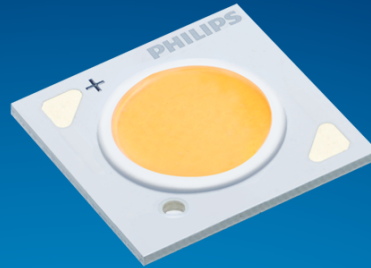


PHILIPS

CertaFlux

LED

CertaFlux SLM C 1202 L09
1515 G2



Datasheet

Experience good performance with affordable cost

CertaFlux LED SLM G2

CertaFlux LED SLM is a most cost effective and affordable CoB family from Philips. With upgrade from Gen 1 to Gen 2, 8% efficacy improvement is achieved. On top of this, we extend to 2 new product lines within the family - High Density range and Vivid White range, which can help our OEM customers with more flexibility to develop their luminaires with more extensive portfolio. Flux range from 500lm to 6000m, available in 2700K, 3000K, 3500K, 4000K, 5000K with CRI 80 and CRI90, and fully compatible with our Philips Drivers.

Key features and benefits

- Cost effective SLM CoB
- Complete portfolio
- Flexibility to select a different lumen output between 500lm to 6000m
- System approach (CoB + Driver + Holder)
- Flexibility to design Luminaire performance (high efficacy or high output)
- 50,000 hours lifetime

September 2021



Ordering data

Commercial product name	EOC	12NC	Box quantity
CertaFlux SLM C 827 1202 L09 1515 G2	8719514 282230 00	9290 028 36406	20
CertaFlux SLM C 830 1202 L09 1515 G2	8719514 282254 00	9290 028 36506	20
CertaFlux SLM C 835 1202 L09 1515 G2	8719514 282278 00	9290 028 36606	20
CertaFlux SLM C 840 1202 L09 1515 G2	8719514 282292 00	9290 028 36706	20
CertaFlux SLM C 850 1202 L09 1515 G2	8719514 282315 00	9290 028 36806	20
CertaFlux SLM C 860 1202 L09 1515 G2	8719514 282339 00	9290 028 36906	20
CertaFlux SLM C 927 1202 L09 1515 G2	8719514 282353 00	9290 028 37006	20
CertaFlux SLM C 930 1202 L09 1515 G2	8719514 282377 00	9290 028 37106	20
CertaFlux SLM C 935 1202 L09 1515 G2	8719514 282391 00	9290 028 37206	20
CertaFlux SLM C 940 1202 L09 1515 G2	8719514 282414 00	9290 028 37306	20

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
CertaFlux SLM C 1202 L09 1515 G2	200	400	400	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	85	95	105	°C


* Nominal value at which typical performance is specified

** Value at which life time is specified

*** Maximum value for safe operation, do not operate above this value

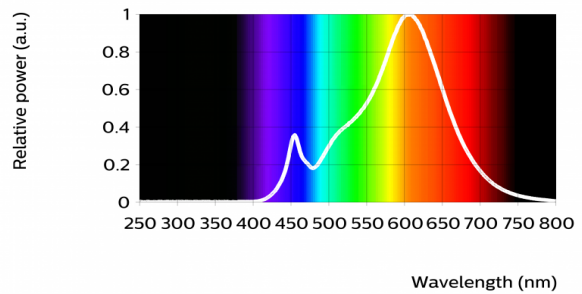
Optical characteristics - table per color (CCT)

CertaFlux SLM C 827 1202 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	843	906	997	lm
Module efficacy		133		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			3	SDCM
CRI	82	82		
Photometric code		827/359		
Photobiological safety			RG1 unlimited	


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	827	lm	lm/W
80% I-nom 160mA	Tc 25 °C	812	149
	Tc 85 °C	741	138
	Tc 95 °C	713	134
I-nom 200mA	Tc 25 °C	996	143
	Tc 85 °C	906	133
	Tc 95 °C	871	129
I-max 400mA	Tc 25 °C	1822	121
	Tc 85 °C	1637	111
	Tc 95 °C	1566	106



