	SPHWAHDNM231ZT3D3				
		5000	MacAdam 2step	SPHWAHDNM231ZR2D3	14637	178		
			MacAdam 3step	SPHWAHDNM231ZR3D3				
		5700	MacAdam 2step	SPHWAHDNM231ZQ2D3	14326	172		
			MacAdam 3step	SPHWAHDNM231ZQ3D3				
		80+	2700	MacAdam 1step	SPHWAHDNM251ZW1D3	12437		151
				MacAdam 2step	SPHWAHDNM251ZW2D3			
	MacAdam 3step			SPHWAHDNM251ZW3D3				
	3000		MacAdam 1step	SPHWAHDNM251ZV1D3	13069	159		
			MacAdam 2step	SPHWAHDNM251ZV2D3				
			MacAdam 3step	SPHWAHDNM251ZV3D3				
	3500		MacAdam 1step	SPHWAHDNM251ZU1D3	13452	164		
			MacAdam 2step	SPHWAHDNM251ZU2D3				
			MacAdam 3step	SPHWAHDNM251ZU3D3				
	4000		MacAdam 1step	SPHWAHDNM251ZT1D3	13721	167		
			MacAdam 2step	SPHWAHDNM251ZT2D3				
			MacAdam 3step	SPHWAHDNM251ZT3D3				
	5000		MacAdam 2step	SPHWAHDNM251ZR2D3	13836	168		
			MacAdam 3step	SPHWAHDNM251ZR3D3				
		MacAdam 2step	SPHWAHDNM251ZQ2D3	13836				168
	MacAdam 3step	SPHWAHDNM251ZQ3D3						
6500	MacAdam 2step	SPHWAHDNM251ZP2D3	13721	167				
	MacAdam 3step	SPHWAHDNM251ZP3D3						
	2700	MacAdam 1step			SPHWAHDNM271ZW1D3	10643	130	
MacAdam 2step		SPHWAHDNM271ZW2D3						
MacAdam 3step		SPHWAHDNM271ZW3D3						
90+	3000	MacAdam 1step	SPHWAHDNM271ZV1D3	11195	136			
		MacAdam 2step	SPHWAHDNM271ZV2D3					
		MacAdam 3step	SPHWAHDNM271ZV3D3					
	3500	MacAdam 1step	SPHWAHDNM271ZU1D3	11529	140			
		MacAdam 2step	SPHWAHDNM271ZU2D3					
		MacAdam 3step	SPHWAHDNM271ZU3D3					
	4000	MacAdam 1step	SPHWAHDNM271ZT1D3	11766	143			
		MacAdam 2step	SPHWAHDNM271ZT2D3					
		MacAdam 3step	SPHWAHDNM271ZT3D3					
	5000	MacAdam 2step	SPHWAHDNM271ZR2D3	11867	144			
		MacAdam 3step	SPHWAHDNM271ZR3D3					
	5700	MacAdam 2step	SPHWAHDNM271ZQ2D3	11615	141			
		MacAdam 3step	SPHWAHDNM271ZQ3D3					

D-series Gen 3+

Full line-up for various applications: MR/PAR, spotlights, downlights & high bay lights


- Industry-leading light efficacy in COB lineups
- Better thermal resistance than Gen 2+
- High reliability satisfying DLC Premium standards
- Completed 6,000 hours of LM-80 testing

T _J =85°C	LC003D Gen 3+	LC006D Gen 3+	LC009D Gen 3+	LC013D Gen 3+	LC016D Gen 3+	LC019D Gen 3+	LC026D Gen 3+	LC033D Gen 3+	LC040D Gen 3+	LC060D Gen 3+	LC080D Gen 3+
LES	9.8mm			14.5mm				22mm			
Typical	33.7V									50.6V	
	3W (90 mA)	6.1W (180 mA)	9.1W (270 mA)	12.1W (360mA)	15.2W (450 mA)	18.2W (540 mA)	24.3W (720 mA)	30.3W (900 mA)	36.4W (1080 mA)	54.6W (1080 mA)	82W (1620 mA)
Max.	6.6W (180mA)	13.2W (360mA)	19.8W (540mA)	26.4W (720mA)	33W (900mA)	39.5W (1080mA)	52.7W (1440mA)	65.9W (1800mA)	79.1W (2160mA)	118.4W (2160mA)	177.6W (3240mA)
Dimension											
Size	13.5mm x 13.5mm			19mm x 19mm				28mm x 28mm			


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)	
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)		
 LC003D Gen 3+	80+	2700	MacAdam 1step	SPHWHAHDNA25YZW1DC			90mA 33.7V	
			MacAdam 2step	SPHWHAHDNA25YZW2DC	479	158		
			MacAdam 3step	SPHWHAHDNA25YZW3DC				
		3000	MacAdam 1step	SPHWHAHDNA25YZV1DC				
			MacAdam 2step	SPHWHAHDNA25YZV2DC	498	164		
			MacAdam 3step	SPHWHAHDNA25YZV3DC				
		3500	MacAdam 1step	SPHWHAHDNA25YZU1DC				
			MacAdam 2step	SPHWHAHDNA25YZU2DC	516	170		
			MacAdam 3step	SPHWHAHDNA25YZU3DC				
		4000	MacAdam 1step	SPHWHAHDNA25YZT1DC				
			MacAdam 2step	SPHWHAHDNA25YZT2DC	526	173		
			MacAdam 3step	SPHWHAHDNA25YZT3DC				
	5000	MacAdam 2step	SPHWHAHDNA25YZR2DC					
		MacAdam 3step	SPHWHAHDNA25YZR3DC	536	177			
		MacAdam 2step	SPHWHAHDNA25YZQ2DC	529	174			
	6500	MacAdam 3step	SPHWHAHDNA25YZQ3DC					
		MacAdam 2step	SPHWHAHDNA25YZP2DC	520	171			
		MacAdam 3step	SPHWHAHDNA25YZP3DC					
	90+	2700	MacAdam 1step	SPHWHAHDNA27YZW1DC				
			MacAdam 2step	SPHWHAHDNA27YZW2DC	407	134		
			MacAdam 3step	SPHWHAHDNA27YZW3DC				
		3000	MacAdam 1step	SPHWHAHDNA27YZV1DC				
			MacAdam 2step	SPHWHAHDNA27YZV2DC	428	141		
			MacAdam 3step	SPHWHAHDNA27YZV3DC				
3500		MacAdam 1step	SPHWHAHDNA27YZU1DC					
		MacAdam 2step	SPHWHAHDNA27YZU2DC	441	145			
		MacAdam 3step	SPHWHAHDNA27YZU3DC					
4000		MacAdam 1step	SPHWHAHDNA27YZT1DC					
		MacAdam 2step	SPHWHAHDNA27YZT2DC	450	148			
		MacAdam 3step	SPHWHAHDNA27YZT3DC					
5000	MacAdam 2step	SPHWHAHDNA27YZR2DC						
	MacAdam 3step	SPHWHAHDNA27YZR3DC	459	151				


Package


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)	
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)		
 LC006D Gen 3+	80+	2700	MacAdam 1step	SPHWWAHDNB25YZW1DC			180mA 33.7V	
			MacAdam 2step	SPHWWAHDNB25YZW2DC	945	156		
			MacAdam 3step	SPHWWAHDNB25YZW3DC				
		3000	MacAdam 1step	SPHWWAHDNB25YZV1DC				
			MacAdam 2step	SPHWWAHDNB25YZV2DC	983	162		
			MacAdam 3step	SPHWWAHDNB25YZV3DC				
		3500	MacAdam 1step	SPHWWAHDNB25YZU1DC				
			MacAdam 2step	SPHWWAHDNB25YZU2DC	1021	168		
			MacAdam 3step	SPHWWAHDNB25YZU3DC				
		4000	MacAdam 1step	SPHWWAHDNB25YZT1DC				
			MacAdam 2step	SPHWWAHDNB25YZT2DC	1038	171		
			MacAdam 3step	SPHWWAHDNB25YZT3DC				
	5000	MacAdam 2step	SPHWWAHDNB25YZR2DC					
		MacAdam 3step	SPHWWAHDNB25YZR3DC	1056	174			
		MacAdam 2step	SPHWWAHDNB25YZQ2DC					
	5700	MacAdam 3step	SPHWWAHDNB25YZQ3DC	1038	171			
		MacAdam 2step	SPHWWAHDNB25YZP2DC					
		MacAdam 3step	SPHWWAHDNB25YZP3DC	1022	168			
	90+	2700	MacAdam 1step	SPHWWAHDNB27YZW1DC				
			MacAdam 2step	SPHWWAHDNB27YZW2DC	796	131		
			MacAdam 3step	SPHWWAHDNB27YZW3DC				
		3000	MacAdam 1step	SPHWWAHDNB27YZV1DC				
			MacAdam 2step	SPHWWAHDNB27YZV2DC	838	138		
			MacAdam 3step	SPHWWAHDNB27YZV3DC				
3500		MacAdam 1step	SPHWWAHDNB27YZU1DC					
		MacAdam 2step	SPHWWAHDNB27YZU2DC	865	143			
		MacAdam 3step	SPHWWAHDNB27YZU3DC					
4000		MacAdam 1step	SPHWWAHDNB27YZT1DC					
		MacAdam 2step	SPHWWAHDNB27YZT2DC	884	146			
		MacAdam 3step	SPHWWAHDNB27YZT3DC					
5000	MacAdam 2step	SPHWWAHDNB27YZR2DC						
	MacAdam 3step	SPHWWAHDNB27YZR3DC	902	149				


