About Samsung Electronics Co., Ltd.

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Rev.1 Sep. 2017

SAMSUNG

Samsung High Power LED

LH351-Series

• LH351B • LH351C • LH351D

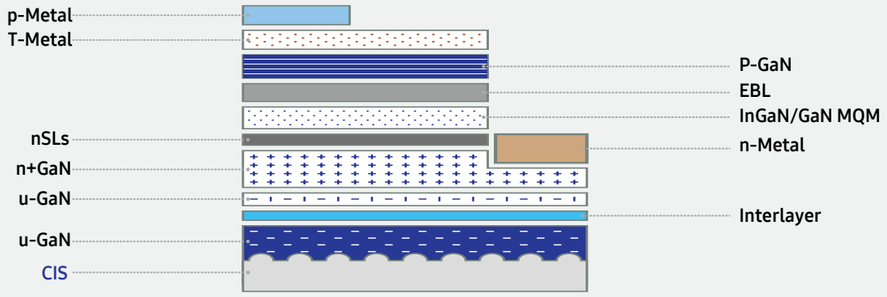
Sep 2017

SAMSUNG

Technology Leadership

High-efficieny epitaxial technology

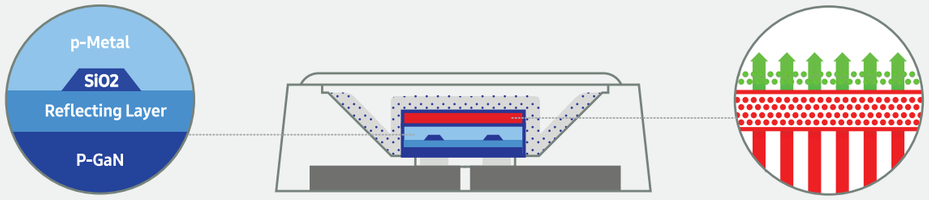
Epitaxial growth technology such as carrier injection, internal radiative efficiency and light extraction



CIS: Corrugated Interface Substrate

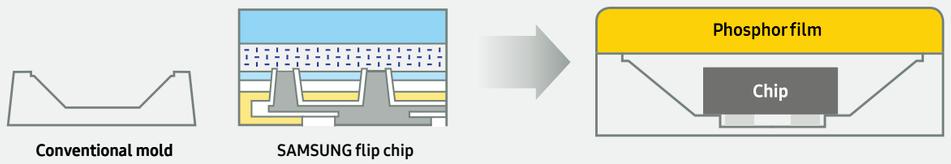
High-efficieny phosphor technology

Reducing interference of red and green phosphors



High-efficieny process technology

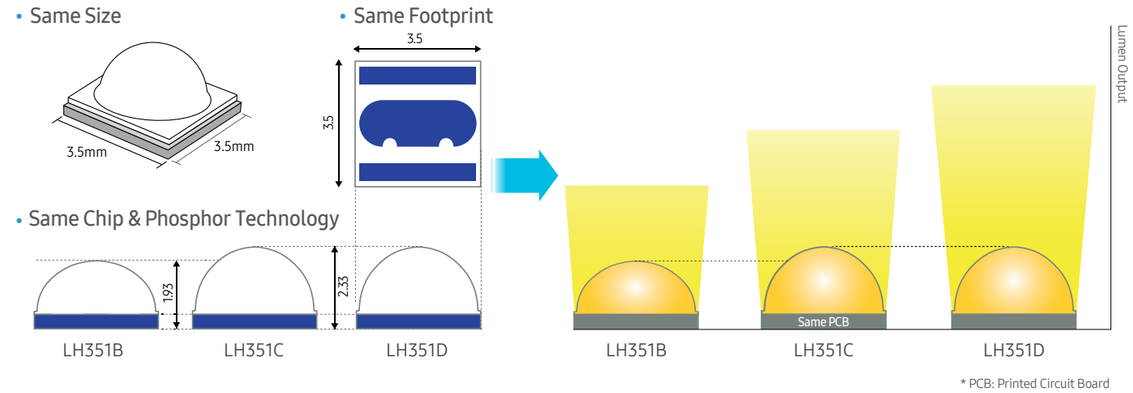
Achieving high extraction efficiency by embedded mold, phosphor film and color uniformity



