PHILIPS

Fortimo

LED

Fortimo LED Strip
1450mm 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

March 2023

Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo LED Strip 1450mm MF 830 FC HV6	8719514 490284 00	9290 029 50006	1413367	110
Fortimo LED Strip 1450mm MF 840 FC HV6	8719514 490307 00	9290 029 50106	1413368	110
Fortimo LED Strip 1450mm MF 840 BC HV6	8719514 490345 00	9290 029 50306	1413370	110
Fortimo LED Strip 1450mm MF 850 FC HV6	8719514 490321 00	9290 029 50206	1413369	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 1450mm 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

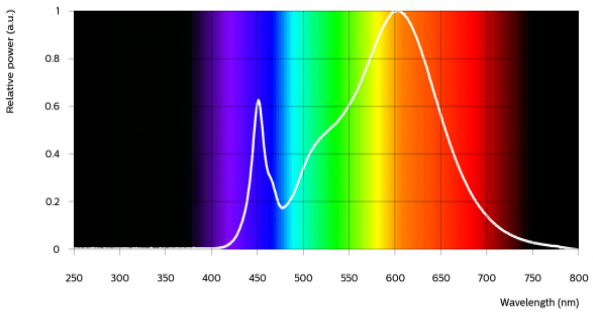
Optical characteristics - table per color (CCT)

Fortimo LED Strip 1450mm MF 830 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	5020	5180	5520	lm
Efficacy	167	176	198	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 ± 5% for the flux data and ± 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	4305	183
	Tc-nom 45 °C	4198	180
	Tc-max 85 °C	3944	171
I-nom 267mA	Tc 25 °C	5312	179
	Tc-nom 45 °C	5180	176
	Tc-max 85 °C	4866	167
I-max 720mA	Tc 25 °C	13185	154
	Tc-nom 45 °C	12851	151
	Tc-max 85 °C	12054	144

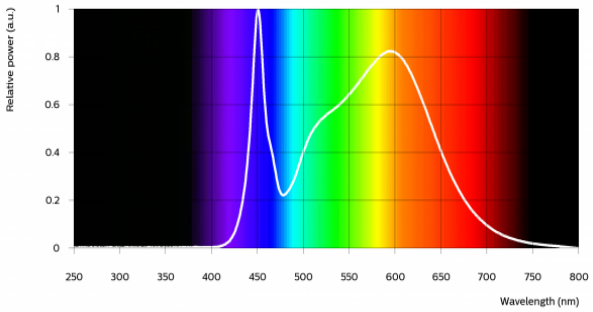


Fortimo LED Strip 1450mm MF 840 FC HV6
Fortimo LED Strip 1450mm MF 840 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	5340	5500	6050	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 ± 5% for the flux data and ± 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	4573	194
	Tc-nom 45 °C	4454	190
	Tc-max 85 °C	4180	181
I-nom 267mA	Tc 25 °C	5647	190
	Tc-nom 45 °C	5500	186
	Tc-max 85 °C	5162	177
I-max 720mA	Tc 25 °C	14081	164
	Tc-nom 45 °C	13708	161
	Tc-max 85 °C	12848	153

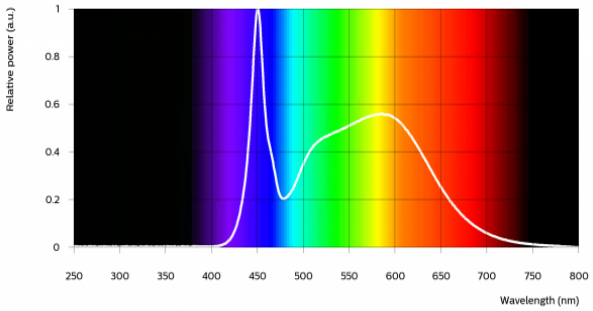


Fortimo LED Strip 1450mm MF 850 FC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	5330	5492	6040	lm
Efficacy	177	186	216	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 ± 5% for the flux data and ± 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	4566	194
	Tc-nom 45 °C	4447	190
	Tc-max 85 °C	4174	181
I-nom 267mA	Tc 25 °C	5639	190
	Tc-nom 45 °C	5492	186
	Tc-max 85 °C	5154	177
I-max 720mA	Tc 25 °C	14060	164
	Tc-nom 45 °C	13688	161
	Tc-max 85 °C	12829	153



Electrical characteristics

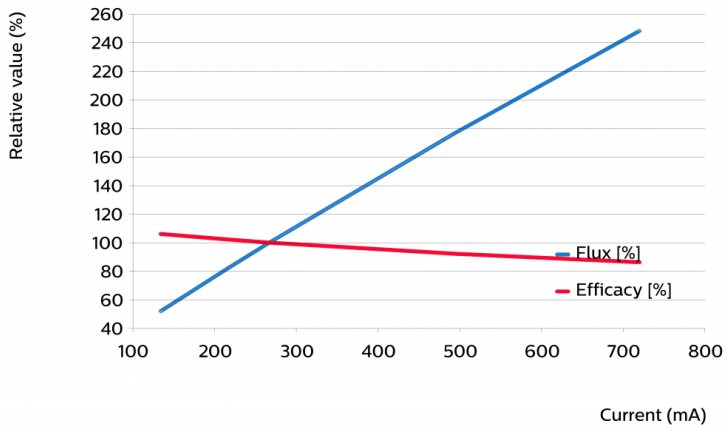
Parameter	Min	Typ	Max	Unit
Forward voltage	104.4	110.5	112.5	V
Power consumption	27.9	29.5	30.0	W = kWh/1000h
Number of modules in series per chain			2	
Number of modules in parallel			4	

