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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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About Samsung Electronics Co., Ltd.

Samsung Electronics Co. Ltd inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and semiconductor and LED solutions. For the latest news, please visit the Samsung Newsroom at <http://news.samsung.com>.

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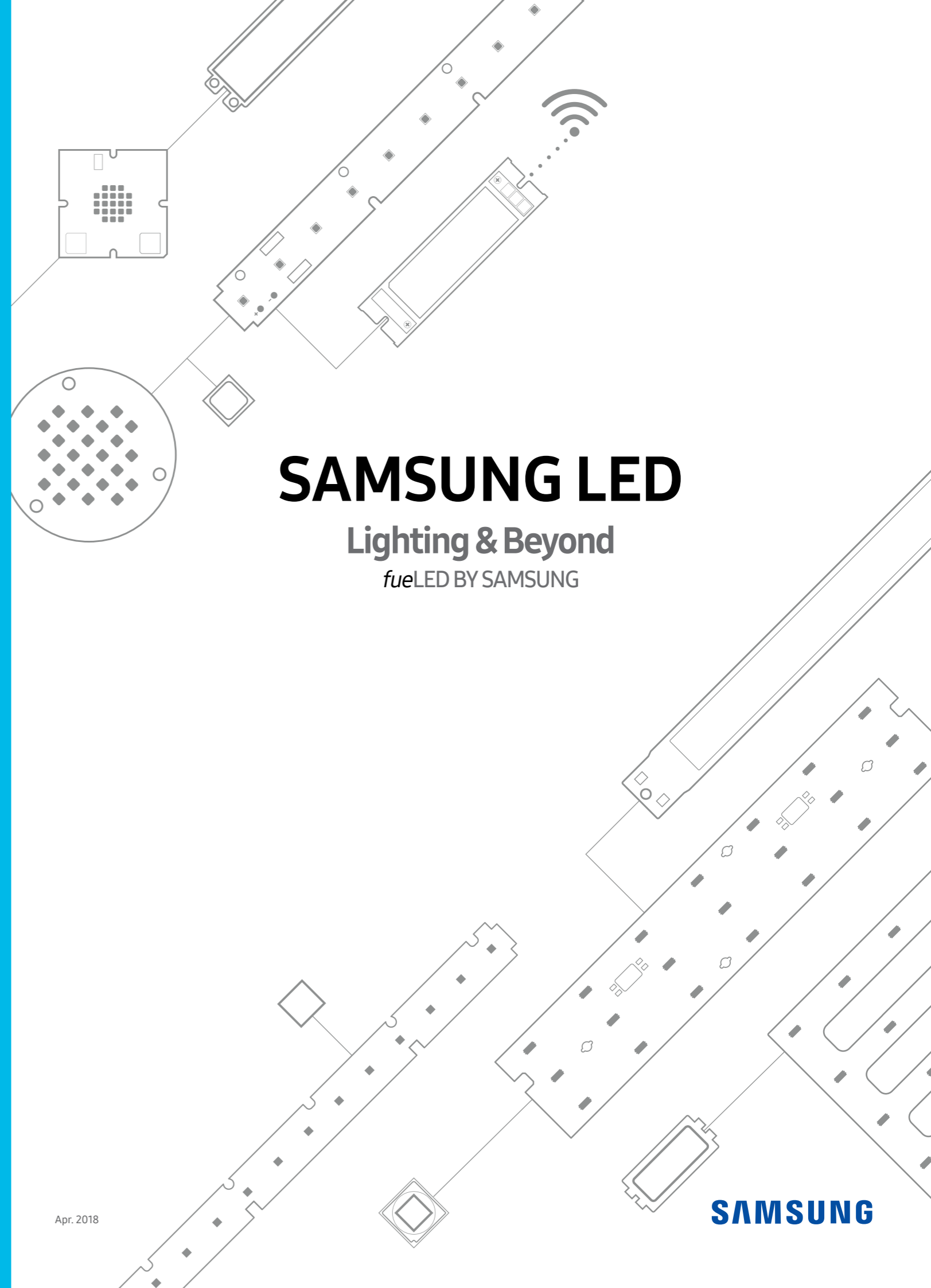
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Gyeonggi-do, 17113 Korea

www.samsungled.com

SAMSUNG LED

Lighting & Beyond

*fu*LED BY SAMSUNG



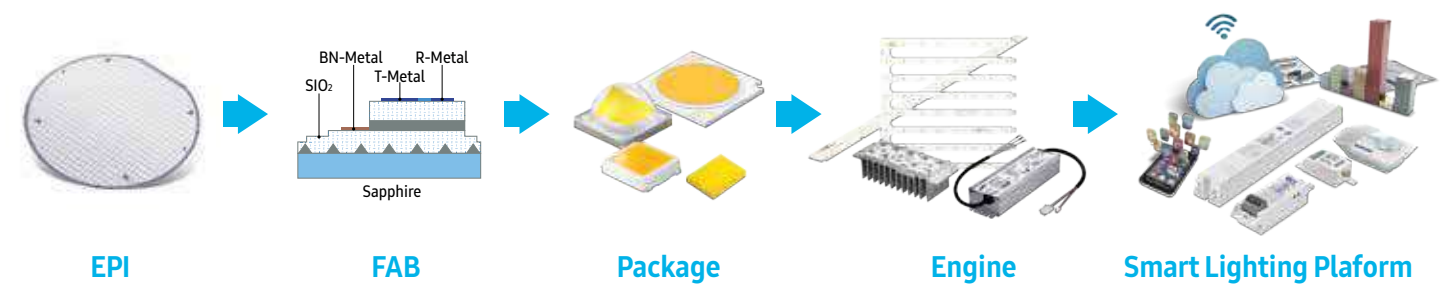
Overview & Technology

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



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



Samsung Electronics



1969
Company
Founded



Vision 2020
Inspire the world,
create the future



308,745+
Employees
in 79 Countries

Innovation & Market Leadership



7
Design Centers



34
R&D Centers



6th
Best Global Brand 2017

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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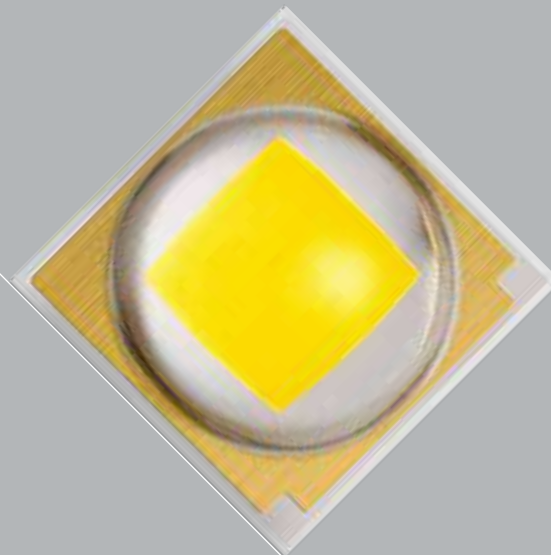
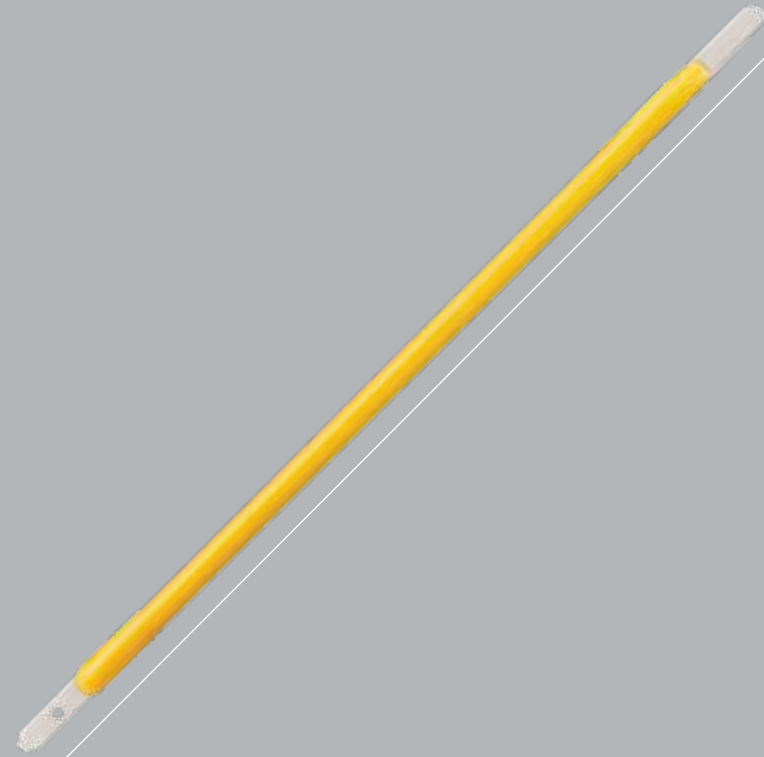


Driver

- 94 White Tunable 2-channel
- 96 Ambient Light
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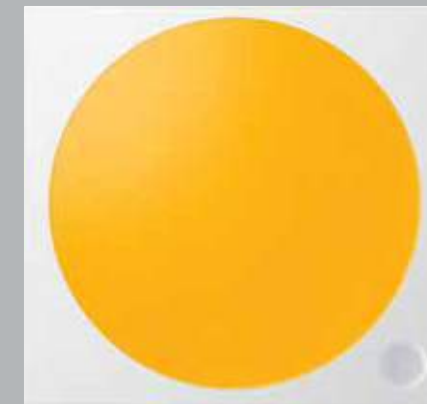
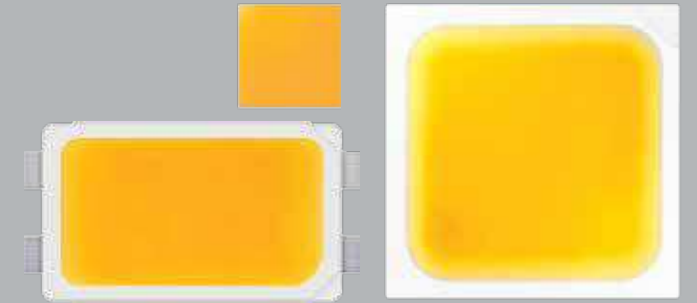


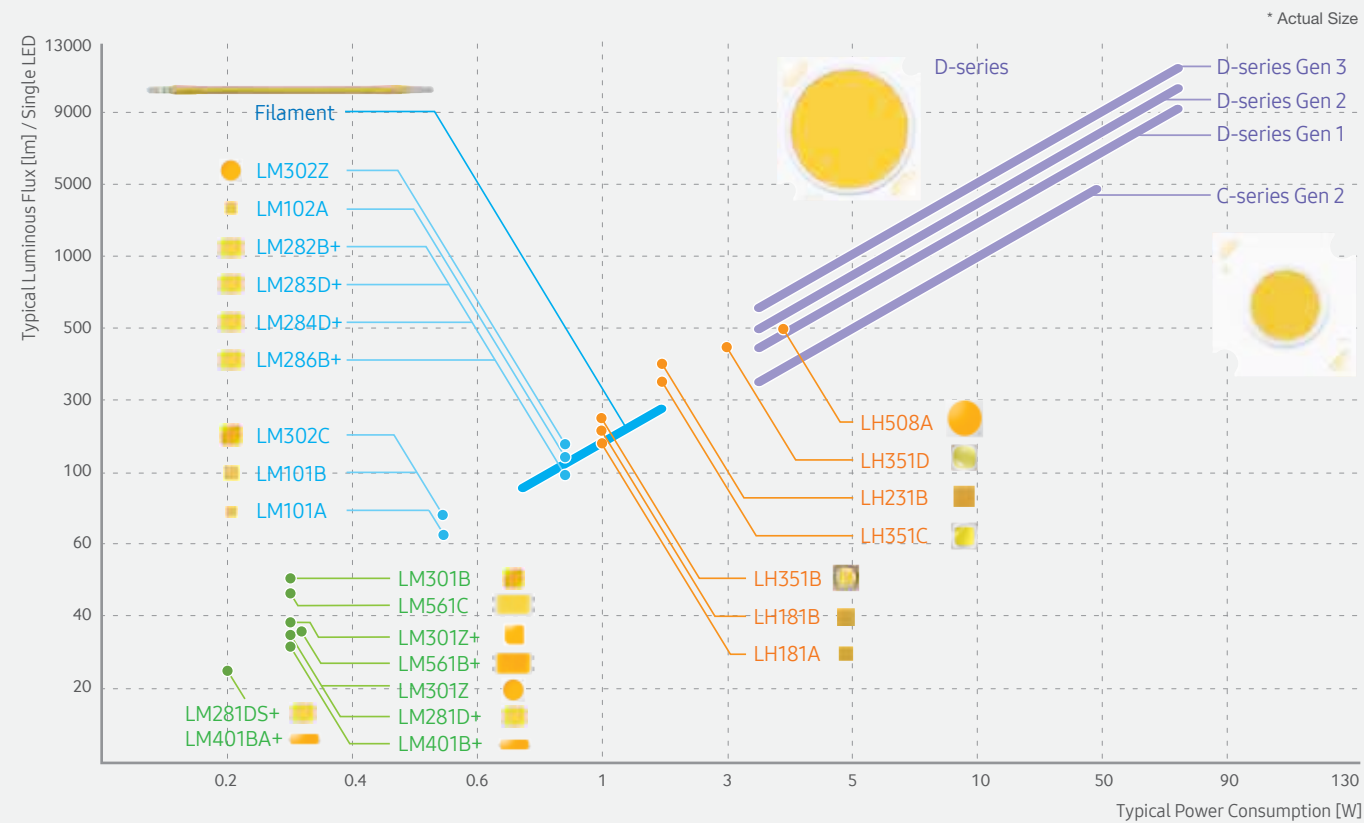
Component



- CSP LEDs
- Mid Power LEDs
- Filament LEDs
- High Power LEDs
- COB LEDs

Samsung LED





Mid Power LED (0.3W)

- High efficacy
- Replacement for fluorescent lamps
- LED Tube, Ambient Light

Filament LED

- Aesthetic appearance
- Large freedom in bulb design
- Decorative and general lighting bulbs

Chip-on-Board LEDs

- Chip on Board solution
- Outstanding color rendering & consistency
- MR/PAR, Spotlight, High Bay & Low Bay Light

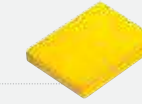
Mid Power LED (~1W)

- High flux & better lm/\$
- Replacement for incandescent lamps
- Retrofit Bulb, MR/PAR, Downlight

High Power LED

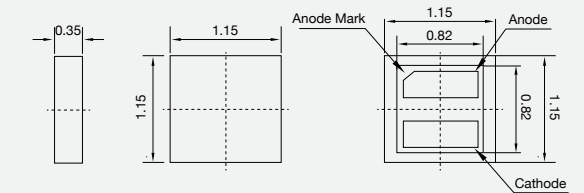
- Ultra high flux
- Provides excellent color consistency
- Spotlight, Street Light

LM101A



Compact form factor for design flexibility

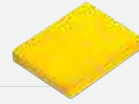
- 0.5W class mid power 3V LED
- Compact footprint: 1.18mm x 1.18mm



CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	3000	SCP7VT78HPL1V☆S06E	SD	55	59
			SE	59	63
			SF	63	67
	3500	SCP7UT78HPL1U☆S06E	SD	55	59
			SE	59	63
			SF	63	67
	4000	SCP7TT78HPL1T☆S06E	SE	59	63
			SF	63	67
			SG	67	71
	5000	SCP7RT78HPL1R☆S06E	SE	59	63
			SF	63	67
			SG	67	71
	5700	SCP7QT78HPL1Q☆S06E	SE	59	63
			SF	63	67
			SG	67	71
	6500	SCP7PT78HPL1P☆S06E	SE	59	63
			SF	63	67
			SG	67	71
80+	2700	SCP8WT78HPL1W☆S06E	SC	47	51
			SD	55	59
			SC	51	55
	3000	SCP8VT78HPL1V☆S06E	SD	55	59
			SE	59	63
			SC	51	55
	3500	SCP8UT78HPL1U☆S06E	SD	55	59
			SE	59	63
			SD	55	59
	4000	SCP8TT78HPL1T☆S06E	SE	59	63
			SF	63	67
			SD	55	59
	5000	SCP8RT78HPL1R☆S06E	SE	59	63
			SF	63	67
			SC	51	55
	5700	SCP8QT78HPL1Q☆S06E	SD	55	59
			SE	59	63
			SC	51	55
6500	SCP8PT78HPL1P☆S06E	SD	55	59	
		SE	59	63	
		SY	35	39	
90+	2700	SCP9WT78HPL1W☆S06E	SZ	39	43
			SA	43	47
			SY	35	39
	3000	SCP9VT78HPL1V☆S06E	SZ	39	43
			SA	43	47
			SZ	39	43
	3500	SCP9UT78HPL1U☆S06E	SA	43	47
			SB	47	51
			SB	47	51

