PHILIPS

Fortimo

LED

Fortimo LED Strip 2ft MF 9xx 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 2ft MF 930 FC HV6	8719514 489028 00	9290 029 45106	1413437	110
Fortimo LED Strip 2ft MF 935 FC HV6	8719514 489042 00	9290 029 45206	1413438	110
Fortimo LED Strip 2ft MF 940 FC HV6	8719514 489066 00	9290 029 45306	1413439	110
Fortimo LED Strip 2ft MF 930 BC HV6	8719514 489141 00	9290 029 45706	1413443	110
Fortimo LED Strip 2ft MF 935 BC HV6	8719514 489165 00	9290 029 45806	1413444	110
Fortimo LED Strip 2ft MF 940 BC HV6	8719514 489189 00	9290 029 45906	1413445	110

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED Strip 2ft MF 9xx HV6	284	450	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

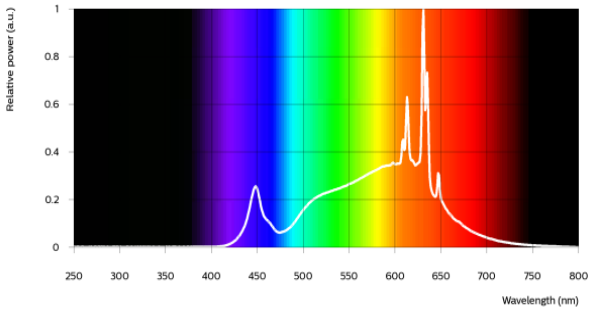
Optical characteristics - table per color (CCT)

Fortimo LED Strip 2ft MF 930 FC HV6
Fortimo LED Strip 2ft MF 930 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2020	2054	2250	lm
Efficacy	158	163	189	lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.436, 0.402)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		930/339		
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	930	lm	lm/W
80% I-nom 227mA	Tc 25 °C	1701	173
	Tc-nom 45 °C	1662	167
	Tc-max 85 °C	1563	155
I-nom 284mA	Tc 25 °C	2103	168
	Tc-nom 45 °C	2054	163
	Tc-max 85 °C	1931	151
I-max 720mA	Tc 25 °C	4977	143
	Tc-nom 45 °C	4858	139
	Tc-max 85 °C	4556	129

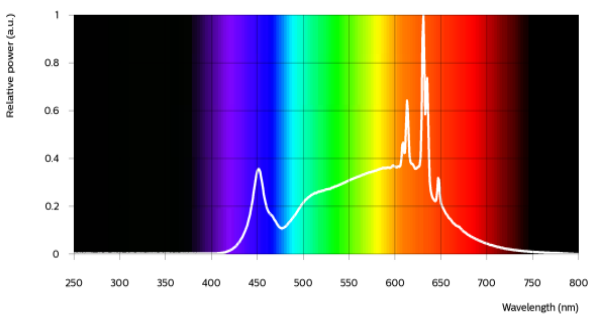


Fortimo LED Strip 2ft MF 935 FC HV6
Fortimo LED Strip 2ft MF 935 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2090	2162	2320	lm
Efficacy	163	172	195	lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.408, 0.388)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		935/339		
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	935	lm	lm/W
80% I-nom 227mA	Tc 25 °C	1795	182
	Tc-nom 45 °C	1750	176
	Tc-max 85 °C	1638	163
I-nom 284mA	Tc 25 °C	2219	178
	Tc-nom 45 °C	2162	172
	Tc-max 85 °C	2024	158
I-max 720mA	Tc 25 °C	5253	151
	Tc-nom 45 °C	5114	146
	Tc-max 85 °C	4779	135

