

PHILIPS

Fortimo

LED

Fortimo LED Strip 1ft MF
8xx HV6



Datasheet

The Fortimo LED Strip is a uniquely wide portfolio which can be used in all kind of linear indoor luminaire types. Its form factor makes it easy to design-in and handle in production as it complies to Zhaga standards. Due to the availability from 0.25ft up to 5ft lengths only one product family is needed to cover a wide range of needs.

Key features and benefits

- Typical module efficiency of 186 lm/W (at 4000K CRI80)
- CRI90 High Efficiency typical performance of 174 lm/W (at 4000K CRI90)
- Long life-time: >72,000 hours
- Excellent color consistency of 3 SDCM
- Two lumen packages per length available: LF (650 lm/ft) and MF (1100 lm/ft)
- Wide range of CCTs available: 2700K, 3000K, 3500K, 4000K, 5000K and 6500K
- Available in High Voltage (HV) and Low Voltage (LV)
- Options in front connector (FC) or back connector (BC)
- Small LED module width of only 20mm
- Available lengths: 0.25ft / 0.5ft / 1ft / 2ft / 4ft (1120mm) / 4ft extended (1150mm) / 5ft (1400mm) / 5ft extended 1450mm)
- Wide temperature (Tc) range -40°C to +80°C
- Five year system warranty

May 2023



Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED Strip 1ft MF 830 FC HV6	8719514 488007 00	9290 029 41206	1413398	110
Fortimo LED Strip 1ft MF 835 FC HV6	8719514 488021 00	9290 029 41306	1413399	110
Fortimo LED Strip 1ft MF 840 FC HV6	8719514 488045 00	9290 029 41406	1413400	110
Fortimo LED Strip 1ft MF 850 FC HV6	8719514 488069 00	9290 029 41506	1413401	110
Fortimo LED Strip 1ft MF 865 FC HV6	8719514 488083 00	9290 029 41606	1413402	110
Fortimo LED Strip 1ft MF 830 BC HV6	8719514 488342 00	9290 029 42306	1413409	110
Fortimo LED Strip 1ft MF 835 BC HV6	8719514 488366 00	9290 029 42406	1413410	110
Fortimo LED Strip 1ft MF 840 BC HV6	8719514 488380 00	9290 029 42506	1413411	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1ft MF 8xx HV6	267	720	720	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)

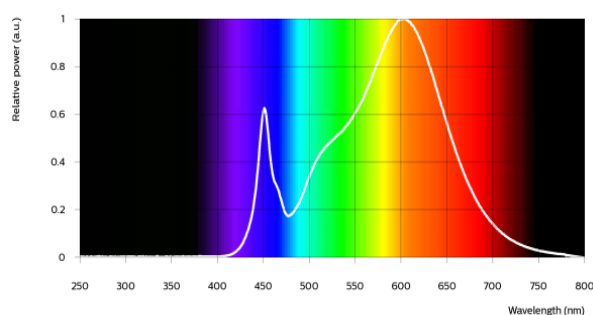
Fortimo LED Strip 1ft MF 830 FC HV6

Fortimo LED Strip 1ft MF 830 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	1000	1036	1100	lm
Efficacy	166	176	197	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.433, 0.400)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		830/339		
Photobiological safety			RG1 unlimited	

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Operation point	830	lm	lm/W
80% I-nom 214mA	Tc 25 °C	861	183
	Tc-nom 45 °C	840	180
	Tc-max 85 °C	789	171
I-nom 267mA	Tc 25 °C	1062	179
	Tc-nom 45 °C	1036	176
	Tc-max 85 °C	973	167
I-max 720mA	Tc 25 °C	2637	154
	Tc-nom 45 °C	2570	151
	Tc-max 85 °C	2411	144



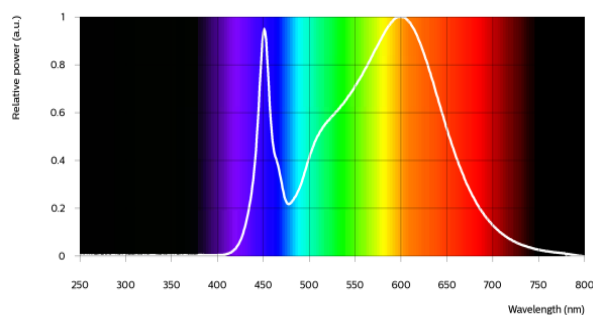
Fortimo LED Strip 1ft MF 835 FC HV6

Fortimo LED Strip 1ft MF 835 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	1040	1067	1130	lm
Efficacy	173	181	203	lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.391)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		835/339		
Photobiological safety			RG1 unlimited	