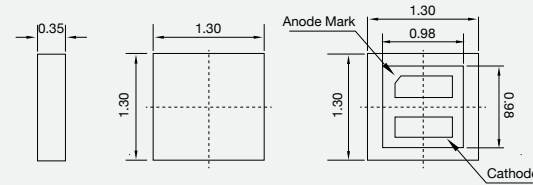
Note: "☆" can be "L" (MacAdam 5-step), "U" (MacAdam 3-step)

LM102A



Compact form factor for design flexibility

- 1W class mid power 6V LED
- Compact footprint: 1.34mm × 1.34mm

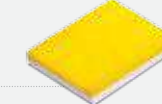


[150mA, 85°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
70+	3000	SCS7VT93HPL2V☆S03F	SD	103	111	
			SE	111	119	
	3500	SCS7UT93HPL2U☆S03F	SD	103	111	
			SE	111	119	
	4000	SCS7TT93HPL2T☆S03F	SE	111	119	
			SF	119	127	
	5000	SCS7RT93HPL2R☆S03F	SE	111	119	
			SF	119	127	
	5700	SCS7QT93HPL2Q☆S03F	SE	111	119	
			SF	119	127	
	6500	SCS7PT93HPL2P☆S03F	SE	111	119	
			SF	119	127	
	80+	2700	SCS8WT93HPL2W☆S03F	SC	95	103
				SD	103	111
3000		SCS8VT93HPL2V☆S03F	SC	95	103	
			SD	103	111	
3500		SCS8UT93HPL2U☆S03F	SD	103	111	
			SE	111	119	
4000		SCS8TT93HPL2T☆S03F	SD	103	111	
			SE	111	119	
5000		SCS8RT93HPL2R☆S03F	SE	111	119	
			SF	119	127	
5700		SCS8QT93HPL2Q☆S03F	SD	103	111	
			SE	111	119	
6500		SCS8PT93HPL2P☆S03F	SD	103	111	
			SE	111	119	
90+	2700	SCS9WT93HPL2W☆S03F	SA	79	87	
			SB	87	95	
	3000	SCS9VT93HPL2V☆S03F	SA	79	87	
			SB	87	95	
	3500	SCS9UT93HPL2U☆S03F	SA	79	87	
			SB	87	95	

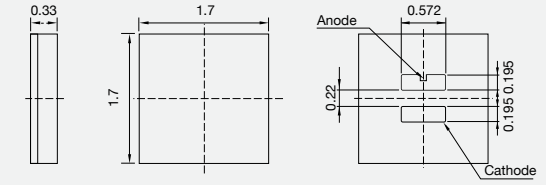
Note: "☆" can be "L" (MacAdam 5-step), "U" (MacAdam 3-step)

LM101B



Compact form factor for design flexibility

- 0.5W class mid power 3V LED
- Compact footprint: 1.70mm × 1.70mm

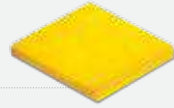


[150mA, 85°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SCP7WT78HEL1W☆S06E	SE	59	63
			SF	63	67
	3000	SCP7VT78HEL1V☆S06E	SF	63	67
			SG	67	71
	3500	SCP7UT78HEL1U☆S06E	SF	63	67
			SG	67	71
	4000	SCP7TT78HEL1T☆S06E	SG	67	71
			SH	71	75
	5000	SCP7RT78HEL1R☆S06E	SG	67	71
			SH	71	75
	5700	SCP7QT78HEL1Q☆S06E	SF	63	67
			SG	67	71
	6500	SCP7PT78HEL1P☆S06E	SF	63	67
			SG	67	71
80+	2700	SCP8WT78HEL1W☆S06E	SD	55	59
			SE	59	63
	3000	SCP8VT78HEL1V☆S06E	SE	59	63
			SF	63	67
	3500	SCP8UT78HEL1U☆S06E	SE	59	63
			SF	63	67
	4000	SCP8TT78HEL1T☆S06E	SF	63	67
			SG	67	71
	5000	SCP8RT78HEL1R☆S06E	SF	63	67
			SG	67	71
	5700	SCP8QT78HEL1Q☆S06E	SE	59	63
			SF	63	67
	6500	SCP8PT78HEL1P☆S06E	SE	59	63
			SF	63	67
90+	2700	SCP9WT78HEL1W☆S06E	SA	43	47
			SB	47	51
	3000	SCP9VT78HEL1V☆S06E	SA	43	47
			SB	47	51
	3500	SCP9UT78HEL1U☆S06E	SB	47	51
			SC	51	55
4000	SCP9TT78HEL1T☆S06E	SB	47	51	
		SC	51	55	

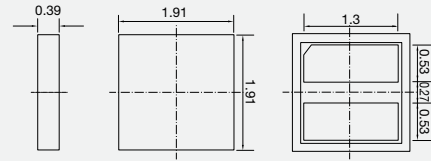
Note: "☆" can be "L" (MacAdam 5-step), "U" (MacAdam 3-step)

LH181A



Compact form factor for design flexibility

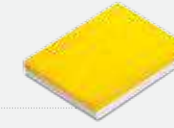
- 3W class high power CSP
- High performance and superior lm/\$
- Compact footprint: 1.9mm x 1.9mm



[350mA, 85°C]

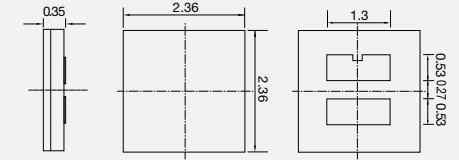
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SCP7WTF1HPLAW0J34E	J1, K1, M1	120	150
	3000	SCP7VTF1HPLAV0K34E	K1, M1, N1	130	160
	3500	SCP7UTF1HPLAU0K34E	K1, M1, N1	130	160
	4000	SCP7TTF1HPLAT0M34E	M1, N1, P1	140	170
	5000	SCP7RTF1HPLARTM34E	M1, N1, P1	140	170
	5700	SCP7QTF1HPLAQM34E	M1, N1, P1	140	170
	6500	SCP7PTF1HPLAPTM34E	M1, N1, P1	140	170
80+	2700	SCP8WTF1HPLAW0J34E	J1, K1, M1	120	150
	3000	SCP8VTF1HPLAV0K34E	K1, M1, N1	130	160
	3500	SCP8UTF1HPLAU0K34E	K1, M1, N1	130	160
	4000	SCP8TTF1HPLAT0K34E	K1, M1, N1	130	160
	5000	SCP8RTF1HPLARTK34E	K1, M1, N1	130	160
	5700	SCP8QTF1HPLAQT34E	K1, M1, N1	130	160
	6500	SCP8PTF1HPLAPTK34E	K1, M1, N1	130	160
90+	3000	SCP9VTF1HPLAV0G34E	G1, H1, J1	100	130
	4000	SCP9TTF1HPLAT0G34E	G1, H1, J1	100	130

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

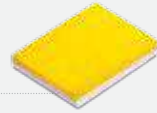


[350mA, 85°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SCP7WTF1HEL1W◇M34E	M1, N1, P1	140	170
	3000	SCP7VTF1HEL1V◇M34E	M1, N1, P1	140	170
	3500	SCP7UTF1HEL1U◇N34E	N1, P1, Q1	150	180
	4000	SCP7TTF1HEL1T◇N34E	N1, P1, Q1	150	180
	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+	2700	SCP8WTF1HEL1W◇K34E	K1, M1, N1	130	160
	3000	SCP8VTF1HEL1V◇K34E	K1, M1, N1	130	160
	3500	SCP8UTF1HEL1U◇M34E	M1, N1, P1	140	170
	4000	SCP8TTF1HEL1T◇M34E	M1, N1, P1	140	170
	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◇G34E	G1, H1, J1	100	130
	3500	SCP9UTF1HEL1U◇H34E	H1, J1, K1	110	140
	4000	SCP9TTF1HEL1T◇H34E	H1, J1, K1	110	140
	5000	SCP9RTF1HEL1R◇H34E	H1, J1, K1	110	140

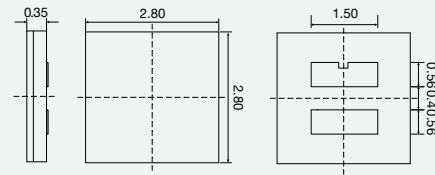
* "◇" can be "K" (MacAdam 5-step ellipse bin), "U" (MacAdam 3-step ellipse bin) of the color binning

LH231B



Compact form factor for design flexibility

- 5W class super high power CSP
- Suitable for highbay lighting, stadium lighting
- Compact footprint: 2.80 mm x 2.80 mm



[700mA, 85°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SCP7WTJ5HEL1W☆MF6E	MB, NB, PB	250	310
	3000	SCP7VTJ5HEL1V☆NF6E	NB, PB, QB	270	330
	3500	SCP7UTJ5HEL1U☆PF6E	PB, QB, RB	290	350
	4000	SCP7TTJ5HEL1T☆PF6E	PB, QB, RB	290	350
	5000	SCP7RTJ5HEL1R☆QF6E	QB, RB, SB	310	370
	5700	SCP7QTJ5HEL1Q☆QF6E	QB, RB, SB	310	370
	6500	SCP7PTJ5HEL1P☆PF6E	PB, QB, RB	290	350
80+	2700	SCP8WTJ5HEL1W☆KF6E	KB, MB, NB	230	290
	3000	SCP8VTJ5HEL1V☆MF6E	MB, NB, PB	250	310
	3500	SCP8UTJ5HEL1U☆MF6E	MB, NB, PB	250	310
	4000	SCP8TTJ5HEL1T☆NF6E	NB, PB, QB	270	330
	5000	SCP8RTJ5HEL1R☆NF6E	NB, PB, QB	270	330
	5700	SCP8QTJ5HEL1Q☆NF6E	NB, PB, QB	270	330
90+	2700	SCP9WTJ5HEL1W☆GF6E	GB, HB, JB	170	230
	3000	SCP9VTJ5HEL1V☆GF6E	GB, HB, JB	170	230
	3500	SCP9UTJ5HEL1U☆HF6E	HB, JB, KB	190	250
	4000	SCP9TTJ5HEL1T☆HF6E	HB, JB, KB	190	250

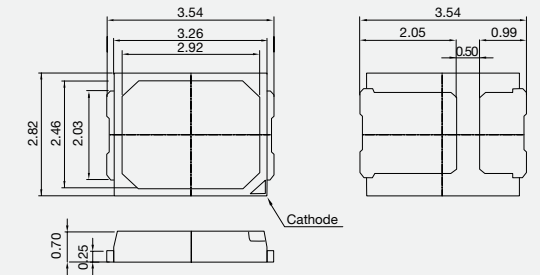
* "☆" can be "L" (MacAdam 5-step ellipse bin), "U" (MacAdam 3-step ellipse bin) of the color binning

LM281DS Plus



Designed for better lm/\$

- 0.2W class mid power 3V LED
- Suitable for ambient lights, downlights & lamps
- Standard footprint: 2.8mm x 3.5mm



[60mA, 25°C]

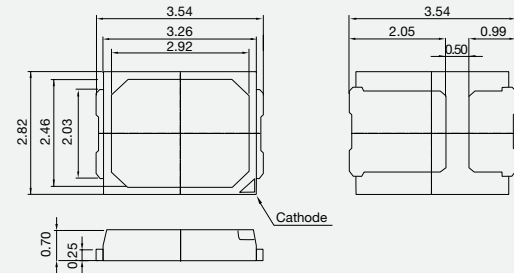
CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
80+	2700	SPMWH72286D5WAW0S2	S2	22.0	24.5	
		SPMWH72286D5WAW0S3	S3	24.5	27.0	
	3000	SPMWH72286D5WAV0S2	S2	22.5	25.0	
		SPMWH72286D5WAV0S3	S3	25.0	27.5	
	3500	SPMWH72286D5WAW0S2	S2	23.5	26.0	
		SPMWH72286D5WAW0S3	S3	26.0	28.5	
	4000	SPMWH72286D5WAT0S3	S2	24.0	26.5	
			S3	26.5	29.0	
		SPMWH72286D5WAR0S2	S2	24.5	27.0	
			S3	27.0	29.5	
		5700	SPMWH72286D5WAQ0S2	S2	24.5	27.0
			SPMWH72286D5WAQ0S3	S3	27.0	29.0
6500	SPMWH72286D5WAP0S2	S2	24.0	26.5		
	SPMWH72286D5WAP0S3	S3	26.5	29.0		
90+	2700	SPMWH72286D7WAW0S2	S2	18.5	21.0	
		SPMWH72286D7WAW0S3	S3	21.0	23.5	
	3000	SPMWH72286D7WAV0S2	S2	19.0	21.5	
		SPMWH72286D7WAV0S3	S3	21.5	24.0	
	3500	SPMWH72286D7WAW0S2	S2	20.0	22.5	
		SPMWH72286D7WAW0S3	S3	22.5	25.0	
	4000	SPMWH72286D7WAT0S3	S2	20.5	23.0	
		SPMWH72286D7WAT0S3	S3	23.0	25.5	
	5000	SPMWH72286D7WAR0S2	S2	21.0	23.5	
		SPMWH72286D7WAR0S3	S3	23.5	26.0	
	5700	SPMWH72286D7WAQ0S2	S2	21.0	23.5	
		SPMWH72286D7WAQ0S3	S3	23.5	26.0	
	6500	SPMWH72286D7WAP0S2	S2	20.5	23.0	
		SPMWH72286D7WAP0S3	S3	23.0	25.5	

LM281D Plus



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]

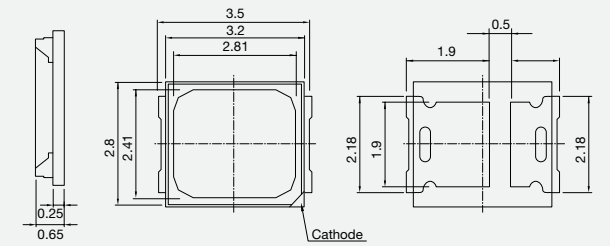
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+	2700	SPMWH6228FD5WAW0SC	SC	58.5	62.5
		SPMWH6228FD5WAW0SE	SE	62.5	66.5
		SPMWH6228FD5WAW0SG	SG	64.5	68.5
	3000	SPMWH6228FD5WAV0SC	SC	60.5	64.5
		SPMWH6228FD5WAV0SE	SE	64.5	68.5
		SPMWH6228FD5WAV0SG	SG	66.5	70.5
	3500	SPMWH6228FD5WAW0SC	SC	61.5	65.5
		SPMWH6228FD5WAW0SE	SE	65.5	69.5
		SPMWH6228FD5WAW0SG	SG	67.5	71.5
	4000	SPMWH6228FD5WAT0SC	SC	64.0	68.0
		SPMWH6228FD5WAT0SE	SE	68.0	72.0
		SPMWH6228FD5WAT0SG	SG	70.0	74.0
	5000	SPMWH6228FD5WAR0SC	SC	65.0	69.0
		SPMWH6228FD5WAR0SE	SE	69.0	73.0
		SPMWH6228FD5WAR0SG	SG	71.0	75.0
	5700	SPMWH6228FD5WAQ0SC	SC	64.5	68.5
		SPMWH6228FD5WAQ0SE	SE	68.5	72.5
		SPMWH6228FD5WAQ0SG	SG	70.5	74.5
6500	SPMWH6228FD5WAP0SC	SC	64.0	68.0	
	SPMWH6228FD5WAP0SE	SE	68.0	72.0	
	SPMWH6228FD5WAP0SG	SG	70.0	74.0	
90+	2700	SPMWH6228FD7WAW0SC	SC	49.5	53.0
		SPMWH6228FD7WAW0SE	SE	53.0	56.5
		SPMWH6228FD7WAW0SG	SG	55.0	58.5
	3000	SPMWH6228FD7WAV0SC	SC	51.0	54.5
		SPMWH6228FD7WAV0SE	SE	54.5	58.0
		SPMWH6228FD7WAV0SG	SG	56.5	60.0
	3500	SPMWH6228FD7WAW0SC	SC	52.0	55.5
		SPMWH6228FD7WAW0SE	SE	55.5	59.0
		SPMWH6228FD7WAW0SG	SG	57.5	61.0
	4000	SPMWH6228FD7WAT0SC	SC	54.0	57.5
		SPMWH6228FD7WAT0SE	SE	57.5	61.0
		SPMWH6228FD7WAT0SG	SG	59.5	63.0
	5000	SPMWH6228FD7WAR0SC	SC	55.0	58.5
		SPMWH6228FD7WAR0SE	SE	58.5	62.0
		SPMWH6228FD7WAR0SG	SG	60.5	64.0
	5700	SPMWH6228FD7WAQ0SC	SC	54.5	58.0
		SPMWH6228FD7WAQ0SE	SE	58.0	61.5
		SPMWH6228FD7WAQ0SG	SG	60.0	63.5
6500	SPMWH6228FD7WAP0SC	SC	54.0	57.5	
	SPMWH6228FD7WAP0SE	SE	57.5	61.0	
	SPMWH6228FD7WAP0SG	SG	59.5	63.0	

