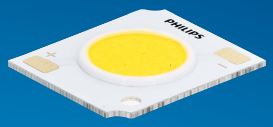
PHILIPS

Fortimo

LED

Fortimo SLM C 9xx 1203
L09 1619 G8 HE



Datasheet

Best combination of quality of light and efficacy

Fortimo LED SLM CRI90 G8 HE

Philips continues to develop its tried and trusted high efficiency COB range of products (since 2020) by introducing the third generation Fortimo SLM G8 HE. The Fortimo SLM CRI90 G8 HE range boasts an impressive 5% increase in efficacy and maintains color consistency of 2 SDCM similar to its predecessor, Fortimo SLM CRI90 G7HE+. Drawing on our four years of industry and R&D experience with high efficacy COB platforms, we have further optimized the quality of light and enhanced the product's robustness.
With the superior efficiency and color consistency, Fortimo SLM G8 HE helps unlock the extraordinary potential of light, facilitating innovation and inspiring the next generation of luminaire design for our OEM customers.
Check out the online Easy Design-in Tool for your perfect system combination (www.easydesignintool.com).

Key features and benefits

- Best quality of light available for all applications
- ~5% efficacy improvement vs. current Fortimo SLM G7 HE+ range
- Excellent color consistency management (2 SDCM)
- System proposition (Module + Driver + Holder)
- Flexibility to optimize luminaire performance (high efficacy or high lm output)
- 50,000 hours lifetime

October 2024

Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo SLM C 927 1203 L09 1619 G8 HE	8720169 376878 00	9290 038 85680	2093739	20
Fortimo SLM C 930 1203 L09 1619 G8 HE	8720169 376908 00	9290 038 85780	2093748	20
Fortimo SLM C 935 1203 L09 1619 G8 HE	8720169 376939 00	9290 038 85880	2093740	20
Fortimo SLM C 940 1203 L09 1619 G8 HE	8720169 376960 00	9290 038 85980	2093694	20
Fortimo SLM C 950 1203 L09 1619 G8 HE	8720169 376991 00	9290 038 86080	2093691	20
Fortimo SLM C 930 PW 1203 L09 1619 G8 HE	8720169 377028 00	9290 038 86180	2093839	20
Fortimo SLM C 935 PW 1203 L09 1619 G8 HE	8720169 377059 00	9290 038 86280	2093738	20
Fortimo SLM C 940 PW 1203 L09 1619 G8 HE	8720169 377080 00	9290 038 86380	2093742	20
Fortimo SLM C 930 PC 1203 L09 1619 G8 HE	8720169 377110 00	9290 038 86480	2093848	20

Not all products are globally available by default.
Please contact your local sales representative for local availability and activation conditions.

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo SLM C 9xx 1203 L09 1619 G8 HE	300	540	540	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	65	95	95	°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

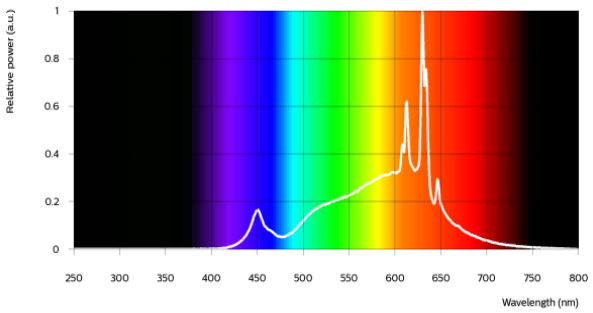
Optical characteristics - table per color (CCT)

Fortimo SLM C 927 1203 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1496	1575	1732	lm
Efficacy		151		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		927/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	927	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1356	163
	Tc-nom 65 °C	1284	157
	Tc-max 95 °C	1222	151
I-nom 300mA	Tc 25 °C	1665	159
	Tc-nom 65 °C	1575	151
	Tc-max 95 °C	1498	145
I-max 540mA	Tc 25 °C	2808	139
	Tc-nom 65 °C	2651	133
	Tc-max 95 °C	2516	127