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

Tuning information

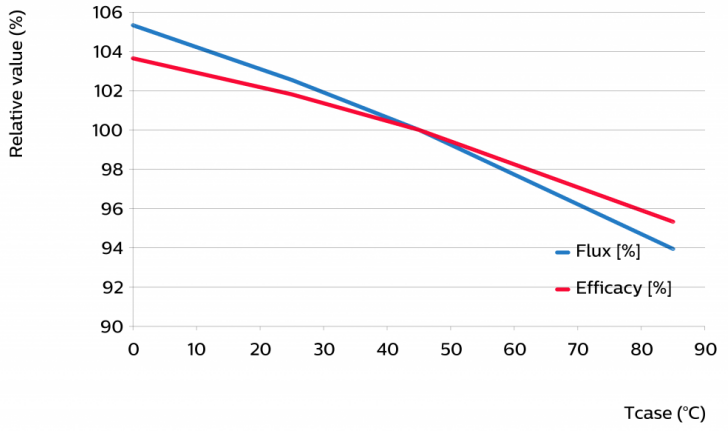
Flux and efficacy versus current (at Tc nominal)

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



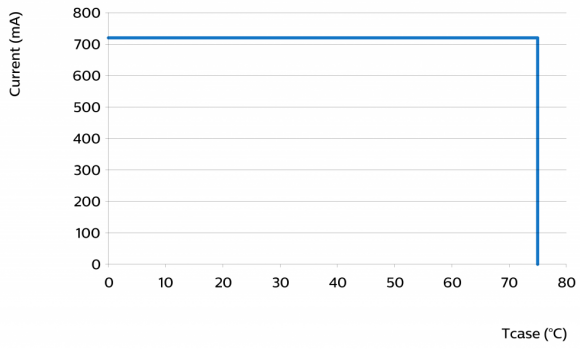
Lumen maintenance

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	68	67
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	46	46
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	68	67
	Tc_life=75°C	>72	>72	>72	>72	>72	>72	47	46	46
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	40	40

Lifetime

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

Performance Window



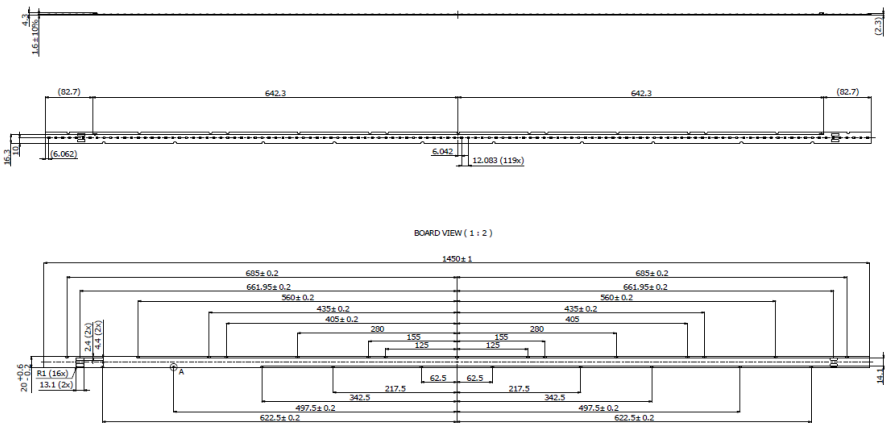
Wiring

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

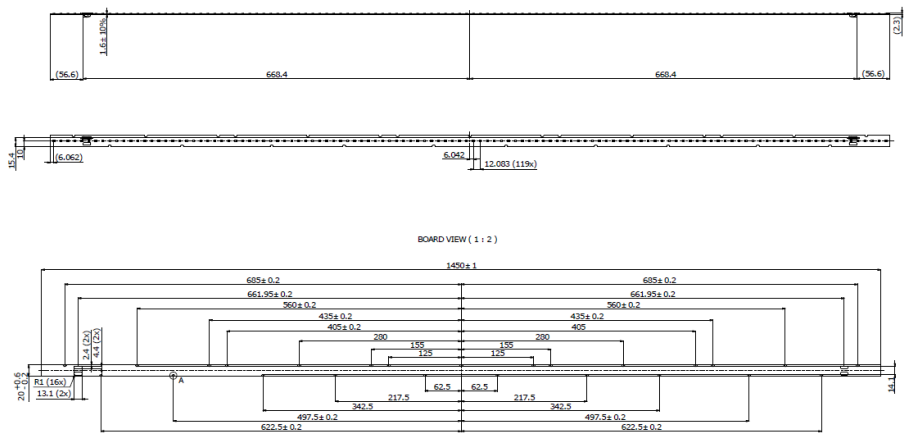
Fortimo LED Strip 1450mm MF 830 FC HV6
Fortimo LED Strip 1450mm MF 840 FC HV6
Fortimo LED Strip 1450mm MF 850 FC HV6

Parameter	Min	Typ	Max	Unit
Length	1449	1450	1451	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		90.7		gram



Fortimo LED Strip 1450mm MF 840 BC HV6

Parameter	Min	Typ	Max	Unit
Length	1449	1450	1451	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		7.4		mm
Product mass		92.4		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

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