LM282B Plus



Designed for better lm/\$

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



[150mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
80+	2700	SPMWH1221FQ5GBW0SA	SA	103	113	
		SPMWH1221FQ5GBW0SB	SB	113	123	
	3000	SPMWH1221FQ5GBV0SA	SA	107	117	
		SPMWH1221FQ5GBV0SB	SB	117	127	
	3500	SPMWH1221FQ5GBU0SA	SA	109	119	
		SPMWH1221FQ5GBU0SB	SB	119	129	
	4000	SPMWH1221FQ5GBT0SA	SA	113	123	
		SPMWH1221FQ5GBT0SB	SB	123	133	
	5000	SPMWH1221FQ5GBR0SA	SA	115	125	
		SPMWH1221FQ5GBR0SB	SB	125	135	
	5700	SPMWH1221FQ5GBQ0SA	SA	114	124	
		SPMWH1221FQ5GBQ0SB	SB	124	134	
	6500	SPMWH1221FQ5GBP0SA	SA	113	123	
		SPMWH1221FQ5GBP0SB	SB	123	133	
	90+	2700	SPMWH1221FQ7GBW0SA	SA	87	95
			SPMWH1221FQ7GBW0SB	SB	95	103
		3000	SPMWH1221FQ7GBV0SA	SA	90	98
			SPMWH1221FQ7GBV0SB	SB	98	106
3500		SPMWH1221FQ7GBU0SA	SA	92	100	
		SPMWH1221FQ7GBU0SB	SB	100	108	
4000		SPMWH1221FQ7GBT0SA	SA	95	103	
		SPMWH1221FQ7GBT0SB	SB	103	111	
5000		SPMWH1221FQ7GBR0SA	SA	97	105	
		SPMWH1221FQ7GBR0SB	SB	105	113	
5700		SPMWH1221FQ7GBQ0SA	SA	96	104	
		SPMWH1221FQ7GBQ0SB	SB	104	112	
6500		SPMWH1221FQ7GBP0SA	SA	95	103	
		SPMWH1221FQ7GBP0SB	SB	103	111	

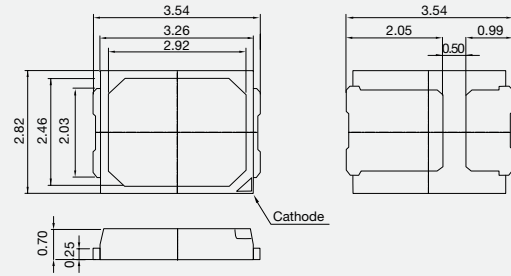
* Color coordinates: Considering the color shift during high temp. operation, provided at hot temp. color shift coordinates.

LM283D Plus



Designed for better lm/\$

- 1W class mid power 9V LED
- Suitable for lamps & downlights
- Standard footprint: 2.8mm x 3.5mm

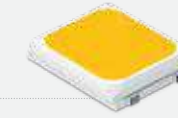


[100mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+	2700	SPMWH6229AQ5SGW0SL	SL	105	112
		SPMWH6229AQ5SGW0SB	SB	113	120
		SPMWH6229AQ5SGW0SM	SM	120	127
	3000	SPMWH6229AQ5SGV0SL	SL	107	114
		SPMWH6229AQ5SGV0SB	SB	117	124
		SPMWH6229AQ5SGV0SM	SM	122	129
	3500	SPMWH6229AQ5SGU0SL	SL	111	118
		SPMWH6229AQ5SGU0SB	SB	119	126
		SPMWH6229AQ5SGU0SM	SM	126	133
	4000	SPMWH6229AQ5SGT0SL	SL	114	121
		SPMWH6229AQ5SGT0SB	SB	123	130
		SPMWH6229AQ5SGT0SM	SM	129	136
	5000	SPMWH6229AQ5SGR0SL	SL	117	124
		SPMWH6229AQ5SGR0SB	SB	125	132
		SPMWH6229AQ5SGR0SM	SM	132	139
	5700	SPMWH6229AQ5SGQ0SL	SL	116	123
		SPMWH6229AQ5SGQ0SB	SB	124	131
		SPMWH6229AQ5SGQ0SM	SM	131	138
6500	SPMWH6229AQ5SGP0SL	SL	114	121	
	SPMWH6229AQ5SGP0SB	SB	123	130	
	SPMWH6229AQ5SGP0SM	SM	129	136	
90+	2700	SPMWH6229AQ7SGW0SL	SL	90	97
		SPMWH6229AQ7SGW0SM	SM	102	109
	3000	SPMWH6229AQ7SGV0SL	SL	91	98
		SPMWH6229AQ7SGV0SM	SM	103	110
	3500	SPMWH6229AQ7SGU0SL	SL	94	101
		SPMWH6229AQ7SGU0SM	SM	107	114
	4000	SPMWH6229AQ7SGT0SL	SL	97	104
		SPMWH6229AQ7SGT0SM	SM	109	116
	5000	SPMWH6229AQ7SGR0SL	SL	99	106
		SPMWH6229AQ7SGR0SM	SM	112	119
	5700	SPMWH6229AQ7SGQ0SL	SL	98	105
		SPMWH6229AQ7SGQ0SM	SM	111	118
	6500	SPMWH6229AQ7SGP0SL	SL	97	104
		SPMWH6229AQ7SGP0SM	SM	109	116

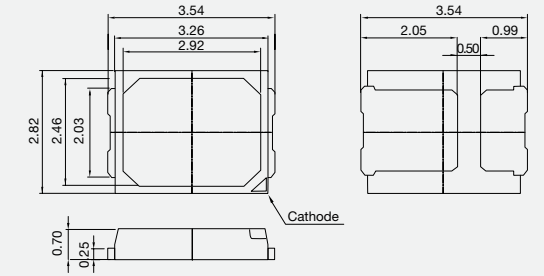
* Color coordinates: Considering the color shift during high temp. operation, provided at hot temp. color shift coordinates.

LM284D Plus



Designed for better lm/\$

- 1W class mid power 12V LED
- Suitable for lamps & downlights
- Standard footprint: 2.8mm x 3.5mm



[75mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
80+	2700	SPMWH622C7Q5SHW0SB	SB	115	122	
		SPMWH622C7Q5SHW0SC	SC	120	127	
	3000	SPMWH622C7Q5SHV0SB	SB	117	124	
		SPMWH622C7Q5SHV0SC	SC	122	129	
	3500	SPMWH622C7Q5SHU0SB	SB	121	128	
		SPMWH622C7Q5SHU0SC	SC	126	133	
	4000	SPMWH622C7Q5SHT0SB	SB	124	131	
		SPMWH622C7Q5SHT0SC	SC	129	136	
	5000	SPMWH622C7Q5SHR0SB	SB	127	134	
		SPMWH622C7Q5SHR0SC	SC	132	139	
	5700	SPMWH622C7Q5SHQ0SB	SB	126	133	
		SPMWH622C7Q5SHQ0SC	SC	131	138	
	6500	SPMWH622C7Q5SHP0SB	SB	124	131	
		SPMWH622C7Q5SHP0SC	SC	129	136	
	90+	2700	SPMWH622C7Q7SHW0SB	SB	100	107
			SPMWH622C7Q7SHW0SC	SC	106	113
		3000	SPMWH622C7Q7SHV0SB	SB	101	108
			SPMWH622C7Q7SHV0SC	SC	107	114
3500		SPMWH622C7Q7SHU0SB	SB	105	112	
		SPMWH622C7Q7SHU0SC	SC	111	118	
4000		SPMWH622C7Q7SHT0SB	SB	108	115	
		SPMWH622C7Q7SHT0SC	SC	114	121	
5000		SPMWH622C7Q7SHR0SB	SB	110	117	
		SPMWH622C7Q7SHR0SC	SC	116	123	
5700		SPMWH622C7Q7SHQ0SB	SB	109	116	
		SPMWH622C7Q7SHQ0SC	SC	115	122	
6500		SPMWH622C7Q7SHP0SB	SB	108	115	
		SPMWH622C7Q7SHP0SC	SC	114	121	

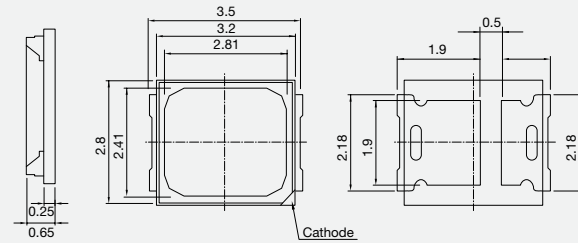
* Color coordinates: Considering the color shift during high temp. operation, provided at hot temp. color shift coordinates.

LM286B Plus



Designed for better lm/\$

- 1W class mid power 18V LED
- Suitable for lamps & downlights
- Standard footprint: 2.8mm x 3.5mm



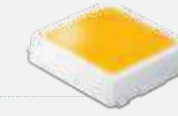
[50mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+	2700	SPMWH12245Q5W8W0SA	SA	95	105
	3000	SPMWH12245Q5W8V0SA	SA	98	108
	3500	SPMWH12245Q5W8U0SA	SA	102	112
	4000	SPMWH12245Q5W8T0SA	SA	106	116
	5000	SPMWH12245Q5W8R0SA	SA	109	119
	5700	SPMWH12245Q5W8Q0SA	SA	107	117
	6500	SPMWH12245Q5W8Q0SA	SA	106	116
90+	2700	SPMWH12245Q7W8W0SA	SA	80	90
	3000	SPMWH12245Q7W8V0SA	SA	83	93
	3500	SPMWH12245Q7W8U0SA	SA	86	96
	4000	SPMWH12245Q7W8T0SA	SA	90	100
	5000	SPMWH12245Q7W8R0SA	SA	92	102
	5700	SPMWH12245Q7W8Q0SA	SA	91	101
	6500	SPMWH12245Q7W8Q0SA	SA	90	100

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

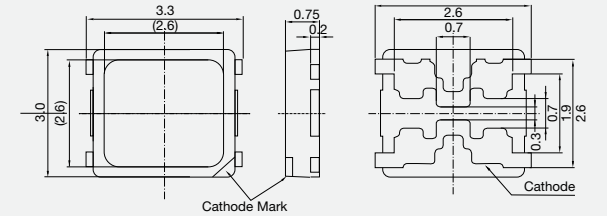


LM301B



High performance, highest lm/W for fluorescent lamp replacement

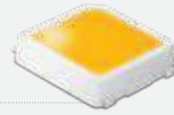
- 0.2W, 3V mid power LED
- Standard footprint: 3.0mm x 3.0mm



[65mA, 25°C]

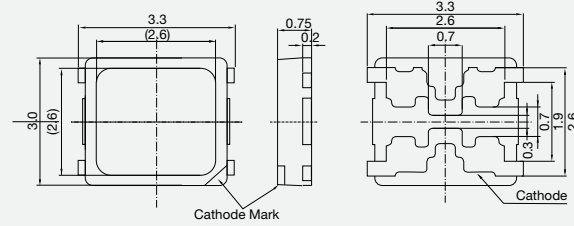
CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
70+	3000	SPMWH32AMD3XAV0S0	SJ	34	36	
			SK	36	38	
			SL	38	40	
	3500	SPMWH32AMD3XAU0S0	SJ	34	36	
			SK	36	38	
			SL	38	40	
	4000	SPMWH32AMD3XAT0S0	SK	36	38	
			SL	38	40	
			SM	40	42	
	5000	SPMWH32AMD3XAR0S0	SK	36	38	
			SL	38	40	
			SM	40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

LM302C



High performance, highest lm/W for fluorescent lamp replacement

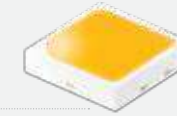
- 0.4W, 6V mid power LED
- Standard footprint: 3.0 mm x 3.0 mm



[65mA, 25°C]

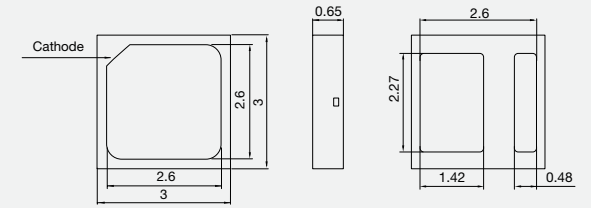
CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
70+	3000	SPMWHT32BMD3YBV0S0	SF	62	66	
			SG	66	70	
			SH	70	74	
	3500	SPMWHT32BMD3YBU0S0	SF	62	66	
			SG	66	70	
			SH	70	74	
	4000	SPMWHT32BMD3YBT0S0	SG	66	70	
			SH	70	74	
			SJ	74	78	
	5000	SPMWHT32BMD3YBR0S0	SG	66	70	
			SH	70	74	
			SJ	74	78	
80+	2700	SPMWHT32BMD5YBW0S0	SD	54	58	
			SE	58	62	
			SF	62	66	
	3000	SPMWHT32BMD5YBV0S0	SD	54	58	
			SE	58	62	
			SF	62	66	
	3500	SPMWHT32BMD5YBU0S0	SE	58	62	
			SF	62	66	
			SG	66	70	
	4000	SPMWHT32BMD5YBT0S0	SE	58	62	
			SF	62	66	
			SG	66	70	
	5000	SPMWHT32BMD5YBR0S0	SF	62	66	
			SG	66	70	
			SH	70	74	
	5700	SPMWHT32BMD5YBQ0S0	SE	58	62	
			SF	62	66	
			SG	66	70	
	6500	SPMWHT32BMD5YBP0S0	SE	58	62	
			SF	62	66	
			SG	66	70	
	90+	2700	SPMWHT32BMD7YBW0S0	SB	46	50
				SC	50	54
				SD	54	58
3000		SPMWHT32BMD7YBV0S0	SB	46	50	
			SC	50	54	
			SD	54	58	
3500		SPMWHT32BMD7YBU0S0	SD	54	58	
			SC	50	54	
			SE	58	62	
4000		SPMWHT32BMD7YBT0S0	SD	54	58	
			SE	58	62	
			SC	50	54	
5000	SPMWHT32BMD7YBR0S0	SD	54	58		
		SE	58	62		
		SC	50	54		
5700	SPMWHT32BMD7YBQ0S0	SD	54	58		
		SE	58	62		
		SC	50	54		
6500	SPMWHT32BMD7YBP0S0	SD	54	58		
		SE	58	62		
		SC	50	54		

LM301Z Plus



Balanced lm/\$ for mainstream

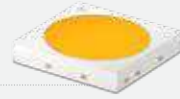
- 0.2W, 3V mid power LED
- EMC resin for high reliability
- Standard footprint: 3.0 mm x 3.0mm