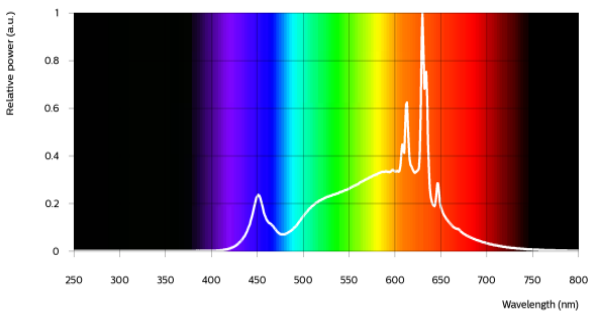


Fortimo SLM C 930 1203 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1577	1660	1826	lm
Efficacy		160		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	930	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1429	172
	Tc-nom 65 °C	1353	165
	Tc-max 95 °C	1288	159
I-nom 300mA	Tc 25 °C	1754	167
	Tc-nom 65 °C	1660	160
	Tc-max 95 °C	1579	153
I-max 540mA	Tc 25 °C	2960	147
	Tc-nom 65 °C	2795	140
	Tc-max 95 °C	2653	134

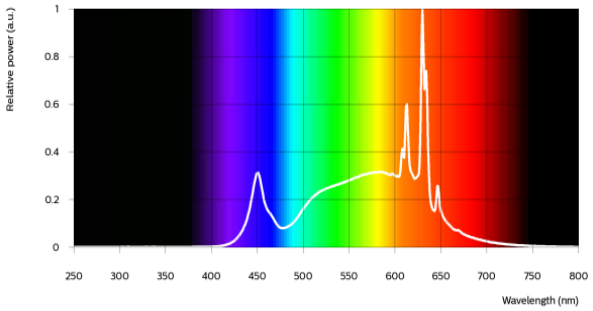


Fortimo SLM C 935 1203 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1606	1690	1859	lm
Efficacy		162		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		935/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	935	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1455	175
	Tc-nom 65 °C	1377	168
	Tc-max 95 °C	1311	162
I-nom 300mA	Tc 25 °C	1786	170
	Tc-nom 65 °C	1690	162
	Tc-max 95 °C	1608	156
I-max 540mA	Tc 25 °C	3013	149
	Tc-nom 65 °C	2845	143
	Tc-max 95 °C	2701	136

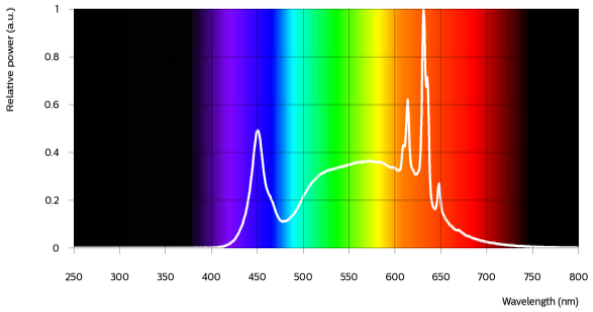


Fortimo SLM C 940 1203 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1629	1715	1886	lm
Efficacy		165		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	940	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1477	178
	Tc-nom 65 °C	1398	170
	Tc-max 95 °C	1330	164
I-nom 300mA	Tc 25 °C	1813	173
	Tc-nom 65 °C	1715	165
	Tc-max 95 °C	1631	158
I-max 540mA	Tc 25 °C	3058	151
	Tc-nom 65 °C	2888	144
	Tc-max 95 °C	2742	138

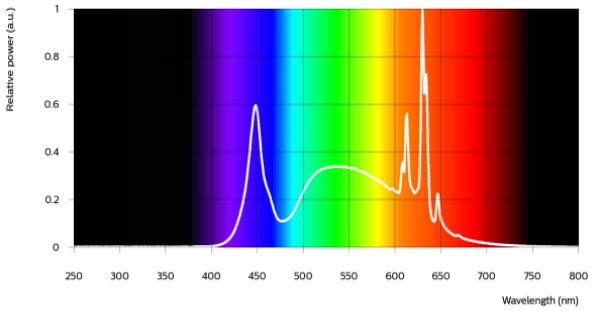


Fortimo SLM C 950 1203 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1615	1700	1870	lm
Efficacy		163		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		950/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	950	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1464	176
	Tc-nom 65 °C	1385	169
	Tc-max 95 °C	1318	163
I-nom 300mA	Tc 25 °C	1797	171
	Tc-nom 65 °C	1700	163
	Tc-max 95 °C	1617	157
I-max 540mA	Tc 25 °C	3032	150
	Tc-nom 65 °C	2863	143
	Tc-max 95 °C	2718	137