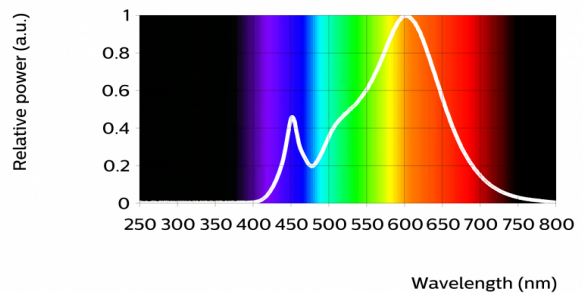
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82	93	94	81	83	93	81	57	8	85	82	80	85	97

CertaFlux SLM C 830 1202 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	889	956	1051	lm
Module efficacy		140		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			3	SDCM
CRI	82	82		
Photometric code		830/359		
Photobiological safety			RG1 unlimited	


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
80% I-nom 160mA	Tc 25 °C	857	157
	Tc 85 °C	782	146
	Tc 95 °C	752	141
I-nom 200mA	Tc 25 °C	1051	151
	Tc 85 °C	956	140
	Tc 95 °C	918	136
I-max 400mA	Tc 25 °C	1921	127
	Tc 85 °C	1728	117
	Tc 95 °C	1652	112



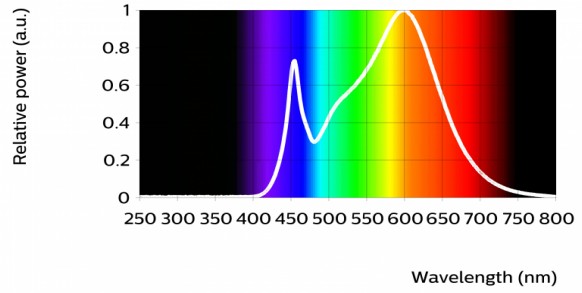
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81	91	96	81	82	90	83	58	4	80	81	75	83	98

CertaFlux SLM C 835 1202 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	907	976	1073	lm
Module efficacy		143		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			3	SDCM
CRI	82	82		
Photometric code		835/359		
Photobiological safety			RG1 unlimited	


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	835	lm	lm/W
80% I-nom 160mA	Tc 25 °C	875	160
	Tc 85 °C	798	149
	Tc 95 °C	768	144
I-nom 200mA	Tc 25 °C	1073	154
	Tc 85 °C	976	143
	Tc 95 °C	938	138
I-max 400mA	Tc 25 °C	1962	130
	Tc 85 °C	1764	119
	Tc 95 °C	1687	115



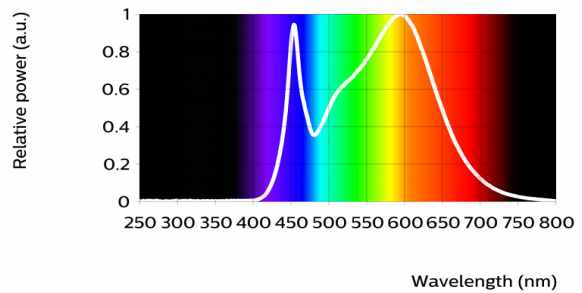
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82	93	95	81	83	90	83	61	8	83	81	72	85	98

CertaFlux SLM C 840 1202 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	926	995	1095	lm
Module efficacy		146		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			3	SDCM
CRI	82	82		
Photometric code		840/359		
Photobiological safety			RG1 unlimited	


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	840	lm	lm/W
80% I-nom 160mA	Tc 25 °C	892	163
	Tc 85 °C	814	152
	Tc 95 °C	784	147
I-nom 200mA	Tc 25 °C	1094	157
	Tc 85 °C	995	146
	Tc 95 °C	957	141
I-max 400mA	Tc 25 °C	2002	133
	Tc 85 °C	1801	122
	Tc 95 °C	1722	117