3535 family solutions for high lumen density lighting

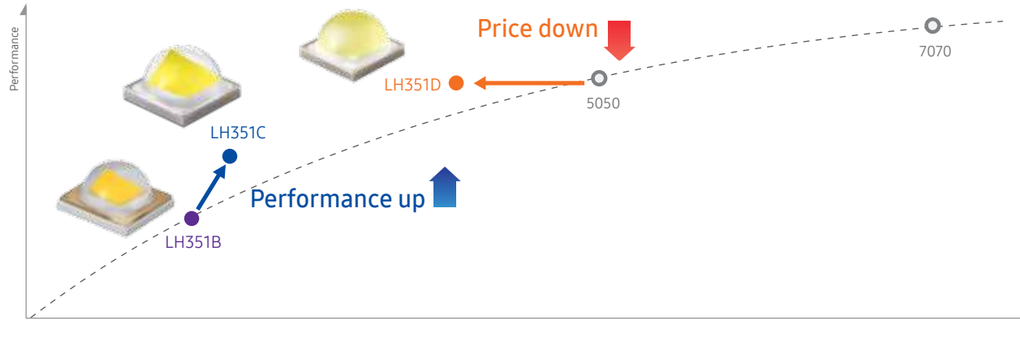
Easy to extend line-up

Greater design flexibility for various fixture designs with same footprint, chip and phosphor technology

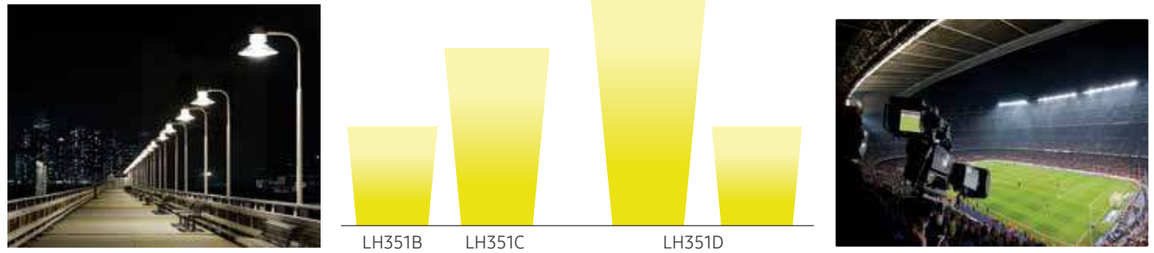


* PCB: Printed Circuit Board

Continuous innovation for better lm/W



Provide the best solution for each application



LH351B

Cost effective solution
for outdoor & directional lighting applications

Feature

- 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

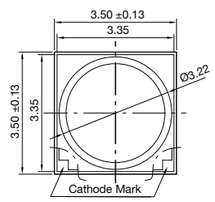
[350mA, 85°C]

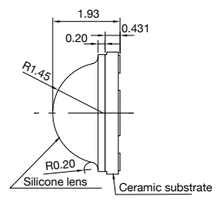
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SPHWH2L3D30CD4W0K3	K1, M1, N1	130	160
		SPHWH2L3D30CD4W0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4W0N3	N1, P1, Q1	150	180
	3000	SPHWH2L3D30CD4V0K3	K1, M1, N1	130	160
		SPHWH2L3D30CD4V0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4V0N3	N1, P1, Q1	150	180
	3500	SPHWH2L3D30CD4U0K3	K1, M1, N1	130	160
		SPHWH2L3D30CD4U0M3	M1, N1, P1	140	170
	4000	SPHWH2L3D30CD4T0M3	M1, N1, P1	140	170
		SPHWH2L3D30CD4T0N3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4T0P3	P1, Q1, R1	160	190
	5000	SPHWH2L3D30CD4RTM3	M1, N1, P1	140	170
		SPHWH2L3D30CD4RTN3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4RTP3	P1, Q1, R1	160	190
	5700	SPHWH2L3D30CD4QTM3	M1, N1, P1	140	170
		SPHWH2L3D30CD4QTN3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4QTP3	P1, Q1, R1	160	190
	6500	SPHWH2L3D30CD4PTM3	M1, N1, P1	140	170
		SPHWH2L3D30CD4PTN3	N1, P1, Q1	150	180
		SPHWH2L3D30CD4PTP3	P1, Q1, R1	160	190
75+	5000	SPHWH1L3D30DD4RTM3	M1, N1, P1	140	170
		SPHWH1L3D30DD4RTN3	N1, P1, Q1	150	180
		SPHWH1L3D30DD4RTP3	P1, Q1, R1	160	190
	5700	SPHWH1L3D30DD4QTM3	M1, N1, P1	140	170
		SPHWH1L3D30DD4QTN3	N1, P1, Q1	150	180
		SPHWH1L3D30DD4QTP3	P1, Q1, R1	160	190
80+	2700	SPHWH2L3D30ED4W0H3	H1, J1, K1	110	140
		SPHWH2L3D30ED4W0J3	J1, K1, M1	120	150
		SPHWH2L3D30ED4W0K3	K1, M1, N1	130	160
	3000	SPHWH2L3D30ED4V0H3	H1, J1, K1	110	140
		SPHWH2L3D30ED4V0J3	J1, K1, M1	120	150
		SPHWH2L3D30ED4V0K3	K1, M1, N1	130	160
	3500	SPHWH2L3D30ED4U0J3	J1, K1, M1	120	150
		SPHWH2L3D30ED4U0K3	K1, M1, N1	130	160
	4000	SPHWH2L3D30ED4T0J3	J1, K1, M1	120	150
		SPHWH2L3D30ED4T0K3	K1, M1, N1	130	160
		SPHWH2L3D30ED4T0M3	M1, N1, P1	140	170
	5000	SPHWH2L3D30ED4RTK3	K1, M1, N1	130	160
		SPHWH2L3D30ED4RTM3	M1, N1, P1	140	170
	5700	SPHWH2L3D30ED4QTK3	K1, M1, N1	130	160
		SPHWH2L3D30ED4QTM3	M1, N1, P1	140	170
	6000	SPHWH2L3D30ED4PQK3	K1, M1, N1	130	160
		SPHWH2L3D30ED4PQM3	M1, N1, P1	140	170
	6500	SPHWH2L3D30ED4PTK3	K1, M1, N1	130	160
		SPHWH2L3D30ED4PTM3	M1, N1, P1	140	170
90+	2700	SPHWH2L3D30GD4W0F3	F1, G1, H1	90	120
	3000	SPHWH2L3D30GD4V0F3	F1, G1, H1	90	120
		SPHWH2L3D30GD4V0G3	G1, H1, J1	100	130
	3500	SPHWH2L3D30GD4U0G3	G1, H1, J1	100	130
		SPHWH2L3D30GD4U0H3	H1, J1, K1	110	140
	4000	SPHWH2L3D30GD4T0H3	H1, J1, K1	110	140
	5000	SPHWH2L3D30GD4T0J3	J1, K1, M1	120	150