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC009D Gen 3+	70+	3000	MacAdam 2step	SPHWAHDNC23YZV2DC	1586	174	270mA 33.7V
			MacAdam 3step	SPHWAHDNC23YZV3DC			
		4000	MacAdam 2step	SPHWAHDNC23YZT2DC	1610	177	
			MacAdam 3step	SPHWAHDNC23YZT3DC			
		5000	MacAdam 2step	SPHWAHDNC23YZR2DC	1625	179	
			MacAdam 3step	SPHWAHDNC23YZR3DC			
	80+	2700	MacAdam 1step	SPHWAHDNC25YZW1DC	1406	155	
			MacAdam 2step	SPHWAHDNC25YZW2DC			
			MacAdam 3step	SPHWAHDNC25YZW3DC			
		3000	MacAdam 1step	SPHWAHDNC25YZV1DC	1463	161	
			MacAdam 2step	SPHWAHDNC25YZV2DC			
			MacAdam 3step	SPHWAHDNC25YZV3DC			
		3500	MacAdam 1step	SPHWAHDNC25YZU1DC	1519	167	
			MacAdam 2step	SPHWAHDNC25YZU2DC			
			MacAdam 3step	SPHWAHDNC25YZU3DC			
		4000	MacAdam 1step	SPHWAHDNC25YZT1DC	1550	170	
			MacAdam 2step	SPHWAHDNC25YZT2DC			
			MacAdam 3step	SPHWAHDNC25YZT3DC			
	5000	MacAdam 2step	SPHWAHDNC25YZR2DC	1576	173		
		MacAdam 3step	SPHWAHDNC25YZR3DC				
		MacAdam 1step	SPHWAHDNC25YZQ2DC			1555	
	MacAdam 3step	SPHWAHDNC25YZQ3DC					
	6500	MacAdam 2step	SPHWAHDNC25YZP2DC	1529	168		
		MacAdam 3step	SPHWAHDNC25YZP3DC				
MacAdam 1step		SPHWAHDNC27YZW1DC	1190			131	
2700	MacAdam 2step	SPHWAHDNC27YZW2DC					
	MacAdam 3step	SPHWAHDNC27YZW3DC					
	3000	MacAdam 1step	SPHWAHDNC27YZV1DC	1254	138		
MacAdam 2step		SPHWAHDNC27YZV2DC					
MacAdam 3step		SPHWAHDNC27YZV3DC					
90+	3500	MacAdam 1step	SPHWAHDNC27YZU1DC	1294	142		
		MacAdam 2step	SPHWAHDNC27YZU2DC				
		MacAdam 3step	SPHWAHDNC27YZU3DC				
4000	MacAdam 1step	SPHWAHDNC27YZT1DC	1322	145			
	MacAdam 2step	SPHWAHDNC27YZT2DC					
	MacAdam 3step	SPHWAHDNC27YZT3DC					
5000	MacAdam 2step	SPHWAHDNC27YZR2DC	1348	148			
	MacAdam 3step	SPHWAHDNC27YZR3DC					


Package


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC013D Gen 3+	70+	3000	MacAdam 2step	SPHWAHDND23YZV2DC	2098	173	360mA 33.7V
			MacAdam 3step	SPHWAHDND23YZV3DC			
		4000	MacAdam 2step	SPHWAHDND23YZT2DC	2133	176	
			MacAdam 3step	SPHWAHDND23YZT3DC			
		5000	MacAdam 2step	SPHWAHDND23YZR2DC	2162	178	
			MacAdam 3step	SPHWAHDND23YZR3DC			
	80+	2700	MacAdam 1step	SPHWAHDND25YZW1DC	1869	154	
			MacAdam 2step	SPHWAHDND25YZW2DC			
			MacAdam 3step	SPHWAHDND25YZW3DC			
		3000	MacAdam 1step	SPHWAHDND25YZV1DC	1945	160	
			MacAdam 2step	SPHWAHDND25YZV2DC			
			MacAdam 3step	SPHWAHDND25YZV3DC			
	80+	3500	MacAdam 1step	SPHWAHDND25YZU1DC	2020	167	
			MacAdam 2step	SPHWAHDND25YZU2DC			
			MacAdam 3step	SPHWAHDND25YZU3DC			
		4000	MacAdam 1step	SPHWAHDND25YZT1DC	2056	169	
			MacAdam 2step	SPHWAHDND25YZT2DC			
			MacAdam 3step	SPHWAHDND25YZT3DC			
	90+	5000	MacAdam 2step	SPHWAHDND25YZR2DC	2090	172	
			MacAdam 3step	SPHWAHDND25YZR3DC			
			MacAdam 1step	SPHWAHDND25YZQ1DC			
		5700	MacAdam 2step	SPHWAHDND25YZQ2DC	2057	170	
			MacAdam 3step	SPHWAHDND25YZQ3DC			
		6500	MacAdam 2step	SPHWAHDND25YZP2DC	2034	168	
MacAdam 3step	SPHWAHDND25YZP3DC						
90+	2700	MacAdam 1step	SPHWAHDND27YZW1DC	1579	130		
		MacAdam 2step	SPHWAHDND27YZW2DC				
		MacAdam 3step	SPHWAHDND27YZW3DC				
	3000	MacAdam 1step	SPHWAHDND27YZV1DC	1661	137		
		MacAdam 2step	SPHWAHDND27YZV2DC				
		MacAdam 3step	SPHWAHDND27YZV3DC				
	3500	MacAdam 1step	SPHWAHDND27YZU1DC	1712	141		
		MacAdam 2step	SPHWAHDND27YZU2DC				
		MacAdam 3step	SPHWAHDND27YZU3DC				
	4000	MacAdam 1step	SPHWAHDND27YZT1DC	1748	144		
		MacAdam 2step	SPHWAHDND27YZT2DC				
		MacAdam 3step	SPHWAHDND27YZT3DC				
5000	MacAdam 2step	SPHWAHDND37YZR2DC	1792	148			
	MacAdam 3step	SPHWAHDND37YZR3DC					

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC016D Gen 3+	70+	3000	MacAdam 2step	SPHWAHDNE23YZV2DC	2727	180	450mA 33.7V
			MacAdam 3step	SPHWAHDNE23YZV3DC			
		4000	MacAdam 2step	SPHWAHDNE23YZT2DC	2763	182	
			MacAdam 3step	SPHWAHDNE23YZT3DC			
		5000	MacAdam 2step	SPHWAHDNE23YZR2DC	2797	184	
			MacAdam 3step	SPHWAHDNE23YZR3DC			
	80+	2700	MacAdam 1step	SPHWAHDNE25YZW1DC	2426	160	
			MacAdam 2step	SPHWAHDNE25YZW2DC			
			MacAdam 3step	SPHWAHDNE25YZW3DC			
		3000	MacAdam 1step	SPHWAHDNE25YZV1DC	2524	166	
			MacAdam 2step	SPHWAHDNE25YZV2DC			
			MacAdam 3step	SPHWAHDNE25YZV3DC			
	80+	3500	MacAdam 1step	SPHWAHDNE25YZU1DC	2621	173	
			MacAdam 2step	SPHWAHDNE25YZU2DC			
			MacAdam 3step	SPHWAHDNE25YZU3DC			
		4000	MacAdam 1step	SPHWAHDNE25YZT1DC	2669	176	
			MacAdam 2step	SPHWAHDNE25YZT2DC			
			MacAdam 3step	SPHWAHDNE25YZT3DC			
	90+	5000	MacAdam 2step	SPHWAHDNE25YZR2DC	2713	179	
			MacAdam 3step	SPHWAHDNE25YZR3DC			
			MacAdam 1step	SPHWAHDNE25YZQ2DC			
		5700	MacAdam 2step	SPHWAHDNE25YZQ2DC	2670	176	
			MacAdam 3step	SPHWAHDNE25YZQ3DC			
			MacAdam 1step	SPHWAHDNE25YZP2DC			
	90+	6500	MacAdam 2step	SPHWAHDNE25YZP2DC	2627	173	
			MacAdam 3step	SPHWAHDNE25YZP3DC			
			MacAdam 1step	SPHWAHDNE27YZW1DC			
		2700	MacAdam 2step	SPHWAHDNE27YZW2DC	2047	135	
MacAdam 3step			SPHWAHDNE27YZW3DC				
MacAdam 1step			SPHWAHDNE27YZV1DC				
90+	3000	MacAdam 2step	SPHWAHDNE27YZV2DC	2154	142		
		MacAdam 3step	SPHWAHDNE27YZV3DC				
		MacAdam 1step	SPHWAHDNE27YZU1DC				
	3500	MacAdam 2step	SPHWAHDNE27YZU2DC	2223	147		
		MacAdam 3step	SPHWAHDNE27YZU3DC				
		MacAdam 1step	SPHWAHDNE27YZT1DC				
4000	MacAdam 2step	SPHWAHDNE27YZT2DC	2273	150			
	MacAdam 3step	SPHWAHDNE27YZT3DC					
	MacAdam 1step	SPHWAHDNE27YZR1DC					
5000	MacAdam 1step	SPHWAHDNE27YZR1DC	2328	154			
	MacAdam 3step	SPHWAHDNE27YZR3DC					


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC019D Gen 3+	70+	3000	MacAdam 2step	SPHWAHDNF23YZV2DC	3284	180	540mA 33.7V
			MacAdam 3step	SPHWAHDNF23YZV3DC			
		4000	MacAdam 2step	SPHWAHDNF23YZT2DC	3332	183	
			MacAdam 3step	SPHWAHDNF23YZT3DC			
		5000	MacAdam 2step	SPHWAHDNF23YZR2DC	3369	185	
			MacAdam 3step	SPHWAHDNF23YZR3DC			
	80+	2700	MacAdam 1step	SPHWAHDNF25YZW1DC	2925	161	
			MacAdam 2step	SPHWAHDNF25YZW2DC			
			MacAdam 3step	SPHWAHDNF25YZW3DC			
		3000	MacAdam 1step	SPHWAHDNF25YZV1DC	3044	167	
			MacAdam 2step	SPHWAHDNF25YZV2DC			
			MacAdam 3step	SPHWAHDNF25YZV3DC			
	80+	3500	MacAdam 1step	SPHWAHDNF25YZU1DC	3161	174	
			MacAdam 2step	SPHWAHDNF25YZU2DC			
			MacAdam 3step	SPHWAHDNF25YZU3DC			
		4000	MacAdam 1step	SPHWAHDNF25YZT1DC	3218	177	
			MacAdam 2step	SPHWAHDNF25YZT2DC			
			MacAdam 3step	SPHWAHDNF25YZT3DC			
	90+	5000	MacAdam 2step	SPHWAHDNF25YZR2DC	3271	180	
			MacAdam 3step	SPHWAHDNF25YZR3DC			
			MacAdam 1step	SPHWAHDNF25YZQ2DC			
		5700	MacAdam 2step	SPHWAHDNF25YZQ2DC	3217	177	
			MacAdam 3step	SPHWAHDNF25YZQ3DC			
			MacAdam 1step	SPHWAHDNF25YZP2DC			
90+	6500	MacAdam 2step	SPHWAHDNF25YZP2DC	3164	174		
		MacAdam 3step	SPHWAHDNF25YZP3DC				
		MacAdam 1step	SPHWAHDNF27YZW1DC				
	2700	MacAdam 2step	SPHWAHDNF27YZW2DC	2469	136		
		MacAdam 3step	SPHWAHDNF27YZW3DC				
		MacAdam 1step	SPHWAHDNF27YZV1DC				
90+	3000	MacAdam 2step	SPHWAHDNF27YZV2DC	2597	143		
		MacAdam 3step	SPHWAHDNF27YZV3DC				
		MacAdam 1step	SPHWAHDNF27YZU1DC				
	3500	MacAdam 2step	SPHWAHDNF27YZU2DC	2680	147		
		MacAdam 3step	SPHWAHDNF27YZU3DC				
		MacAdam 1step	SPHWAHDNF27YZT1DC				
4000	MacAdam 2step	SPHWAHDNF27YZT2DC	2738	150			
	MacAdam 3step	SPHWAHDNF27YZT3DC					
	MacAdam 1step	SPHWAHDNF27YZR2DC					
5000	MacAdam 2step	SPHWAHDNF27YZR2DC	2804	154			
	MacAdam 3step	SPHWAHDNF27YZR3DC					


Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC026D Gen 3+	70+	3000	MacAdam 2step	SPHWAHDNG23YZV2DC	4289	177	720mA 33.7V
			MacAdam 3step	SPHWAHDNG23YZV3DC			
		4000	MacAdam 2step	SPHWAHDNG23YZT2DC	4347	179	
			MacAdam 3step	SPHWAHDNG23YZT3DC			
		5000	MacAdam 2step	SPHWAHDNG23YZR2DC	4396	181	
			MacAdam 3step	SPHWAHDNG23YZR3DC			
	2700	MacAdam 1step	SPHWAHDNG25YZW1DC	3816	157		
		MacAdam 2step	SPHWAHDNG25YZW2DC				
		MacAdam 3step	SPHWAHDNG25YZW3DC				
	3000	MacAdam 1step	SPHWAHDNG25YZV1DC	3971	164		
		MacAdam 2step	SPHWAHDNG25YZV2DC				
		MacAdam 3step	SPHWAHDNG25YZV3DC				
	80+	3500	MacAdam 1step	SPHWAHDNG25YZU1DC	4125	170	
			MacAdam 2step	SPHWAHDNG25YZU2DC			
			MacAdam 3step	SPHWAHDNG25YZU3DC			
		4000	MacAdam 1step	SPHWAHDNG25YZT1DC	4198	173	
			MacAdam 2step	SPHWAHDNG25YZT2DC			
			MacAdam 3step	SPHWAHDNG25YZT3DC			
	5000	MacAdam 2step	SPHWAHDNG25YZR2DC	4268	176		
		MacAdam 3step	SPHWAHDNG25YZR3DC				
	5700	MacAdam 2step	SPHWAHDNG25YZQ2DC	4301	177		
		MacAdam 3step	SPHWAHDNG25YZQ3DC				
	6500	MacAdam 2step	SPHWAHDNG25YZP2DC	4133	170		
		MacAdam 3step	SPHWAHDNG25YZP3DC				
	90+	2700	MacAdam 1step	SPHWAHDNG27YZW1DC	3222	133	
			MacAdam 2step	SPHWAHDNG27YZW2DC			
			MacAdam 3step	SPHWAHDNG27YZW3DC			
		3000	MacAdam 1step	SPHWAHDNG27YZV1DC	3389	140	
MacAdam 2step			SPHWAHDNG27YZV2DC				
MacAdam 3step			SPHWAHDNG27YZV3DC				
3500		MacAdam 1step	SPHWAHDNG27YZU1DC	3496	144		
		MacAdam 2step	SPHWAHDNG27YZU2DC				
		MacAdam 3step	SPHWAHDNG27YZU3DC				
4000		MacAdam 1step	SPHWAHDNG27YZT1DC	3572	147		
		MacAdam 2step	SPHWAHDNG27YZT2DC				
		MacAdam 3step	SPHWAHDNG27YZT3DC				
5000	MacAdam 2step	SPHWAHDNG27YZR2DC	3663	151			
	MacAdam 3step	SPHWAHDNG27YZR3DC					

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC033D Gen 3+	70+	3000	MacAdam 2step	SPHWAHDNH23YZV2DC	5261	173	900mA 33.7V
			MacAdam 3step	SPHWAHDNH23YZV3DC			
		4000	MacAdam 2step	SPHWAHDNH23YZT2DC	5337	176	
			MacAdam 3step	SPHWAHDNH23YZT3DC			
		5000	MacAdam 2step	SPHWAHDNH23YZR2DC	5424	179	
			MacAdam 3step	SPHWAHDNH23YZR3DC			
	2700	MacAdam 1step	SPHWAHDNH25YZW1DC	4686	155		
		MacAdam 2step	SPHWAHDNH25YZW2DC				
		MacAdam 3step	SPHWAHDNH25YZW3DC				
	3000	MacAdam 1step	SPHWAHDNH25YZV1DC	4875	161		
		MacAdam 2step	SPHWAHDNH25YZV2DC				
		MacAdam 3step	SPHWAHDNH25YZV3DC				
	80+	3500	MacAdam 1step	SPHWAHDNH25YZU1DC	5064	167	
			MacAdam 2step	SPHWAHDNH25YZU2DC			
			MacAdam 3step	SPHWAHDNH25YZU3DC			
		4000	MacAdam 1step	SPHWAHDNH25YZT1DC	5150	170	
			MacAdam 2step	SPHWAHDNH25YZT2DC			
			MacAdam 3step	SPHWAHDNH25YZT3DC			
	5000	MacAdam 2step	SPHWAHDNH25YZR2DC	5240	173		
		MacAdam 3step	SPHWAHDNH25YZR3DC				
		MacAdam 1step	SPHWAHDNH25YZQ1DC				
	5700	MacAdam 2step	SPHWAHDNH25YZQ2DC	5158	170		
		MacAdam 3step	SPHWAHDNH25YZQ3DC				
	6500	MacAdam 2step	SPHWAHDNH25YZP2DC	5089	168		
MacAdam 3step		SPHWAHDNH25YZP3DC					
90+	2700	MacAdam 1step	SPHWAHDNH27YZW1DC	3955	130		
		MacAdam 2step	SPHWAHDNH27YZW2DC				
		MacAdam 3step	SPHWAHDNH27YZW3DC				
	3000	MacAdam 1step	SPHWAHDNH27YZV1DC	4160	137		
		MacAdam 2step	SPHWAHDNH27YZV2DC				
		MacAdam 3step	SPHWAHDNH27YZV3DC				
	3500	MacAdam 1step	SPHWAHDNH27YZU1DC	4293	142		
		MacAdam 2step	SPHWAHDNH27YZU2DC				
		MacAdam 3step	SPHWAHDNH27YZU3DC				
	4000	MacAdam 1step	SPHWAHDNH27YZT1DC	4386	145		
		MacAdam 2step	SPHWAHDNH27YZT2DC				
		MacAdam 3step	SPHWAHDNH27YZT3DC				
5000	MacAdam 2step	SPHWAHDNH27YZR2DC	4493	148			
	MacAdam 3step	SPHWAHDNH27YZR3DC					

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC040D Gen 3+	70+	3000	MacAdam 2step	SPHWAHDNK23YZV2DC	6446	177	1080mA 33.7V
			MacAdam 3step	SPHWAHDNK23YZV3DC			
		4000	MacAdam 2step	SPHWAHDNK23YZT2DC	6560	180	
			MacAdam 3step	SPHWAHDNK23YZT3DC			
		5000	MacAdam 2step	SPHWAHDNK23YZR2DC	6639	182	
			MacAdam 3step	SPHWAHDNK23YZR3DC			
	80+	2700	MacAdam 1step	SPHWAHDNK25YZW1DC	5737	158	
			MacAdam 2step	SPHWAHDNK25YZW2DC			
			MacAdam 3step	SPHWAHDNK25YZW3DC			
		3000	MacAdam 1step	SPHWAHDNK25YZV1DC	5968	164	
			MacAdam 2step	SPHWAHDNK25YZV2DC			
			MacAdam 3step	SPHWAHDNK25YZV3DC			
	80+	3500	MacAdam 1step	SPHWAHDNK25YZU1DC	6199	170	
			MacAdam 2step	SPHWAHDNK25YZU2DC			
			MacAdam 3step	SPHWAHDNK25YZU3DC			
		4000	MacAdam 1step	SPHWAHDNK25YZT1DC	6311	173	
			MacAdam 2step	SPHWAHDNK25YZT2DC			
			MacAdam 3step	SPHWAHDNK25YZT3DC			
	90+	5000	MacAdam 2step	SPHWAHDNK25YZR2DC	6414	176	
			MacAdam 3step	SPHWAHDNK25YZR3DC			
			MacAdam 1step	SPHWAHDNK25YZQ2DC			
		5700	MacAdam 2step	SPHWAHDNK25YZQ2DC	6313	173	
			MacAdam 3step	SPHWAHDNK25YZQ3DC			
			MacAdam 1step	SPHWAHDNK25YZP2DC			
90+	6500	MacAdam 2step	SPHWAHDNK25YZP2DC	6242	172		
		MacAdam 3step	SPHWAHDNK25YZP3DC				
		MacAdam 1step	SPHWAHDNK27YZW1DC				
	2700	MacAdam 2step	SPHWAHDNK27YZW2DC	4856	133		
		MacAdam 3step	SPHWAHDNK27YZW3DC				
		MacAdam 1step	SPHWAHDNK27YZV1DC				
90+	3000	MacAdam 2step	SPHWAHDNK27YZV2DC	5108	140		
		MacAdam 3step	SPHWAHDNK27YZV3DC				
		MacAdam 1step	SPHWAHDNK27YZU1DC				
	3500	MacAdam 2step	SPHWAHDNK27YZU2DC	5260	145		
		MacAdam 3step	SPHWAHDNK27YZU3DC				
		MacAdam 1step	SPHWAHDNK27YZT1DC				
4000	MacAdam 2step	SPHWAHDNK27YZT2DC	5374	148			
	MacAdam 3step	SPHWAHDNK27YZT3DC					
	MacAdam 1step	SPHWAHDNK27YZR1DC					
5000	MacAdam 2step	SPHWAHDNK27YZR2DC	5507	151			
	MacAdam 3step	SPHWAHDNK27YZR3DC					

