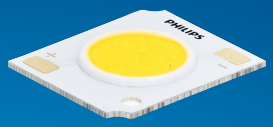
PHILIPS

Fortimo

LED

Fortimo SLM C 9xx 1204
L09 1619 G8 HE



Datasheet

Best combination of quality of light and efficacy

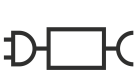
Fortimo LED SLM CRI90 G8 HE

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 1204 L09 1619 G8 HE	8720169 377325 00	9290 038 87180	2093746	20
Fortimo SLM C 930 1204 L09 1619 G8 HE	8720169 377356 00	9290 038 87280	2093686	20
Fortimo SLM C 935 1204 L09 1619 G8 HE	8720169 377387 00	9290 038 87380	2093679	20
Fortimo SLM C 940 1204 L09 1619 G8 HE	8720169 377417 00	9290 038 87480	2093693	20
Fortimo SLM C 950 1204 L09 1619 G8 HE	8720169 377448 00	9290 038 87580	2093680	20
Fortimo SLM C 930 PW 1204 L09 1619 G8 HE	8720169 377479 00	9290 038 87680	2093741	20
Fortimo SLM C 935 PW 1204 L09 1619 G8 HE	8720169 377509 00	9290 038 87780	2093744	20
Fortimo SLM C 940 PW 1204 L09 1619 G8 HE	8720169 377530 00	9290 038 87880	2093867	20
Fortimo SLM C 930 PC 1204 L09 1619 G8 HE	8720169 377561 00	9290 038 87980	2093689	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 1204 L09 1619 G8 HE	400	720	720	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

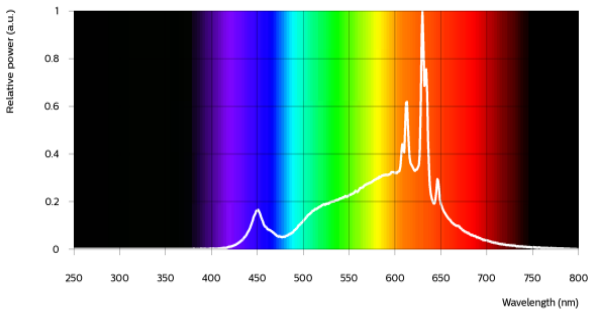
Optical characteristics - table per color (CCT)

Fortimo SLM C 927 1204 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1981	2085	2294	lm
Efficacy		150		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 320mA	Tc 25 °C	1783	162
	Tc-nom 65 °C	1700	156
	Tc-max 95 °C	1612	149
I-nom 400mA	Tc 25 °C	2188	156
	Tc-nom 65 °C	2085	150
	Tc-max 95 °C	1975	144
I-max 720mA	Tc 25 °C	3696	136
	Tc-nom 65 °C	3509	131
	Tc-max 95 °C	3309	124

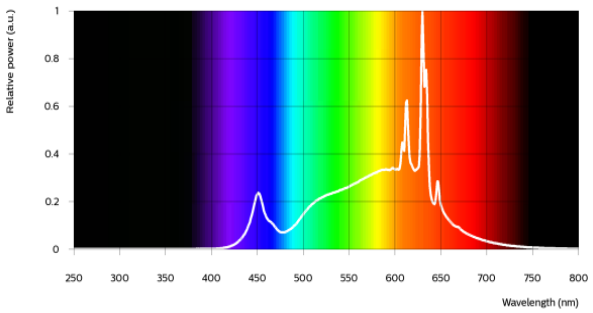


Fortimo SLM C 930 1204 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2085	2195	2414	lm
Efficacy		158		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 320mA	Tc 25 °C	1877	171
	Tc-nom 65 °C	1789	164
	Tc-max 95 °C	1697	157
I-nom 400mA	Tc 25 °C	2304	165
	Tc-nom 65 °C	2195	158
	Tc-max 95 °C	2079	152
I-max 720mA	Tc 25 °C	3892	144
	Tc-nom 65 °C	3695	138
	Tc-max 95 °C	3485	131

