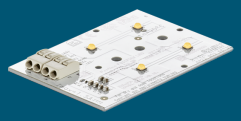
xitanium

Datasheet

Fortimo FastFlex LED 2x2 DA G5



One-fits-all solution

FastFlex DA G5

Choose Fortimo FastFlex DA G5 for unlimited optical configurations
Application:

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

Key features and benefits

- One-fits-all solution thanks to the familiar array
- Large selection of sizes, CRI and CCT combinations
- Module efficacy upgrade compared to previous generations
- Mechanically backwards compatible with Gen 4+
- Best-in-class 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 2x2/730 DA G5	8719514 318069 00	9290 028 65906	2883614	929002865906X	25
Fortimo FastFlex LED 2x2/740 DA G5	8719514 318083 00	9290 028 66006	2883651	929002866006X	25
Fortimo FastFlex LED 2x2/840 DA G5	8719514 318106 00	9290 028 66106	2883590	929002866106X	25

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo FastFlex LED 2x2 DA G5	530	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 2x2/730 DA G5
Fortimo FastFlex LED 2x2/740 DA G5

	3000K	4000K	Unit
Luminous flux (Φuse)*	940	1020	lm
Efficacy*	159	173	lm/W
Average Luminous flux (tolerance -5% + 5%)	1031	1102	lm
Average Efficacy (tolerance -5% + 5%)	176	186	lm/W
Max. Efficacy	193	205	lm/W
Max. Color consistency	5	5	SDCM
Color coordinates (CIEx, CIEy)	0.436, 0.404	0.385, 0.383	
Min. CRI	70	70	
Min. R9	-50	-50	
Photometric code	730/579	740/579	
Max. Photobiological safety	RG2	RG2	
Ethr	860	860	
Energy label EPREL	D	C	





Fortimo FastFlex LED 2x2/840 DA G5

	4000K	Unit
Luminous flux (Φuse)*	895	lm
Efficacy*	152	lm/W
Average Luminous flux (tolerance -5% + 5%)	1013	lm
Average Efficacy (tolerance -5% + 5%)	173	lm/W
Max. Efficacy	184	lm/W
Max. Color consistency	5	SDCM
Color coordinates (CIEx, CIEy)	0.385, 0.383	
Min. CRI	80	
Min. R9	0	
Photometric code	840/579	
Max. Photobiological safety	RG2	
Ethr	860	
Energy label EPREL	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

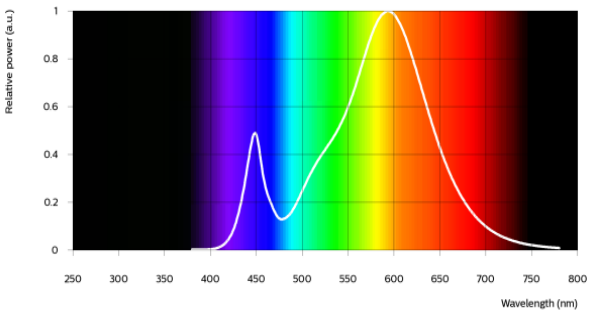
Operation Point		Current	3000K	4000K	Unit
Tc = 25°C	Luminous flux	80% I-nom 424mA	888	949	lm
		I-nom 530mA	1085	1159	lm
		I-max 1500mA	2651	2834	lm
	Efficacy	80% I-nom 424mA	185	194	lm/W
		I-nom 530mA	181	190	lm/W
		I-max 1500mA	146	153	lm/W
Tc = 80°C	Luminous flux	80% I-nom 424mA	845	903	lm
		I-nom 530mA	1031	1102	lm
		I-max 1500mA	2495	2668	lm
	Efficacy	80% I-nom 424mA	184	192	lm/W
		I-nom 530mA	176	186	lm/W
		I-max 1500mA	141	148	lm/W
Tc = 95°C	Luminous flux	80% I-nom 424mA	824	880	lm
		I-nom 530mA	1005	1075	lm
		I-max 1500mA	2417	2585	lm
	Efficacy	80% I-nom 424mA	179	187	lm/W
		I-nom 530mA	173	182	lm/W
		I-max 1500mA	137	145	lm/W