Package




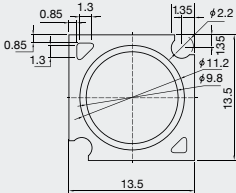
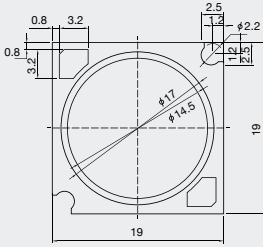
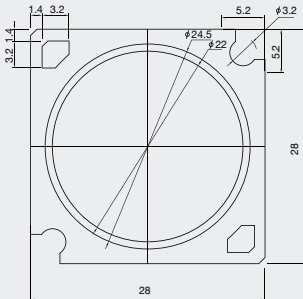
Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)	
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)		
 LC060D Gen 3+	70+	3000	MacAdam 2step	SPHWAHDNL231ZV2DC	9585	175	1080mA 50.6V	
			MacAdam 3step	SPHWAHDNL231ZV3DC				
		4000	MacAdam 2step	SPHWAHDNL231ZT2DC	9723	178		
			MacAdam 3step	SPHWAHDNL231ZT3DC				
		5000	MacAdam 2step	SPHWAHDNL231ZR2DC	9870	181		
			MacAdam 3step	SPHWAHDNL231ZR3DC				
	80+	2700	MacAdam 1step	SPHWAHDNL251ZW1DC	8537	156		
			MacAdam 2step	SPHWAHDNL251ZW2DC				
			MacAdam 3step	SPHWAHDNL251ZW3DC				
		3000	MacAdam 1step	SPHWAHDNL251ZV1DC	8882	163		
			MacAdam 2step	SPHWAHDNL251ZV2DC				
			MacAdam 3step	SPHWAHDNL251ZV3DC				
		3500	MacAdam 1step	SPHWAHDNL251ZU1DC	9225	169		
			MacAdam 2step	SPHWAHDNL251ZU2DC				
			MacAdam 3step	SPHWAHDNL251ZU3DC				
		5000	4000	MacAdam 1step	SPHWAHDNL251ZT1DC	9383		172
				MacAdam 2step	SPHWAHDNL251ZT2DC			
			5000	MacAdam 3step	SPHWAHDNL251ZT3DC	9546		175
	MacAdam 2step			SPHWAHDNL251ZR2DC				
	5700		MacAdam 3step	SPHWAHDNL251ZR3DC	9395	172		
MacAdam 2step			SPHWAHDNL251ZQ2DC					
6500	MacAdam 3step	SPHWAHDNL251ZQ3DC	9253	169				
	MacAdam 2step	SPHWAHDNL251ZP2DC						
90+	2700	MacAdam 1step	SPHWAHDNL271ZW1DC	7206	132			
		MacAdam 2step	SPHWAHDNL271ZW2DC					
		MacAdam 3step	SPHWAHDNL271ZW3DC					
	3000	MacAdam 1step	SPHWAHDNL271ZV1DC	7579	139			
		MacAdam 2step	SPHWAHDNL271ZV2DC					
		MacAdam 3step	SPHWAHDNL271ZV3DC					
	3500	MacAdam 1step	SPHWAHDNL271ZU1DC	7821	143			
		MacAdam 2step	SPHWAHDNL271ZU2DC					
		MacAdam 3step	SPHWAHDNL271ZU3DC					
	4000	MacAdam 1step	SPHWAHDNL271ZT1DC	7990	146			
		MacAdam 2step	SPHWAHDNL271ZT2DC					
		MacAdam 3step	SPHWAHDNL271ZT3DC					
	5000	MacAdam 2step	SPHWAHDNL271ZR2DC	8186	150			
		MacAdam 3step	SPHWAHDNL271ZR3DC					

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC080D Gen 3+	70+	3000	MacAdam 2step	SPHWAHDNM231ZV2DC	14087	172	1620mA 50.6V
			MacAdam 3step	SPHWAHDNM231ZV3DC			
		4000	MacAdam 2step	SPHWAHDNM231ZT2DC	14290	174	
			MacAdam 3step	SPHWAHDNM231ZT3DC			
		5000	MacAdam 2step	SPHWAHDNM231ZR2DC	14449	176	
			MacAdam 3step	SPHWAHDNM231ZR3DC			
	80+	2700	MacAdam 1step	SPHWAHDNM251ZW1DC	12487	152	
			MacAdam 2step	SPHWAHDNM251ZW2DC			
			MacAdam 3step	SPHWAHDNM251ZW3DC			
		3000	MacAdam 1step	SPHWAHDNM251ZV1DC	12990	158	
			MacAdam 2step	SPHWAHDNM251ZV2DC			
			MacAdam 3step	SPHWAHDNM251ZV3DC			
	80+	3500	MacAdam 1step	SPHWAHDNM251ZU1DC	13492	165	
			MacAdam 2step	SPHWAHDNM251ZU2DC			
			MacAdam 3step	SPHWAHDNM251ZU3DC			
		4000	MacAdam 1step	SPHWAHDNM251ZT1DC	13735	168	
			MacAdam 2step	SPHWAHDNM251ZT2DC			
			MacAdam 3step	SPHWAHDNM251ZT3DC			
	90+	5000	MacAdam 2step	SPHWAHDNM251ZR2DC	13961	170	
			MacAdam 3step	SPHWAHDNM251ZR3DC			
			MacAdam 1step	SPHWAHDNM251ZQ1DC			
		5700	MacAdam 2step	SPHWAHDNM251ZQ2DC	13767	168	
			MacAdam 3step	SPHWAHDNM251ZQ3DC			
			MacAdam 1step	SPHWAHDNM251ZP1DC			
	90+	6500	MacAdam 2step	SPHWAHDNM251ZP2DC	13585	166	
			MacAdam 3step	SPHWAHDNM251ZP3DC			
			MacAdam 1step	SPHWAHDNM271ZW1DC			
		2700	MacAdam 2step	SPHWAHDNM271ZW2DC	10590	129	
MacAdam 3step			SPHWAHDNM271ZW3DC				
MacAdam 1step			SPHWAHDNM271ZV1DC				
90+	3000	MacAdam 2step	SPHWAHDNM271ZV2DC	11139	136		
		MacAdam 3step	SPHWAHDNM271ZV3DC				
		MacAdam 1step	SPHWAHDNM271ZU1DC				
	3500	MacAdam 2step	SPHWAHDNM271ZU2DC	11495	140		
		MacAdam 3step	SPHWAHDNM271ZU3DC				
		MacAdam 1step	SPHWAHDNM271ZT1DC				
4000	MacAdam 2step	SPHWAHDNM271ZT2DC	11743	143			
	MacAdam 3step	SPHWAHDNM271ZT3DC					
	MacAdam 1step	SPHWAHDNM271ZR1DC					
5000	MacAdam 2step	SPHWAHDNM271ZR2DC	11974	146			
	MacAdam 3step	SPHWAHDNM271ZR3DC					


R-series Fashion

R-series Fashion spectrum pursues high contrast for retail shop


- Fashion Vivid Color: highlight all RGB colors
- Fashion Vivid White: below BBL, clear white


$T_j=85^{\circ}\text{C}$	LC013R Fashion	LC016R Fashion	LC019R Fashion	LC026R Fashion	LC033R Fashion	LC040R Fashion
						
LES	9.8mm		14.5mm			22mm
Typical	12.5W	15.6W	18.7W	24.9W	31.1W	37.4W
	360mA	450mA	540mA	720mA	900mA	1080mA
Max.	34.5W	43.1W	51.8W	69.0W	86.2W	103.5W
	920mA	1150mA	1380mA	1840mA	2300mA	2760mA
Dimension						
Size	13.5mm x 13.5mm		19mm x 19mm			28mm x 28mm

Vivid White (in Gen3+)

Product	CRI Min.	CCT(K)	Color Rank	Part Number	T _J =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC013R Fashion Vivid White	90+	3000 (Below BBL)	MacAdam 3step	SPHWAHDND27YZVNDC	1541	127	360mA 33.7V
		3500 (Below BBL)	MacAdam 3step	SPHWAHDND27YZUNDC	1557	128	
		4000 (Below BBL)	MacAdam 3step	SPHWAHDND27YZTNDC	1654	136	
 LC016R Fashion Vivid White	90+	3000 (Below BBL)	MacAdam 3step	SPHWAHDNE27YZVNDC	1973	130	450mA 33.7V
		3500 (Below BBL)	MacAdam 3step	SPHWAHDNE27YZUNDC	1992	131	
		4000 (Below BBL)	MacAdam 3step	SPHWAHDNE27YZTNDC	2117	140	
 LC019R Fashion Vivid White	90+	3000 (Below BBL)	MacAdam 3step	SPHWAHDNF27YZVNDC	2356	129	540mA 33.7V
		3500 (Below BBL)	MacAdam 3step	SPHWAHDNF27YZUNDC	2380	131	
		4000 (Below BBL)	MacAdam 3step	SPHWAHDNF27YZTNDC	2529	139	
 LC026R Fashion Vivid White	90+	3000 (Below BBL)	MacAdam 3step	SPHWAHDNG27YZVNDC	3132	129	720mA 33.7V
		3500 (Below BBL)	MacAdam 3step	SPHWAHDNG27YZUNDC	3164	130	
		4000 (Below BBL)	MacAdam 3step	SPHWAHDNG27YZTNDC	3362	139	
 LC033R Fashion Vivid White	90+	3000 (Below BBL)	MacAdam 3step	SPHWAHDNH27YZVNDC	3800	125	900mA 33.7V
		3500 (Below BBL)	MacAdam 3step	SPHWAHDNH27YZUNDC	3838	127	
		4000 (Below BBL)	MacAdam 3step	SPHWAHDNH27YZTNDC	4078	134	
 LC040R Fashion Vivid White	90+	3000 (Below BBL)	MacAdam 3step	SPHWAHDNK27YZVNDC	4755	131	1080mA 33.7V
		3500 (Below BBL)	MacAdam 3step	SPHWAHDNK27YZUNDC	4803	132	
		4000 (Below BBL)	MacAdam 3step	SPHWAHDNK27YZTNDC	5103	140	

