Xitanium

Datasheet

Xitanium Mini Dipswitch

Xitanium 20W/m 0.15-0.5A 42V DS I HE230V
9290 048 39701



Enabling future-proof LED technology

Philips Xitanium LED Point drivers are designed to operate with LED COB solutions used both in built-in and independent applications such as down light, spot light and track light. Xitanium drivers have common features such as low ripple output current, adjustable output current by dip switch and 50,000 hours lifetime. They are specifically designed to ensure great EMI performance, high robustness and safe usage.

Benefits

- Provides options for different luminaire designs
- Great EMI performance for easy design-in
- Enables minimization of luminaire
- Selectable output current enables flexibility
- Peace of mind with proven reliability

Features

- Class I and II application
- Low Ripple less than 4%
- Small size with Mini Shape
- 8 output currents by Dip switch
- 50,000 hours lifetime

Application

- Down lighting
- Spot lighting
- Track lighting

Logistical data

Specification item	Value
Product name	Xitanium 20W/m 0.15-0.5A 42V DS I HE230V
EOC	872110312058800
Logistic code 12NC	9290 048 39701
EAN1 (GTIN)	8721103120588
EAN3 (box)	8721103120595
Pieces per box	40
Weight	106 gram

Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220...240	V_{ac}	Performance range
Rated input voltage	230	V_{ac}	
Rated input frequency	50...60	Hz	Performance range
Rated input current	0.1	A	@ rated output power @ rated input voltage
Rated input power	21.8	W	@ rated output power @ rated input voltage
Power factor	0.90		@maximum output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	91.0	%	@maximum output power @ rated input voltage
Rated input voltage DC	186...250	V_{dc}	Performance range; EOFi = 95%
Rated input current DC	0.09...0.12	A_{dc}	Performance range
Input voltage AC	198...264	V_{ac}	Operational range
Input frequency AC	45...66	Hz	Operational range
Input voltage DC	168...275	V_{dc}	Operational range
Isolation input to output	SELV		

Electrical output data

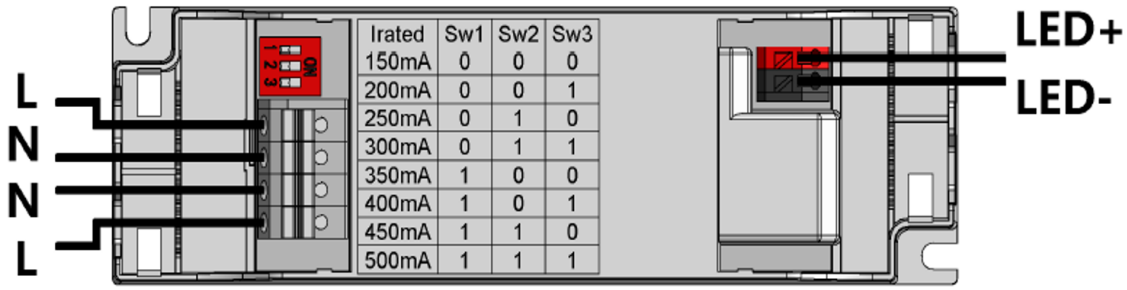
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	30...42	V_{dc}	500mA: 30-40Vdc
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	150...500	mA	Via dipswitches: with steps of 50mA
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output P_{st}^{LM}	≤ 0.1		In entire voltage range for each choice of output current
Output SVM	≤ 0.1		In entire voltage range for each choice of output current
Output power	4.5...20.0	W	Performance range: 6..20W

Control interfaces

Specification item	Value	Unit	Condition
Control method	Fixed		Output current can be set via dip switches

Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.5...1.5 / 20...16	mm² / AWG	WAGO744, solid wire
Output wire strip length	8...9	mm	
Maximum cable length	2	m	CISPR15: between driver and LED module
Loop Through	Input		



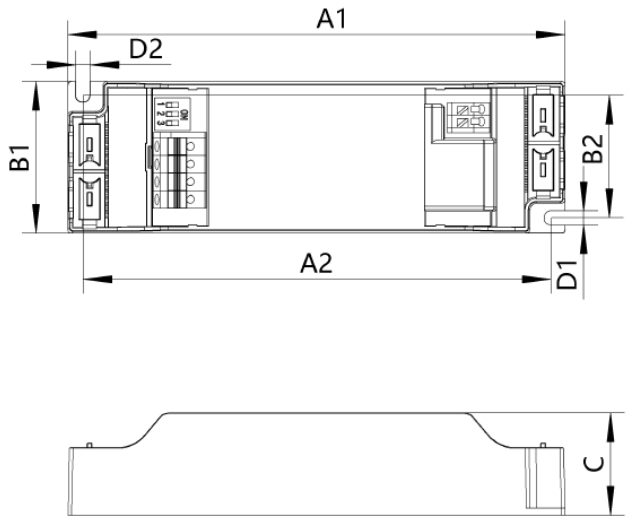
Irated	Sw1	Sw2	Sw3
150mA	0	0	0
200mA	0	0	1
250mA	0	1	0
300mA	0	1	1
350mA	1	0	0
400mA	1	0	1
450mA	1	1	0
500mA	1	1	1

Isolation

Insulation per IEC61347-1	Mains	LED output
Mains	-	SELV
LED output	SELV	-

Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	141	mm	± 0.5
Mounting hole distance (A2)	132.8	mm	± 0.3
Width (B1)	43	mm	± 0.3
Width (B2)	34.8	mm	± 0.3
Height (C1)	30	mm	± 0.3
Mounting hole diameter (D1)	4	mm	± 0.2
Mounting hole diameter (D2)	4	mm	± 0.2
Weight	106	gram	
Housing color	White		