[65mA, 25°C]

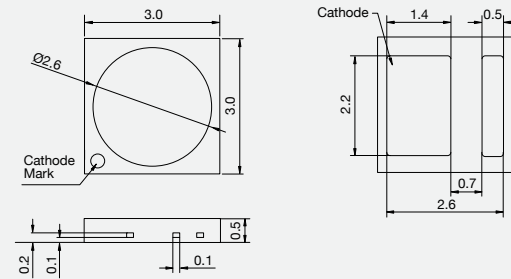
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+	2700	SPMWH3326MP5WAW0S0	SH	32	34
			SJ	34	36
	3000	SPMWH3326MP5WAV0S0	SH	32	34
			SJ	34	36
	3500	SPMWH3326MP5WU0S0	SH	32	34
			SJ	34	36
80+	4000	SPMWH3326MP5WAT0S0	SJ	34	36
			SK	36	38
	5000	SPMWH3326MP5WAR0S0	SJ	34	36
			SK	36	38
	5700	SPMWH3326MP5WAQ0S0	SJ	34	36
			SK	36	38
6500	SPMWH3326MP5WAP0S0	SH	32	34	
		SJ	34	36	

LM301Z



Designed for best lm/\$

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



[65mA, 25°C]

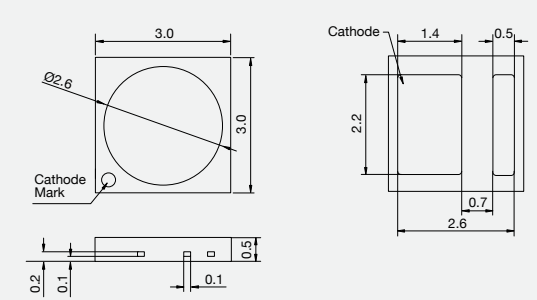
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	3000	SPMWH3326MD3WAV0SA	SA	30.5	33.5
	3500	SPMWH3326MD3WAU0SA	SA	31.5	34.5
	4000	SPMWH3326MD3WAT0SA	SA	32.5	35.5
	5000	SPMWH3326MD3WAR0SA	SA	32.5	35.5
80+	2200	SPMWH3326MD5WAY0SA	SA	26.0	29.0
	2500	SPMWH3326MD5WAX0SA	SA	28.0	31.0
	2700	SPMWH3326MD5WAW0SA	SA	29.0	32.0
	3000	SPMWH3326MD5WAV0SA	SA	30.0	33.0
	3500	SPMWH3326MD5WAU0SA	SA	30.5	33.5
	4000	SPMWH3326MD5WAT0SA	SA	31.0	34.0
	5000	SPMWH3326MD5WAR0SA	SA	33.0	36.0
90+	5700	SPMWH3326MD5WAQ0SA	SA	31.0	34.0
	6500	SPMWH3326MD5WAP0SA	SA	31.0	34.0
	2700	SPMWH3326MD7WAW0SA	SA	24.0	27.0
	3000	SPMWH3326MD7WAV0SA	SA	24.5	27.5
	3500	SPMWH3326MD7WAU0SA	SA	25.5	28.5
	4000	SPMWH3326MD7WAT0SA	SA	26.0	29.0
	5000	SPMWH3326MD7WAR0SA	SA	26.5	29.5
	5700	SPMWH3326MD7WAQ0SA	SA	26.5	29.5
	6500	SPMWH3326MD7WAP0SA	SA	26.0	29.0

LM302Z



Designed for best lm/\$

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



[150mA, 25°C]

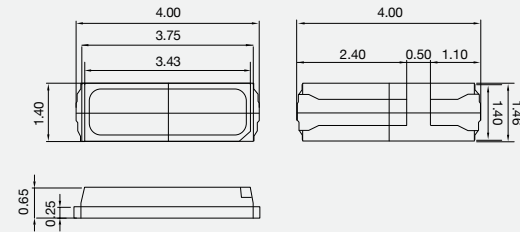
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	3000	SPMWH3326FD3GBV0SA	SA	129	139
	3500	SPMWH3326FD3GBU0SA	SA	132	142
	4000	SPMWH3326FD3GBT0SA	SA	137	147
	5000	SPMWH3326FD3GBR0SA	SA	137	147
	5700	SPMWH3326FD3GBQ0SA	SA	137	147
80+	2700	SPMWH3326FD5GBW0SA	SA	122	132
	3000	SPMWH3326FD5GBV0SA	SA	123	133
	3500	SPMWH3326FD5GBU0SA	SA	126	136
	4000	SPMWH3326FD5GBT0SA	SA	128	138
	5000	SPMWH3326FD5GBR0SA	SA	130	140
	5700	SPMWH3326FD5GBQ0SA	SA	128	138
	6500	SPMWH3326FD5GBP0SA	SA	127	137
90+	2700	SPMWH3326FD7GBW0SA	SA	102	112
	3000	SPMWH3326FD7GBV0SA	SA	105	115
	3500	SPMWH3326FD7GBU0SA	SA	107	117
	4000	SPMWH3326FD7GBT0SA	SA	111	121
	5000	SPMWH3326FD7GBR0SA	SA	112	122
	5700	SPMWH3326FD7GBQ0SA	SA	111	121
	6500	SPMWH3326FD7GBP0SA	SA	111	121

LM401BA Plus



IP guaranteed mid-power 0.2W package for slim edge-lit panel applications

- 0.2W class mid power LED
- Suitable for slim edge-lit panel application
- Standard footprint: 4.0 mm x 1.4 mm



[60mA, 25°C]

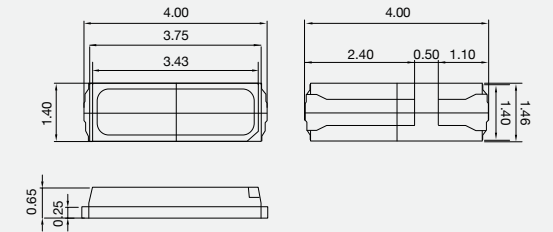
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+	2700	SPMWH1410CD5WAW0S*	S1	21	23
			S2	23	25
			S3	25	27
			S4	27	29
	3000	SPMWH1410CD5WAV0S*	S1	21	23
			S2	23	25
			S3	25	27
			S4	27	29
	3500	SPMWH1410CD5WAW0S*	S1	22	24
			S2	24	26
			S3	26	28
			S4	28	30
	4000	SPMWH1410CD5WAT0S*	S1	23	25
			S2	25	27
			S3	27	29
			S4	29	31
	5000	SPMWH1410CD5WAR0S*	S1	24	26
			S2	26	28
			S3	28	30
			S4	30	32
	5700	SPMWH1410CD5WAQ0S*	S1	23	25
			S2	25	27
			S3	27	29
			S4	29	31
6500	SPMWH1410CD5WAP0S*	S1	23	25	
		S2	25	27	
		S3	27	29	
		S4	29	31	

LM401B Plus



IP guaranteed mid-power 0.5W package for slim edge-lit panel applications

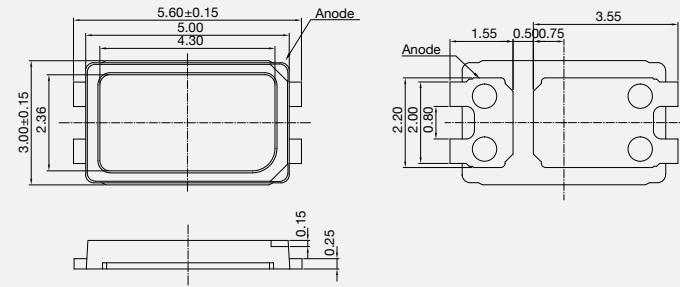
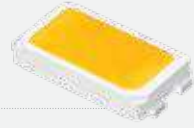
- 0.5W class mid power LED
- Suitable for slim edge-lit panel applications
- Standard footprint: 4.0 mm x 1.4 mm



[120mA, 25°C]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+	2700	SPMWH1410CD5WAW0S*	S2	40	44
			S3	44	48
			S4	48	52
			S2	40	44
	3000	SPMWH1410CD5WAV0S*	S3	44	48
			S4	48	52
			S2	40	44
			S3	44	48
	3500	SPMWH1410CD5WAW0S*	S2	40	44
			S3	44	48
			S4	48	52
			S2	44	48
	4000	SPMWH1410CD5WAT0S*	S3	48	52
			S4	52	56
			S2	46	50
			S3	50	54
	5000	SPMWH1410CD5WAR0S*	S4	54	58
			S2	45	49
			S3	49	53
			S4	53	57
	5700	SPMWH1410CD5WAQ0S*	S2	44	48
			S3	48	52
			S4	52	56
			S2	44	48
6500	SPMWH1410CD5WAP0S*	S3	48	52	
		S4	52	56	
		S2	44	48	
		S3	48	52	

LM561B Plus



Improved efficacy and performance of LM561B to provide better solution

- 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	32.0	34.0
			S6	34.0	36.0
			S7	36.0	38.0
	3000	SPMWHT541MP3WAV0S0	S5	32.5	34.5
			S6	34.5	36.5
			S7	36.5	38.5
	3500	SPMWHT541MP3WAW0S0	S5	33.0	35.0
			S6	35.0	37.0
			S7	37.0	39.0
	4000	SPMWHT541MP3WAT0S0	S5	34.0	35.8
			S6	35.8	38.0
			S7	38.0	40.0
5000	SPMWHT541MP3WAR0S0	S4	33.0	35.0	
		S6	37.0	39.0	
80+	2700	SPMWHT541MP5WAW0S4	S4	30.0	32.0
			S5	32.0	34.0
	3000	SPMWHT541MP5WAV0S4	S4	30.5	32.5
			S5	32.5	34.5
	3500	SPMWHT541MP5WAV0S5	S6	34.5	36.5
			S4	31.0	33.0
	4000	SPMWHT541MP5WAW0S4	S4	31.0	33.0
			S5	33.0	35.0
	4000	SPMWHT541MP5WAT0S4	S4	32.0	34.0
			S5	34.0	36.0
	4000	SPMWHT541MP5WAT0S5	S6	36.0	38.0
			S4	33.0	35.0
	5000	SPMWHT541MP5WAR0S4	S4	33.0	35.0
			S5	35.0	37.0
	5000	SPMWHT541MP5WAR0S5	S6	37.0	39.0
			S4	32.5	34.5
	5700	SPMWHT541MP5WAQ0S4	S4	32.5	34.5
			S5	34.5	36.5
5700	SPMWHT541MP5WAQ0S5	S6	36.5	38.5	
		S4	32.0	34.0	
6500	SPMWHT541MP5WAP0S4	S4	32.0	34.0	
		S5	34.0	36.0	
6500	SPMWHT541MP5WAP0S5	S6	36.0	38.0	

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
80+ MacAdam 3 step	2700	SPMWHT541MP5WAWUS4	S4	30.0	32.0
			S5	32.0	34.0
	3000	SPMWHT541MP5WAVUS4	S4	30.5	32.5
			S5	32.5	34.5
	3500	SPMWHT541MP5WAWUS4	S4	31.0	33.0
			S5	33.0	35.0
	4000	SPMWHT541MP5WATUS4	S4	32.0	34.0
			S5	34.0	36.0
	5000	SPMWHT541MP5WARUS4	S4	33.0	35.0
			S5	35.0	37.0
	5700	SPMWHT541MP5WAQUS4	S4	32.5	34.5
			S5	34.5	36.5
6500	SPMWHT541MP5WAPUS4	S4	32.0	34.0	
		S5	34.0	36.0	
90+	2700	SPMWHT541MP7WAW0S0	S1	24.0	26.0
			S2	26.0	28.0
			S3	28.0	30.0
	3000	SPMWHT541MP7WAV0S0	S1	24.5	26.5
			S2	26.5	28.5
			S3	28.5	30.5
	3500	SPMWHT541MP7WAW0S0	S1	25.0	27.0
			S2	27.0	29.0
			S3	29.0	31.0
	4000	SPMWHT541MP7WAT0S0	S1	26.0	28.0
			S2	28.0	30.0
			S3	30.0	32.0
	5000	SPMWHT541MP7WAR0S0	S1	27.0	29.0
			S2	29.0	31.0
			S3	31.0	33.0
	5700	SPMWHT541MP7WAQ0S0	S1	26.5	28.5
			S2	28.5	30.5
			S3	30.5	32.5
6500	SPMWHT541MP7WAP0S0	S1	26.0	28.0	
		S2	28.0	30.0	
		S3	30.0	32.0	
90+ Premium Efficacy	2700	SPMWHT541MT7WAW0SB	S0	26.0	30.0
			SB	26.0	28.0
			SC	28.0	30.0
	3000	SPMWHT541MT7WAV0SB	S0	27.0	31.0
			SB	27.0	29.0
			SC	29.0	31.0
	3500	SPMWHT541MT7WAW0SB	S0	28.0	32.0
			SB	28.0	30.0
			SC	30.0	32.0
	4000	SPMWHT541MT7WAT0SB	S0	29.0	33.0
			SB	29.0	31.0
			SC	31.0	33.0
	5000	SPMWHT541MT7WAR0SB	S0	30.0	34.0
			SB	30.0	32.0
			SC	32.0	34.0
	5700	SPMWHT541MT7WAQ0SB	S0	29.0	33.0
			SB	29.0	31.0
			SC	31.0	33.0
6500	SPMWHT541MT7WAP0SB	S0	28.0	32.0	
		SB	28.0	30.0	
		SC	30.0	32.0	

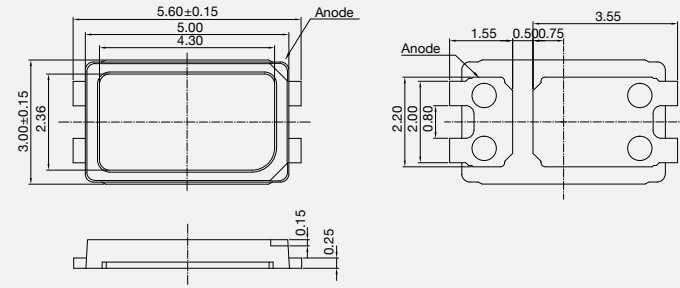


LM561C



High performance, highest lm/W for fluorescent lamp replacement

- 0.3W class mid power LED
- Highest efficacy: 210lm/W @65mA, 5000K, CRI 80
- Standard footprint: 5.6mm x 3.0mm



[65mA, 25°C]

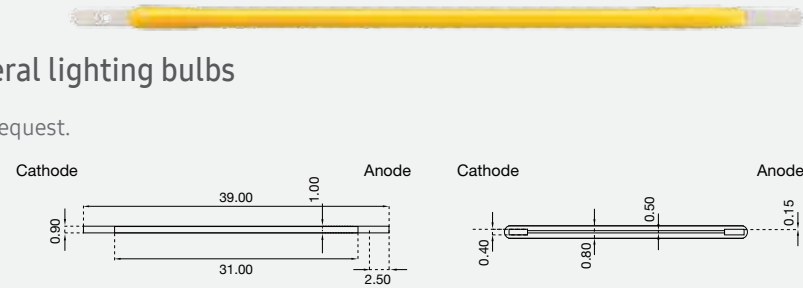
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	3000	SPMWHT541ML3XAV0S0	S5	32.5	34.5
			S6	34.5	36.5
			S7	36.5	38.5
	3500	SPMWHT541ML3XAU0S0	S5	33.0	35.0
			S6	35.0	37.0
			S7	37.0	39.0
	4000	SPMWHT541ML3XAT0S0	S5	34.0	36.0
			S6	36.0	38.0
			S7	38.0	40.0
	5000	SPMWHT541ML3XAR0S0	S5	35.0	37.0
			S6	37.0	39.0
			S7	39.0	41.0
80+	2700	SPMWHT541ML5XAW0S0	S4	30.0	32.0
			S5	32.0	34.0
	3000	SPMWHT541ML5XAV0S0	S4	30.5	32.5
			S5	32.5	34.5
	3500	SPMWHT541ML5XAU0S0	S4	31.0	33.0
			S5	33.0	35.0
	4000	SPMWHT541ML5XAT0S0	S4	32.0	34.0
			S5	34.0	36.0
			S6	36.0	38.0
	5000	SPMWHT541ML5XAR0S0	S4	33.0	35.0
			S5	35.0	37.0
			S6	37.0	39.0
5700	SPMWHT541ML5XAQ0S0	S4	32.5	34.5	
		S5	34.5	36.5	
		S6	36.5	38.5	
6500	SPMWHT541ML5XAP0S0	S4	32.0	34.0	
		S5	34.0	36.0	
		S6	36.0	38.0	
80+ MacAdam 3 step	2700	SPMWHT541ML5WAWUS4	S4	30.0	32.0
			SPMWHT541ML5WAWUS5	S5	32.0
	3000	SPMWHT541ML5WAVUS5	S5	30.5	32.5
			SPMWHT541ML5WAVUS6	S6	32.5
	3500	SPMWHT541ML5WAAUS5	S5	31.0	33.0
			SPMWHT541ML5WAAUS6	S6	33.0
	4000	SPMWHT541ML5WATUS5	S5	32.0	34.0
			SPMWHT541ML5WATUS6	S6	34.0
	5000	SPMWHT541ML5WARUS5	S5	33.0	35.0
			SPMWHT541ML5WARUS6	S6	35.0