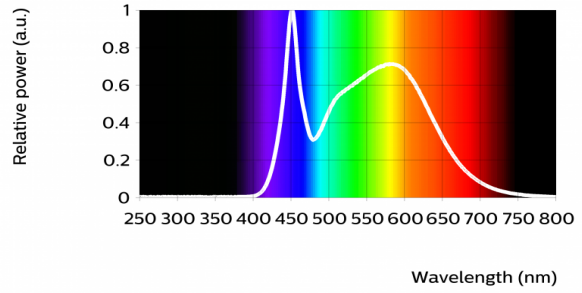
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82	91	96	81	82	88	84	62	5	81	81	67	84	98

CertaFlux SLM C 850 1202 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	926	996	1095	lm
Module efficacy		146		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			3	SDCM
CRI	82	82		
Photometric code		850/359		
Photobiological safety			RG1 unlimited	


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	850	lm	lm/W
80% I-nom 160mA	Tc 25 °C	893	163
	Tc 85 °C	814	152
	Tc 95 °C	784	147
I-nom 200mA	Tc 25 °C	1095	157
	Tc 85 °C	996	146
	Tc 95 °C	957	141
I-max 400mA	Tc 25 °C	2003	133
	Tc 85 °C	1802	122
	Tc 95 °C	1723	117



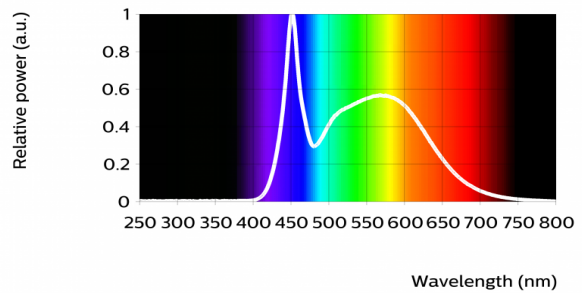
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81	88	94	82	82	84	86	66	3	72	82	67	82	97

CertaFlux SLM C 860 1202 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	926	996	1096	lm
Module efficacy		146		lm/W
Correlated color temperature (CCT)		6000		K
Color coordinates (CIEx, CIEy)		(0.322, 0.337)		-
Color consistency			3	SDCM
CRI	82	82		
Photometric code		860/359		
Photobiological safety			RG1 unlimited	


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	860	lm	lm/W
80% I-nom 160mA	Tc 25 °C	893	163
	Tc 85 °C	814	152
	Tc 95 °C	784	147
I-nom 200mA	Tc 25 °C	1095	157
	Tc 85 °C	996	146
	Tc 95 °C	957	141
I-max 400mA	Tc 25 °C	2003	133
	Tc 85 °C	1802	122
	Tc 95 °C	1723	117



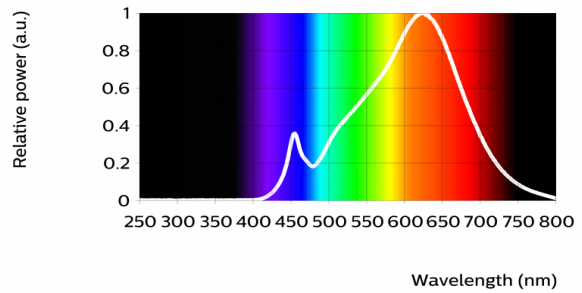
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81	88	93	82	82	82	88	68	5	72	82	64	83	96

CertaFlux SLM C 927 1202 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	719	773	850	lm
Module efficacy		113		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			3	SDCM
CRI	92	92		
R9	50			
Photometric code		927/359		
Photobiological safety			RG1 unlimited	


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	927	lm	lm/W
80% I-nom 160mA	Tc 25 °C	693	127
	Tc 85 °C	632	118
	Tc 95 °C	609	114
I-nom 200mA	Tc 25 °C	850	122
	Tc 85 °C	773	113
	Tc 95 °C	743	110
I-max 400mA	Tc 25 °C	1554	103
	Tc 85 °C	1397	94
	Tc 95 °C	1335	91



