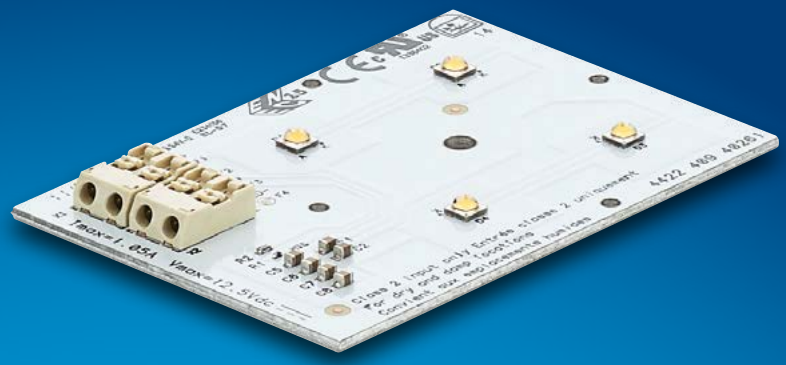
PHILIPS

Fortimo

LED system

FastFlex
LED board
2x2/740 DA Gen3



Datasheet

Flexible system approach

Outstanding performance while enabling OEM optical differentiation in road, urban and industrial lighting applications.

Benefits

- Enables OEM optical differentiation with lenses from third party portfolios matching every project's needs
- Unparalleled lumen per watt for fixture performance

Features

- State of the art specifications
- Temperature and driving current designed for fixture optimization
- Optical flexibility via third party lenses
- Flexible lumen output
- Range of CCT and CRI versions

Applications

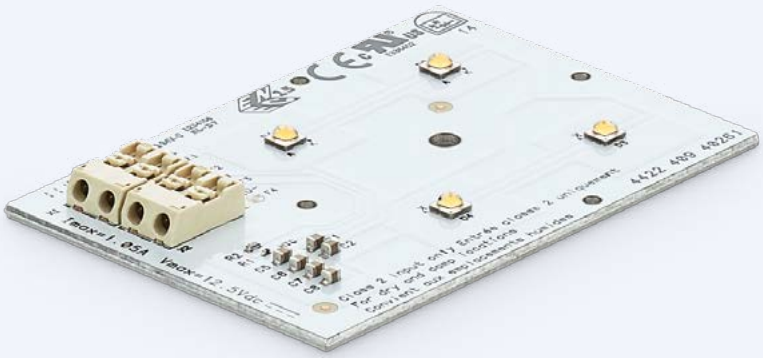
- Road lighting
- Urban street lighting
- Flood and Area lighting
- Tunnel lighting
- High bay lighting

May 2016

Logistical data

Specification item	Value
Product name	Fortimo FastFlex LED board 2x2/740 DA Gen3
European order code	8718696 59855900
Logistic code 12NC	9290 015 22306
Pieces per box	25

Basic configuration



To operate a system you will need one or more FastFlex DA LED boards and a compatible Xitanium LED driver.

Operating Conditions

Specification item	Value	Unit	Condition
Reference output current	530	mA	
Reference case temperature	75	°C	
Ambient temperature	25	°C	Temperature outside luminaire
Min driver current	100	mA	
Max driver current	1050	mA	
Max ΔT (Tambient -Tcase)	50	°C	

Released system combinations

System mapping (Class I and Class II) - System driver I_{max} mapping	Value	Number of Fortimo Fastflex LED Boards				
Driver name / description	**12NC**	**1x**	**2x**	**3x**	**4x**	**5x**
Xitanium Full Prog 22W 0.3-1.0A SNLDAE S175 230V sXt	9290 009 91206	1.00 A	0.70 A	-	-	-
Xitanium Full Prog 40W 0.2-0.7A SNLDAE S175 230V sXt	9290 009 89206	-	-	0.70 A	0.70A	0.53A
Xitanium Full Prog 40W 0.3-1.0A SNLDAE S175 230V sXt	9290 009 89306	-	1.00 A	1.00 A	0.70A	-
Xitanium Full Prog 35W 0.3-1.0A NLD 230V C150 sXt	9290 009 91306	-	1.00 A	1.00 A	0.70A	0.53A
Xitanium Full Prog 70W 0.3-1.0A NLD 230V C150 sXt	9290 0099 1406	-	-	1.00 A	1.00A	1.00A
Xitanium Full Prog 110W 0.3-1.0A NLD 230V C150 sXt	9290 009 91506	-	-	-	-	-
Xitanium Lite Prog 35W 0.3-1.0A S1 230V C150 sXt	9290 009 99006	-	1.00 A	1.00 A	0.70A	0.53A