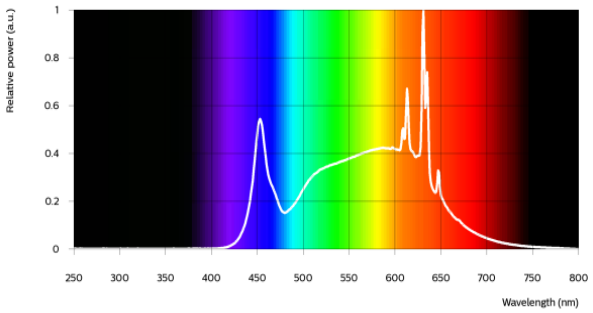


Fortimo LED Strip 2ft MF 940 FC HV6
Fortimo LED Strip 2ft MF 940 BC HV6

Parameter	Min	Typ	Max	Unit
Luminous flux	2130	2200	2410	lm
Efficacy	165	174	201	lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.378)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		940/339		
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	940	lm	lm/W
80% I-nom 227mA	Tc 25 °C	1827	184
	Tc-nom 45 °C	1780	178
	Tc-max 85 °C	1667	164
I-nom 284mA	Tc 25 °C	2258	180
	Tc-nom 45 °C	2200	174
	Tc-max 85 °C	2060	160
I-max 720mA	Tc 25 °C	5345	153
	Tc-nom 45 °C	5204	148
	Tc-max 85 °C	4863	136



Electrical characteristics

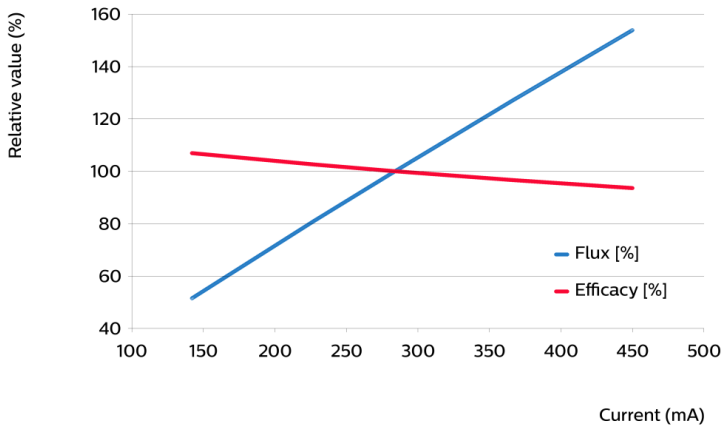
Parameter	Min	Typ	Max	Unit
Forward voltage	41.9	44.3	45.1	V
Power consumption	11.9	12.6	12.8	W = kWh/1000h
Number of modules in series per chain			7	
Number of modules in parallel			4	

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

Tuning information

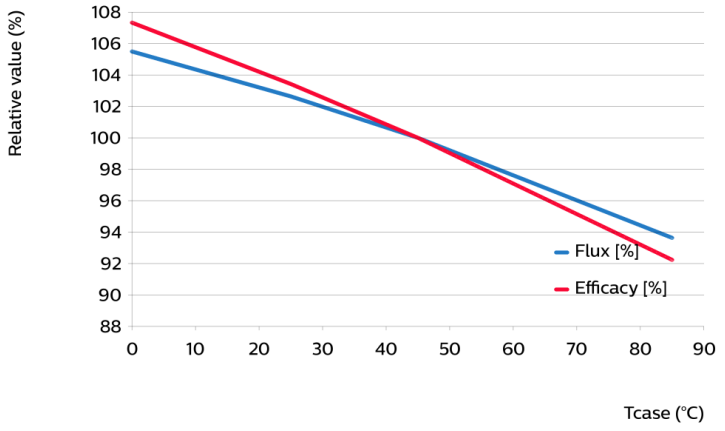
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
450	154	94
367	127	97
284	100	100
227	81	103
142	51	107