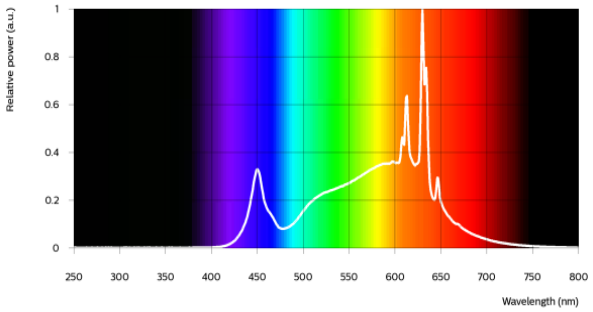


Fortimo SLM C 930 PW 1203 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1563	1645	1810	lm
Efficacy		158		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		

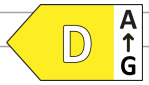
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	930	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1416	171
	Tc-nom 65 °C	1341	164
	Tc-max 95 °C	1276	158
I-nom 300mA	Tc 25 °C	1739	166
	Tc-nom 65 °C	1645	158
	Tc-max 95 °C	1565	152
I-max 540mA	Tc 25 °C	2933	145
	Tc-nom 65 °C	2770	139
	Tc-max 95 °C	2629	133



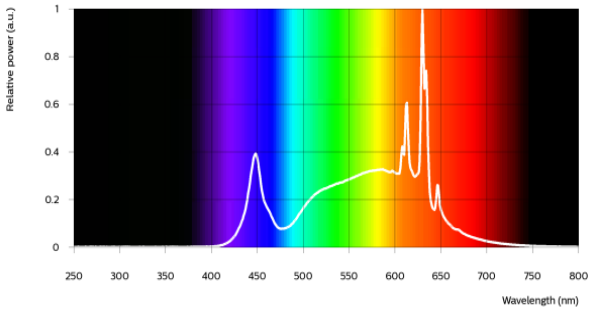
Fortimo SLM C 935 PW 1203 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1586	1670	1837	lm
Efficacy		161		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.398, 0.376)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		935/259		
Photobiological safety		RG1 unlimited		



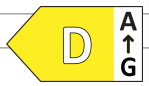
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	935	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1438	173
	Tc-nom 65 °C	1361	166
	Tc-max 95 °C	1295	160
I-nom 300mA	Tc 25 °C	1765	168
	Tc-nom 65 °C	1670	161
	Tc-max 95 °C	1589	154
I-max 540mA	Tc 25 °C	2978	147
	Tc-nom 65 °C	2812	141
	Tc-max 95 °C	2670	135



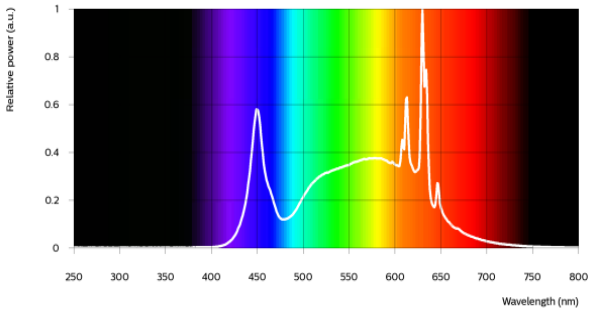
Fortimo SLM C 940 PW 1203 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1606	1690	1859	lm
Efficacy		162		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.374, 0.364)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
Photobiological safety		RG1 unlimited		



Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	940	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1455	175
	Tc-nom 65 °C	1377	168
	Tc-max 95 °C	1311	162
I-nom 300mA	Tc 25 °C	1786	170
	Tc-nom 65 °C	1690	162
	Tc-max 95 °C	1608	156
I-max 540mA	Tc 25 °C	3013	149
	Tc-nom 65 °C	2845	143
	Tc-max 95 °C	2701	136