Performance Characteristics (under reference operating If and Tcase = 75 °C)

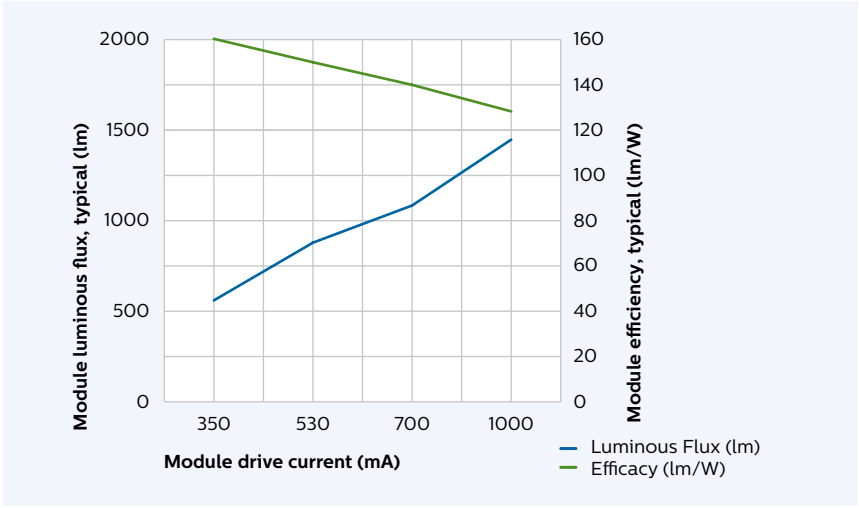
Specification item	Min	Typ	Max	Unit
Lumen output	775	875	-	lm
Efficacy	-	148	-	lm/W
Power consumption	5.3	6	6.6	W
Forward voltage	-	11.2	12.5	V
Working voltage (between input to metal mounting plate)	-	-	400	Vdc
Correlated Color Temperature (CCT)	-	3985	-	K
Color Rendering Index (CRI)	70	-	-	Ra
Initial color accuracy	-	4	-	SDCM
Color accuracy at 55,000 hours	-	-	7	SDCM
Lumen maintenance	>55,000 *	-	-	hour
Product lifetime	>55,000 *	-	-	hour

*Charts presenting module's Tc and current Vs expected lifetime (Up to 100,000 hours), as well as module's Tc and current Vs expected lumen depreciation (L70 and above) are available via your sales representative.

Note: The lumen output is specified at board level (lens optical loses not included). When using standard Fortimo Fastflex lenses, optical losses of 4% need to be taken into account.
Note: Philips maintains a tolerance of ± 7% on luminous flux, ± 2 on CRI measurements and ± 5% on CCT measurements.

Driver current (mA)	Typ Luminous flux (lm)	Typ efficacy (lm/W)	Typ thermal power (W)	Type power (W)	Max power (W)
350	612	164	2.2	3.9	4.3
530	875	148	3.6	6	6.6
700	1089	140	5.0	8.1	8.9
1000	1450	127	7.8	11.9	13.1