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Operation point	835	lm	lm/W
80% I-nom 214mA	Tc 25 °C	887	188
	Tc-nom 45 °C	864	185
	Tc-max 85 °C	811	176
I-nom 267mA	Tc 25 °C	1095	184
	Tc-nom 45 °C	1067	181
	Tc-max 85 °C	1001	172
I-max 720mA	Tc 25 °C	2731	159
	Tc-nom 45 °C	2659	156
	Tc-max 85 °C	2492	148

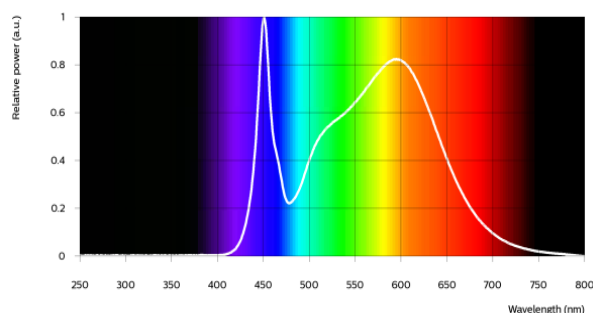


Fortimo LED Strip 1ft MF 840 FC HV6
Fortimo LED Strip 1ft MF 840 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	1070	1100	1210	lm
Efficacy	178	186	217	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.381, 0.377)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		840/339		
Photobiological safety			RG1 unlimited	

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Operation point	840	lm	lm/W
80% I-nom 214mA	Tc 25 °C	915	194
	Tc-nom 45 °C	891	191
	Tc-max 85 °C	836	182
I-nom 267mA	Tc 25 °C	1129	190
	Tc-nom 45 °C	1100	186
	Tc-max 85 °C	1032	178
I-max 720mA	Tc 25 °C	2816	164
	Tc-nom 45 °C	2742	161
	Tc-max 85 °C	2570	153

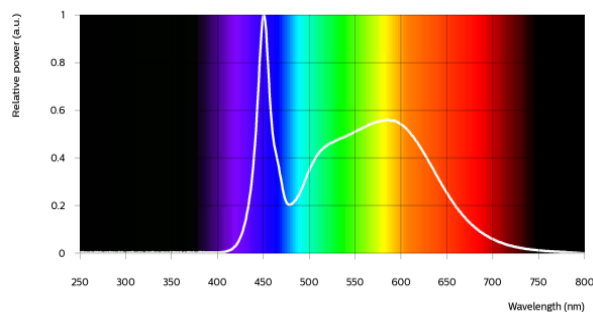


Fortimo LED Strip 1ft MF 850 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	1070	1098	1210	lm
Efficacy	178	186	217	lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.342, 0.350)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		850/339		
Photobiological safety			RG1 unlimited	

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Operation point	850	lm	lm/W
80% I-nom 214mA	Tc 25 °C	913	194
	Tc-nom 45 °C	889	190
	Tc-max 85 °C	835	181
I-nom 267mA	Tc 25 °C	1127	190
	Tc-nom 45 °C	1098	186
	Tc-max 85 °C	1030	177
I-max 720mA	Tc 25 °C	2811	164
	Tc-nom 45 °C	2737	161
	Tc-max 85 °C	2565	153

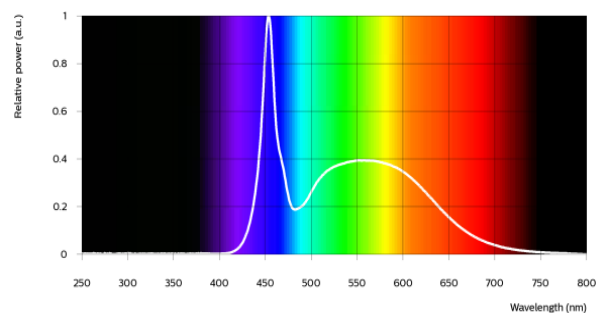


Fortimo LED Strip 1ft MF 865 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	1050	1083	1180	lm
Efficacy	175	184	212	lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.310, 0.324)		-
Color consistency			3	SDCM
CRI	80			
R9	0			
Photometric code		865/339		
Photobiological safety			RG1 unlimited	

Measurement precision $\pm 5\%$ for the flux data and $\pm 6\%$ for the efficacy data. Measurement precision for color coordinates ± 0.005 . Measurement precision for CRI ± 1.5 .

