

# PHILIPS

## Xitanium

### LED driver



## Datasheet

### LED drivers – Extreme Small

Xitanium 23W 0.15-0.7A 38V 230V

9290 028 03806

#### Enabling future-proof LED technology

Xitanium LED drivers are designed to operate LED solutions for general lighting applications. Reliability is enhanced by features that protect the connected LED module, e.g. hot wiring, reduced ripple current and thermal derating. Most drivers feature central DC operation. In the coming years LEDs will continue to increase in efficiency, creating challenges for OEMs. With Xitanium LED drivers, flexibility in luminaire design is assured thanks to an adjustable output current. Application-oriented operating windows offer stable lumen output and light quality levels that specifiers and architects demand. The adjustable output current also enables operation of various LED PCB solutions from different manufacturers.

#### Benefits

- High reliability underpinned by 5 year warranty
- Future-proof flexibility - application-oriented operating windows enable LED generation and complexity management
- Compatibility - can also be used for other manufacturers' modules or OEMs' own PCB designs

#### Features

- Configurable operating window (AOC) via SimpleSet
- Wide range of power ratings
- Housing for independent use with strain relief and loop through or built-in for Spot- and down-lighting

#### Application

- Retail
- Office

## Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220...240	V <sub>ac</sub>	Performance range
Rated input voltage	230	V <sub>ac</sub>	
Rated input frequency range	50...60	Hz	Performance range
Rated input current	0.12	A	@ rated output power @ rated input voltage
Rated input power	27	W	@ rated output power @ rated input voltage
Power factor	0.9		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	86	%	@ rated output power @ rated input voltage @ max. U <sub>out</sub>
Rated input voltage DC range	186...250	V <sub>dc</sub>	Performance range
Rated input current DC range	≥ 0.14	A <sub>dc</sub>	Performance range
Input voltage AC range	198...264	V <sub>ac</sub>	Safety operational range
Input frequency AC range	45...66	Hz	Safety operational range
Input voltage DC range	168...275	V <sub>dc</sub>	Safety operational range
Isolation input to output	SELV		

## Electrical output data

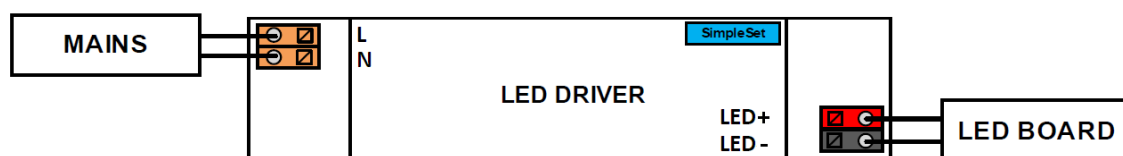
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	20...41	V <sub>dc</sub>	
Output voltage max.	60	V	Maximum voltage at open load
Output current	0.15...0.7	A	
Output current tolerance ±	5	%	
Output current ripple LF	≤ 4	%	Ripple = peak / average @ 1kHz
Output P <sub>st</sub> <sup>LM</sup>	≤ 0.06		
Output SVM	≤ 0.01		
Output power	6.9...23	W	

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method	Fixed		

## Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.75...1.5 / 18...16	mm <sup>2</sup> / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Input wire cross-section	0.5...1.5	mm <sup>2</sup> / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.75...1.5 / 18...16	mm <sup>2</sup> / AWG	solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5	mm <sup>2</sup> / AWG	solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Maximum cable length	0.6	m	Total length of wiring including LED module, one way