Vivid Color



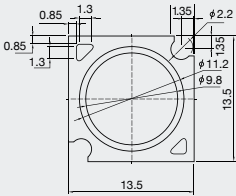
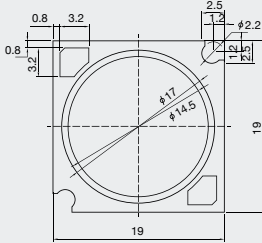
Product	CCT(K)	Color Rank	Part Number	T _J =85°C		I _F (mA) V _F (V)
				Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC013R Fashion Vivid Color	3000 (Below BBL)	MacAdam 2step	SPHWWAHDND2VYZV2D2	1334	107	360mA 34.6V
		MacAdam 3step	SPHWWAHDND2VYZVVD2			
	3300 (Below BBL)	MacAdam 2step	SPHWWAHDND2VYZA2D2	1394	112	
		MacAdam 3step	SPHWWAHDND2VYZAVD2			
	3500 (Below BBL)	MacAdam 2step	SPHWWAHDND2VYZU2D2	1433	115	
		MacAdam 3step	SPHWWAHDND2VYZUVD2			
4000 (Below BBL)	MacAdam 2step	SPHWWAHDND2VYZT2D2	1533	123		
	MacAdam 3step	SPHWWAHDND2VYZTVD2				
 LC016R Fashion Vivid Color	3000 (Below BBL)	MacAdam 2step	SPHWWAHDNE2VYZV2D2	1745	112	450mA 34.6V
		MacAdam 3step	SPHWWAHDNE2VYZVVD2			
	3300 (Below BBL)	MacAdam 2step	SPHWWAHDNE2VYZA2D2	1823	117	
		MacAdam 3step	SPHWWAHDNE2VYZAVD2			
	3500 (Below BBL)	MacAdam 2step	SPHWWAHDNE2VYZU2D2	1875	120	
		MacAdam 3step	SPHWWAHDNE2VYZUVD2			
4000 (Below BBL)	MacAdam 2step	SPHWWAHDNE2VYZT2D2	2005	129		
	MacAdam 3step	SPHWWAHDNE2VYZTVD2				
 LC019R Fashion Vivid Color	3000 (Below BBL)	MacAdam 2step	SPHWWAHDNF2VYZV2D2	2068	111	540mA 34.6V
		MacAdam 3step	SPHWWAHDNF2VYZVVD2			
	3300 (Below BBL)	MacAdam 2step	SPHWWAHDNF2VYZA2D2	2160	116	
		MacAdam 3step	SPHWWAHDNF2VYZAVD2			
	3500 (Below BBL)	MacAdam 2step	SPHWWAHDNF2VYZU2D2	2222	119	
		MacAdam 3step	SPHWWAHDNF2VYZUVD2			
4000 (Below BBL)	MacAdam 2step	SPHWWAHDNF2VYZT2D2	2376	127		
	MacAdam 3step	SPHWWAHDNF2VYZTVD2				

Product	CCT(K)	Color Rank	Part Number	T _J =85°C		I _F (mA) V _F (V)
				Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC026R Fashion Vivid Color	3000 (Below BBL)	MacAdam 2step	SPHWWAHDNG2VYZV2D2	2706	109	720mA 34.6V
		MacAdam 3step	SPHWWAHDNG2VYZVVD2			
	3300 (Below BBL)	MacAdam 2step	SPHWWAHDNG2VYZA2D2	2827	113	
		MacAdam 3step	SPHWWAHDNG2VYZAVD2			
	3500 (Below BBL)	MacAdam 2step	SPHWWAHDNG2VYZU2D2	2907	117	
		MacAdam 3step	SPHWWAHDNG2VYZUVD2			
4000 (Below BBL)	MacAdam 2step	SPHWWAHDNG2VYZT2D2	3108	125		
	MacAdam 3step	SPHWWAHDNG2VYZTVD2				
 LC033R Fashion Vivid Color	3000 (Below BBL)	MacAdam 2step	SPHWWAHDNH2VYZV2D2	3339	107	900mA 34.6V
		MacAdam 3step	SPHWWAHDNH2VYZVVD2			
	3300 (Below BBL)	MacAdam 2step	SPHWWAHDNH2VYZA2D2	3488	112	
		MacAdam 3step	SPHWWAHDNH2VYZAVD2			
	3500 (Below BBL)	MacAdam 2step	SPHWWAHDNH2VYZU2D2	3588	115	
		MacAdam 3step	SPHWWAHDNH2VYZUVD2			
4000 (Below BBL)	MacAdam 2step	SPHWWAHDNH2VYZT2D2	3836	123		
	MacAdam 3step	SPHWWAHDNH2VYZTVD2				
 LC040R Fashion Vivid Color	3000 (Below BBL)	MacAdam 2step	SPHWWAHDNK2VYZV2D2	4150	111	1080mA 34.6V
		MacAdam 3step	SPHWWAHDNK2VYZVVD2			
	3300 (Below BBL)	MacAdam 2step	SPHWWAHDNK2VYZA2D2	4335	116	
		MacAdam 3step	SPHWWAHDNK2VYZAVD2			
	3500 (Below BBL)	MacAdam 2step	SPHWWAHDNK2VYZU2D2	4459	119	
		MacAdam 3step	SPHWWAHDNK2VYZUVD2			
4000 (Below BBL)	MacAdam 2step	SPHWWAHDNK2VYZT2D2	4768	128		
	MacAdam 3step	SPHWWAHDNK2VYZTVD2				

R-series Meat

Special spectrum enhanced vividness for Meat

- Red saturated color, Fresh(Red), Delicious(Red), Vividness



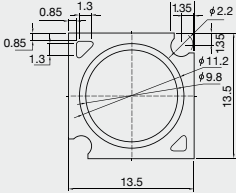
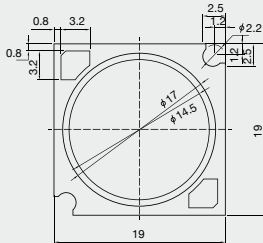
T _j =85°C	LC013R Meat	LC016R Meat	LC019R Meat	LC026R Meat	LC033R Meat
					
LES	9.8mm		14.5mm		
Typical	12.5W	15.6W	18.7W	24.9W	31.1W
	360mA	450mA	540mA	720mA	900mA
Max.	34.5W	43.1W	51.8W	69.0W	86.2W
	920mA	1150mA	1380mA	1840mA	2300mA
Dimension					
Size	13.5mm x 13.5mm		19mm x 19mm		

Product	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
			Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC013R Meat	MacAdam 2step	SPHWHAHDND2VYZTSD2	914	73	360mA 34.6V
 LC016R Meat	MacAdam 2step	SPHWHAHDNE2VYZTSD2	1188	76	450mA 34.6V
 LC019R Meat	MacAdam 2step	SPHWHAHDNF2VYZTSD2	1412	76	540mA 34.6V
 LC026R Meat	MacAdam 2step	SPHWHAHDNG2VYZTSD2	1845	74	720mA 34.6V
 LC033R Meat	MacAdam 2step	SPHWHAHDNH2VYZTSD2	2284	73	900mA 34.6V

R-series Vegetable

Special spectrum enhanced vividness for Vegetable

- Green & Red saturated color, Fresh, Delicious, Vividness

T _J =85°C	LC013R Vegetable	LC016R Vegetable	LC019R Vegetable	LC026R Vegetable	LC033R Vegetable
					
LES	9.8mm			14.5mm	
Typical	12.5W	15.6W	18.7W	24.9W	31.1W
	360mA	450mA	540mA	720mA	900mA
Max.	34.5W	43.1W	51.8W	69.0W	86.2W
	920mA	1150mA	1380mA	1840mA	2300mA
Dimension					
Size	13.5mm x 13.5mm			19mm x 19mm	

Product	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
			Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC013R Vegetable	MacAdam 2step	SPHWAHDND2VYZRSD2	1188	95	360mA 34.6V
 LC016R Vegetable	MacAdam 2step	SPHWAHDNE2VYZRSD2	1544	99	450mA 34.6V
 LC019R Vegetable	MacAdam 2step	SPHWAHDNF2VYZRSD2	1835	98	540mA 34.6V
 LC026R Vegetable	MacAdam 2step	SPHWAHDNG2VYZRSD2	2399	96	720mA 34.6V
 LC033R Vegetable	MacAdam 2step	SPHWAHDNH2VYZRSD2	2969	95	900mA 34.6V





T-series

Wide CCT tuning (2700K~6500K) through 2-channel (warm & cool white) current driving