Operation Point		Current	4000K	Unit
Tc = 25°C	Luminous flux	80% I-nom 424mA	873	lm
		I-nom 530mA	1066	lm
		I-max 1500mA	2606	lm
	Efficacy	80% I-nom 424mA	182	lm/W
		I-nom 530mA	175	lm/W
		I-max 1500mA	142	lm/W
Tc = 80°C	Luminous flux	80% I-nom 424mA	830	lm
		I-nom 530mA	1013	lm
		I-max 1500mA	2451	lm
	Efficacy	80% I-nom 424mA	177	lm/W
		I-nom 530mA	173	lm/W
		I-max 1500mA	138	lm/W
Tc = 95°C	Luminous flux	80% I-nom 424mA	809	lm
		I-nom 530mA	988	lm
		I-max 1500mA	2374	lm
	Efficacy	80% I-nom 424mA	176	lm/W
		I-nom 530mA	170	lm/W
		I-max 1500mA	134	lm/W

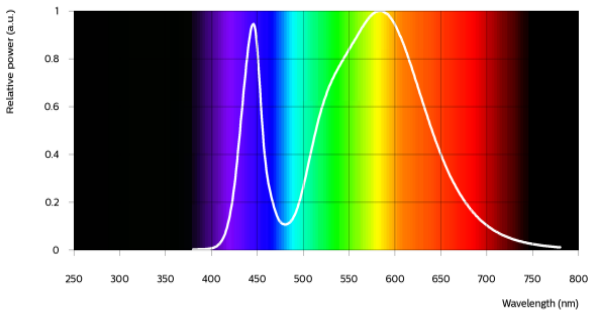
*Based on average value

Spectral characteristics

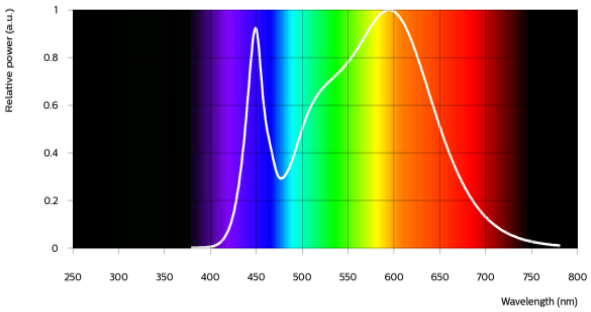
CRI70 3000K



CRI70 4000K



CRI80 4000K



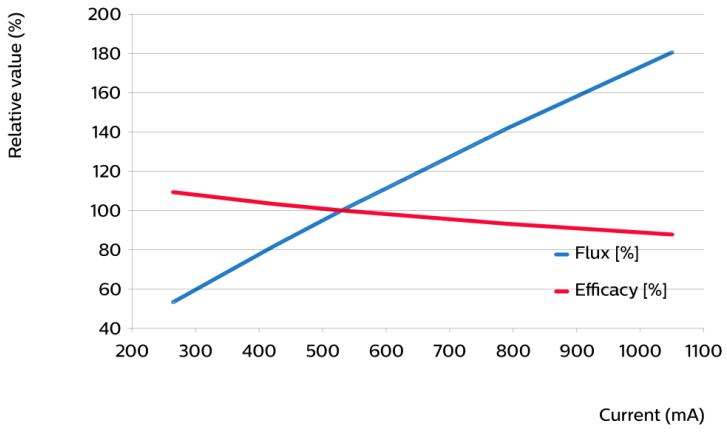
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	10.6	11.2	11.6	V
Power consumption	5.6	5.9	6.1	W = kWh/1000h
Number of modules in series per chain			10	
Number of modules in parallel			1	