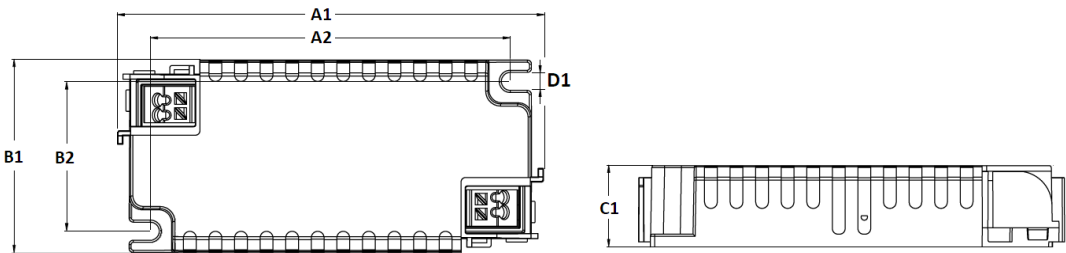


Insulation

Insulation per IEC61347-1		Input	Output
Input			SELV
Output		SELV	

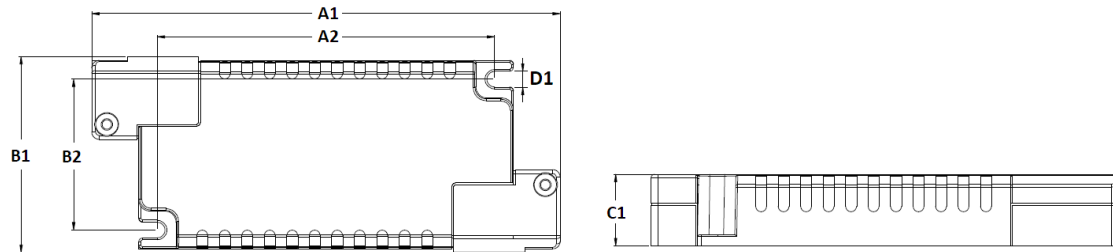
Dimensions and weight (for housing Mini flat 100x45x19 built-in 2p2p)

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	100	mm	
Mounting hole distance (A2)	84	mm	
Width (B1)	45	mm	
Width (B2)	35	mm	
Height (C1)	19.4	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	90	gram	



## Dimensions and weight (for housing Mini flat 125x47x19 independent 2p2p)

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	125	mm	
Mounting hole distance (A2)	84	mm	
Width (B1)	47	mm	
Width (B2)	35	mm	
Height (C1)	19.4	mm	
Mounting hole diameter (D1)	4.1	mm	
Weight	90	gram	



## Logistical data

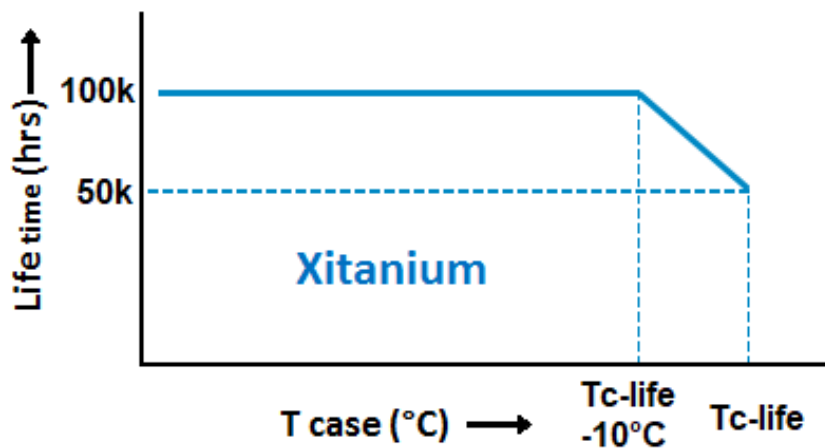
Specification item	Value
Product name	Xitanium 23W 0.15-0.7A 38V 230V
EOC	871951425112000
Logistic code 12NC	9290 028 03806
EAN1 (GTIN)	8719514251120
EAN3 (box)	8719514251137
Pieces per box	25
Strain Relief 12NC	929001431106

## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+50	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	80	°C	Maximum temperature measured at Tcase-point
Tcase-life	80	°C	Measured at Tcase-point
Maximum housing temperature	110	°C	In case of a failure, inherent by design
Relative humidity	10...90	%	Non-condensing

## Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%



## Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+85	°C	
Relative humidity	5...95	%	Non-condensing

## Programmable features

Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	SimpleSet	150 mA	Approach SimpleSet antenna from the top of the driver
OEM Write Protection (OWP)	Yes	OFF	
Luminaire Info (DALI part 251)	Yes	—	

## Features

Specification item	Value		Condition
Open load protection	Yes		Automatic recovering
Short circuit protection	Yes		Automatic recovering
Over power protection	Yes		Automatic recovering
Hot wiring	No		
Suitable for fixtures with protection class	I and II		per IEC60598

## Inrush current

Specification item	Value	Unit	Condition
Inrush current	11.2	A	Input voltage 230V
Inrush peak width	25	μs	Input voltage 230 V, measured at 50% height
Drivers / MCB 16A type B	≤ 40	pcs	Indicative value



Please refer to the driver design in guide if you use other MCB-types.