Operation point	865	lm	lm/W
80% I-nom 214mA	Tc 25 °C	897	191
	Tc-nom 45 °C	876	187
	Tc-max 85 °C	822	179
I-nom 267mA	Tc 25 °C	1109	187
	Tc-nom 45 °C	1083	184
	Tc-max 85 °C	1017	175
I-max 720mA	Tc 25 °C	2787	163
	Tc-nom 45 °C	2718	160
	Tc-max 85 °C	2547	152



Electrical characteristics

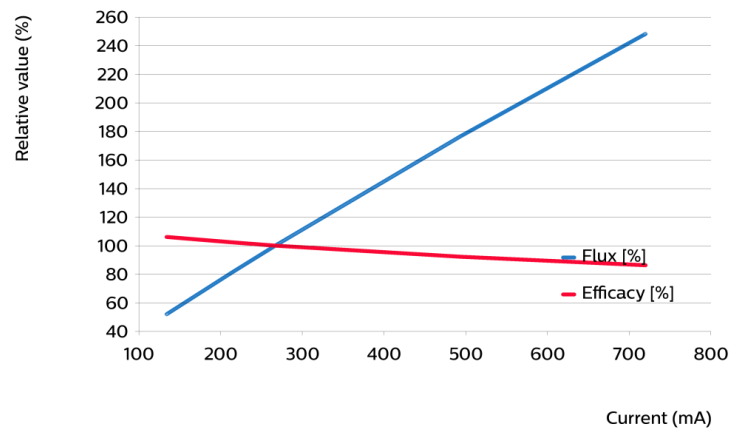
Parameter	Min	Typ	Max	Unit
Forward voltage	20.9	22.1	22.5	V
Power consumption	5.6	5.9	6.0	W = kWh/1000h
Number of modules in series per chain			14	
Number of modules in parallel			4	

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

Tuning information

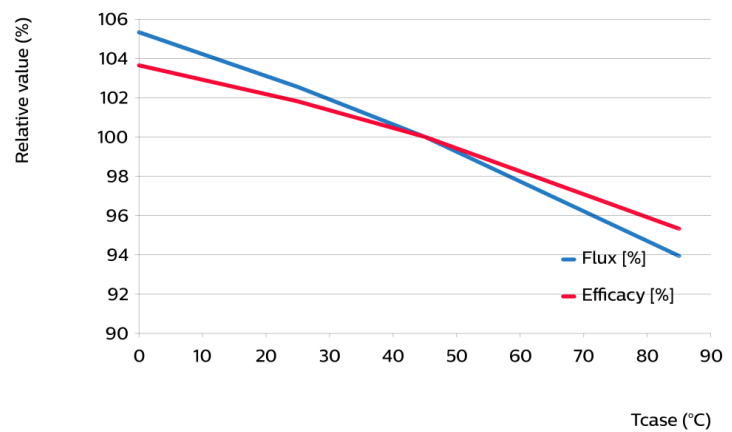
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
720	248	86
494	177	92
267	100	100
214	81	102
134	52	106



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

Tc [°C]	Flux [%]	Efficacy [%]
85	94	95
45	100	100
25	103	102
0	105	104



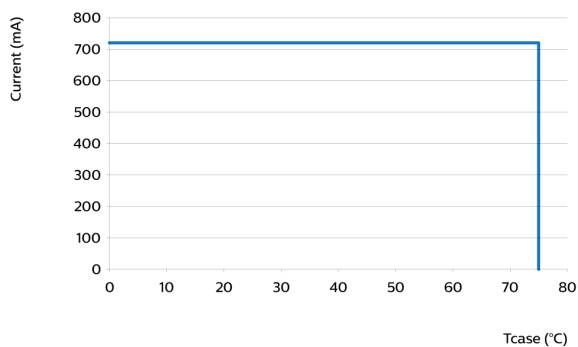
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=214mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	66	65
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	45	45
Inom=267mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>68	>68	>68
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>68	66	65
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	45	45
Ilife=720mA	Tc=25°C	>72	>72	>72	>72	>72	>72	>41	>41	>41
	Tc_nom=45°C	>72	>72	>72	>72	>72	>72	>41	>41	>41
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	41	39	39

