

PHILIPS

Fortimo

LED

Fortimo LED Strip OC
0.5ft 550lm 8xx HV5



Datasheet

Fortimo LED Strip OC 0.5ft 550lm 8xx HV5

The Fortimo LED Strip OC generation 5 is specifically designed to match with a variety of different optics. Due to its efficient design there is a high efficiency possible of 182 lm/W. The portfolio is available in 0.5ft, 1ft and 2ft, both in high voltage and low voltage. The optics are available in 30°/60°/90°/A-symmetrical/Double-A-symmetrical.

Key features and benefits

- Typical module efficacy of 182 lm/W (at 4000K CRI80)
- Long life-time: >50,000 hours
- Excellent color consistency of 3 SDCM
- Available in High Voltage (HV) and Low Voltage (LV)
- Small LED module width of only 20mm
- Wide temperature (Tc) range -40°C to +85°C
- Five year system warranty

December 2020



Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo LED Strip OC 0.5ft 550lm 830 BC HV5	8718699 761028 00	9290 021 91706	56
Fortimo LED Strip OC 0.5ft 550lm 840 BC HV5	8718699 761042 00	9290 021 91806	56
Fortimo LED Strip OC 0.5ft 550lm 830 FC HV5	8718699 760946 00	9290 021 91906	56
Fortimo LED Strip OC 0.5ft 550lm 840 FC HV5	8718699 760960 00	9290 021 92006	56

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip OC 0.5ft 550lm 8xx HV5	270	450	600	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	45	75	85	°C

* Nominal value at which typical performance is specified

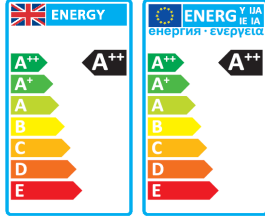
** Value at which life time is specified

*** Maximum value for safe operation, do not operate above this value

Optical characteristics - table per color (CCT)

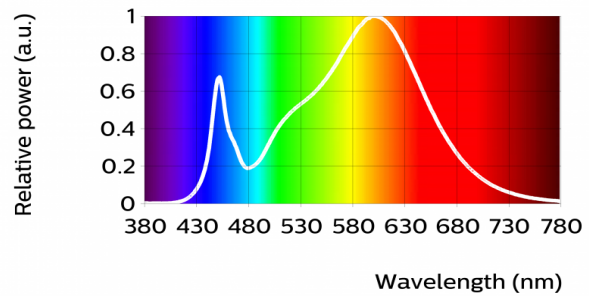
Fortimo LED Strip OC 0.5ft 550lm 830 BC HV5
 Fortimo LED Strip OC 0.5ft 550lm 830 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	496	522	548	lm
Module efficacy	161	175		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.429, 0.400)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		830/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



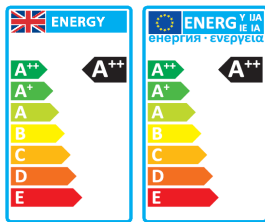
Measurement precision for flux +/- 5%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
80% I-nom 216mA	Tc 25 °C	430	181
	Tc-nom 45 °C	422	179
	Tc-max 85 °C	408	174
I-nom 270mA	Tc 25 °C	532	177
	Tc-nom 45 °C	522	175
	Tc-max 85 °C	504	170
I-max 600mA	Tc 25 °C	1124	157
	Tc-nom 45 °C	1103	155
	Tc-max 85 °C	1064	151



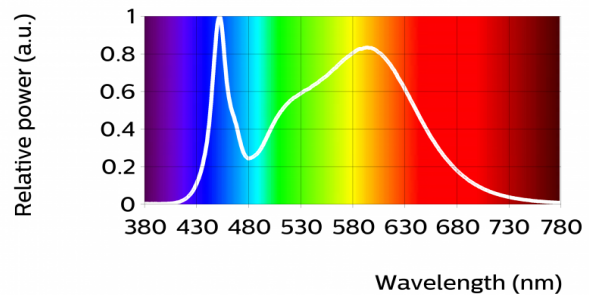
Fortimo LED Strip OC 0.5ft 550lm 840 BC HV5
 Fortimo LED Strip OC 0.5ft 550lm 840 FC HV5

Parameter	Min	Typ	Max	Unit
Luminous flux	522	550	578	lm
Module efficacy	169	184		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.378, 0.376)		-
Color consistency			3	SDCM
CRI	80			
Photometric code		840/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	



