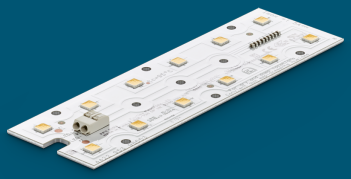
Xitanium

Datasheet

Fortimo FastFlex LED 2x6 DP HE



High efficiency in familiar form factor with protection on LED module level

Fortimo FastFlex 2x6 DP HE

Combine Fortimo FastFlex DP HE with third-party lenses for high efficiencies and instant protection
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
- IP66 protected LED module in combination with third-party lenses
- Mechanically backwards compatible with DP 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 2x6/722 DP HE	8721103 148889 00	9290 040 21499	2883604	929004021499X	25
Fortimo FastFlex LED 2x6/727 DP HE	8721103 148902 00	9290 040 21599	2883586	929004021599X	25

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo FastFlex LED 2x6 DP 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 2x6/722 DP HE
Fortimo FastFlex LED 2x6/727 DP HE

	2200K	2700K	Unit
Luminous flux (Φuse)*	2578	2655	lm
Efficacy*	161	166	lm/W
Average Luminous flux	2650	2729	lm
Average Efficacy	167	171	lm/W
Max. Efficacy	179	197	lm/W
Max. Color consistency	5	5	SDCM
Color coordinates (CIEx, CIEy)	0.505, 0.417	0.455, 0.409	
Min. CRI	70	70	
Min. R9	-50	-50	
Max. Photobiological safety	RG1 unlimited	RG1 unlimited	
Energy label EPREL	D 	D 	

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)

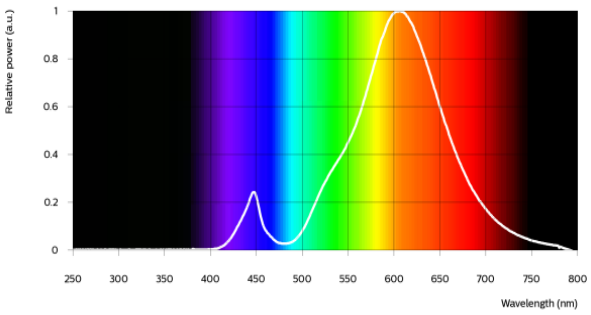
Tuning table

Operation Point		Current	2200K	2700K	Unit
Tc = 25°C	Luminous flux	80% I-nom 384mA	2284	2352	lm
		I-nom 480mA	2828	2913	lm
		I-max 1500mA	8175	8422	lm
	Efficacy	80% I-nom 384mA	178	184	lm/W
		I-nom 480mA	174	179	lm/W
		I-max 1500mA	143	147	lm/W
Tc = 80°C	Luminous flux	80% I-nom 384mA	2142	2205	lm
		I-nom 480mA	2650	2729	lm
		I-max 1500mA	7578	7808	lm
	Efficacy	80% I-nom 384mA	170	175	lm/W
		I-nom 480mA	167	171	lm/W
		I-max 1500mA	135	139	lm/W
Tc = 95°C	Luminous flux	80% I-nom 384mA	2092	2154	lm
		I-nom 480mA	2588	2665	lm
		I-max 1500mA	7368	7592	lm
	Efficacy	80% I-nom 384mA	167	172	lm/W
		I-nom 480mA	163	169	lm/W
		I-max 1500mA	132	136	lm/W

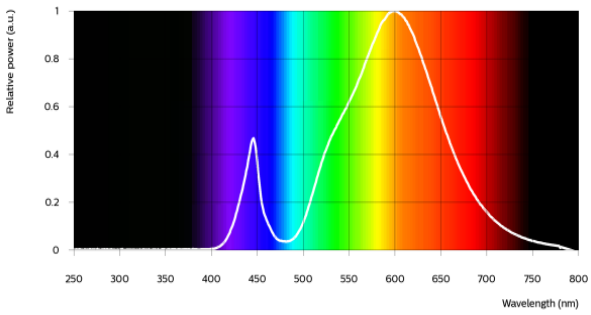
*Based on average value

Spectral characteristics

CRI70 2200K



CRI70 2700K



Electrical characteristics

Fortimo FastFlex LED 2x6/722 DP HE

Parameter	Min	Typ	Max	Unit
Forward voltage	31.8	33.3	34.2	V
Power consumption	15.3	16.0	16.4	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 2x6/727 DP HE