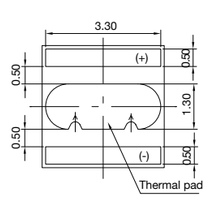
Color Variation

CRI	CCT (K)							
	2700	3000	3500	4000	5000	5700	6000	6500
70+	•	•	•	•	•	•		•
75+					•	•		
80+	•	•	•	•	•	•	•	•
90+	•	•	•	•	•			

Dimension







LH351C

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

Feature

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

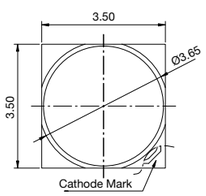
[700mA, 85℃]

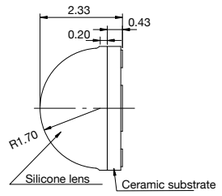
CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SPHWHTL3D50CE4W0MF	MB, NB, PB	250	310
	3000	SPHWHTL3D50CE4V0NF	NB, PB, QB	270	330
	3500	SPHWHTL3D50CE4U0NF	NB, PB, QB	270	330
	4000	SPHWHTL3D50CE4T0PF	PB, QB, RB	290	350
		SPHWHTL3D50CE4T0QF	QB, RB, SB	310	370
	5000	SPHWHTL3D50CE4RTPF	PB, QB, RB	290	350
		SPHWHTL3D50CE4RTQF	QB, RB, SB	310	370
	5700	SPHWHTL3D50CE4QTNF	NB, PB, QB	270	330
		SPHWHTL3D50CE4QTQF	QB, RB, SB	310	370
	6500	SPHWHTL3D50CE4PTNF	NB, PB, QB	270	330
80+	2700	SPHWHTL3D50EE4W0MF	MB, NB, PB	250	310
	3000	SPHWHTL3D50EE4V0MF	MB, NB, PB	250	310
	3500	SPHWHTL3D50EE4U0MF	MB, NB, PB	250	310
	4000	SPHWHTL3D50EE4T0MF	MB, NB, PB	250	310
	5000	SPHWHTL3D50EE4RTNF	NB, PB, QB	270	330
	5700	SPHWHTL3D50EE4QTNF	NB, PB, QB	270	330
90+	2700	SPHWHTL3D50GE4W0GF	GB, HB, JB	170	230
	3000	SPHWHTL3D50GE4V0HF	HB, JB, KB	190	250
	3500	SPHWHTL3D50GE4U0HF	HB, JB, KB	190	250
	4000	SPHWHTL3D50GE4T0JF	JB, KB, MB	210	270
	5000	SPHWHTL3D50GE4RTKF	KB, MB, NB	230	290