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
90+	2700	SPMWHT541ML7XAW0S0	S1	24.0	26.0
			S2	26.0	28.0
			S3	28.0	30.0
	3000	SPMWHT541ML7XAV0S0	S1	24.5	26.5
			S2	26.5	28.5
			S3	28.5	30.5
	3500	SPMWHT541ML7XAU0S0	S1	25.0	27.0
			S2	27.0	29.0
			S3	29.0	31.0
	4000	SPMWHT541ML7XAT0S0	S1	26.0	28.0
			S2	28.0	30.0
			S3	30.0	32.0
5000	SPMWHT541ML7XAR0S0	S1	27.0	29.0	
		S2	29.0	31.0	
		S3	31.0	33.0	
5700	SPMWHT541ML7XAQ0S0	S1	26.5	28.5	
		S2	28.5	30.5	
		S3	30.5	32.5	
6500	SPMWHT541ML7XAP0S0	S1	26.0	28.0	
		S2	28.0	30.0	
		S3	30.0	32.0	
90+ Premium Efficacy	2700	SPMWHT541MT7XAW0S0	S0	28.0	32.0
			SB	28.0	30.0
			SC	30.0	32.0
	3000	SPMWHT541MT7XAV0S0	S0	28.0	32.0
			SB	28.0	30.0
			SC	30.0	32.0
	3500	SPMWHT541MT7XAU0S0	S0	29.0	33.0
			SB	29.0	31.0
			SC	31.0	33.0
	4000	SPMWHT541MT7XAT0S0	S0	30.0	34.0
			SB	30.0	32.0
			SC	32.0	34.0
5000	SPMWHT541MT7XAR0S0	S0	31.0	35.0	
		SB	31.0	33.0	
		SC	33.0	35.0	
5700	SPMWHT541MT7XAQ0S0	S0	30.0	34.0	
		SB	30.0	32.0	
		SC	32.0	34.0	
6500	SPMWHT541MT7XAP0S0	S0	30.0	34.0	
		SB	30.0	32.0	
		SC	32.0	34.0	

Filament LED

Filament LED for decorative and general lighting bulbs

- Customized designs are available per customer request.
- Length: 28, 38, 48, 58, 68mm
- Substrate: Ceramic, Sapphire
- CCT: 2200, 2400, 2700, 3000, 4000, 5000K
- CRI: 80+, 90+



LF007A

[25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	90	106	10	Ceramic	0	SPMWHTFM31D523WTFY
		97	113	10	Sapphire	0	SPMWH1FM31D523WTFY

LF009A

[25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	132	148	10	Sapphire	0	SPMWHTFM31D545WTKY
						-	SPMWH1FM31D545WTKY

LF010A

[25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	162	190	15	Sapphire	0	SPMWHTFM3RD524WTR1

LF310B

[25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	95	105	10	Ceramic	-	SPMWH1FC31D52PWTF2

LF311B

[25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	100	110	10	Ceramic	-	SPMWH1FC31D52UWTG1

LF312B

[25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	110	120	10	Ceramic	-	SPMWH1FC31D52TWTG1

LF314B

[25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	130	140	10	Ceramic	-	SPMWH1FC31D54NWTG1

LF321B

[25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	200	220	15	Ceramic	-	SPMWH1FC31D54NWTG1

LF423B

[25°C]

CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	220	240	20	Ceramic	-	SPMWH1FC42D52TWTU1

LF622B

[25°C]

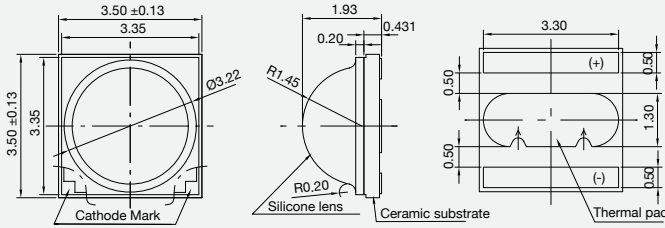
CRI	CCT (K)	Luminous Flux (lm)		IF (mA)	Substrate	1V Sorting	Part Number
		Min.	Max.				
80+	2700	210	230	10	Ceramic	-	SPMWH1FC61D59RWTG2

LH351B



Cost effective solution for outdoor & directional lighting applications

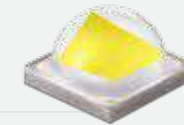
- Operates at a maximum current of up to 1.5A
- High efficacy outdoor solution (Delivering set efficacy over 110lm/W @700mA)
- Excellent efficacy: 172lm/W @350mA, 85°C, 4000K
- LM80 Certified @1A, 105°C (Ts) (L90>60,000 @ 1A)
- Footprint: 3.5mm x 3.5mm



[350mA, 85°C]

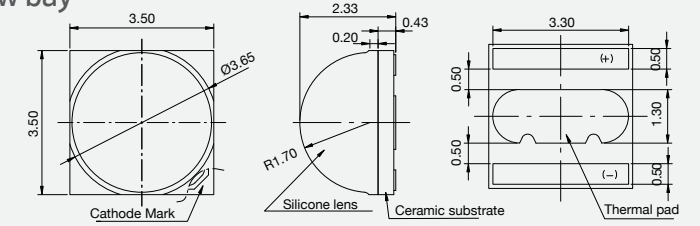
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SPHWH2L3D30CD4W0K3	K1, M1, N1	130	160
		SPHWH2L3D30CD4W0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4W0N3	N1, P1, Q1	150	180
	3000	SPHWH2L3D30CD4V0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4V0N3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4U0K3	K1, M1, N1	130	160
	3500	SPHWH2L3D30CD4U0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4U0N3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4T0N3	N1, P1, Q1	150	180
	4000	SPHWH2L3D30CD4T0P3	P1, Q1, R1	160	190
		SPHWH2L3D30CD4R1M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4R1N3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4R1P3	P1, Q1, R1	160	190
		SPHWH2L3D30CD4R1Q3	Q1, R1	170	190
		SPHWH2L3D30CD4Q1N3	N1, P1, Q1	150	180
	5000	SPHWH2L3D30CD4Q1P3	P1, Q1, R1	160	190
		SPHWH2L3D30CD4Q1T3	Q1, R1	170	190
		SPHWH2L3D30CD4Q1M3	M1, N1, P1	140	170
75+	5000	SPHWH1L3D30DD4R1N3	N1, P1, Q1	150	180
		SPHWH1L3D30DD4R1P3	P1, Q1, R1	160	190
		SPHWH1L3D30DD4Q1M3	M1, N1, P1	140	170
	5700	SPHWH1L3D30DD4Q1N3	N1, P1, Q1	150	180
		SPHWH1L3D30DD4Q1P3	P1, Q1, R1	160	190
		SPHWH1L3D30DD4Q1T3	Q1, R1	170	190
80+	2200	SPHWH2L3D30ED4Y0G3	G1, H1, J1	100	130
		SPHWH2L3D30ED4W0J3	J1, K1, M1	120	150
		SPHWH2L3D30ED4W0K3	K1, M1, N1	130	160
	2700	SPHWH2L3D30ED4V0J3	J1, K1, M1	120	150
		SPHWH2L3D30ED4V0K3	K1, M1, N1	130	160
		SPHWH2L3D30ED4V0M3	M1, N1, P1	140	170
	3000	SPHWH2L3D30ED4U0K3	K1, M1, N1	130	160
		SPHWH2L3D30ED4U0M3	M1, N1, P1	140	170
		SPHWH2L3D30ED4T0K3	K1, M1, N1	130	160
	3500	SPHWH2L3D30ED4T0M3	M1, N1, P1	140	170
		SPHWH2L3D30ED4R1M3	M1, N1, P1	140	170
		SPHWH2L3D30ED4R1N3	N1, P1, Q1	150	180
		SPHWH2L3D30ED4Q1M3	M1, N1, P1	140	170
		SPHWH2L3D30ED4Q1N3	N1, P1, Q1	150	180
		SPHWH2L3D30ED4P1K3	K1, M1, N1	130	160
	4000	SPHWH2L3D30ED4P1M3	M1, N1, P1	140	170
		SPHWH2L3D30ED4P1N3	N1, P1, Q1	150	180
		SPHWH2L3D30ED4P1Q3	Q1, R1	160	190
SPHWH2L3D30ED4P1K3		K1, M1, N1	130	160	
SPHWH2L3D30ED4P1M3		M1, N1, P1	140	170	
SPHWH2L3D30ED4P1N3		N1, P1, Q1	150	180	
5000	SPHWH2L3D30ED4R1K3	K1, M1, N1	130	160	
	SPHWH2L3D30ED4R1M3	M1, N1, P1	140	170	
	SPHWH2L3D30ED4R1N3	N1, P1, Q1	150	180	
	SPHWH2L3D30ED4R1Q3	Q1, R1	160	190	
	SPHWH2L3D30ED4R1K3	K1, M1, N1	130	160	
	SPHWH2L3D30ED4R1M3	M1, N1, P1	140	170	

LH351C



High performance suitable for Street, High/Low bay & Stadium/Arena lighting applications

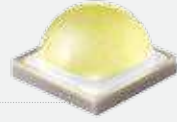
- Operates at a maximum current of up to 2.0 A
- High efficacy outdoor solution (Delivering set efficacy over 120lm/W @700mA)
- Excellent efficacy: 160lm/W @700mA, 85°C
- Footprint: 3.5mm x 3.5mm



[700mA, 85°C]

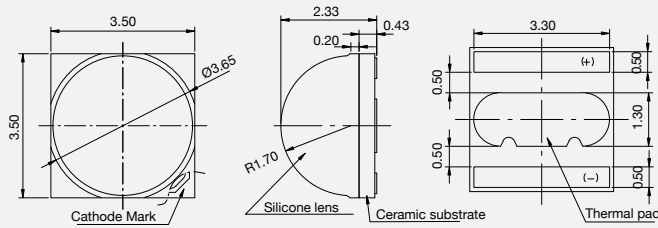
CRI	CCT (K)	Part Number	Luminous Flux (lm)			
			Bin	Min.	Max.	
70+	2700	SPHWHTL3D50CE4W0MF	MB, NB, PB	250	310	
		SPHWHTL3D50CE4W0NF	NB, PB, QB	270	330	
		SPHWHTL3D50CE4V0NF	NB, PB, QB	270	330	
	3000	SPHWHTL3D50CE4V0PF	PB, QB, RB	290	350	
		SPHWHTL3D50CE4U0PF	PB, QB, RB	290	350	
		SPHWHTL3D50CE4U0QF	QB, RB, SB	310	370	
	4000	SPHWHTL3D50CE4T0PF	PB, QB, RB	290	350	
		SPHWHTL3D50CE4T0QF	QB, RB, SB	310	370	
		SPHWHTL3D50CE4R1PF	PB, QB, RB	290	350	
		SPHWHTL3D50CE4R1QF	QB, RB, SB	310	370	
		SPHWHTL3D50CE4Q1PF	PB, QB, RB	310	370	
		SPHWHTL3D50CE4Q1QF	QB, RB, SB	310	370	
	5000	SPHWHTL3D50CE4P1PF	PB, QB, RB	290	350	
		SPHWHTL3D50CE4P1QF	QB, RB, SB	310	370	
		SPHWHTL3D50CE4PTPF	PB, QB, RB	290	350	
	80+	2700	SPHWHTL3D50EE4W0MF	MB, NB, PB	250	310
			SPHWHTL3D50EE4V0NF	NB, PB, QB	270	330
			SPHWHTL3D50EE4U0NF	NB, PB, QB	270	330
3000		SPHWHTL3D50EE4T0MF	MB, NB, PB	250	310	
		SPHWHTL3D50EE4T0NF	NB, PB, QB	270	330	
		SPHWHTL3D50EE4R1NF	NB, PB, QB	270	330	
3500		SPHWHTL3D50EE4R1NPF	PB, QB, RB	290	350	
		SPHWHTL3D50EE4Q1NPF	NB, PB, QB	270	330	
		SPHWHTL3D50EE4Q1QPF	QB, RB, SB	290	350	
4000		SPHWHTL3D50GE4W0HF	HB, JB, KB	190	250	
		SPHWHTL3D50GE4W0JF	JB, KB, MB	210	270	
		SPHWHTL3D50GE4V0JF	JB, KB, MB	210	270	
		SPHWHTL3D50GE4U0KF	KB, MB, NB	230	290	
		SPHWHTL3D50GE4T0JF	JB, KB, MB	210	270	
		SPHWHTL3D50GE4T0KF	KB, MB, NB	230	290	
5000		SPHWHTL3D50GE4R1KHF	KB, MB, NB	230	290	
		SPHWHTL3D50GE4R1TMF	MB, NB, PB	250	310	
		SPHWHTL3D50GE4R1TMF	MB, NB, PB	250	310	

LH351D



Best solution for high lumen output:
Street & Stadium/Arena lighting applications

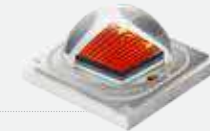
- Operates at a maximum current of up to 3.0A
- High efficacy outdoor solution (Delivering set efficacy over 120lm/W @1050mA)
- Higher TLCI value with CRI90 line-up for broadcast use (Stadium/Arena lighting)
- Footprint: 3.5mm x 3.5mm



[1050mA, 85°C]