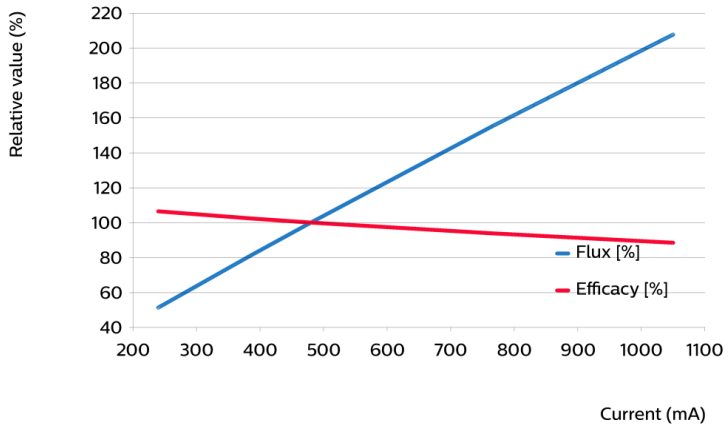
Parameter	Min	Typ	Max	Unit
Forward voltage	31.6	33.2	34.2	V
Power consumption	15.2	16.0	16.4	W = kWh/1000h
Number of modules in series per chain			10	
Number of modules in parallel			1	

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

Tuning information

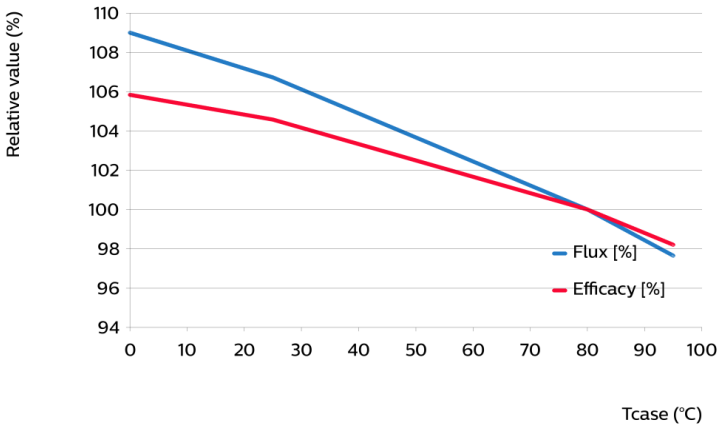
Flux and efficacy versus current (at Tc nominal)

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

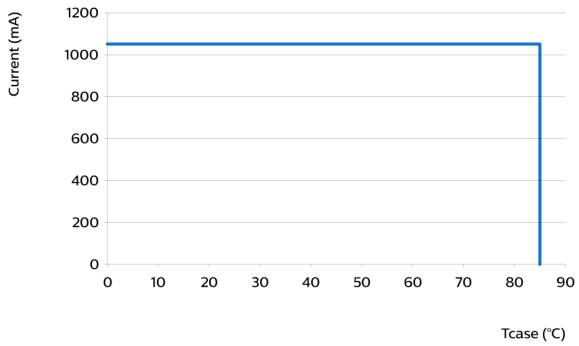
Operation point	Lumen maintenance x 1000 hours	L70 B50	L70 B20	L70 B10	L80 B50	L80 B20	L80 B10	L90 B50	L90 B20	L90 B10
I 480mA	Tc 25°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 65°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 85°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
I 700mA	Tc 25°C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



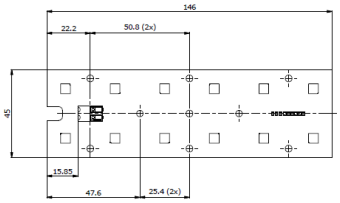
Wiring

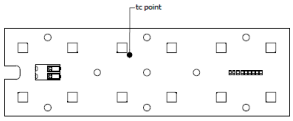
Specification item	Value	Unit	Condition
Input wire cross-section	0.25...0.75	mm^2	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	
Input wire cross-section	0.33...0.5	mm^2	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	7.5...8.5	mm	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	145.8	146	146.4	mm
Width	44.8	45	45.4	mm
Height including connector	6	6	6.2	mm
Height PCB		1.6		mm
Product mass		29		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		56.3	W
ESD (direct contact)	8		kV
Working voltage		575	V_{dc}
Ambient temperature	-40	50	°C
Storage temperature	-20	80	°C

Application information

Certificates and Standards
CE
cULus
ENEC

Environmental
RoHS/REACH

Zhaga	Compliant*
*Book 15, 2x6-DP	

Application	
Overheating protection	No
Dimming	Yes

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