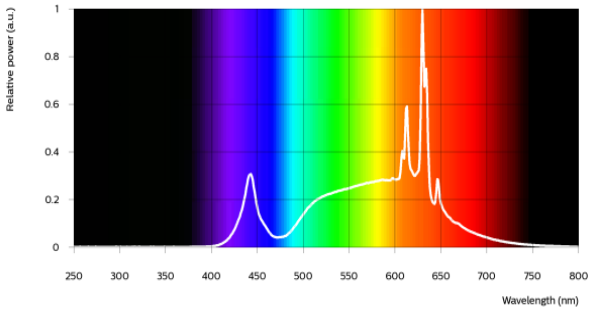


Fortimo SLM C 930 PC 1203 L09 1619 G8 HE

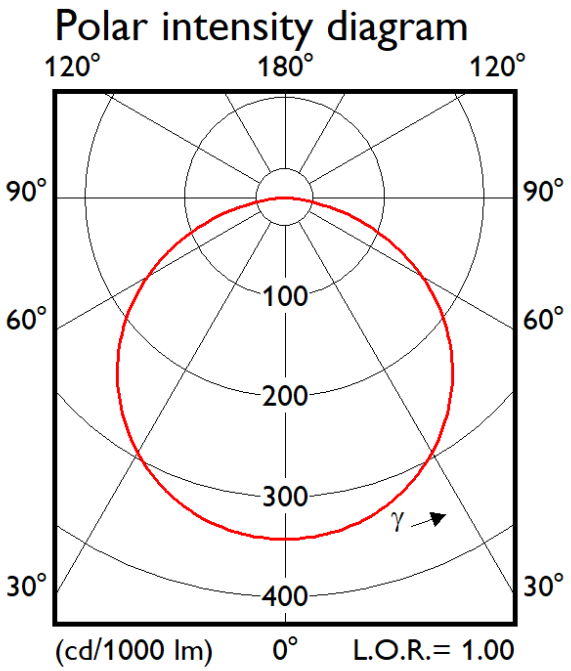
Parameter	Min	Typ	Max	Unit
Luminous flux	1449	1525	1678	lm
Efficacy		147		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	90			
R9	>70			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	930	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1313	158
	Tc-nom 65 °C	1243	152
	Tc-max 95 °C	1183	146
I-nom 300mA	Tc 25 °C	1612	154
	Tc-nom 65 °C	1525	147
	Tc-max 95 °C	1451	141
I-max 540mA	Tc 25 °C	2719	135
	Tc-nom 65 °C	2567	129
	Tc-max 95 °C	2437	123



Beam shape


Polar intensity diagram
120°
180°
120°
90°
90°
60°
60°
100
200
300
γ
30°
30°
400
(cd/1000 lm)
0°
L.O.R.= 1.00

Electrical characteristics

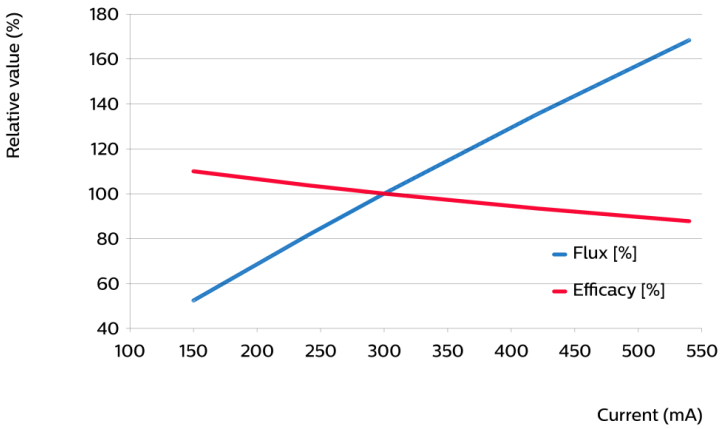
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.7	37.0	V
Power consumption	9.8	10.4	11.1	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