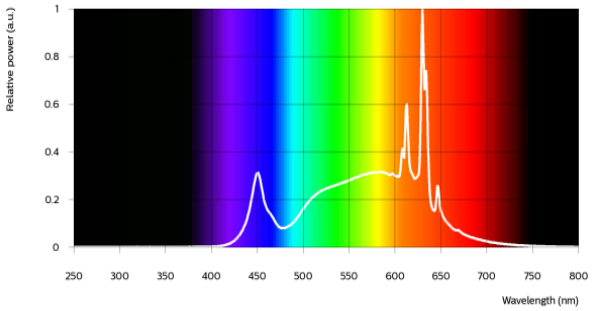


Fortimo SLM C 935 1204 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2123	2235	2458	lm
Efficacy		161		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 320mA	Tc 25 °C	1911	174
	Tc-nom 65 °C	1822	167
	Tc-max 95 °C	1728	160
I-nom 400mA	Tc 25 °C	2346	168
	Tc-nom 65 °C	2235	161
	Tc-max 95 °C	2117	155
I-max 720mA	Tc 25 °C	3962	146
	Tc-nom 65 °C	3762	140
	Tc-max 95 °C	3549	133

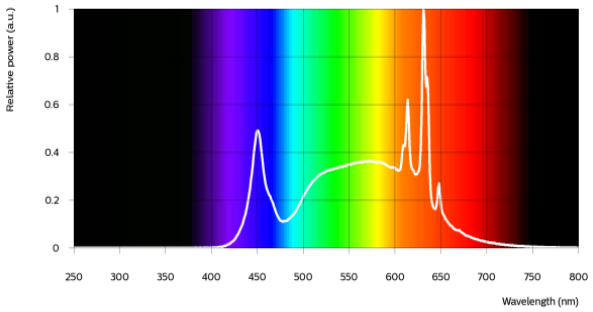


Fortimo SLM C 940 1204 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2156	2270	2497	lm
Efficacy		163		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 320mA	Tc 25 °C	1941	176
	Tc-nom 65 °C	1850	170
	Tc-max 95 °C	1755	162
I-nom 400mA	Tc 25 °C	2382	170
	Tc-nom 65 °C	2270	163
	Tc-max 95 °C	2151	157
I-max 720mA	Tc 25 °C	4025	149
	Tc-nom 65 °C	3822	143
	Tc-max 95 °C	3605	136

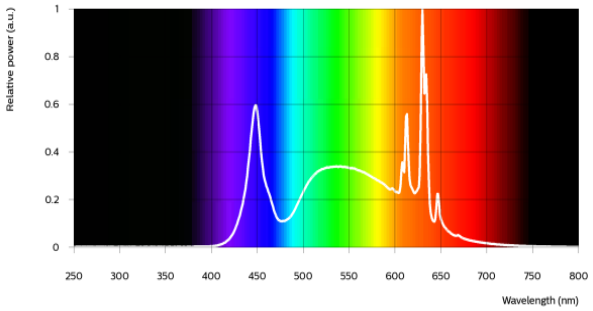


Fortimo SLM C 950 1204 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2138	2250	2475	lm
Efficacy		162		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 320mA	Tc 25 °C	1923	175
	Tc-nom 65 °C	1834	168
	Tc-max 95 °C	1739	161
I-nom 400mA	Tc 25 °C	2361	169
	Tc-nom 65 °C	2250	162
	Tc-max 95 °C	2132	156
I-max 720mA	Tc 25 °C	3989	147
	Tc-nom 65 °C	3789	141
	Tc-max 95 °C	3575	134

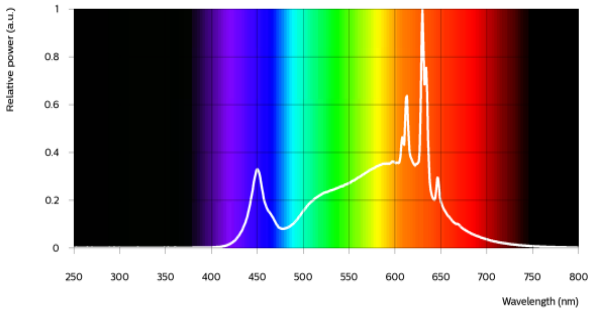


Fortimo SLM C 930 PW 1204 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2066	2175	2392	lm
Efficacy		156		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 320mA	Tc 25 °C	1859	169
	Tc-nom 65 °C	1773	163
	Tc-max 95 °C	1681	156
I-nom 400mA	Tc 25 °C	2283	163
	Tc-nom 65 °C	2175	156
	Tc-max 95 °C	2061	150
I-max 720mA	Tc 25 °C	3856	142
	Tc-nom 65 °C	3661	137
	Tc-max 95 °C	3454	130