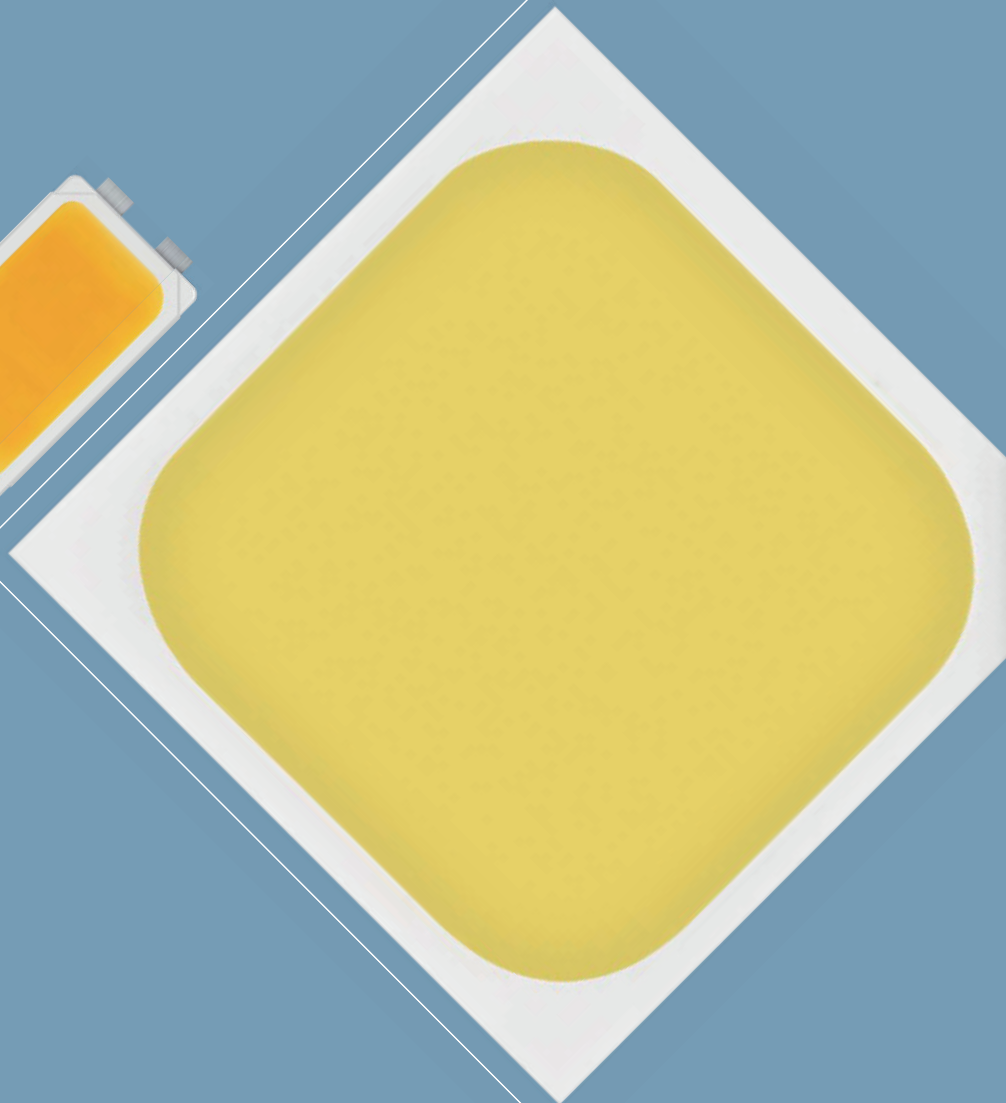
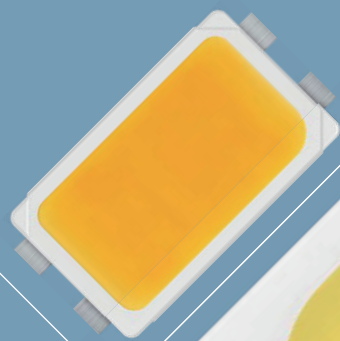
- High efficacy for Tunable COB (140lm/W @CRI80, 6500K)
- Excellent color uniformity with concentric chip arrangement

T _j =85°C	LC010T	LC020T	LC035T
LES	9.8mm	13mm	22mm
Typical	9.8W	19.6W	34.3W
	280mA	560mA	980mA
Max.	15W	30W	45W
	400mA	800mA	1250mA
Dimension			
Size	19mm x 19mm		28mm x 28mm

Product	CRI	CCT (K)	Color Rank	Part Number	T _j =85°C		I _F (mA) V _F (V)		
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)			
 LC010T	80+	2700	MacAdam 3step	SPHWAHDNC25YZWPT1	1190	120	280mA 35V		
		6500	MacAdam 5step		1352	136			
	90+	2700	MacAdam 3step	SPHWAHDNC27YZWPT1	988	99			
		5000	MacAdam 5step		1149	116			
	 LC020T	80+	2700	MacAdam 3step	SPHWAHDNF25YZWPT1	2355		118	560mA 35V
			6500	MacAdam 5step		2676		135	
90+		2700	MacAdam 3step	SPHWAHDNF27YZWPT1	1956	98			
		5000	MacAdam 5step		2275	114			
 LC035T		80+	2700	MacAdam 3step	SPHWAHDNH25YZWPT1	4405	127	980mA 35V	
			6500	MacAdam 5step		5006	144		
	90+	2700	MacAdam 3step	SPHWAHDNH27YZWPT1	3660	105			
		5000	MacAdam 5step		4255	122			

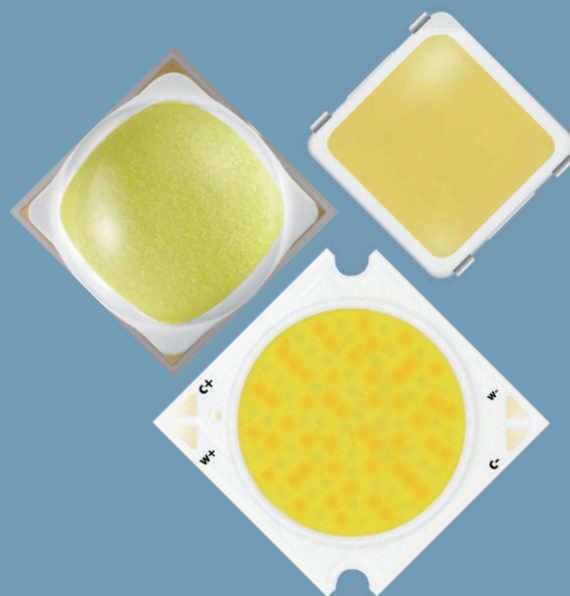
Product	CRI	CCT (K)	Color rank	Part Number	T _j =85°C		I _F (mA) V _F (V)
					Luminous Flux Typ. (lm)	Luminous Efficacy Typ. (lm/W)	
 LC010C Gen 2	80+	2700	MacAdam 3step	SPHWWAHDNC25YZW3C2	1212	115	300mA 35V
		3000	MacAdam 3step	SPHWWAHDNC25YZV3C2	1274	121	
		3500	MacAdam 3step	SPHWWAHDNC25YZU3C2	1311	125	
		4000	MacAdam 3step	SPHWWAHDNC25YZT3C2	1337	127	
		5000	MacAdam 3step	SPHWWAHDNC25YZR3C2	1348	128	
	90+	2700	MacAdam 3step	SPHWWAHDNC27YZW3C2	1037	99	
		3000	MacAdam 3step	SPHWWAHDNC27YZV3C2	1091	104	
		3500	MacAdam 3step	SPHWWAHDNC27YZU3C2	1123	107	
		4000	MacAdam 3step	SPHWWAHDNC27YZT3C2	1147	109	
		5000	MacAdam 3step	SPHWWAHDNC27YZR3C2	1156	110	
 LC020C Gen 2	80+	2700	MacAdam 3step	SPHWWAHDNF25YZW3C2	2485	118	600mA 35V
		3000	MacAdam 3step	SPHWWAHDNF25YZV3C2	2625	125	
		3500	MacAdam 3step	SPHWWAHDNF25YZU3C2	2688	128	
		4000	MacAdam 3step	SPHWWAHDNF25YZT3C2	2742	131	
		5000	MacAdam 3step	SPHWWAHDNF25YZR3C2	2765	132	
	90+	2700	MacAdam 3step	SPHWWAHDNF27YZW3C2	2127	101	
		3000	MacAdam 3step	SPHWWAHDNF27YZV3C2	2237	107	
		3500	MacAdam 3step	SPHWWAHDNF27YZU3C2	2304	110	
		4000	MacAdam 3step	SPHWWAHDNF27YZT3C2	2351	112	
		5000	MacAdam 3step	SPHWWAHDNF27YZR3C2	2372	113	
 LC030C Gen 2	80+	2700	MacAdam 3step	SPHWWAHDNH25YZW3C2	3765	120	900mA 35V
		3000	MacAdam 3step	SPHWWAHDNH25YZV3C2	3956	126	
		3500	MacAdam 3step	SPHWWAHDNH25YZU3C2	4072	129	
		4000	MacAdam 3step	SPHWWAHDNH25YZT3C2	4154	132	
		5000	MacAdam 3step	SPHWWAHDNH25YZR3C2	4188	133	
	90+	2700	MacAdam 3step	SPHWWAHDNH27YZW3C2	3222	102	
		3000	MacAdam 3step	SPHWWAHDNH27YZV3C2	3389	108	
		3500	MacAdam 3step	SPHWWAHDNH27YZU3C2	3490	111	
		4000	MacAdam 3step	SPHWWAHDNH27YZT3C2	3562	113	
		5000	MacAdam 3step	SPHWWAHDNH27YZR3C2	3592	114	
 LC040C Gen 2	80+	2700	MacAdam 3step	SPHWWAHDNK25YZW3C2	4305	117	1050mA 35V
		3000	MacAdam 3step	SPHWWAHDNK25YZV3C2	4524	123	
		3500	MacAdam 3step	SPHWWAHDNK25YZU3C2	4657	127	
		4000	MacAdam 3step	SPHWWAHDNK25YZT3C2	4750	129	
		5000	MacAdam 3step	SPHWWAHDNK25YZR3C2	4790	130	
	90+	2700	MacAdam 3step	SPHWWAHDNK27YZW3C2	3684	100	
		3000	MacAdam 3step	SPHWWAHDNK27YZV3C2	3875	105	
		3500	MacAdam 3step	SPHWWAHDNK27YZU3C2	3991	109	
		4000	MacAdam 3step	SPHWWAHDNK27YZT3C2	4073	111	
		5000	MacAdam 3step	SPHWWAHDNK27YZR3C2	4108	112	

Specialty Lighting



Human-centric Light

Horticulture Light





New human-centric lighting solutions with increased biological index compared to conventional LED lighting

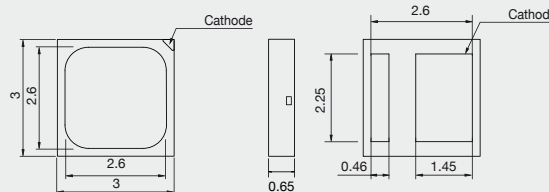
- Designed to improve work efficiency in achieving daytime-to-evening continuity, healthy sleep and circadian rhythm 24 hours a day

LM302N DAY



Fine-tuned spectrum for more energetic moments

- 0.9W class mid power LED
- EMC package for high reliability
- Standard form factor for design flexibility (3.0mmx3.0mm)
- Patent registered for optimized spectrum