Tuning information

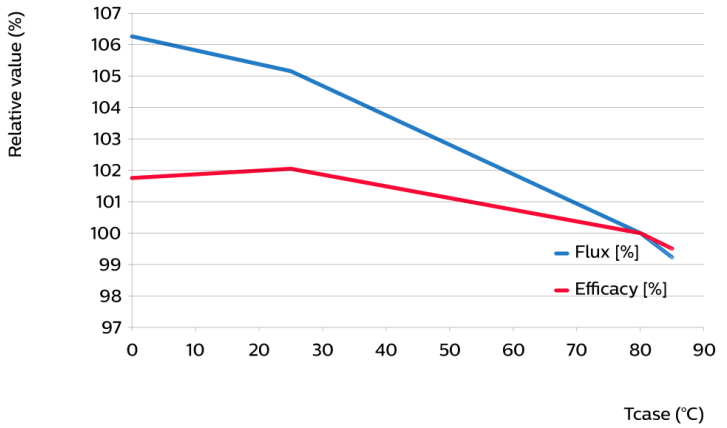
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1050	180	88
790	142	93
530	100	100
424	82	103
265	53	109



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

Tc [°C]	Flux [%]	Efficacy [%]
85	99	100
80	100	100
25	105	102
0	106	102



Lumen maintenance

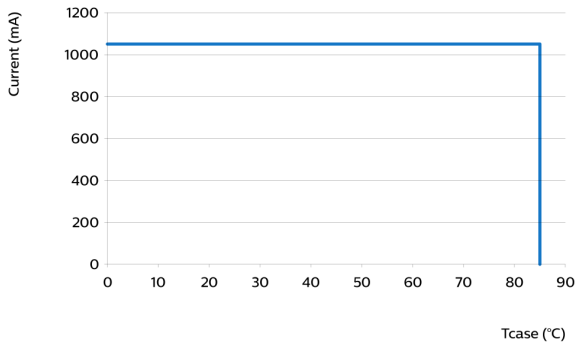
Operation point	Lumen maintenance x 1000 hours	L70 B50	L70 B20	L70 B10	L80 B50	L80 B20	L80 B10	L90 B50	L90 B20	L90 B10
I 530 mA	Tc 60°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 70°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 80°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
I 700 mA	Tc 60°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 70°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 80°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
I 1050 mA	Tc 60°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 70°C	>100	>100	>100	>100	>100	>100	>100	>100	>100
	Tc 80°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

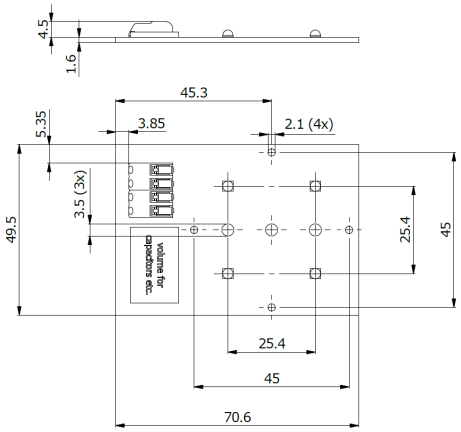


Wiring

Specification item	Value	Unit	Condition
Input wire cross-section	0.33...0.5	mm²	stranded wire
	20...22	AWG	stranded wire
Input wire strip length	7.5...8.5	mm	
Input wire cross-section	0.25...0.75	mm²	solid wire
	18...24	AWG	solid wire
Input wire strip length	7.5...8.5	mm	

Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	70.5	70.6	70.7	mm
Width	49.4	49.5	49.6	mm
Height excl.connector	1.5	1.6	1.7	mm
Height incl. connector	6	6.1	6.2	mm
Product mass		16		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1500	mA
Case temperature (Tc-max)		95	°C
Thermal power at I-max and Tc-max (Pth)		12.18	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
ENEC+
UL

Environmental
RoHS/REACH

Zhaga	Compliant*
*Book 15, 2x2-DA	

Application	
Overheating protection	NTC 15kOhm + 1100 Ohm in series
Dimming	Yes

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