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

Operation point	840	lm	lm/W
80% I-nom 216mA	Tc 25 °C	453	191
	Tc-nom 45 °C	444	188
	Tc-max 85 °C	429	183
I-nom 270mA	Tc 25 °C	561	187
	Tc-nom 45 °C	550	184
	Tc-max 85 °C	531	179
I-max 600mA	Tc 25 °C	1185	166
	Tc-nom 45 °C	1162	163
	Tc-max 85 °C	1122	159



Electrical characteristics

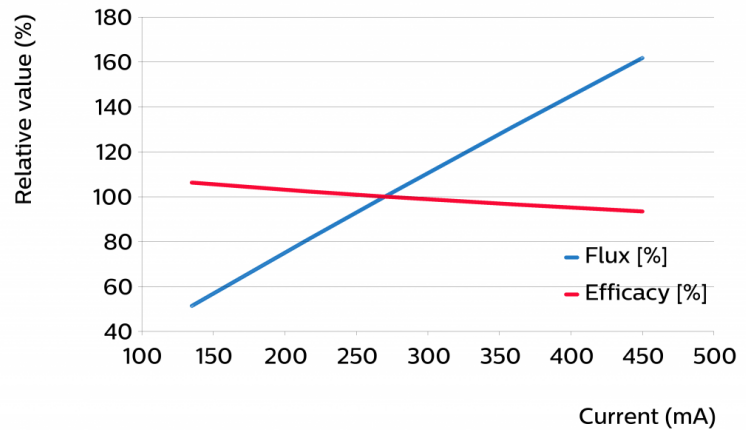
Parameter	Min	Typ	Max	Unit
Forward voltage	10.8	11.1	11.3	V
Power consumption	2.93	2.99	3.05	W = kWh/1000h
Number of modules in series per chain			26	
Number of modules in parallel			1	

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

Tuning information

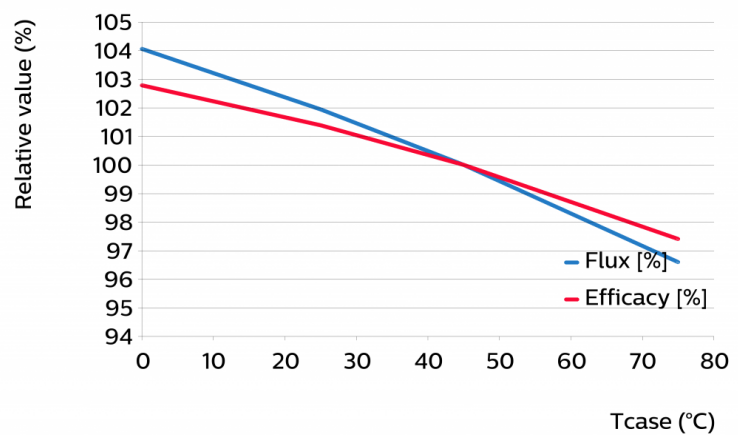
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
450	162	93
360	131	96
270	100	100
216	81	102
135	51	106



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

Tc [°C]	Flux [%]	Efficacy [%]
75	97	97
45	100	100
25	102	101
0	104	103



Lumen maintenance

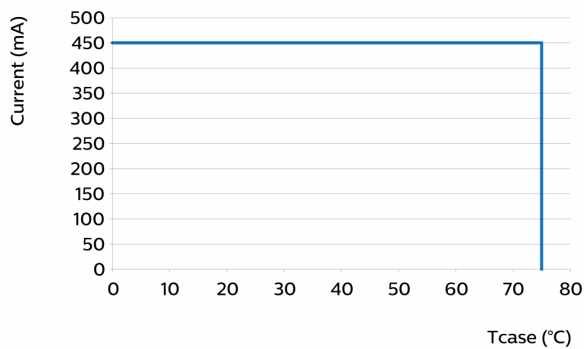
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I _{nom} 216mA	Tc 25°C	>70	>70	>70	>70	>70	>70	64	60	57
	Tc _{nom} 45°C	>70	>70	>70	>70	>70	>70	51	47	45
	Tc _{life} 75°C	>70	>70	>70	>70	>70	>70	37	35	33
I _{nom} 270 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	61	57	55
	Tc _{nom} 45°C	>70	>70	>70	>70	>70	>70	49	45	43
	Tc _{life} 75°C	>70	>70	>70	>70	70	67	36	33	32
I _{life} 470 mA	Tc 25°C	>70	>70	>70	>70	>70	>70	55	51	49
	Tc _{nom} 45°C	>70	>70	>70	>70	>70	>70	44	40	39
	Tc _{life} 75°C	>70	>70	>70	68	63	60	32	30	28