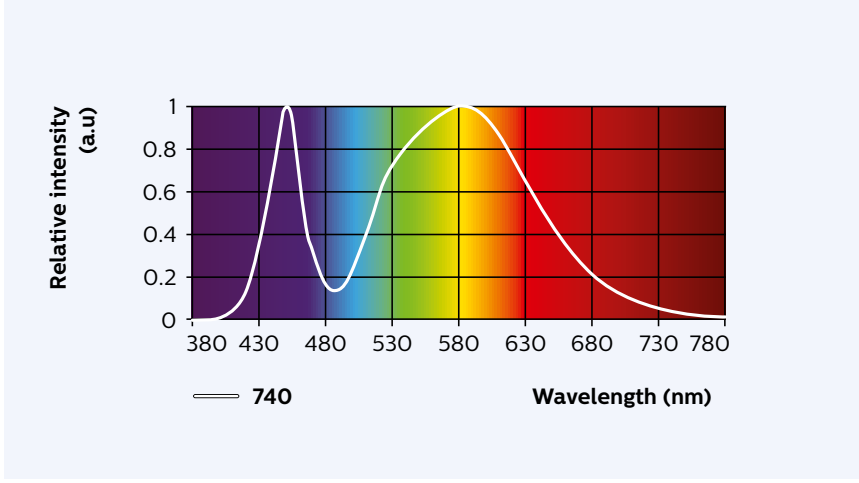
The Fortimo FastFlex Gen3 has been specified with a typical color consistency of 4 SDCMs at the beginning of its lifetime. Application conditions may affect the way how color consistency of the product changes during the given life time of the product. In the case of the Fortimo FastFlex DA an DS versions, variations at the lens of your section need to be taken into account.

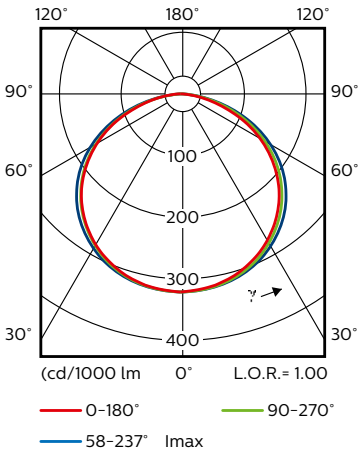


Temp. T_c / Current	55 °C	65 °C	75 °C	85 °C
350 mA	✔	✔	✔	✔
530 mA	✔	✔	✔	✔
700 mA	✔	✔	✔	✔
1000 mA	✔	<55 kh	<55 kh	<55 kh

Note : Philips does not warrant the lifetime of the product under the conditions above shown as <55 kh.