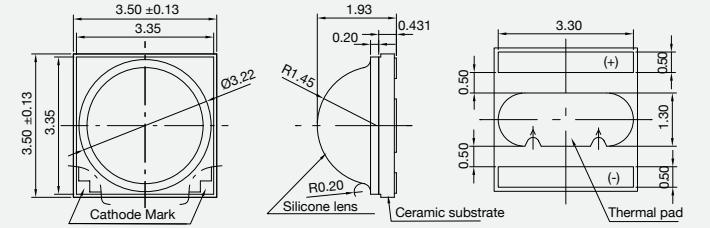
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SPHWHTL3DAOCF4W0S6	S2, T2, U2	380	440
		SPHWHTL3DAOCF4W0T6	T2, U2, V2	400	460
		SPHWHTL3DAOCF4V0T6	T2, U2, V2	400	460
		SPHWHTL3DAOCF4V0U6	U2, V2, W2	420	480
	3000	SPHWHTL3DAOCF4V0V6	V2, W2, Y2	440	500
		SPHWHTL3DAOCF4V0W6	W2, Y2, Z2	460	520
		SPHWHTL3DAOCF4U0T6	T2, U2, V2	400	460
		SPHWHTL3DAOCF4U0U6	U2, V2, W2	420	480
	3500	SPHWHTL3DAOCF4U0V6	V2, W2, Y2	440	500
		SPHWHTL3DAOCF4U0W6	W2, Y2, Z2	460	520
		SPHWHTL3DAOCF4T0U6	U2, V2, W2	420	480
		SPHWHTL3DAOCF4T0V6	V2, W2, Y2	440	500
	4000	SPHWHTL3DAOCF4T0W6	W2, Y2, Z2	460	520
		SPHWHTL3DAOCF4T0Y6	Y2, Z2, I2	480	540
		SPHWHTL3DAOCF4RTV6	V2, W2, Y2	440	500
		SPHWHTL3DAOCF4RTW6	W2, Y2, Z2	460	520
	5000	SPHWHTL3DAOCF4RTY6	Y2, Z2, I2	480	540
		SPHWHTL3DAOCF4RTZ6	Z2, I2, Z2	500	560
		SPHWHTL3DAOCF4QTV6	V2, W2, Y2	440	500
		SPHWHTL3DAOCF4QTW6	W2, Y2, Z2	460	520
6500	SPHWHTL3DAOCF4QTY6	Y2, Z2, I2	480	540	
	SPHWHTL3DAOCF4PTU6	U2, V2, W2	420	480	
	SPHWHTL3DAOCF4PTV6	V2, W2, Y2	440	500	
	SPHWHTL3DAOCF4PTW6	W2, Y2, Z2	460	520	
80+	2700	SPHWHTL3DAOEF4W0Q6	Q2, R2, S2	340	400
		SPHWHTL3DAOEF4W0R6	R2, S2, T2	360	420
		SPHWHTL3DAOEF4V0R6	R2, S2, T2	360	420
		SPHWHTL3DAOEF4U0R6	R2, S2, T2	360	420
	3500	SPHWHTL3DAOEF4U0S6	S2, T2, U2	380	440
		SPHWHTL3DAOEF4T0S6	S2, T2, U2	380	440
		SPHWHTL3DAOEF4T0T6	T2, U2, V2	400	460
		SPHWHTL3DAOEF4RTS6	S2, T2, U2	380	440
	5000	SPHWHTL3DAOEF4RTT6	T2, U2, V2	400	460
		SPHWHTL3DAOEF4QRT6	T2, U2, V2	400	460
		SPHWHTL3DAOEF4QRU6	U2, V2, W2	420	480
		SPHWHTL3DAOEF4QTT6	T2, U2, V2	400	460
	6000	SPHWHTL3DAOEF4QTU6	U2, V2, W2	420	480
		SPHWHTL3DAOEF4PQT6	T2, U2, V2	400	460
		SPHWHTL3DAOEF4PQU6	U2, V2, W2	420	480
		SPHWHTL3DAOEF4PTT6	T2, U2, V2	400	460
	6500	SPHWHTL3DAOEF4PTU6	U2, V2, W2	420	480
		SPHWHTL3DAOGF4W0M6	M2, N2, P2	280	340
		SPHWHTL3DAOGF4W0N6	N2, P2, Q2	300	360
		SPHWHTL3DAOGF4V0N6	N2, P2, Q2	300	360
90+	3000	SPHWHTL3DAOGF4V0P6	P2, Q2, R2	320	380
		SPHWHTL3DAOGF4U0N6	N2, P2, Q2	300	360
	3500	SPHWHTL3DAOGF4U0P6	P2, Q2, R2	320	380
		SPHWHTL3DAOGF4TOP6	P2, Q2, R2	320	380
	4000	SPHWHTL3DAOGF4TOQ6	Q2, R2, S2	340	400
		SPHWHTL3DAOGF4RTR6	R2, S2, T2	360	420
	5000	SPHWHTL3DAOGF4RTS6	S2, T2, U2	380	440
		SPHWHTL3DAOGF4PQR6	R2, S2, T2	360	420
6000	SPHWHTL3DAOGF4PQS6	S2, T2, U2	380	440	

LH351B RED



Red color high power LEDs for horticulture lighting and signage applications

- Red color - 660nm
- Footprint: 3.5mm x 3.5mm (Compatible with LH351B)

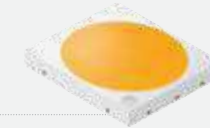


[350mA, 25°C]

Color	Wavelength (nm)	Part Number	Specification (Typical)		
			Optical power (mW)	PPF* (μmol/s)	PPF/W (μmol/J)
Red	660	SPHRD2L3D300A400D2	400	3.2	4.5

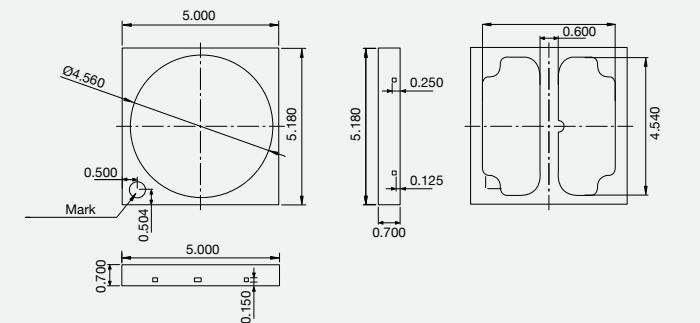
* Photosynthetic Photon Flux

LH508A



Designed for best lm/\$ with high luminous flux

- Hybrid solution mixing mid and high power LED
- EMC mold resin for high reliability
- Suitable for street light, high/low bay light & spot light
- Design flexible footprint: 5.0mm x 5.0mm






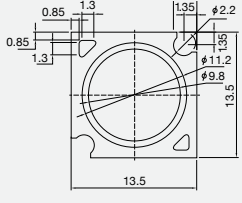
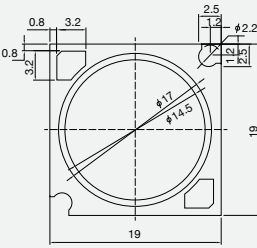
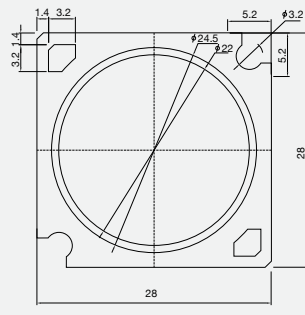
[160mA, 25°C]


CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Typ.
70+	3000	SPHWH1L5N403XEV5A1	A1	521	572
	4000	SPHWH1L5N403XET5A1	A1	558	610
	5000	SPHWH1L5N403XER5A1	A1	558	610
	5700	SPHWH1L5N403XEQ5A1	A1	558	610
80+	2700	SPHWH1L5N405XEW5A1	A1	459	504
	3000	SPHWH1L5N405XEV5A1	A1	473	520
	4000	SPHWH1L5N405XET5A1	A1	521	550
	5000	SPHWH1L5N405XER5A1	A1	521	550
90+	2700	SPHWH1L5N407XEW5A1	A1	402	429
	3000	SPHWH1L5N407XEV5A1	A1	416	444
4000	SPHWH1L5N407XET5A1	A1	443	473	

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				22 mm			
Typical	33.8V										
	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											
	13.5mm x 13.5mm			19mm x 19mm				28mm x 28mm			
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 2step	SPHWAHDNA25YZW2D3	475	156	90mA	33.8V
			MacAdam 3step	SPHWAHDNA25YZW3D3				
		3000	MacAdam 2step	SPHWAHDNA25YZV2D3	499	164		
			MacAdam 3step	SPHWAHDNA25YZV3D3				
		3500	MacAdam 2step	SPHWAHDNA25YZU2D3	514	169		
			MacAdam 3step	SPHWAHDNA25YZU3D3				
	4000	MacAdam 2step	SPHWAHDNA25YZT2D3	524	172			
		MacAdam 3step	SPHWAHDNA25YZT3D3					
	90+	5000	MacAdam 3step	SPHWAHDNA25YZR3D3	529	174		
			MacAdam 3step	SPHWAHDNA25YZQ3D3				
		2700	MacAdam 2step	SPHWAHDNA27YZW2D3	407	134		
			MacAdam 3step	SPHWAHDNA27YZW3D3				
3000		MacAdam 2step	SPHWAHDNA27YZV2D3	428	141			
		MacAdam 3step	SPHWAHDNA27YZV3D3					
3500	MacAdam 2step	SPHWAHDNA27YZU2D3	441	145				
	MacAdam 3step	SPHWAHDNA27YZU3D3						
4000	MacAdam 2step	SPHWAHDNA27YZT2D3	450	148				
	MacAdam 3step	SPHWAHDNA27YZT3D3						
5000	MacAdam 3step	SPHWAHDNA27YZR3D3	453	149				
	MacAdam 3step	SPHWAHDNA27YZQ3D3						
 LC006D Gen 3	80+	2700	MacAdam 2step	SPHWAHDNB25YZW2D3	946	155	180mA	33.8V
			MacAdam 3step	SPHWAHDNB25YZW3D3				
		3000	MacAdam 2step	SPHWAHDNB25YZV2D3	994	163		
			MacAdam 3step	SPHWAHDNB25YZV3D3				
		3500	MacAdam 2step	SPHWAHDNB25YZU2D3	1023	168		
			MacAdam 3step	SPHWAHDNB25YZU3D3				
	4000	MacAdam 2step	SPHWAHDNB25YZT2D3	1043	171			
		MacAdam 3step	SPHWAHDNB25YZT3D3					
	5000	MacAdam 3step	SPHWAHDNB25YZR3D3	1052	173			
		MacAdam 3step	SPHWAHDNB25YZQ3D3					
	6500	MacAdam 3step	SPHWAHDNB25YZP3D3	1043	171			
		MacAdam 2step	SPHWAHDNB27YZW2D3					
90+	2700	MacAdam 3step	SPHWAHDNB27YZW3D3	809	133			
		MacAdam 2step	SPHWAHDNB27YZV2D3					
	3000	MacAdam 2step	SPHWAHDNB27YZV3D3	851	140			
		MacAdam 3step	SPHWAHDNB27YZU2D3					
	3500	MacAdam 2step	SPHWAHDNB27YZU3D3	877	144			
		MacAdam 3step	SPHWAHDNB27YZT2D3					
4000	MacAdam 2step	SPHWAHDNB27YZT3D3	895	147				
	MacAdam 3step	SPHWAHDNB27YZR3D3						
5000	MacAdam 3step	SPHWAHDNB27YZQ3D3	902	148				
	MacAdam 3step	SPHWAHDNB27YZP3D3						


Chip-on-Board LEDs

Component

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 3step	SPHWAHDNC23YZV3D3	1594	174	270mA 33.8V
		4000	MacAdam 3step	SPHWAHDNC23YZT3D3	1624	177	
		5000	MacAdam 3step	SPHWAHDNC23YZR3D3	1653	180	
	80+	2700	MacAdam 2step	SPHWAHDNC25YZW2D3	1405	154	
			MacAdam 3step	SPHWAHDNC25YZW3D3			
		3000	MacAdam 2step	SPHWAHDNC25YZV2D3	1476	162	
			MacAdam 3step	SPHWAHDNC25YZV3D3			
		3500	MacAdam 2step	SPHWAHDNC25YZU2D3	1519	166	
			MacAdam 3step	SPHWAHDNC25YZU3D3			
	4000	MacAdam 2step	SPHWAHDNC25YZT2D3	1550	170		
		MacAdam 3step	SPHWAHDNC25YZT3D3				
	90+	5000	MacAdam 3step	SPHWAHDNC25YZR3D3	1563	171	
			MacAdam 3step	SPHWAHDNC25YZQ3D3			
		6500	MacAdam 3step	SPHWAHDNC25YZP3D3	1550	170	
			MacAdam 2step	SPHWAHDNC27YZW2D3			
		2700	MacAdam 3step	SPHWAHDNC27YZW3D3			
			3000	MacAdam 2step	SPHWAHDNC27YZV2D3	1264	
	MacAdam 3step	SPHWAHDNC27YZV3D3					
90+	3500	MacAdam 2step	SPHWAHDNC27YZU2D3	1302	143		
		MacAdam 3step	SPHWAHDNC27YZU3D3				
	4000	MacAdam 2step	SPHWAHDNC27YZT2D3	1329	146		
		MacAdam 3step	SPHWAHDNC27YZT3D3				
	5000	MacAdam 3step	SPHWAHDNC27YZR3D3	1340	147		
		MacAdam 3step	SPHWAHDND23YZV3D3			2094	171
70+	4000	MacAdam 3step	SPHWAHDND23YZT3D3	2133	174		
	5000	MacAdam 3step	SPHWAHDND23YZR3D3	2171	177		
	2700	MacAdam 2step	SPHWAHDND35YZW2D3	1845	152		
MacAdam 3step		SPHWAHDND35YZW3D3					
80+	3000	MacAdam 2step	SPHWAHDND35YZV2D3	1939	159		
		MacAdam 3step	SPHWAHDND35YZV3D3				
	3500	MacAdam 2step	SPHWAHDND35YZU2D3	1996	164		
		MacAdam 3step	SPHWAHDND35YZU3D3				
	4000	MacAdam 2step	SPHWAHDND35YZT2D3	2036	167		
		MacAdam 3step	SPHWAHDND35YZT3D3				
5000	MacAdam 3step	SPHWAHDND35YZR3D3	2053	169			
	MacAdam 3step	SPHWAHDND35YZQ3D3					
90+	6500	MacAdam 3step	SPHWAHDND35YZP3D3	2036	167		
		MacAdam 2step	SPHWAHDND37YZW2D3			1579	130
	2700	MacAdam 3step	SPHWAHDND37YZW3D3				
		3000	MacAdam 2step	SPHWAHDND37YZV2D3	1661	137	
	MacAdam 3step		SPHWAHDND37YZV3D3				
	90+	3500	MacAdam 2step	SPHWAHDND37YZU2D3	1710	141	
MacAdam 3step			SPHWAHDND37YZU3D3				
4000		MacAdam 2step	SPHWAHDND37YZT2D3	1745	143		
		MacAdam 3step	SPHWAHDND37YZT3D3				
5000	MacAdam 3step	SPHWAHDND37YZR3D3	1760	145			


Chip-on-Board LEDs

Component

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 3step	SPHWAHDNE23YZV3D3	2697	176	450mA 33.8V
		4000	MacAdam 3step	SPHWAHDNE23YZT3D3	2747	180	
		5000	MacAdam 3step	SPHWAHDNE23YZR3D3	2797	183	
	80+	2700	MacAdam 2step	SPHWAHDNE25YZW2D3	2376	156	
			MacAdam 3step	SPHWAHDNE25YZW3D3			
		3000	MacAdam 2step	SPHWAHDNE25YZV2D3	2497	164	
			MacAdam 3step	SPHWAHDNE25YZV3D3			
		3500	MacAdam 2step	SPHWAHDNE25YZU2D3	2570	169	
			MacAdam 3step	SPHWAHDNE25YZU3D3			
	4000	MacAdam 2step	SPHWAHDNE25YZT2D3	2622	172		
		MacAdam 3step	SPHWAHDNE25YZT3D3				
	90+	5000	MacAdam 3step	SPHWAHDNE25YZR3D3	2644	174	
			MacAdam 3step	SPHWAHDNE25YZQ3D3			
		6500	MacAdam 3step	SPHWAHDNE25YZP3D3	2622	172	
			MacAdam 2step	SPHWAHDNE27YZW2D3			
		2700	MacAdam 3step	SPHWAHDNE27YZW3D3			
			3000	MacAdam 2step	SPHWAHDNE27YZV2D3	2139	
	MacAdam 3step	SPHWAHDNE27YZV3D3					
90+	3500	MacAdam 2step	SPHWAHDNE27YZU2D3	2203	145		
		MacAdam 3step	SPHWAHDNE27YZU3D3				
	4000	MacAdam 2step	SPHWAHDNE27YZT2D3	2248	148		
		MacAdam 3step	SPHWAHDNE27YZT3D3				
	5000	MacAdam 3step	SPHWAHDNE27YZR3D3	2267	149		
		MacAdam 3step	SPHWAHDNF23YZV3D3			3220	175
70+	4000	MacAdam 3step	SPHWAHDNF23YZT3D3	3280	179		
	5000	MacAdam 3step	SPHWAHDNF23YZR3D3	3339	182		
	2700	MacAdam 2step	SPHWAHDNF25YZW2D3	2837	155		
MacAdam 3step		SPHWAHDNF25YZW3D3					
80+	3000	MacAdam 2step	SPHWAHDNF25YZV2D3	2982	163		
		MacAdam 3step	SPHWAHDNF25YZV3D3				
	3500	MacAdam 2step	SPHWAHDNF25YZU2D3	3069	168		
		MacAdam 3step	SPHWAHDNF25YZU3D3				
	4000	MacAdam 2step	SPHWAHDNF25YZT2D3	3130	171		
		MacAdam 3step	SPHWAHDNF25YZT3D3				
5000	MacAdam 3step	SPHWAHDNF25YZR3D3	3157	173			
	MacAdam 3step	SPHWAHDNF25YZQ3D3					
90+	6500	MacAdam 3step	SPHWAHDNF25YZP3D3	3130	171		
		MacAdam 2step	SPHWAHDNF27YZW2D3			2428	133
	2700	MacAdam 3step	SPHWAHDNF27YZW3D3				
		3000	MacAdam 2step	SPHWAHDNF27YZV2D3	2554	140	
	MacAdam 3step		SPHWAHDNF27YZV3D3				
	90+	3500	MacAdam 2step	SPHWAHDNF27YZU2D3	2630	144	
MacAdam 3step			SPHWAHDNF27YZU3D3				
4000		MacAdam 2step	SPHWAHDNF27YZT2D3	2684	147		
		MacAdam 3step	SPHWAHDNF27YZT3D3				
5000	MacAdam 3step	SPHWAHDNF27YZR3D3	2707	148			