## Driver touch current / protective conductor current

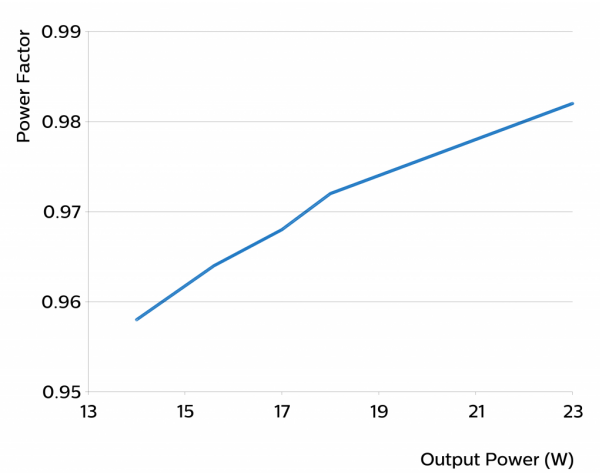
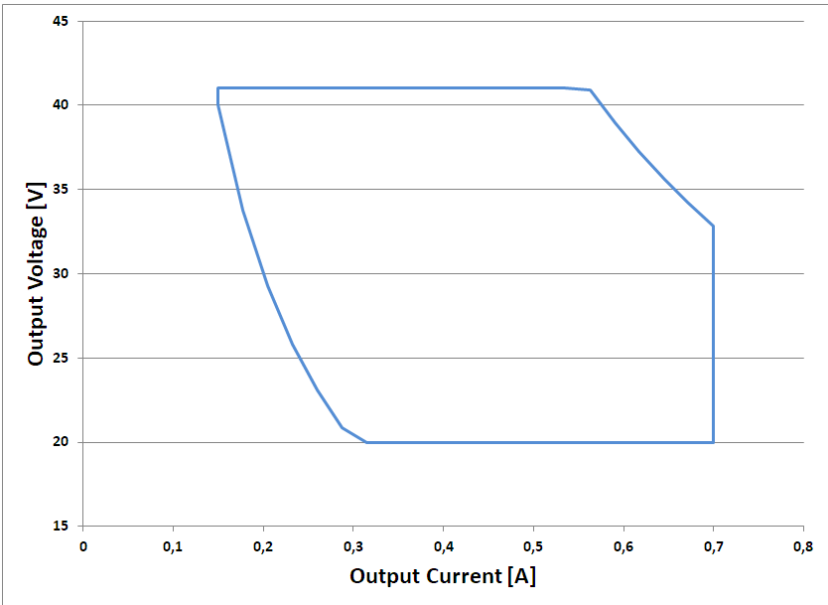
Specification item	Value	Unit	Condition
Typical Touch Current (ins. Class II)	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

## Surge immunity

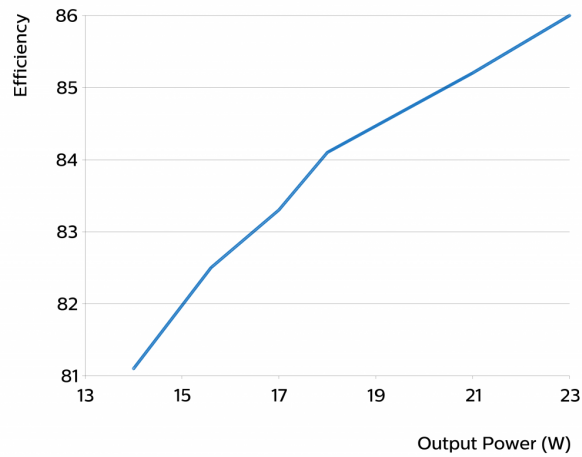
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	L-N acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	L/N - EQUI: acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

## Application Info

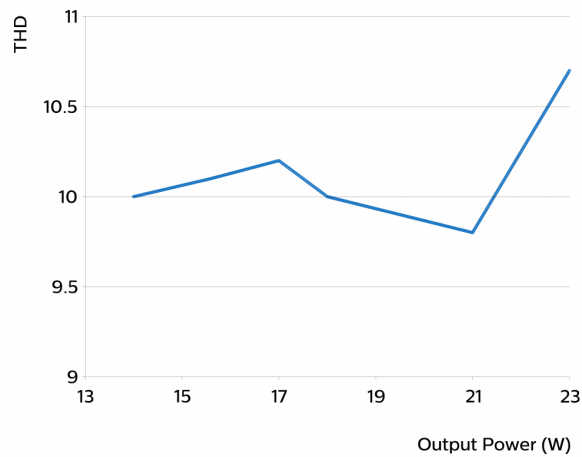
Specification item	Value
Approval marks	CCC / CE / EAC / EL / ENEC / RCM / SELV / UA
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20
Application	Indoor Point
Mounting Type	Built-in / Independent



## Efficiency versus output power



## THD versus output power



©2021 Signify Holding, IBRS 10461, 5600 VB, NL. All rights reserved.  
UK importer address: Signify Commercial UK Limited, 3, Guildford Business Park, GU2 8XG.

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.

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.

Date of release: August 24, 2021 v3

[www.philips.com/oem](http://www.philips.com/oem)