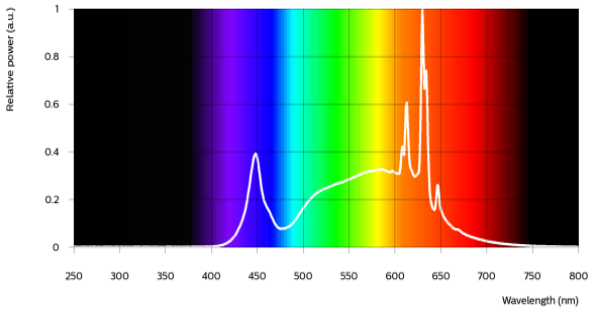


Fortimo SLM C 935 PW 1204 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2095	2205	2426	lm
Efficacy		159		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 320mA	Tc 25 °C	1885	171
	Tc-nom 65 °C	1797	165
	Tc-max 95 °C	1704	158
I-nom 400mA	Tc 25 °C	2314	165
	Tc-nom 65 °C	2205	159
	Tc-max 95 °C	2089	152
I-max 720mA	Tc 25 °C	3909	144
	Tc-nom 65 °C	3712	139
	Tc-max 95 °C	3501	132

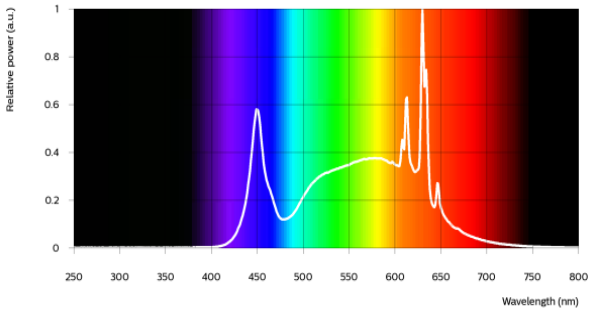


Fortimo SLM C 940 PW 1204 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2118	2230	2453	lm
Efficacy		160		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 320mA	Tc 25 °C	1906	173
	Tc-nom 65 °C	1818	167
	Tc-max 95 °C	1724	160
I-nom 400mA	Tc 25 °C	2340	167
	Tc-nom 65 °C	2230	160
	Tc-max 95 °C	2113	154
I-max 720mA	Tc 25 °C	3954	146
	Tc-nom 65 °C	3755	140
	Tc-max 95 °C	3542	133

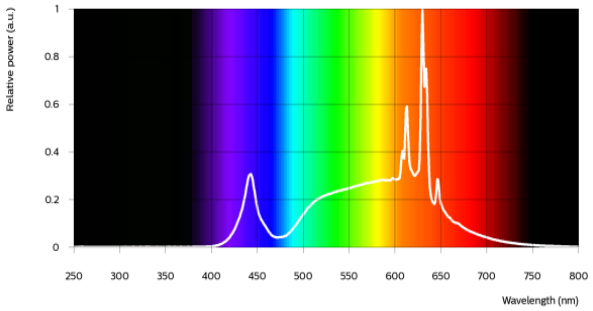


Fortimo SLM C 930 PC 1204 L09 1619 G8 HE

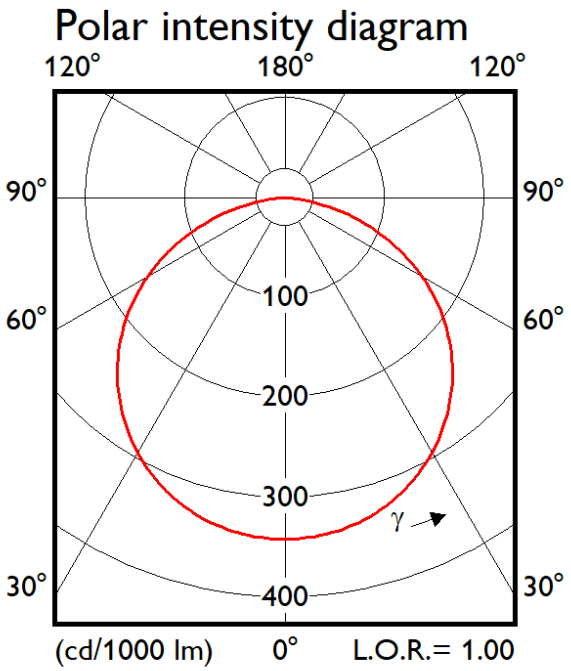
Parameter	Min	Typ	Max	Unit
Luminous flux	1919	2020	2222	lm
Efficacy		145		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	90			
R9	>70			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		

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 320mA	Tc 25 °C	1727	157
	Tc-nom 65 °C	1647	151
	Tc-max 95 °C	1561	145
I-nom 400mA	Tc 25 °C	2120	151
	Tc-nom 65 °C	2020	145
	Tc-max 95 °C	1913	140
I-max 720mA	Tc 25 °C	3581	132
	Tc-nom 65 °C	3400	127
	Tc-max 95 °C	3206	121