[150mA, 25°C]

CRI	CCT (K)		Luminous Flux (lm)		MDER*	M/P Ratio**
			Bin	Range		
80+	3000	SPMWH3326FC5FBV☆S0	S0	110-125	0.59	0.65
	3500	SPMWH3326FC5FBU☆S0	S0	110-125	0.67	0.74
	4000	SPMWH3326FC5FBT☆S0	S0	115-125	0.76	0.84
	5000	SPMWH3326FC5FBR☆S0	S0	115-130	0.93	1.03
	5700	SPMWH3326FC5FBQ☆S0	S0	115-130	1.03	1.14
	6500	SPMWH3326FC5FBP☆S0	S0	115-130	1.12	1.24

※ ☆ can be "0" (MacAdam 5 step), "3" (MacAdam 3 step), "Y" (Kitting)

* MDER: Melanopic Daylight Equivalent Ratio ** M/P Ratio: Melanopic/Photopic Ratio

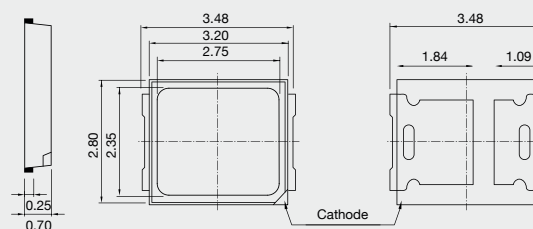


LM283N+ DAY



Fine-tuned spectrum for more energetic moments

- 0.9W class mid power LED
- Standard form factor for design flexibility (2.8mmx3.5mm)
- Patent registered for optimized spectrum



[100mA, 25°C]

CRI	CCT (K)		Luminous Flux (lm)		MDER*	M/P Ratio**
			Bin	Range		
80+	4000	SPMWHHD29AQ5SGT☆RM	RM	112 ~ 132	0.76	0.84
	5000	SPMWHHD29AQ5SGR☆RM	RM	112 ~ 132	0.93	1.03

※ ☆ can be "0" (MacAdam 5 step), "3" (MacAdam 3 step), "Y" (Kitting)

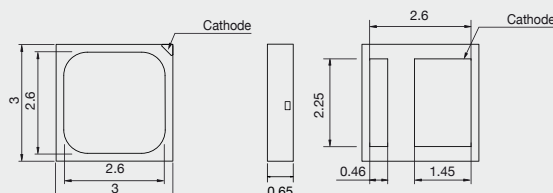
* MDER: Melanopic Daylight Equivalent Ratio ** M/P Ratio: Melanopic/Photopic Ratio

LM302N NITE



Fine-tuned spectrum for more relaxing moments

- 0.9W class mid power LED
- EMC package for high reliability
- Standard form factor for design flexibility (3.0mmx3.0mm)
- Patent registered for optimized spectrum



[150mA, 25°C]

CRI	CCT (K)		Luminous Flux (lm)		MDER*	M/P Ratio**
			Bin	Range		
80+	1800	SPMWH3326FN5FBA☆S0	S0	80-95	0.18	0.20
	2200	SPMWH3326FN5FBY☆S0	S0	90-105	0.25	0.28
	2700	SPMWH3326FN5FBW☆S0	S0	95-110	0.34	0.37
	3000	SPMWH3326FN5FBV☆S0	S0	105-120	0.43	0.48
	3500	SPMWH3326FN5FBU☆S0	S0	110-125	0.51	0.56
	4000	SPMWH3326FN5FBT☆S0	S0	110-125	0.58	0.64

※ ☆ can be "0" (MacAdam 5 step), "3" (MacAdam 3 step), "Y" (Kitting)

* MDER: Melanopic Daylight Equivalent Ratio ** M/P Ratio: Melanopic/Photopic Ratio

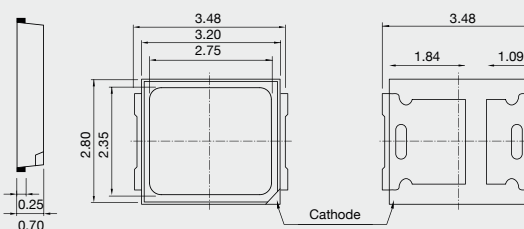


LM283N+ NITE



Fine-tuned spectrum for more relaxing moments

- 0.9W class mid power LED
- Standard form factor for design flexibility (2.8mmx3.5mm)
- Patent registered for optimized spectrum



[100mA, 25°C]

CRI	CCT (K)		Luminous Flux (lm)		MDER*	M/P Ratio**
			Bin	Range		
80+	2200	SPMWHHN29AQ5SGD☆RM	RM	85-100	0.25	0.28
	2700	SPMWHHN29AQ5SGW☆RM	RM	90-105	0.34	0.37

※ ☆ can be "0" (MacAdam 5 step), "3" (MacAdam 3 step), "Y" (Kitting)

* MDER: Melanopic Daylight Equivalent Ratio ** M/P Ratio: Melanopic/Photopic Ratio

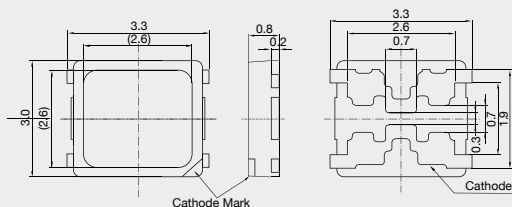


LM301H EVO



Mid-power white LED for horticulture lighting applications

- World's best efficacy
- Footprint: 3.0mm x 3.0mm



[65mA, 25°C, 5000K]

Color	Wavelength(nm)	Part Number	Flux Rank	PPF* Typ. (μmol/s)	PPF/W Typ. (μmol/J)
3000K	Full	SPMWH32AMH0XAV0PV	PV	0.53	2.98
4000K	Full	SPMWH32AMH0XAT0PT	PT	0.54	3.06
5000K	Full	SPMWH32AMH0XAR0PR	PR	0.56	3.14
6500K	Full	SPMWH32AMH0XAP0PP	PP	0.56	3.14

* Photosynthetic Photon Flux

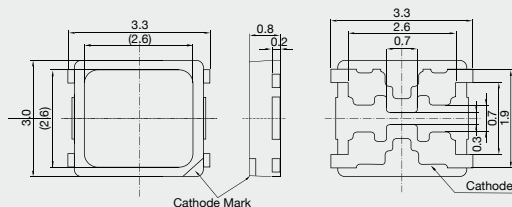


LM301H EVO Mint White



Mid-power white LED for horticulture lighting applications

- World's best efficacy
- Footprint: 3.0mm x 3.0mm



[65mA, 25°C, 5000K]

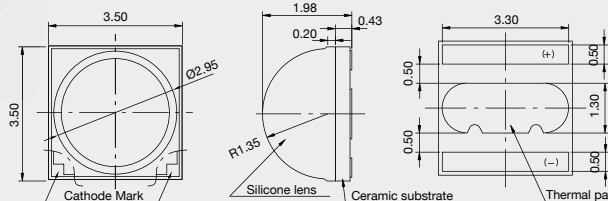
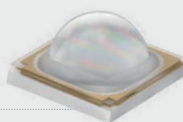
Color	Wavelength(nm)	Part Number	Flux Rank	PPF* Typ. (μmol/s)	PPF/W Typ. (μmol/J)
Mint White	Full	SPMWH32AMH0XAMAPL	PL	0.56	3.14
Mint White	Full	SPMWH32AMH0XAMBPM	PM	0.57	3.17

* Photosynthetic Photon Flux

LH351H Blue (450nm)

High power blue LED for horticulture lighting applications

- Peak wavelength: 450nm
- Footprint: 3.5mm x 3.5mm



[350mA, 25°C]

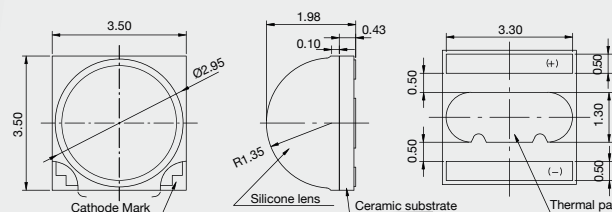
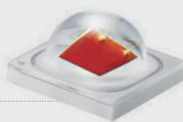
Color	Wavelength (nm)	Part Number	Optical Power Typ. (mW)	PPF* Typ. (μmol/s)	PPF/W Typ. (μmol/J)
Blue	450	SPHBL1L3DH00L4A4B0	750	2.8	2.8

* Photosynthetic Photon Flux

LH351H Red (630nm)

High power red LED for horticulture lighting applications

- Peak wavelength: 630nm
- Footprint: 3.5mm x 3.5mm



[350mA, 25°C]

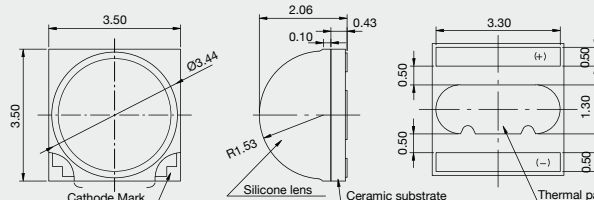
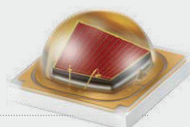
Color	Wavelength (nm)	Part Number	Optical Power Typ. (mW)	PPF* Typ. (μmol/s)	PPF/W Typ. (μmol/J)
Red	630	SPHRD1L3DH02C8S4HA	350	1.82	2.41

* Photosynthetic Photon Flux

LH351H Deep Red (660nm)

High power deep red LED for horticulture lighting applications

- Peak wavelength: 660nm
- Footprint: 3.5mm x 3.5mm



[350mA, 25°C]

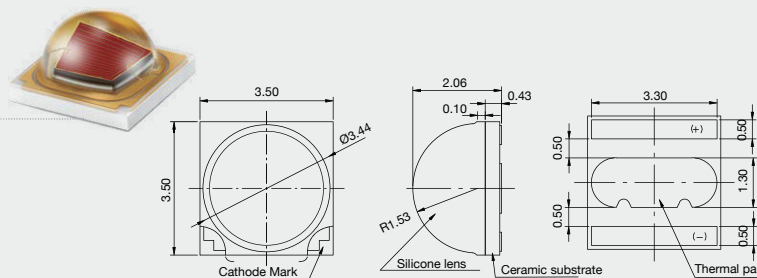
Color	Wavelength (nm)	Part Number	Optical Power Typ. (mW)	PPF* Typ. (μmol/s)	PPF/W Typ. (μmol/J)
Deep Red	660	SPHRD2L3DH00D5W4M0	435	2.4	3.22