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

Tc [°C]	Flux [%]	Efficacy [%]
85	94	92
45	100	100
25	103	103
0	105	107



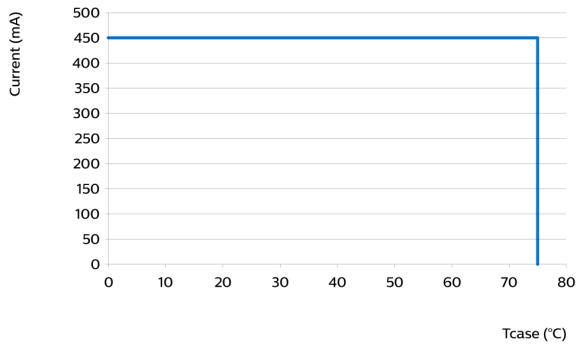
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% Inom=227mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>50	>50	>50
	Tc_nom=45°C	>100	>100	>100	>100	>100	97	>50	50	49
	Tc_life=75°C	>100	>100	>100	79	77	76	37	36	36
Inom=284mA	Tc=25°C	>100	>100	>100	>100	>100	>100	>50	>50	>50
	Tc_nom=45°C	>100	>100	>100	>100	>100	100	50	48	47
	Tc_life=75°C	>100	>100	>100	75	74	73	36	35	34
Ilife=450mA	Tc=25°C	>69	>69	>69	>69	>69	>69	>32	>32	>32
	Tc_nom=45°C	>69	>69	>69	>69	>69	>69	>32	>32	>32
	Tc_life=75°C	>69	>69	>69	69	67	66	32	32	31

Lifetime

Parameter	Value	Unit
M70F50 nominal	>100000	hours
M70F50 life	>69000	hours

Performance Window



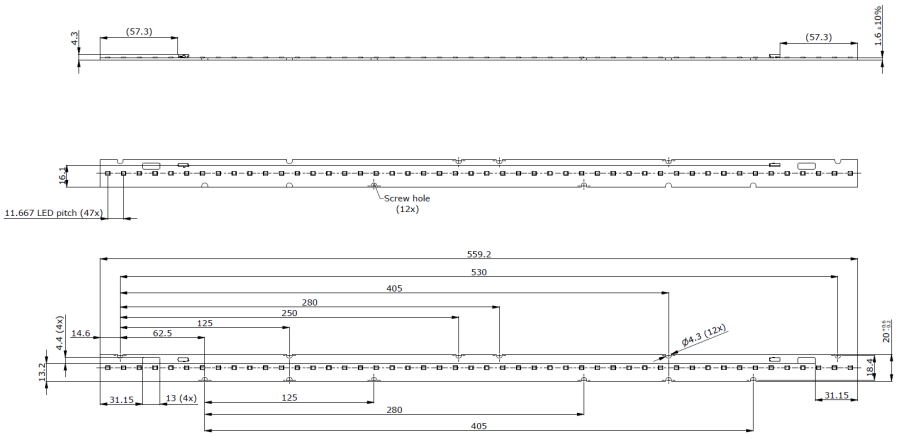
Wiring

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

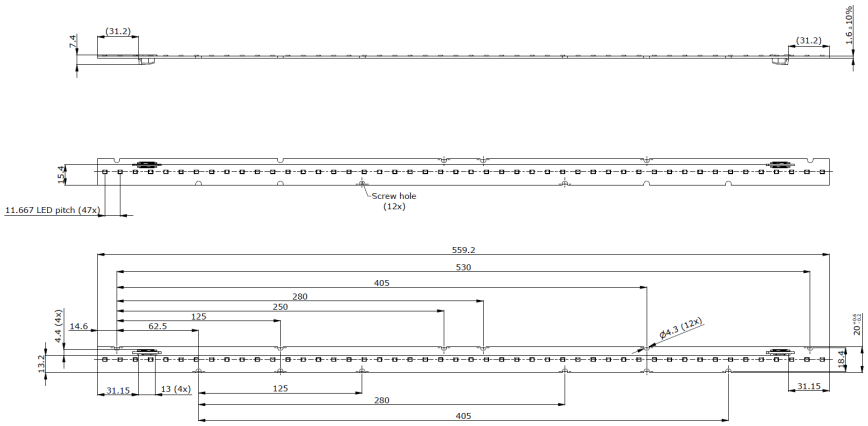
Fortimo LED Strip 2ft MF 930 FC HV6
Fortimo LED Strip 2ft MF 935 FC HV6
Fortimo LED Strip 2ft MF 940 FC HV6

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		4.3		mm
Product mass		35.2		gram



Fortimo LED Strip 2ft MF 930 BC HV6
Fortimo LED Strip 2ft MF 935 BC HV6
Fortimo LED Strip 2ft MF 940 BC HV6

Parameter	Min	Typ	Max	Unit
Length	558.9	559.2	559.5	mm
Width	19.8	20	20.6	mm
Height PCB	1.45	1.6	1.75	mm
Height Total		7.4		mm
Product mass		35.5		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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