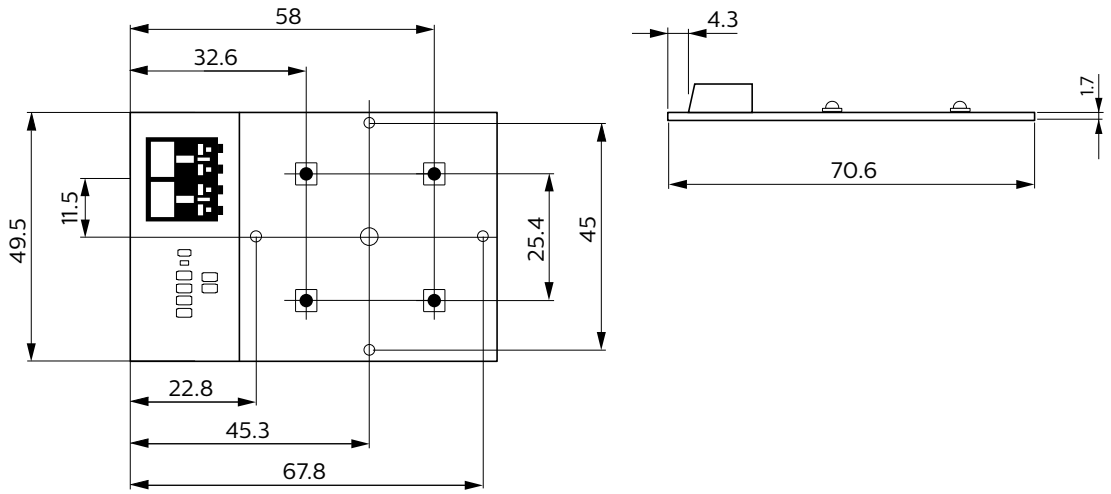
Optical Characteristics





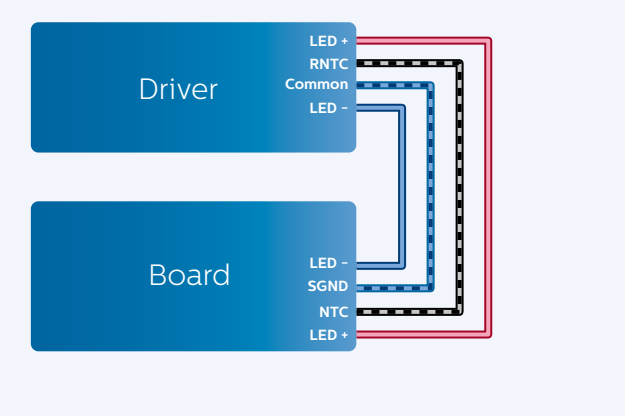
Mechanical Characteristics

Dimensions in mm



Electrical Characteristics

Connection between driver and FF-module

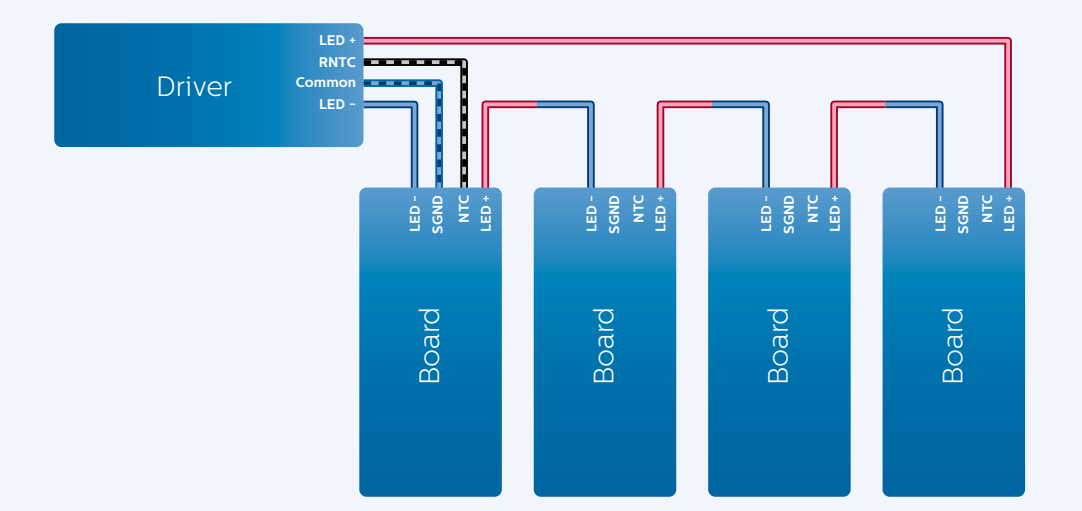


Signal	Discription
LED+	LED driver current input (+)
LED-	Power ground (-)
NTC	Temperature sensor (RNTC)
SGND/Common	Signal ground

The temperature protection has been implemented with an NTC resistor in series with a fixed resistor where the fixed resistor has a value 1.1 k Ohms and the NTC has a value of 15,000 Ohms (e.g. Murata NCP15XW153E03RC or equivalent).

It is recommended to use solid wire AWG 20-22 (0.5 mm^2-0.33 mm^2) with suitable isolation (depending on the application).
It is recommended to use Molex Lite-trap specification for strip length & tolerance for wiring (spec.= 8 +/-0.5 mm).

Multiple boards on one driver



If a system consists of multiple FastFlex boards connected to a single driver:

- the first board connected to the driver is the master
- only this board is monitored by the NTC

Certificates and standards

Specification item	Value
Approval marks	CE, ENEC, UL
RoHS and Reach	Compliant with European Directives

05/2016
Data subject to change.

www.philips.com/fortimo
www.philips.com/xitanium