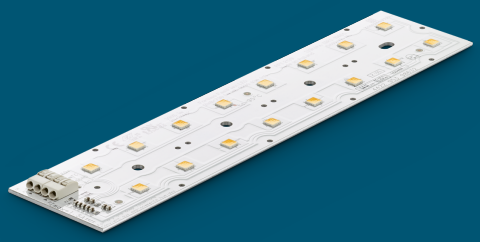
xitanium

Datasheet

Fortimo FastFlex LED 2x8 DA HE



High efficiency in familiar form factor

Fortimo FastFlex 2x8 DA HE

Choose Fortimo FastFlex DA HE for high efficiencies in industry familiar form factors
Application:

- Road lighting
- Urban street lighting
- Flood and area lighting
- Tunnel lighting
- High bay lighting

Key features and benefits

- High efficiencies on LED module level in familiar form factors
- Various combinations of size, CRI and CCT available
- Mechanically backwards compatible with DA Gen 4+/Gen 5
- Reliability testing for OEM peace of mind
- Embedded module surge protection
- Philips system warranty



Ordering data

Commercial product name	EOC	12NC	EPREL No.	EPREL model ID	Box quantity
Fortimo FastFlex LED 2x8/722 DA HE	8720169 284746 00	9290 039 68206	2883599	929003968206X	25
Fortimo FastFlex LED 2x8/727 DA HE	8719514 403253 00	9290 034 01706	2883645	929003401706X	25
Fortimo FastFlex LED 2x8/730 DA HE	8719514 403277 00	9290 034 01806	2883631	929003401806X	25
Fortimo FastFlex LED 2x8/740 DA HE	8719514 403291 00	9290 034 01906	2883606	929003401906X	25
Fortimo FastFlex LED 2x8/840 DA HE	8720169 284760 00	9290 039 68306	2883585	929003968306X	25

*Some product types are region-specific. Please consult with your sales representative for more information.

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo FastFlex LED 2x8 DA HE	480	1050	1500	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	80	85	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

Fortimo FastFlex LED 2x8/722 DA HE
Fortimo FastFlex LED 2x8/727 DA HE
Fortimo FastFlex LED 2x8/730 DA HE
Fortimo FastFlex LED 2x8/740 DA HE

	2200K	2700K	3000K	4000K	Unit
Luminous flux (Φuse)*	3460	3545	3890	4010	lm
Efficacy*	162	167	183	189	lm/W
Max. Color consistency	5	5	5	5	SDCM
Color coordinates (CIEx, CIEy)	0.505, 0.417	0.455, 0.409	0.433, 0.404	0.379, 0.379	
Min. CRI	70	70	70	70	
Min. R9	-50	-50	-50	-50	
Max. Photobiological safety	RG1 unlimited	RG1 unlimited	RG1 unlimited	RG1 unlimited	
Energy label EPREL	D 	D 	C 	C 	

Fortimo FastFlex LED 2x8/840 DA HE

	4000K	Unit
Luminous flux (Φuse)*	3840	lm
Efficacy*	180	lm/W
Max. Color consistency	5	SDCM
Color coordinates (CIEx, CIEy)	0.385, 0.383	
Min. CRI	80	
Min. R9	0	
Max. Photobiological safety	RG1 unlimited	
Energy label EPREL	C 	

Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5.

* Luminous flux(Φuse) and Efficacy refer to Single Lighting Regulation (SLR). Luminous flux(Φuse) means the part of the luminous flux of a light source that is considered when determining its energy efficiency: – for non-directional light sources it is the total flux emitted in a solid angle of 4π sr (corresponding to a 360° sphere)