* Photosynthetic Photon Flux

LH351H Deep Red (660nm) V2

High power deep red LED for horticulture lighting applications

- Peak wavelength: 660nm
- Footprint: 3.5mm x 3.5mm



[700mA, 25°C]

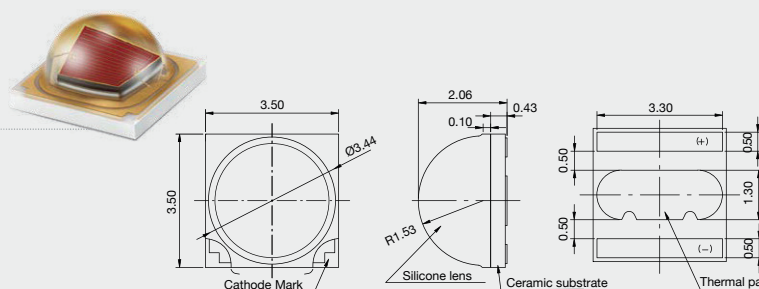
Color	Wavelength (nm)	Part Number	Optical Power Typ. (mW)	PPF* Typ. (μmol/s)	PPF/W Typ. (μmol/J)
Deep Red	660	SPHRD2L3DH20E7W41J	1020	5.54	3.75

* Photosynthetic Photon Flux

LH351H Deep Red (660nm) V2+

High power deep red LED for horticulture lighting applications

- Peak wavelength: 660nm
- Footprint: 3.5mm x 3.5mm



[700mA, 25°C]

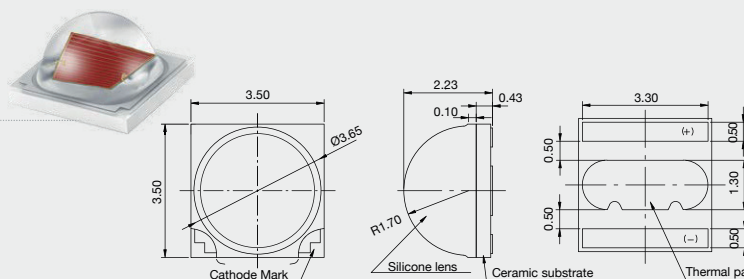
Color	Wavelength (nm)	Part Number	Optical Power Typ. (mW)	PPF* Typ. (μmol/s)	PPF/W Typ. (μmol/J)
Deep Red	660	SPHRD2L3DH20D5W41J	1030	5.6	3.8

* Photosynthetic Photon Flux

LH351H Deep Red (660nm) V3

High power deep red LED for horticulture lighting applications

- Peak wavelength: 660nm
- Footprint: 3.5mm x 3.5mm



[700mA, 25°C]

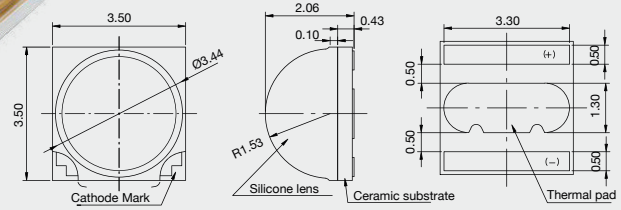
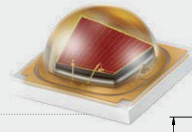
Color	Wavelength (nm)	Part Number	Optical Power Typ. (mW)	PPF* Typ. (μmol/s)	PPF/W Typ. (μmol/J)
Deep Red	660	SPHRD3L3DH20C5W43B	1035	5.65	3.9

* Photosynthetic Photon Flux

LH351H Far Red (730nm)

High power far red LED for horticulture lighting applications

- Peak wavelength: 730nm
- Footprint: 3.5mm x 3.5mm



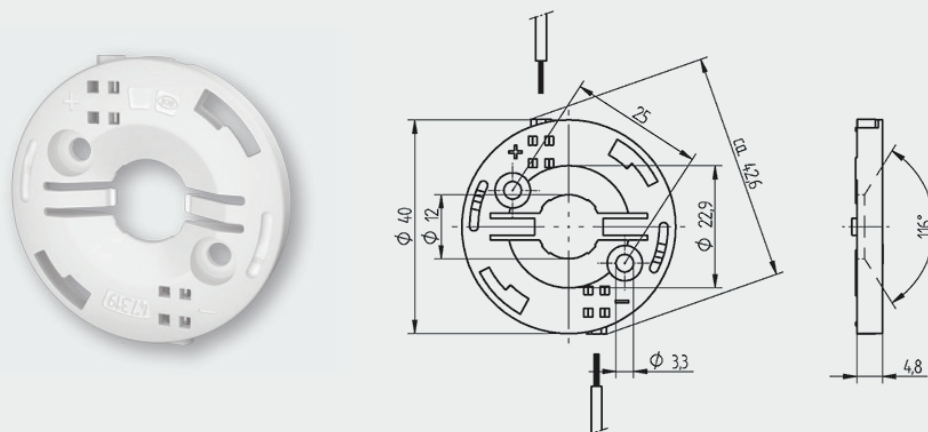
[350mA, 25°C]

Color	Wavelength (nm)	Part Number	Optical Power Typ. (mW)	BPF* Typ. ($\mu\text{mol/s}$)	BPF/W Typ. ($\mu\text{mol/J}$)
Far Red	730	SPHRD2L3DH01A844B0	350	2.07	3.1

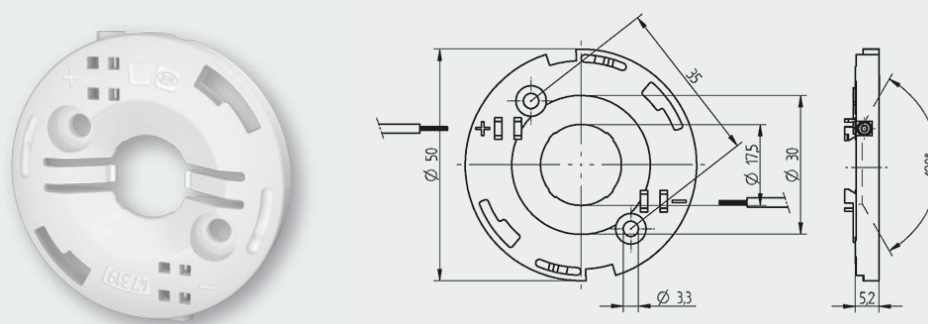
*Biologically-active Photon Flux

GEN.3, GEN.3 PLUS, SMALL LES*, R-SERIES**

468780049B	HOLDER BJB LC003-06-09-13 SMALL LES: 010C* R-SERIES: 013R**	COB LC003D-6D-9D-13D 010C 013R
------------	-------------------------------------------------------------------	--------------------------------------



468780048B	HOLDER BJB LC016-19-26-33 SMALL LES: 20C-30C-40C* R-SERIES 016R-019R-026R0-033R**	COB LC016D-19D-26D-33D 20C-30C-40C 016R-019R-026R
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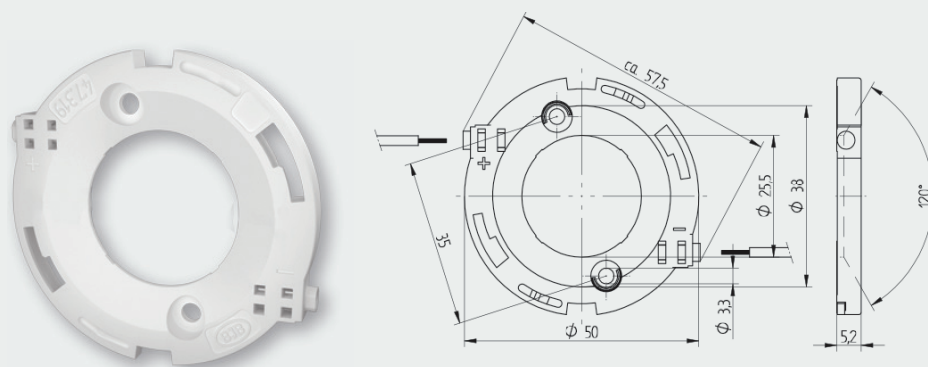


GEN.3, GEN.3 PLUS, R-SERIES**

468780047B

HOLDER BJB LC040-60-80
R-SERIES: 040R**

COB LC040D-60D-80D
040R

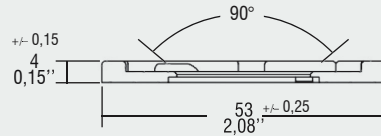


TUNABLE WHITE

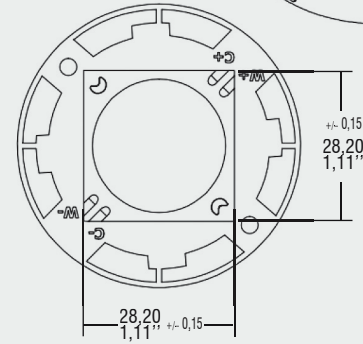
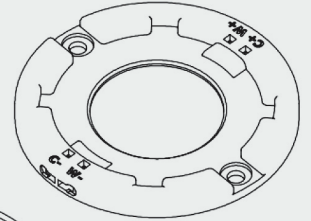
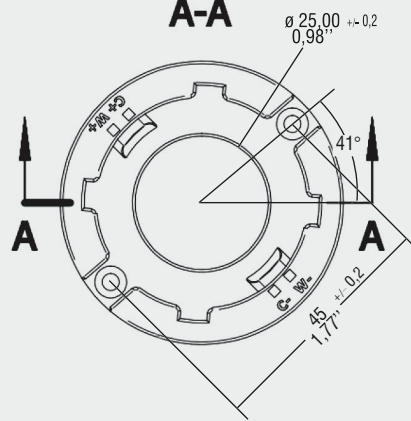
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