Chip-on-Board LEDs

Component

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 3step	SPHWAHDNG23YZV3D3	4230	174	720mA 33.8V
		4000	MacAdam 3step	SPHWAHDNG23YZT3D3	4308	177	
		5000	MacAdam 3step	SPHWAHDNG23YZR3D3	4387	180	
		2700	MacAdam 2step	SPHWAHDNG25YZW2D3	3727	153	
			MacAdam 3step	SPHWAHDNG25YZW3D3			
		3000	MacAdam 2step	SPHWAHDNG25YZV2D3	3917	161	
	MacAdam 3step		SPHWAHDNG25YZV3D3				
	80+	3500	MacAdam 2step	SPHWAHDNG25YZU2D3	4032	166	
			MacAdam 3step	SPHWAHDNG25YZU3D3			
		4000	MacAdam 2step	SPHWAHDNG25YZT2D3	4112	169	
			MacAdam 3step	SPHWAHDNG25YZT3D3			
		5000	MacAdam 3step	SPHWAHDNG25YZR3D3	4147	170	
5700		MacAdam 3step	SPHWAHDNG25YZQ3D3	4147	170		
6500	MacAdam 3step	SPHWAHDNG25YZP3D3	4112	169			
90+	2700	MacAdam 2step	SPHWAHDNG27YZW2D3	3190	131		
		MacAdam 3step	SPHWAHDNG27YZW3D3				
	3000	MacAdam 2step	SPHWAHDNG27YZV2D3	3355	138		
		MacAdam 3step	SPHWAHDNG27YZV3D3				
	3500	MacAdam 2step	SPHWAHDNG27YZU2D3	3455	142		
		MacAdam 3step	SPHWAHDNG27YZU3D3				
	4000	MacAdam 2step	SPHWAHDNG27YZT2D3	3526	145		
		MacAdam 3step	SPHWAHDNG27YZT3D3				
	5000	MacAdam 3step	SPHWAHDNG27YZR3D3	3556	146		
	70+	3000	MacAdam 3step	SPHWAHDNH23YZV3D3	5235	172	
		4000	MacAdam 3step	SPHWAHDNH23YZT3D3	5332	175	
		5000	MacAdam 3step	SPHWAHDNH23YZR3D3	5429	178	
80+	2700	MacAdam 2step	SPHWAHDNH25YZW2D3	4612	152		
		MacAdam 3step	SPHWAHDNH25YZW3D3				
	3000	MacAdam 2step	SPHWAHDNH25YZV2D3	4847	159		
		MacAdam 3step	SPHWAHDNH25YZV3D3				
	3500	MacAdam 2step	SPHWAHDNH25YZU2D3	4989	164		
		MacAdam 3step	SPHWAHDNH25YZU3D3				
	4000	MacAdam 2step	SPHWAHDNH25YZT2D3	5089	167		
		MacAdam 3step	SPHWAHDNH25YZT3D3				
	5000	MacAdam 3step	SPHWAHDNH25YZR3D3	5132	169		
	5700	MacAdam 3step	SPHWAHDNH25YZQ3D3	5132	169		
	6500	MacAdam 3step	SPHWAHDNH25YZP3D3	5089	167		
	90+	2700	MacAdam 2step	SPHWAHDNH27YZW2D3	3947	130	
MacAdam 3step			SPHWAHDNH27YZW3D3				
3000		MacAdam 2step	SPHWAHDNH27YZV2D3	4152	136		
		MacAdam 3step	SPHWAHDNH27YZV3D3				
3500		MacAdam 2step	SPHWAHDNH27YZU2D3	4276	141		
		MacAdam 3step	SPHWAHDNH27YZU3D3				
4000		MacAdam 2step	SPHWAHDNH27YZT2D3	4364	143		
		MacAdam 3step	SPHWAHDNH27YZT3D3				
5000		MacAdam 3step	SPHWAHDNH27YZR3D3	4401	145		

Chip-on-Board LEDs

Component

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 3step	SPHWAHDNK23YZV3D3	6440	176	1080mA 33.8V
		4000	MacAdam 3step	SPHWAHDNK23YZT3D3	6560	180	
		5000	MacAdam 3step	SPHWAHDNK23YZR3D3	6679	183	
		2700	MacAdam 2step	SPHWAHDNK25YZW2D3	5675	155	
			MacAdam 3step	SPHWAHDNK25YZW3D3			
		3000	MacAdam 2step	SPHWAHDNK25YZV2D3	5963	163	
	MacAdam 3step		SPHWAHDNK25YZV3D3				
	80+	3500	MacAdam 2step	SPHWAHDNK25YZU2D3	6138	168	
			MacAdam 3step	SPHWAHDNK25YZU3D3			
		4000	MacAdam 2step	SPHWAHDNK25YZT2D3	6261	172	
			MacAdam 3step	SPHWAHDNK25YZT3D3			
		5000	MacAdam 3step	SPHWAHDNK25YZR3D3	6313	173	
5700		MacAdam 3step	SPHWAHDNK25YZQ3D3	6313	173		
6500	MacAdam 3step	SPHWAHDNK25YZP3D3	6261	172			
90+	2700	MacAdam 2step	SPHWAHDNK27YZW2D3	4856	133		
		MacAdam 3step	SPHWAHDNK27YZW3D3				
	3000	MacAdam 2step	SPHWAHDNK27YZV2D3	5108	140		
		MacAdam 3step	SPHWAHDNK27YZV3D3				
	3500	MacAdam 2step	SPHWAHDNK27YZU2D3	5260	144		
		MacAdam 3step	SPHWAHDNK27YZU3D3				
	4000	MacAdam 2step	SPHWAHDNK27YZT2D3	5369	147		
		MacAdam 3step	SPHWAHDNK27YZT3D3				
	5000	MacAdam 3step	SPHWAHDNK27YZR3D3	5415	148		
	70+	3000	MacAdam 3step	SPHWAHDNL231ZV3D3	9518	174	
		4000	MacAdam 3step	SPHWAHDNL231ZT3D3	9694	177	
		5000	MacAdam 3step	SPHWAHDNL231ZR3D3	9870	180	
80+	2700	MacAdam 2step	SPHWAHDNL251ZW2D3	8386	153		
		MacAdam 3step	SPHWAHDNL251ZW3D3				
	3000	MacAdam 2step	SPHWAHDNL251ZV2D3	8813	161		
		MacAdam 3step	SPHWAHDNL251ZV3D3				
	3500	MacAdam 2step	SPHWAHDNL251ZU2D3	9071	166		
		MacAdam 3step	SPHWAHDNL251ZU3D3				
	4000	MacAdam 2step	SPHWAHDNL251ZT2D3	9253	169		
		MacAdam 3step	SPHWAHDNL251ZT3D3				
	5000	MacAdam 3step	SPHWAHDNL251ZR3D3	9330	170		
	5700	MacAdam 3step	SPHWAHDNL251ZQ3D3	9330	170		
	6500	MacAdam 3step	SPHWAHDNL251ZP3D3	9253	169		
	90+	2700	MacAdam 2step	SPHWAHDNL271ZW2D3	7177	131	
MacAdam 3step			SPHWAHDNL271ZW3D3				
3000		MacAdam 2step	SPHWAHDNL271ZV2D3	7549	138		
		MacAdam 3step	SPHWAHDNL271ZV3D3				
3500		MacAdam 2step	SPHWAHDNL271ZU2D3	7774	142		
		MacAdam 3step	SPHWAHDNL271ZU3D3				
4000		MacAdam 2step	SPHWAHDNL271ZT2D3	7934	145		
		MacAdam 3step	SPHWAHDNL271ZT3D3				
5000		MacAdam 3step	SPHWAHDNL271ZR3D3	8002	146		
70+		3000	MacAdam 3step	SPHWAHDNM231ZV3D3	14115	172	
		4000	MacAdam 3step	SPHWAHDNM231ZT3D3	14376	175	
		5000	MacAdam 3step	SPHWAHDNM231ZR3D3	14637	178	
80+	2700	MacAdam 2step	SPHWAHDNM251ZW2D3	12437	151		
		MacAdam 3step	SPHWAHDNM251ZW3D3				
	3000	MacAdam 2step	SPHWAHDNM251ZV2D3	13069	159		
		MacAdam 3step	SPHWAHDNM251ZV3D3				
	3500	MacAdam 2step	SPHWAHDNM251ZU2D3	13452	164		
		MacAdam 3step	SPHWAHDNM251ZU3D3				
	4000	MacAdam 2step	SPHWAHDNM251ZT2D3	13721	167		
		MacAdam 3step	SPHWAHDNM251ZT3D3				
	5000	MacAdam 3step	SPHWAHDNM251ZR3D3	13836	168		
	5700	MacAdam 3step	SPHWAHDNM251ZQ3D3	13836	168		
	6500	MacAdam 3step	SPHWAHDNM251ZP3D3	13721	167		
	90+	2700	MacAdam 2step	SPHWAHDNM271ZW2D3	10643	130	
MacAdam 3step			SPHWAHDNM271ZW3D3				
3000		MacAdam 2step	SPHWAHDNM271ZV2D3	11195	136		
		MacAdam 3step	SPHWAHDNM271ZV3D3				
3500		MacAdam 2step	SPHWAHDNM271ZU2D3	11529	140		
		MacAdam 3step	SPHWAHDNM271ZU3D3				
4000		MacAdam 2step	SPHWAHDNM271ZT2D3	11766	143		
		MacAdam 3step	SPHWAHDNM271ZT3D3				
5000		MacAdam 3step	SPHWAHDNM271ZR3D3	11867	144		

D-series Gen 2

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 1
- High reliability satisfying DLC Premium standards
- Completed 6,000 hours of LM-80 testing

T _j =85°C	LC003D Gen 2	LC006D Gen 2	LC009D Gen 2	LC013D Gen 2	LC016D Gen 2	LC019D Gen 2	LC026D Gen 2	LC033D Gen 2	LC040D Gen 2	LC060D Gen 2	LC080D Gen 2	
LES	9.8mm			14.5mm				22 mm				
Typical	34.6 V											
	3.1 W (90 mA)	6.2 W (180 mA)	9.4 W (270 mA)	12.5 W (360 mA)	15.6 W (450 mA)	18.7 W (540 mA)	24.9 W (720 mA)	31.1 W (900 mA)	37.4 W (1080 mA)	56.1 W (1080 mA)	84.2 W (1620 mA)	
Max.	8.6 W (230 mA)	17.2 W (460 mA)	25.9 W (690 mA)	34.5 W (920 mA)	43.1 W (1150 mA)	51.8 W (1380 mA)	69 W (1840 mA)	86.2 W (2300 mA)	103.5 W (2760 mA)	143.4 W (2760 mA)	215 W (4140 mA)	
Dimension												
	13.5mm x 13.5mm			19mm x 19mm				28mm x 28mm				
	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 2	80+	2700	MacAdam 2step	SPHWAHDNA25YZW2D2	459	147	90mA	34.6V			
			MacAdam 3step	SPHWAHDNA25YZW3D2							
		3000	MacAdam 2step	SPHWAHDNA25YZV2D2	483	155					
			MacAdam 3step	SPHWAHDNA25YZV3D2							
		3500	MacAdam 2step	SPHWAHDNA25YZU2D2	501	161					
			MacAdam 3step	SPHWAHDNA25YZU3D2							
	4000	MacAdam 2step	SPHWAHDNA25YZT2D2	507	163						
		MacAdam 3step	SPHWAHDNA25YZT3D2								
	5000	MacAdam 3step	SPHWAHDNA25YZR3D2	513	165						
		MacAdam 3step	SPHWAHDNA25YZQ3D2								
	6500	MacAdam 3step	SPHWAHDNA25YZP3D2	507	163						
		MacAdam 3step	SPHWAHDNA27YZW2D2								
 LC006D Gen 2	90+	2700	MacAdam 2step	SPHWAHDNA27YZW2D2	388	125	180mA	34.6V			
			MacAdam 3step	SPHWAHDNA27YZW3D2							
		3000	MacAdam 2step	SPHWAHDNA27YZV2D2	406	130					
			MacAdam 3step	SPHWAHDNA27YZV3D2							
		3500	MacAdam 2step	SPHWAHDNA27YZU2D2	419	135					
			MacAdam 3step	SPHWAHDNA27YZU3D2							
	4000	MacAdam 2step	SPHWAHDNA27YZT2D2	427	137						
		MacAdam 3step	SPHWAHDNA27YZT3D2								
	5000	MacAdam 3step	SPHWAHDNA27YZR3D2	430	138						
		MacAdam 3step	SPHWAHDNB25YZW2D2								
	 LC006D Gen 2	80+	2700	MacAdam 2step	SPHWAHDNB25YZW2D2	924			148	180mA	34.6V
				MacAdam 3step	SPHWAHDNB25YZW3D2						
3000			MacAdam 2step	SPHWAHDNB25YZV2D2	971	156					
			MacAdam 3step	SPHWAHDNB25YZV3D2							
3500			MacAdam 2step	SPHWAHDNB25YZU2D2	1001	161					
			MacAdam 3step	SPHWAHDNB25YZU3D2							
4000		MacAdam 2step	SPHWAHDNB25YZT2D2	1024	164						
		MacAdam 3step	SPHWAHDNB25YZT3D2								
5000		MacAdam 3step	SPHWAHDNB25YZR3D2	1030	165						
		MacAdam 3step	SPHWAHDNB25YZQ3D2								
6500		MacAdam 3step	SPHWAHDNB25YZP3D2	1018	163						
		MacAdam 3step	SPHWAHDNB27YZW2D2								
 LC006D Gen 2	90+	2700	MacAdam 2step	SPHWAHDNB27YZW2D2	786	126	180mA	34.6V			
			MacAdam 3step	SPHWAHDNB27YZW3D2							
		3000	MacAdam 2step	SPHWAHDNB27YZV2D2	824	132					
			MacAdam 3step	SPHWAHDNB27YZV3D2							
		3500	MacAdam 2step	SPHWAHDNB27YZU2D2	853	137					
			MacAdam 3step	SPHWAHDNB27YZU3D2							
	4000	MacAdam 2step	SPHWAHDNB27YZT2D2	870	140						
		MacAdam 3step	SPHWAHDNB27YZT3D2								
	5000	MacAdam 3step	SPHWAHDNB27YZR3D2	874	140						
		MacAdam 3step	SPHWAHDNB27YZR3D2								