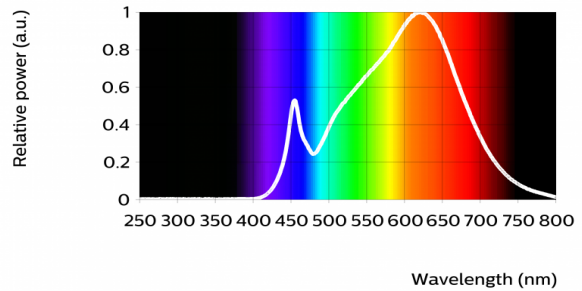
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	97	99	93	93	97	92	82	60	92	95	86	94	99

CertaFlux SLM C 930 1202 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	756	812	894	lm
Module efficacy		119		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			3	SDCM
CRI	92	92		
R9	50			
Photometric code		930/359		
Photobiological safety			RG1 unlimited	


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	930	lm	lm/W
80% I-nom 160mA	Tc 25 °C	729	133
	Tc 85 °C	665	124
	Tc 95 °C	640	120
I-nom 200mA	Tc 25 °C	893	128
	Tc 85 °C	812	119
	Tc 95 °C	781	115
I-max 400mA	Tc 25 °C	1634	108
	Tc 85 °C	1469	99
	Tc 95 °C	1404	95



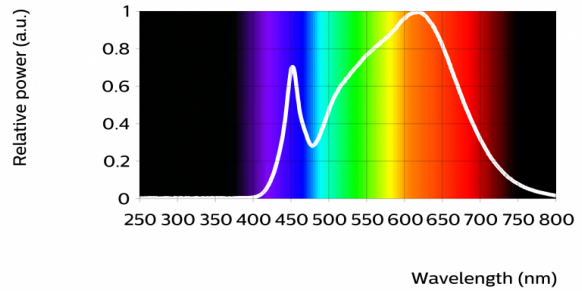
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	96	98	93	93	95	93	83	61	90	93	81	94	98

CertaFlux SLM C 935 1202 L09 1515 G2

Parameter	Min	Typ	Max	Unit
Luminous flux	802	862	948	lm
Module efficacy		126		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			3	SDCM
CRI	92	92		
R9	50			
Photometric code		935/359		
Photobiological safety			RG1 unlimited	


Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	935	lm	lm/W
80% I-nom 160mA	Tc 25 °C	773	141
	Tc 85 °C	705	132
	Tc 95 °C	679	128
I-nom 200mA	Tc 25 °C	948	136
	Tc 85 °C	862	126
	Tc 95 °C	829	122
I-max 400mA	Tc 25 °C	1734	115
	Tc 85 °C	1559	105
	Tc 95 °C	1491	101



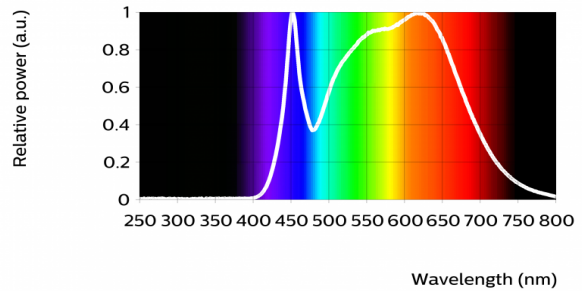
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
92	94	96	92	91	92	93	83	59	86	92	77	92	97