Lifetime

Parameter	Value	Unit
M70F50 nominal	>70000	hours
M70F50 life	>70000	hours

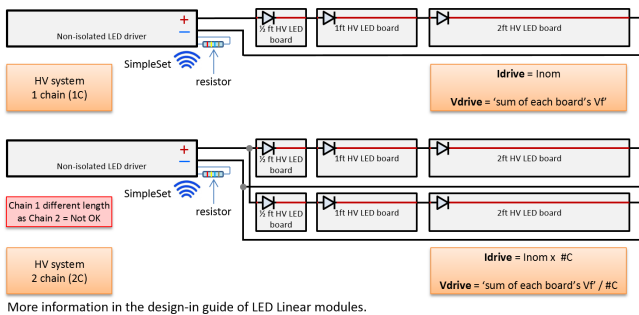
Switching cycles in accordance to EU 1194/2012: >15000

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	

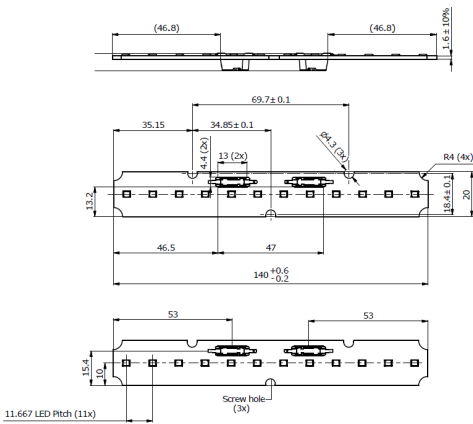


More information in the design-in guide of LED Linear modules.

Mechanical characteristics

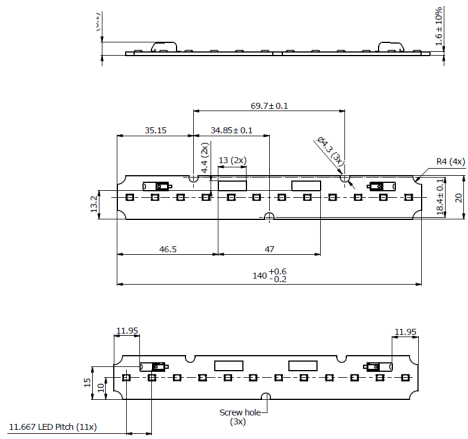
Fortimo LED Strip OC 0.5ft 550lm 840 BC HV5
 Fortimo LED Strip OC 0.5ft 550lm 830 BC HV5

Parameter	Min	Typ	Max	Unit
Length	139.8	140	140.6	mm
Width	19.8	20	20.2	mm
Height PCB	1.44	1.6	1.76	mm
Height incl. connector	7.15	7.35	7.55	mm
Product mass		10		gram



Fortimo LED Strip OC 0.5ft 550lm 840 FC HV5
 Fortimo LED Strip OC 0.5ft 550lm 830 FC HV5

Parameter	Min	Typ	Max	Unit
Length	139.8	140	140.6	mm
Width	19.8	20	20.2	mm
Height PCB	1.44	1.6	1.76	mm
Height incl. connector	5.9	6.1	6.3	mm
Product mass		10		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		600	mA
Case temperature (Tc-max)		85	°C
ESD (direct contact)	8		kV
Working voltage		350	V _{dc}

Application information

Certificates and Standards

CE

Environmental

RoHS/REACH

Application

Dimming	Yes
---------	-----



© 2020 Signify Holding, IBRS 10461, 5600VB, NL. All rights reserved. The information provided herein is subject to change, without notice. Signify does not give any representation or warranty as to the accuracy or completeness of the information included herein and shall not be liable for any action in reliance thereon. The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract, unless otherwise agreed by Signify.

www.philips.com/oem

Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V. All other trademarks are owned by Signify Holding or their respective owners.
UK importer address: 3 Guildford Business Park, GU2 8XG

10/12/2020