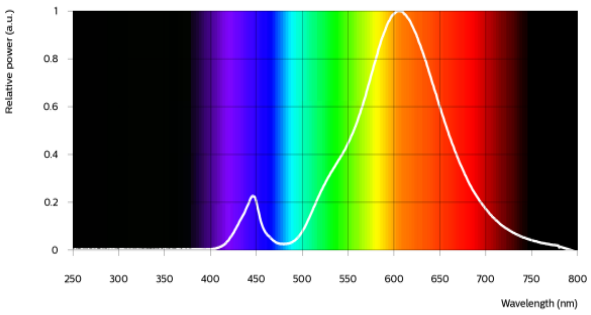
Tuning table

Operation Point		Current	2200K	2700K	3000K	4000K	Unit
Tc = 25°C	Luminous flux	80% I-nom 384mA	2982	3055	3351	3454	lm
		I-nom 480mA	3693	3783	4150	4278	lm
		I-max 1500mA	10671	10936	12010	12385	lm
	Efficacy	80% I-nom 384mA	174	179	196	202	lm/W
		I-nom 480mA	170	174	191	197	lm/W
		I-max 1500mA	140	144	158	163	lm/W
Tc = 80°C	Luminous flux	80% I-nom 384mA	2796	2865	3143	3240	lm
		I-nom 480mA	3460	3545	3890	4010	lm
		I-max 1500mA	9889	10137	11142	11493	lm
	Efficacy	80% I-nom 384mA	166	172	188	194	lm/W
		I-nom 480mA	162	167	183	189	lm/W
		I-max 1500mA	132	136	149	154	lm/W
Tc = 95°C	Luminous flux	80% I-nom 384mA	2731	2798	3070	3165	lm
		I-nom 480mA	3379	3462	3799	3916	lm
		I-max 1500mA	9614	9856	10837	11179	lm
	Efficacy	80% I-nom 384mA	164	169	185	191	lm/W
		I-nom 480mA	160	164	180	186	lm/W
		I-max 1500mA	129	133	146	150	lm/W

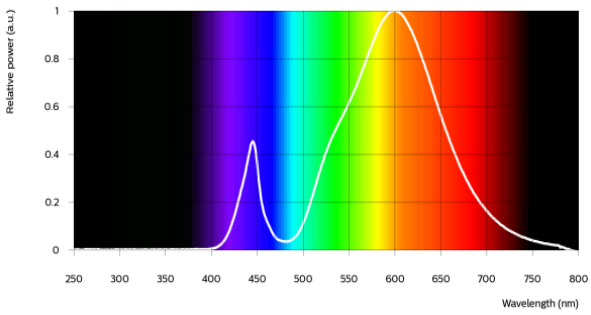
Operation Point		Current	4000K	Unit
Tc = 25°C	Luminous flux	80% I-nom 384mA	3308	lm
		I-nom 480mA	4097	lm
		I-max 1500mA	11854	lm
	Efficacy	80% I-nom 384mA	193	lm/W
		I-nom 480mA	189	lm/W
		I-max 1500mA	156	lm/W
Tc = 80°C	Luminous flux	80% I-nom 384mA	3103	lm
		I-nom 480mA	3840	lm
		I-max 1500mA	10996	lm
	Efficacy	80% I-nom 384mA	185	lm/W
		I-nom 480mA	180	lm/W
		I-max 1500mA	147	lm/W
Tc = 95°C	Luminous flux	80% I-nom 384mA	3031	lm
		I-nom 480mA	3750	lm
		I-max 1500mA	10693	lm
	Efficacy	80% I-nom 384mA	181	lm/W
		I-nom 480mA	178	lm/W
		I-max 1500mA	144	lm/W