CertaFlux SLM C 940 1202 L09 1515 G2

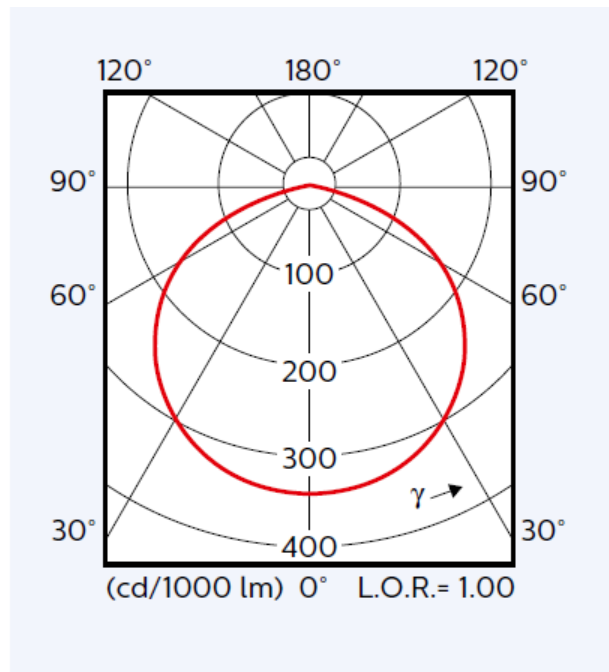
Parameter	Min	Typ	Max	Unit
Luminous flux	802	862	949	lm
Module efficacy		126		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			3	SDCM
CRI	92	92		
R9	50			
Photometric code		940/359		
Photobiological safety			RG1 unlimited	

Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	940	lm	lm/W
80% I-nom 160mA	Tc 25 °C	773	141
	Tc 85 °C	705	132
	Tc 95 °C	679	128
I-nom 200mA	Tc 25 °C	948	136
	Tc 85 °C	862	126
	Tc 95 °C	829	122
I-max 400mA	Tc 25 °C	1734	115
	Tc 85 °C	1559	105
	Tc 95 °C	1491	101



R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	94	94	94	92	93	96	89	71	85	93	74	94	96



Electrical characteristics

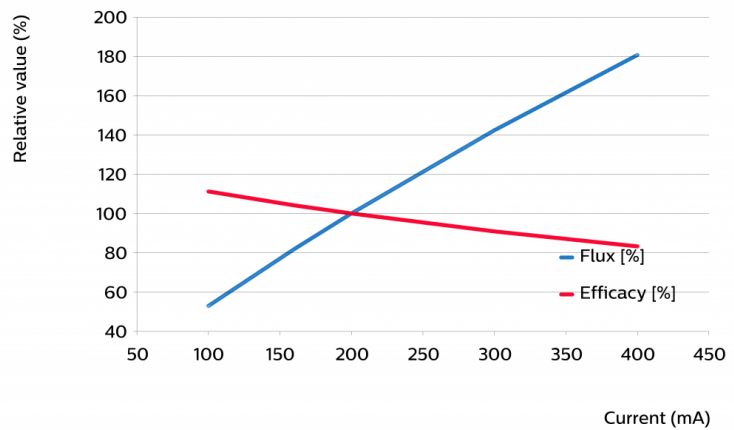
Parameter	Min	Typ	Max	Unit
Forward voltage	32.1	34.1	36.1	V
Power consumption	6.42	6.82	7.22	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules in parallel			1	

Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%

Tuning information

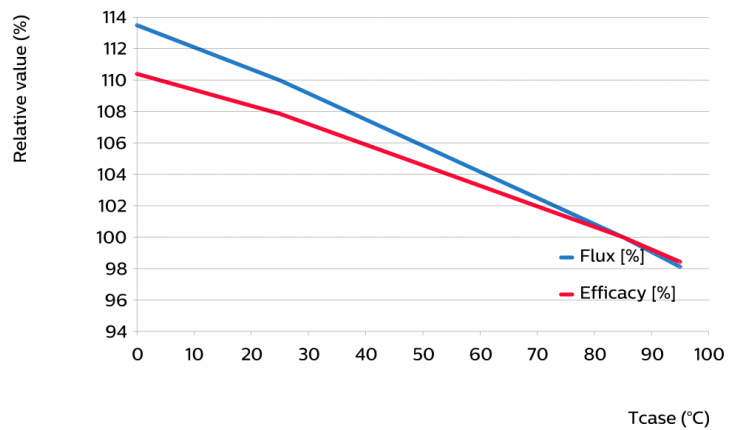
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
400	181	83
300	142	91
200	100	100
160	82	104
100	53	111