Lifetime

Parameter	Value	Unit
M70F50 nominal	>72000	hours
M70F50 life	>72000	hours

Performance Window



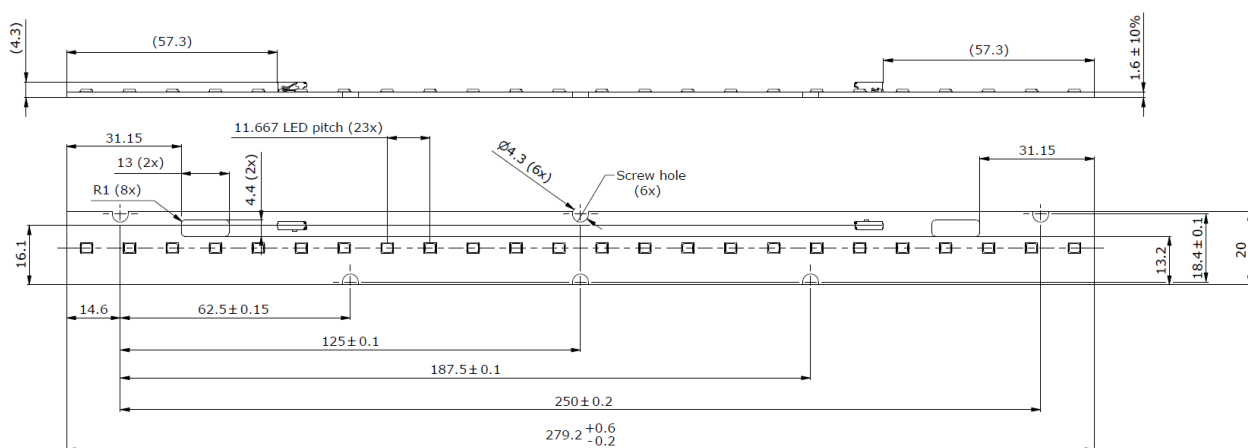
Wiring

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

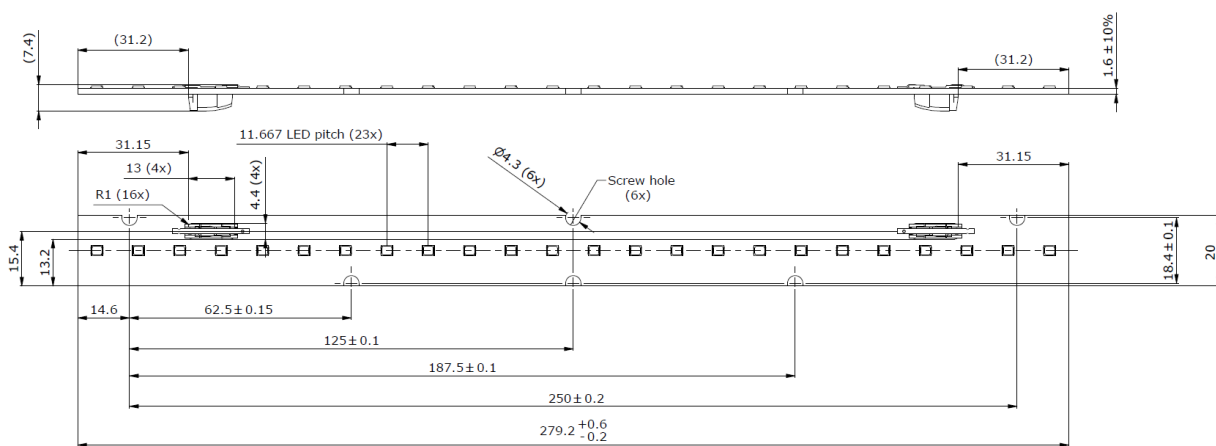
Fortimo LED Strip 1ft MF 830 FC HV6
 Fortimo LED Strip 1ft MF 835 FC HV6
 Fortimo LED Strip 1ft MF 840 FC HV6
 Fortimo LED Strip 1ft MF 850 FC HV6
 Fortimo LED Strip 1ft MF 865 FC HV6

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		17.8		gram



Fortimo LED Strip 1ft MF 830 BC HV6
 Fortimo LED Strip 1ft MF 835 BC HV6
 Fortimo LED Strip 1ft MF 840 BC HV6

Parameter	Min	Typ	Max	Unit
Length	279	279.2	279.8	mm
Width	19.8	20	20.2	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		7.4		mm
Product mass		17.9		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		720	mA
Case temperature (Tc-max)		85	°C
ESD (direct contact)	8		kV
Working voltage		350	V _{dc}

Application information

Certificates and Standards

CE
ENEC
ENEC+

Environmental

RoHS/REACH

Application

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



© 2023 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: Signify Commercial UK Limited, 3 Guildford Business Park, GU2 8XG

23/05/2023