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

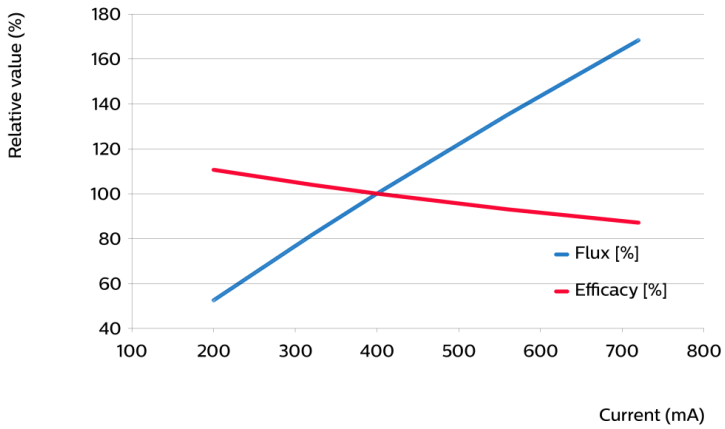
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.7	37.0	V
Power consumption	13.0	13.9	14.8	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

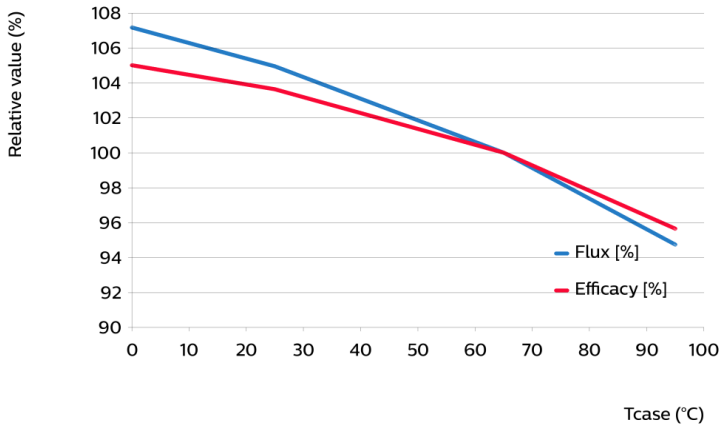
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
720	168	87
560	135	93
400	100	100
320	82	104
200	52	111



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

Tc [°C]	Flux [%]	Efficacy [%]
95	95	96
65	100	100
25	105	104
0	107	105



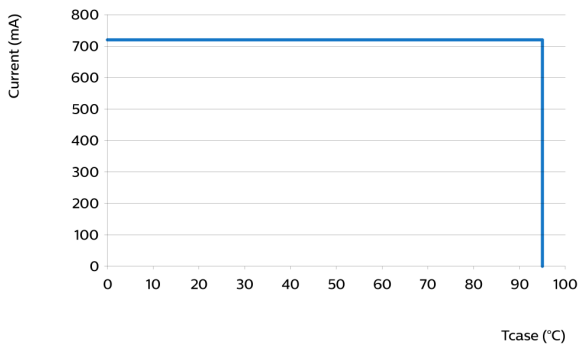
Lumen maintenance

Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 320mA	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 400mA	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 720mA	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

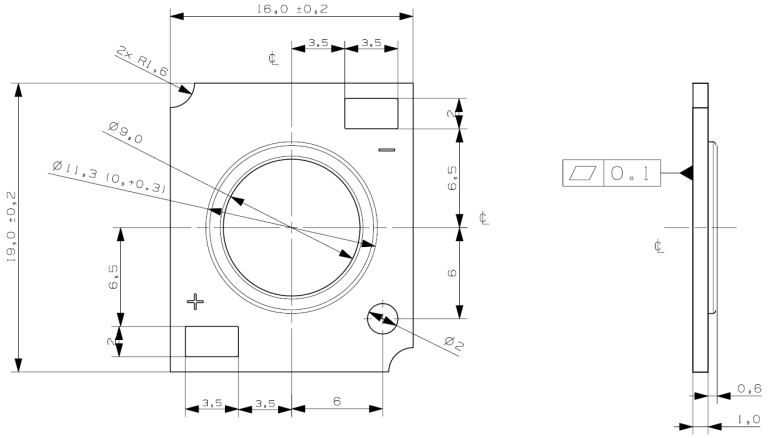
Parameter	Value	Unit
M70F50 nominal	>66000	hours

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)		720	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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11/10/2024

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