Chip-on-Board LEDs

Component

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 2	70+	3000	MacAdam 3step	SPHWAHDNC23YZV3D2	1578	161	270mA 34.6V
		4000	MacAdam 3step	SPHWAHDNC23YZT3D2	1654	169	
		5000	MacAdam 3step	SPHWAHDNC23YZR3D2	1707	174	
	80+	2700	MacAdam 2step	SPHWAHDNC25YZW2D2	1342	144	
			MacAdam 3step	SPHWAHDNC25YZW3D2			
		3000	MacAdam 2step	SPHWAHDNC25YZV2D2	1418	152	
			MacAdam 3step	SPHWAHDNC25YZV3D2			
		3500	MacAdam 2step	SPHWAHDNC25YZU2D2	1459	156	
			MacAdam 3step	SPHWAHDNC25YZU3D2			
	4000	MacAdam 2step	SPHWAHDNC25YZT2D2	1494	160		
		MacAdam 3step	SPHWAHDNC25YZT3D2				
	90+	5000	MacAdam 3step	SPHWAHDNC25YZR3D2	1506	161	
			MacAdam 3step	SPHWAHDNC25YZQ3D2			
		6500	MacAdam 3step	SPHWAHDNC25YZP3D2	1488	159	
			MacAdam 2step	SPHWAHDNC27YZW2D2			
2700		MacAdam 3step	SPHWAHDNC27YZW3D2				
		3000	MacAdam 2step	SPHWAHDNC27YZV2D2	1206	129	
MacAdam 3step	SPHWAHDNC27YZV3D2						
3500	MacAdam 2step	SPHWAHDNC27YZU2D2	1245	133			
	MacAdam 3step	SPHWAHDNC27YZU3D2					
4000	MacAdam 2step	SPHWAHDNC27YZT2D2	1273	136			
	MacAdam 3step	SPHWAHDNC27YZT3D2					
5000	MacAdam 3step	SPHWAHDNC27YZR3D2	1278	137			
	MacAdam 3step	SPHWAHDND23YZV3D2			2106	161	
70+	4000	MacAdam 3step	SPHWAHDND23YZT3D2	2173			166
	5000	MacAdam 3step	SPHWAHDND23YZR3D2	2207	169		
80+	2700	MacAdam 2step	SPHWAHDND25YZW2D2	1764	142		
		MacAdam 3step	SPHWAHDND25YZW3D2				
	3000	MacAdam 2step	SPHWAHDND25YZV2D2	1857	149		
		MacAdam 3step	SPHWAHDND25YZV3D2				
	3500	MacAdam 2step	SPHWAHDND25YZU2D2	1915	154		
		MacAdam 3step	SPHWAHDND25YZU3D2				
4000	MacAdam 2step	SPHWAHDND25YZT2D2	1950	157			
	MacAdam 3step	SPHWAHDND25YZT3D2					
90+	5000	MacAdam 3step	SPHWAHDND25YZR3D2	1967	158		
		MacAdam 3step	SPHWAHDND25YZQ3D2				
	6500	MacAdam 3step	SPHWAHDND25YZP3D2	1938	156		
		MacAdam 2step	SPHWAHDND27YZW2D2			1509	121
	2700	MacAdam 3step	SPHWAHDND27YZW3D2				
		3000	MacAdam 2step	SPHWAHDND27YZV2D2	1580	127	
MacAdam 3step	SPHWAHDND27YZV3D2						
3500	MacAdam 2step	SPHWAHDND27YZU2D2	1635	131			
	MacAdam 3step	SPHWAHDND27YZU3D2					
4000	MacAdam 2step	SPHWAHDND27YZT2D2	1670	134			
	MacAdam 3step	SPHWAHDND27YZT3D2					
5000	MacAdam 3step	SPHWAHDND27YZR3D2	1674	134			


Chip-on-Board LEDs

Component

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 2	70+	3000	MacAdam 3step	SPHWAHDNE23YZV3D2	2617	168	450mA 34.6V
		4000	MacAdam 3step	SPHWAHDNE23YZT3D2	2701	173	
		5000	MacAdam 3step	SPHWAHDNE23YZR3D2	2742	176	
	80+	2700	MacAdam 2step	SPHWAHDNE25YZW2D2	2293	147	
			MacAdam 3step	SPHWAHDNE25YZW3D2			
		3000	MacAdam 2step	SPHWAHDNE25YZV2D2	2423	156	
			MacAdam 3step	SPHWAHDNE25YZV3D2			
		3500	MacAdam 2step	SPHWAHDNE25YZU2D2	2513	161	
			MacAdam 3step	SPHWAHDNE25YZU3D2			
	4000	MacAdam 2step	SPHWAHDNE25YZT2D2	2558	164		
		MacAdam 3step	SPHWAHDNE25YZT3D2				
	90+	5000	MacAdam 3step	SPHWAHDNE25YZR3D2	2581	166	
			MacAdam 3step	SPHWAHDNE25YZQ3D2			
		6500	MacAdam 3step	SPHWAHDNE25YZP3D2	2558	164	
			MacAdam 2step	SPHWAHDNE27YZW2D2			
2700		MacAdam 3step	SPHWAHDNE27YZW3D2				
		3000	MacAdam 2step	SPHWAHDNE27YZV2D2	2084	134	
MacAdam 3step	SPHWAHDNE27YZV3D2						
3500	MacAdam 2step	SPHWAHDNE27YZU2D2	2146	138			
	MacAdam 3step	SPHWAHDNE27YZU3D2					
4000	MacAdam 2step	SPHWAHDNE27YZT2D2	2189	141			
	MacAdam 3step	SPHWAHDNE27YZT3D2					
5000	MacAdam 3step	SPHWAHDNE27YZR3D2	2209	142			
	MacAdam 3step	SPHWAHDNF23YZV3D2			3107	166	
70+	4000	MacAdam 3step	SPHWAHDNF23YZT3D2	3207			172
	5000	MacAdam 3step	SPHWAHDNF23YZR3D2	3256	174		
80+	2700	MacAdam 2step	SPHWAHDNF25YZW2D2	2728	146		
		MacAdam 3step	SPHWAHDNF25YZW3D2				
	3000	MacAdam 2step	SPHWAHDNF25YZV2D2	2877	154		
		MacAdam 3step	SPHWAHDNF25YZV3D2				
	3500	MacAdam 2step	SPHWAHDNF25YZU2D2	2965	159		
		MacAdam 3step	SPHWAHDNF25YZU3D2				
4000	MacAdam 2step	SPHWAHDNF25YZT2D2	3026	162			
	MacAdam 3step	SPHWAHDNF25YZT3D2					
90+	5000	MacAdam 3step	SPHWAHDNF25YZR3D2	3059	164		
		MacAdam 3step	SPHWAHDNF25YZQ3D2				
	6500	MacAdam 3step	SPHWAHDNF25YZP3D2	3026	162		
		MacAdam 2step	SPHWAHDNF27YZW2D2			2336	125
	2700	MacAdam 3step	SPHWAHDNF27YZW3D2				
		3000	MacAdam 2step	SPHWAHDNF27YZV2D2	2449	131	
MacAdam 3step	SPHWAHDNF27YZV3D2						
3500	MacAdam 2step	SPHWAHDNF27YZU2D2	2539	136			
	MacAdam 3step	SPHWAHDNF27YZU3D2					
4000	MacAdam 2step	SPHWAHDNF27YZT2D2	2594	139			
	MacAdam 3step	SPHWAHDNF27YZT3D2					
5000	MacAdam 3step	SPHWAHDNF27YZR3D2	2596	139			


Chip-on-Board LEDs

Component

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 2	70+	3000	MacAdam 3step	SPHWHHDNG23YZV3D2	4063	163	720mA 34.6V
		4000	MacAdam 3step	SPHWHHDNG23YZT3D2	4193	168	
		5000	MacAdam 3step	SPHWHHDNG23YZR3D2	4258	171	
	80+	2700	MacAdam 2step	SPHWHHDNG25YZW2D2	3580	144	
			MacAdam 3step	SPHWHHDNG25YZW3D2			
		3000	MacAdam 2step	SPHWHHDNG25YZV2D2	3762	151	
			MacAdam 3step	SPHWHHDNG25YZV3D2			
		3500	MacAdam 2step	SPHWHHDNG25YZU2D2	3872	155	
			MacAdam 3step	SPHWHHDNG25YZU3D2			
	4000	MacAdam 2step	SPHWHHDNG25YZT2D2	3950	159		
		MacAdam 3step	SPHWHHDNG25YZT3D2				
	90+	5000	MacAdam 3step	SPHWHHDNG25YZR3D2	3983	160	
5700		MacAdam 3step	SPHWHHDNG25YZQ3D2	3983	160		
6500		MacAdam 3step	SPHWHHDNG25YZP3D2	3950	159		
2700		MacAdam 2step	SPHWHHDNG27YZW2D2	3064	123		
		MacAdam 3step	SPHWHHDNG27YZW3D2				
3000		MacAdam 2step	SPHWHHDNG27YZV2D2	3223	129		
		MacAdam 3step	SPHWHHDNG27YZV3D2				
3500		MacAdam 2step	SPHWHHDNG27YZU2D2	3319	133		
		MacAdam 3step	SPHWHHDNG27YZU3D2				
4000		MacAdam 2step	SPHWHHDNG27YZT2D2	3387	136		
		MacAdam 3step	SPHWHHDNG27YZT3D2				
5000		MacAdam 3step	SPHWHHDNG27YZR3D2	3416	137		
70+	3000	MacAdam 3step	SPHWHHDNG23YZV3D2	5014	161		
	4000	MacAdam 3step	SPHWHHDNG23YZT3D2	5175	166		
	5000	MacAdam 3step	SPHWHHDNG23YZR3D2	5255	169		
80+	2700	MacAdam 2step	SPHWHHDNH25YZW2D2	4418	142		
		MacAdam 3step	SPHWHHDNH25YZW3D2				
	3000	MacAdam 2step	SPHWHHDNH25YZV2D2	4643	149		
		MacAdam 3step	SPHWHHDNH25YZV3D2				
	3500	MacAdam 2step	SPHWHHDNH25YZU2D2	4779	153		
		MacAdam 3step	SPHWHHDNH25YZU3D2				
	4000	MacAdam 2step	SPHWHHDNH25YZT2D2	4875	157		
		MacAdam 3step	SPHWHHDNH25YZT3D2				
	5000	MacAdam 3step	SPHWHHDNH25YZR3D2	4916	158		
	5700	MacAdam 3step	SPHWHHDNH25YZQ3D2	4916	158		
	6500	MacAdam 3step	SPHWHHDNH25YZP3D2	4875	157		
	90+	2700	MacAdam 2step	SPHWHHDNH27YZW2D2	3781	121	
		MacAdam 3step	SPHWHHDNH27YZW2D2				
3000		MacAdam 2step	SPHWHHDNH27YZV2D2	3977	128		
		MacAdam 3step	SPHWHHDNH27YZV3D2				
3500		MacAdam 2step	SPHWHHDNH27YZU2D2	4096	132		
		MacAdam 3step	SPHWHHDNH27YZU3D2				
4000		MacAdam 2step	SPHWHHDNH27YZT2D2	4180	134		
		MacAdam 3step	SPHWHHDNH27YZT2D2				
5000		MacAdam 3step	SPHWHHDNH27YZR3D2	4216	135		

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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 2	70+	3000	MacAdam 3step	SPHWHHDNK23YZV3D2	6304	169	1080mA 34.6V
		4000	MacAdam 3step	SPHWHHDNK23YZT3D2	6506	174	
		5000	MacAdam 3step	SPHWHHDNK23YZR3D2	6607	177	
	80+	2700	MacAdam 2step	SPHWHHDNK25YZW2D2	5547	148	
			MacAdam 3step	SPHWHHDNK25YZW3D2			
		3000	MacAdam 2step	SPHWHHDNK25YZV2D2	5837	156	
			MacAdam 3step	SPHWHHDNK25YZV3D2			
		3500	MacAdam 2step	SPHWHHDNK25YZU2D2	6016	161	
			MacAdam 3step	SPHWHHDNK25YZU3D2			
	4000	MacAdam 2step	SPHWHHDNK25YZT2D2	6146	164		
		MacAdam 3step	SPHWHHDNK25YZT3D2				
	5000	MacAdam 3step	SPHWHHDNK25YZR3D2	6175	165		
5700	MacAdam 3step	SPHWHHDNK25YZQ3D2	6205	166			
6500	MacAdam 3step	SPHWHHDNK25YZP3D2	6138	164			
90+	2700	MacAdam 2step	SPHWHHDNK27YZW2D2	4755	127		
		MacAdam 3step	SPHWHHDNK27YZW3D2				
	3000	MacAdam 2step	SPHWHHDNK27YZV2D2	5024	134		
		MacAdam 3step	SPHWHHDNK27YZV3D2				
	3500	MacAdam 2step	SPHWHHDNK27YZU2D2	5152	138		
		MacAdam 3step	SPHWHHDNK27YZU3D2				
	4000	MacAdam 2step	SPHWHHDNK27YZT2D2	5266	141		
		MacAdam 3step	SPHWHHDNK27YZT3D2				
	5000	MacAdam 3step	SPHWHHDNK27YZR3D2	5325	143		
	3000	MacAdam 3step	SPHWHHDNL231ZV3D2	9225	164		
	70+	4000	MacAdam 3step	SPHWHHDNL231ZT3D2	9521	170	
		5000	MacAdam 3step	SPHWHHDNL231ZR3D2	9668	172	
2700		MacAdam 2step	SPHWHHDNL251ZW2D2	8107	144		
	MacAdam 3step	SPHWHHDNL251ZW3D2					
80+	3000	MacAdam 2step	SPHWHHDNL251ZV2D2	8542	152		
		MacAdam 3step	SPHWHHDNL251ZV3D2				
	3500	MacAdam 2step	SPHWHHDNL251ZU2D2	8812	157		
		MacAdam 3step	SPHWHHDNL251ZU3D2				
	4000	MacAdam 2step	SPHWHHDNL251ZT2D2	8995	160		
		MacAdam 3step	SPHWHHDNL251ZT3D2				
	5000	MacAdam 3step	SPHWHHDNL251ZR3D2	9039	161		
	5700	MacAdam 3step	SPHWHHDNL251ZQ3D2	9084	162		
	6500	MacAdam 3step	SPHWHHDNL251ZP3D2	8990	160		
	2700	MacAdam 2step	SPHWHHDNL271ZW2D2	6959	124		
		MacAdam 3step	SPHWHHDNL271ZW3D2				
	90+	3000	MacAdam 2step	SPHWHHDNL271ZV2D2	7352	131	
		MacAdam 3step	SPHWHHDNL271ZV3D2				
3500		MacAdam 2step	SPHWHHDNL271ZU2D2	7539	134		
	MacAdam 3step	SPHWHHDNL271ZU3D2					
4000	MacAdam 2step	SPHWHHDNL271ZT2D2	7706	137			
	MacAdam 3step	SPHWHHDNL271ZT3D2					
5000	MacAdam 3step	SPHWHHDNL271ZR3D2	7793	139			
70+	3000	MacAdam 3step	SPHWHHDNM231ZV3D2	13465	160		
	4000	MacAdam 3step	SPHWHHDNM231ZT3D2	13896	165		
	5000	MacAdam 3step	SPHWHHDNM231ZR3D2	14112	168		
80+	2700	MacAdam 2step	SPHWHHDNM251ZW2D2	11815	140		
		MacAdam 3step	SPHWHHDNM251ZW3D2				
	3000	MacAdam 2step	SPHWHHDNM251ZV2D2	12468	148		
		MacAdam 3step	SPHWHHDNM251ZV3D2				
	3500	MacAdam 2step	SPHWHHDNM251ZU2D2	12852	153		
		MacAdam 3step	SPHWHHDNM251ZU3D2				
	4000	MacAdam 2step	SPHWHHDNM251ZT2D2	13123	156		
		MacAdam 3step	SPHWHHDNM251ZT3D2				
	5000	MacAdam 3step	SPHWHHDNM251ZR3D2	13196	157		
	5700	MacAdam 3step	SPHWHHDNM251ZQ3D2	13258	157		
	6500	MacAdam 3step	SPHWHHDNM251ZP3D2	13121	156		
	90+	2700	MacAdam 2step	SPHWHHDNM271ZW2D2	10157	121	
		MacAdam 3step	SPHWHHDNM271ZW3D2				
3000		MacAdam 2step	SPHWHHDNM271ZV2D2	10731	127		
		MacAdam 3step	SPHWHHDNM271ZV3D2				
3500		MacAdam 2step	SPHWHHDNM271ZU2D2	11004	131		
		MacAdam 3step	SPHWHHDNM271ZU3D2				
4000		MacAdam 2step	SPHWHHDNM271ZT2D2	11247	134		
		MacAdam 3step	SPHWHHDNM271ZT3D2				
5000		MacAdam 3step	SPHWHHDNM271ZR3D2	11375	135		