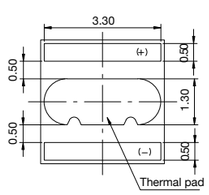
Color Variation _ LH351C

CRI	CCT (K)						
	2700	3000	3500	4000	5000	5700	6500
70+	•	•	•	•	•	•	•
80+	•	•	•	•	•	•	
90+	•	•	•	•	•		

Dimension _ LH351C / LH351D

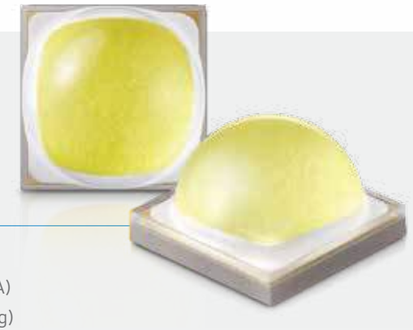






LH351D

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



Feature

- 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 broadcase use (Stadium/Arena lighting)
- Footprint: 3.5mm x 3.5mm

[1050mA, 85℃]

CRI	CCT (K)	Part Number	Luminous Flux (lm)		
			Bin	Min.	Max.
70+	2700	SPHWHTL3DA0CF4W0S6	S2, T2, U2	380	440
		SPHWHTL3DA0CF4W0T6	T2, U2, V2	400	460
	3000	SPHWHTL3DA0CF4V0T6	T2, U2, V2	400	460
		SPHWHTL3DA0CF4V0U6	U2, V2, W2	420	480
	3500	SPHWHTL3DA0CF4U0T6	T2, U2, V2	400	460
		SPHWHTL3DA0CF4U0U6	U2, V2, W2	420	480
	4000	SPHWHTL3DA0CF4T0U6	U2, V2, W2	420	480
		SPHWHTL3DA0CF4T0V6	V2, W2, Y2	440	500
	5000	SPHWHTL3DA0CF4RTV6	V2, W2, Y2	440	500
		SPHWHTL3DA0CF4RTW6	W2, Y2, Z2	460	520
	5700	SPHWHTL3DA0CF4QTV6	V2, W2, Y2	440	500
		SPHWHTL3DA0CF4QTW6	W2, Y2, Z2	460	520
	6500	SPHWHTL3DA0CF4PTU6	U2, V2, W2	420	480
		SPHWHTL3DA0CF4PTV6	V2, W2, Y2	440	500
80+	2700	SPHWHTL3DA0EF4W0Q6	Q2, R2, S2	340	400
		SPHWHTL3DA0EF4W0R6	R2, S2, T2	360	420
	3000	SPHWHTL3DA0EF4V0R6	R2, S2, T2	360	420
	3500	SPHWHTL3DA0EF4U0R6	R2, S2, T2	360	420
		SPHWHTL3DA0EF4U0S6	S2, T2, U2	380	440
	4000	SPHWHTL3DA0EF4T0S6	S2, T2, U2	380	440
		SPHWHTL3DA0EF4T0T6	T2, U2, V2	400	460
	5000	SPHWHTL3DA0EF4RTS6	S2, T2, U2	380	440
		SPHWHTL3DA0EF4RTT6	T2, U2, V2	400	460
	5300	SPHWHTL3DA0EF4QRT6	T2, U2, V2	400	460
		SPHWHTL3DA0EF4QRU6	U2, V2, W2	420	480
	5700	SPHWHTL3DA0EF4QTT6	T2, U2, V2	400	460
		SPHWHTL3DA0EF4QTU6	U2, V2, W2	420	480
	6000	SPHWHTL3DA0EF4PQT6	T2, U2, V2	400	460
		SPHWHTL3DA0EF4PQU6	U2, V2, W2	420	480
	6500	SPHWHTL3DA0EF4PTT6	T2, U2, V2	400	460
		SPHWHTL3DA0EF4PTU6	U2, V2, W2	420	480
90+	2700	SPHWHTL3DA0GF4W0M6	M2, N2, P2	280	340
		SPHWHTL3DA0GF4W0N6	N2, P2, Q2	300	360
	3000	SPHWHTL3DA0GF4V0N6	N2, P2, Q2	300	360
		SPHWHTL3DA0GF4V0P6	P2, Q2, R2	320	380
	3500	SPHWHTL3DA0GF4U0N6	N2, P2, Q2	300	360
		SPHWHTL3DA0GF4U0P6	P2, Q2, R2	320	380
	4000	SPHWHTL3DA0GF4T0P6	P2, Q2, R2	320	380
		SPHWHTL3DA0GF4T0Q6	Q2, R2, S2	340	400
	5000	SPHWHTL3DA0GF4RTR6	R2, S2, T2	360	420
	6000	SPHWHTL3DA0GF4PQR6	R2, S2, T2	360	420

Color Variation _ LH351D

CRI	CCT (K)								
	2700	3000	3500	4000	5000	5300	5700	6000	6500
70+	•	•	•	•	•		•		•
80+	•	•	•	•	•	•	•	•	•
90+	•	•	•	•	•			•	