Flux and efficacy versus temperature at Tc (at I nominal)

Tc [°C]	Flux [%]	Efficacy [%]
95	98	98
85	100	100
25	110	108
0	113	110



Lumen maintenance

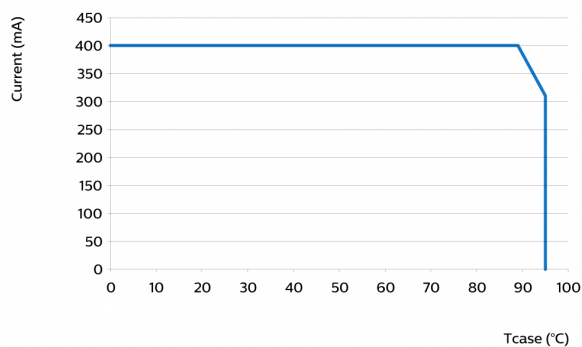
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 160 mA	Tc 75°C	>50	>50	>50	>50	42	39	24	20	18
	Tc 85°C	>50	>50	>50	46	39	35	21	18	16
	Tc 95°C	>50	>50	>50	42	35	32	20	16	15
I-nom 200 mA	Tc 75°C	>50	>50	>50	48	41	37	22	19	17
	Tc 85°C	>50	>50	>50	44	37	34	20	17	16
	Tc 95°C	>50	>50	>50	40	34	31	19	16	14
I-max 400 mA	Tc 75°C	>50	42	29	21	26	24	15	12	11
	Tc 85°C	45	38	35	28	24	22	13	11	10
	Tc 95°C	41	34	31	25	21	19	12	10	9

Lifetime

Parameter	Value	Unit
M70F50 nominal	>50000	hours
M70F50 life	>50000	hours

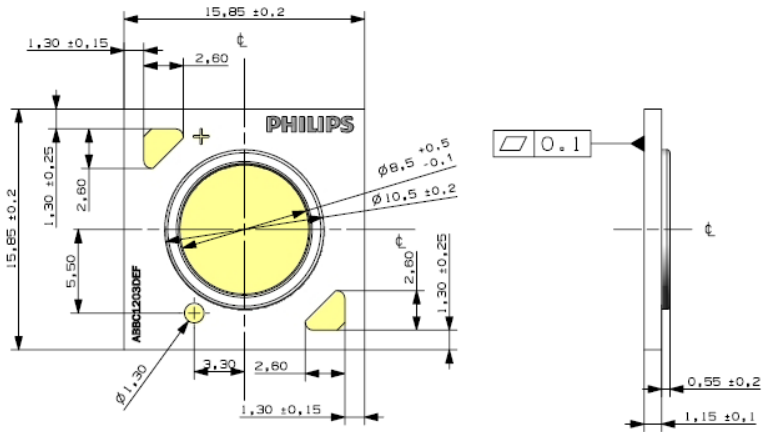
Switching cycles in accordance to EU 1194/2012: >15000.

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	15.65	15.85	16.05	mm
Width	15.65	15.85	16.05	mm
Height PCB	1.05	1.15	1.25	mm
Height including dam	1.4	1.7	2	mm
Product mass		0.76		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		400	mA
Case temperature (Tc-max)		105	°C
ESD (direct contact)	8		kV
Working voltage		60	V _{dc}
Ambient temperature	-20	40	°C
Storage temperature	-40	80	°C

Application information

Certificates and Standards

IEC/EN 62031

IEC/TR 62778

UL 8750

CE

UL

Application

Dimming

Yes



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07/09/2021