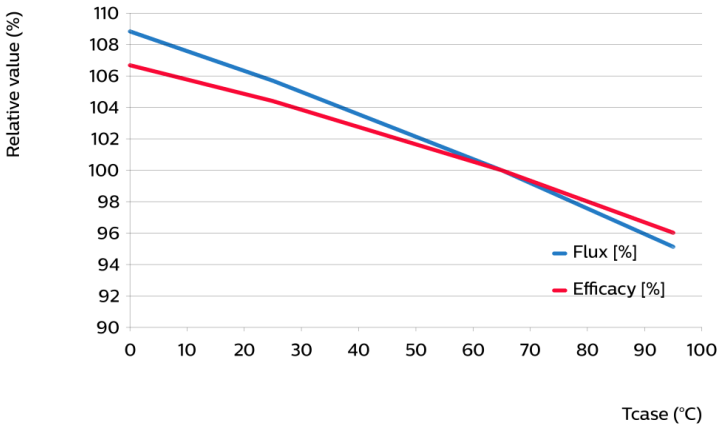
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
540	168	88
420	135	93
300	100	100
240	82	104
150	52	110



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

Tc [°C]	Flux [%]	Efficacy [%]
95	95	96
65	100	100
25	106	104
0	109	107



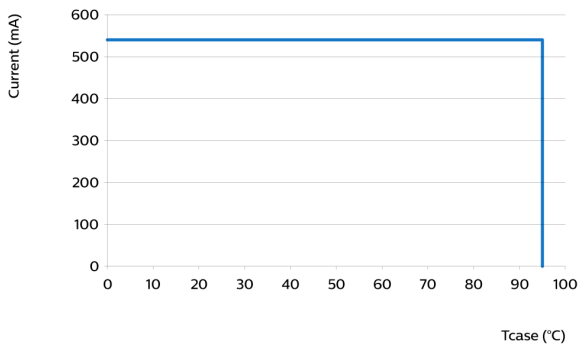
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 240mA	Tc 50°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 65°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 95°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
I-nom 300mA	Tc 50°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 65°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 95°C	>66	>66	>66	>66	>66	>66	>66	56	51
I-max 540mA	Tc 50°C	>66	>66	>66	>66	>66	>66	50	42	39
	Tc 65°C	>66	>66	>66	>66	>66	62	38	32	29
	Tc 95°C	>66	>66	60	49	41	38	23	19	17

Lifetime

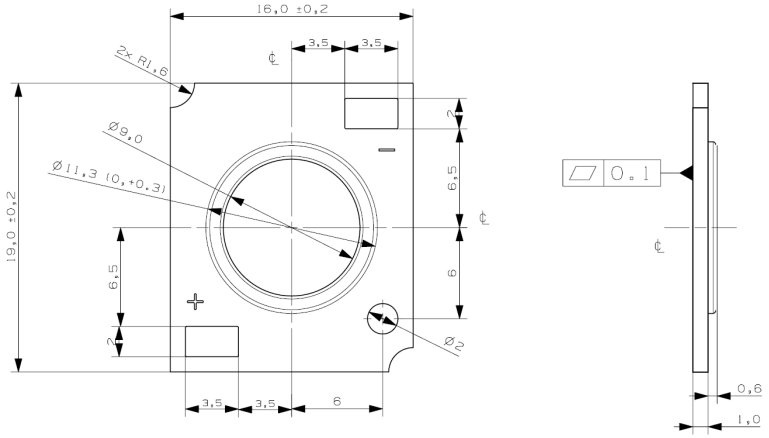
Parameter	Value	Unit
M70F50 nominal	>66000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	18.8	19	19.2	mm
Width	15.8	16	16.2	mm
Height	0.9	1	1.1	mm
Height	1.3	1.6	1.9	mm
Product mass		0.81		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		540	mA
Case temperature (Tc-max)		95	°C
ESD (direct contact)	8		kV
Working voltage		60	V_{dc}
Ambient temperature	-20	40	°C
Storage temperature	-40	80	°C

At illumination levels exceeding 1342 lux risk group classification may be RG2.

Application information

Certificates and Standards
CB
CE
ENEC
ENEC+
EPRS 001
IEC 62031
UKCA
UL
UL 8750

Environmental
RoHS/REACH

Application	
Dimming	Yes

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