Spectral characteristics

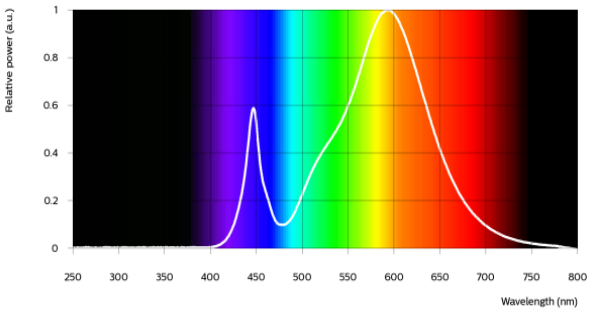
CRI70 2200K



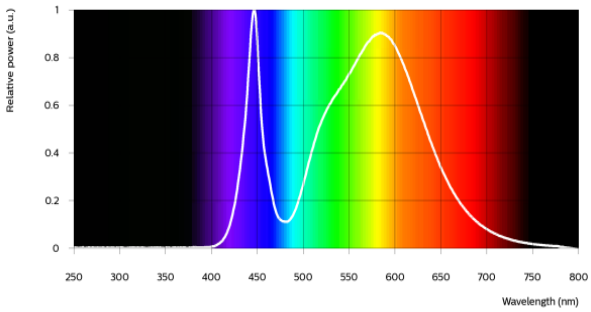
CRI70 2700K



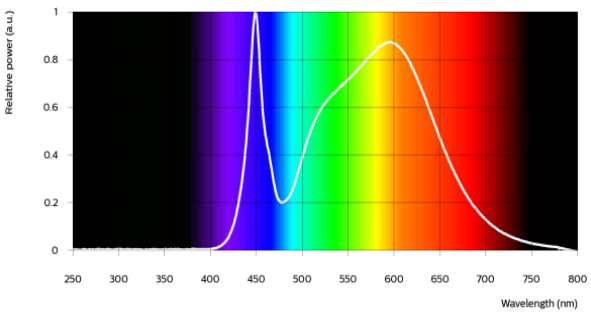
CRI70 3000K



CRI70 4000K



CRI80 4000K



Electrical characteristics

Fortimo FastFlex LED 2x8/722 DA HE
Fortimo FastFlex LED 2x8/840 DA HE

Parameter	Min	Typ	Max	Unit
Forward voltage	42.1	44.3	45.3	V
Power consumption	20.2	21.3	21.7	W = kWh/1000h
Number of modules in series per chain			10	
Number of modules in parallel			1	

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

Fortimo FastFlex LED 2x8/727 DA HE
Fortimo FastFlex LED 2x8/730 DA HE
Fortimo FastFlex LED 2x8/740 DA HE

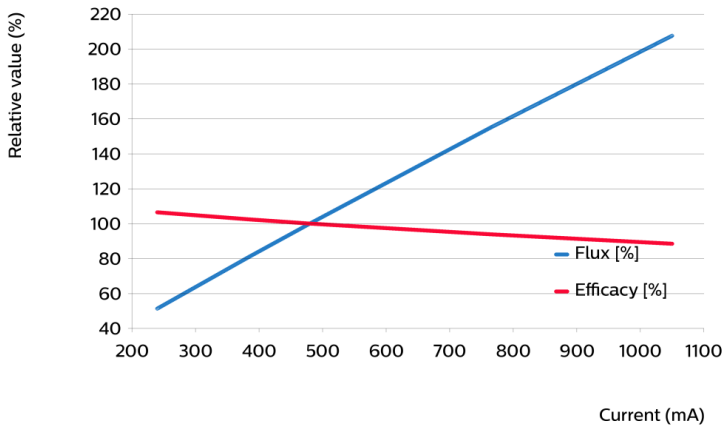
Parameter	Min	Typ	Max	Unit
Forward voltage	42.3	44.2	45.6	V
Power consumption	20.3	21.2	21.9	W = kWh/1000h
Number of modules in series per chain			10	
Number of modules in parallel			1	

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

Tuning information

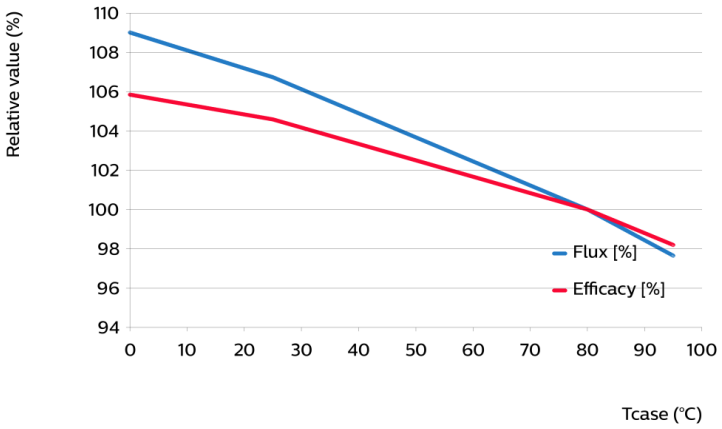
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1050	208	88
765	155	94
480	100	100
384	81	102
240	51	106



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

Tc [°C]	Flux [%]	Efficacy [%]
95	98	98
80	100	100
25	107	105
0	109	106



Lumen maintenance

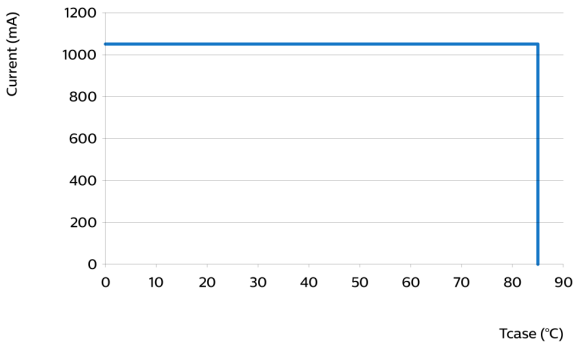
Operation point	Lumen maintenance x 1000 hours	L70 B50	L70 B20	L70 B10	L80 B50	L80 B20	L80 B10	L90 B50	L90 B20	L90 B10
I 480mA	Tc 25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 65°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 85°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
I 700mA	Tc 25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 65°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 85°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
I 1050mA	Tc 25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 65°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 85°C	>100	>100	>100	>100	>100	>100	>100	>100	>100

We use a Philips designed lifetime model, which uses LM80 data as only one of its inputs and assumes a continues operation of the module.
*B20 and B10 values are calculated by means of statistical techniques.

Lifetime

Parameter	Value	Unit
M70F50 nominal	>100000	hours
M70F50 life	>100000	hours

Performance Window

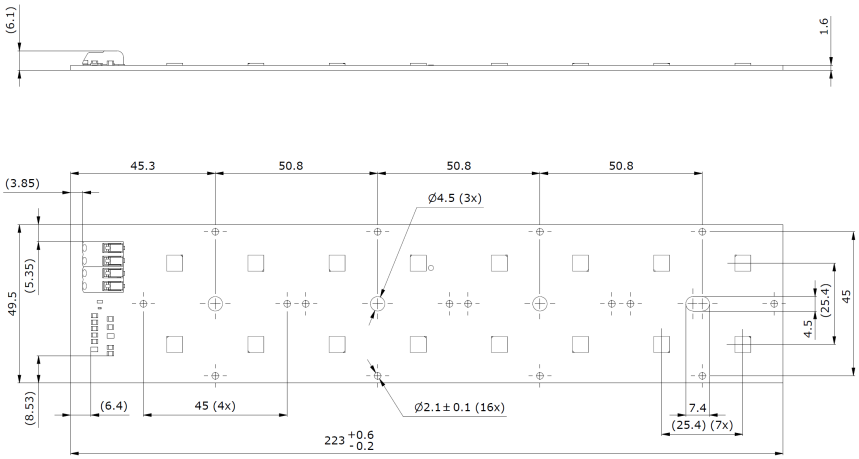


Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.25...0.75	mm^2	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	
Input wire cross-section	0.33...0.5	mm^2	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	7.5...8.5	mm	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	222.8	223	223.6	mm
Width	49.3	49.5	49.7	mm
Height including connector		6.1		mm
Height PCB		1.6		mm
Product mass		49.7		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1500	mA
Case temperature (Tc-max)		95	°C
Power at rated Vf-max and I-max		74.7	W
ESD (direct contact)	8		kV
ESD (air)	15		kV
Working voltage		575	V_{dc}
Ambient temperature	-40	50	°C
Storage temperature	-20	80	°C

Application information

Certificates and Standards
CE
ENEC
cULus
ENEC+

Environmental
RoHS/REACH

Zhaga	Compliant*

*Book 15, 2x8-DA. Certification applies to selected products. Visit the Zhaga website for details: https://www.zhagastandard.org/”

Application	
Overheating protection	NTC 15K Ohm B=3987K + 390 Ohm in series
Dimming	Yes

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