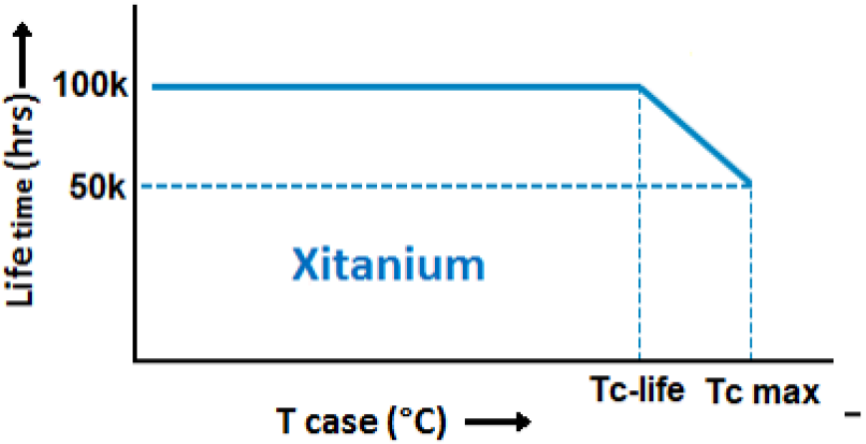


Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+45	°C	Higher ambient temperature allowed as long as Tcase-max is not exceeded
Tcase-max	80	°C	Maximum temperature measured at T_{case}-point
Tcase-life	80	°C	Measured at T_{case}-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	100,000	hours	Measured temperature at Tcase-point is Tcmax - 10 degrees. Maximum failures = 10%
Driver lifetime Tcmax	50,000	hours	Measured temperature at Tcase-point is Tc-max. Maximum failures = 10%



Maximum failures = 10%

Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
80	100000	hr	Temperature measured @Tc point
75	>100000	hr	
70	>100000	hr	

Storage temperature and humidity

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

Programmable features

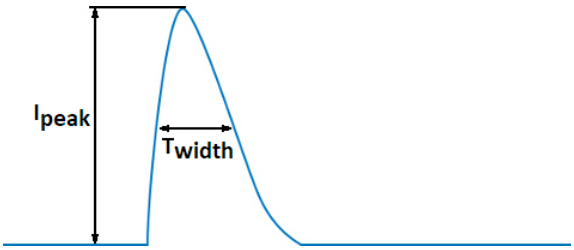
Specification item	Available	Default setting	Condition
Set Adjustable Output Current (AOC)	DipSwitch	150 mA	Set the output current via the dipswitch, see wiring diagram for an overview

Non-programmable 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	8.3	A	Input voltage 230V
Inrush peak width	235	µs	Input voltage 230V, measured at 50% height
Drivers / MCB 16A type B @230V AC	≤ 58	pcs	Input voltage 230V



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

If several mini circuit breakers are used directly side-by-side (without distance pieces a correction factor of 80% has to be applied to the rated current

Driver touch current / protective conductor current / earth leakage 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

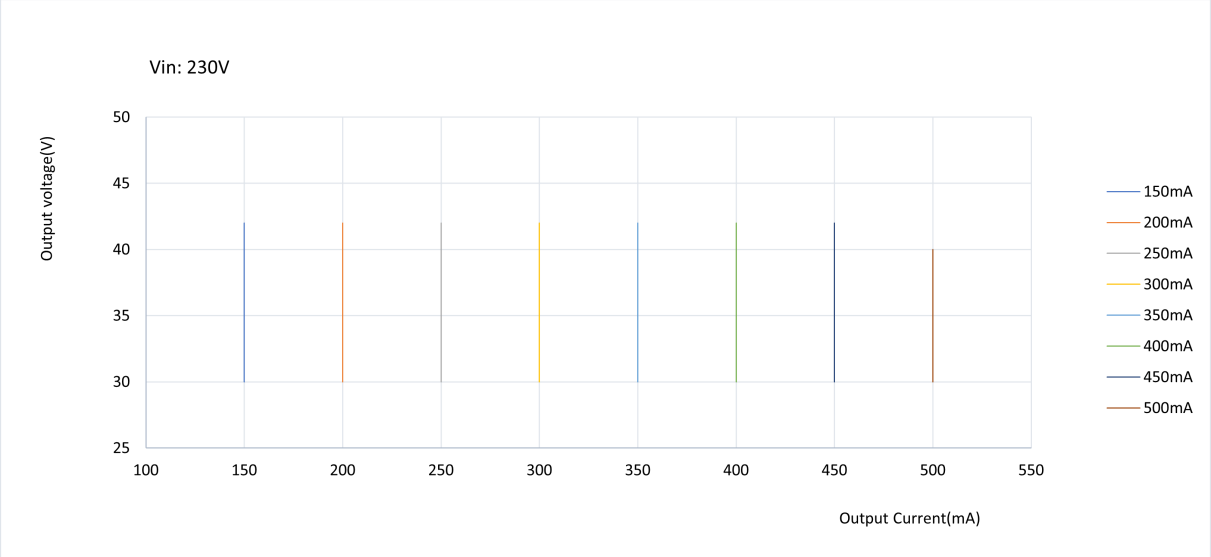
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	L- N Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	L/N - PE Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

Application Info (Approbation)

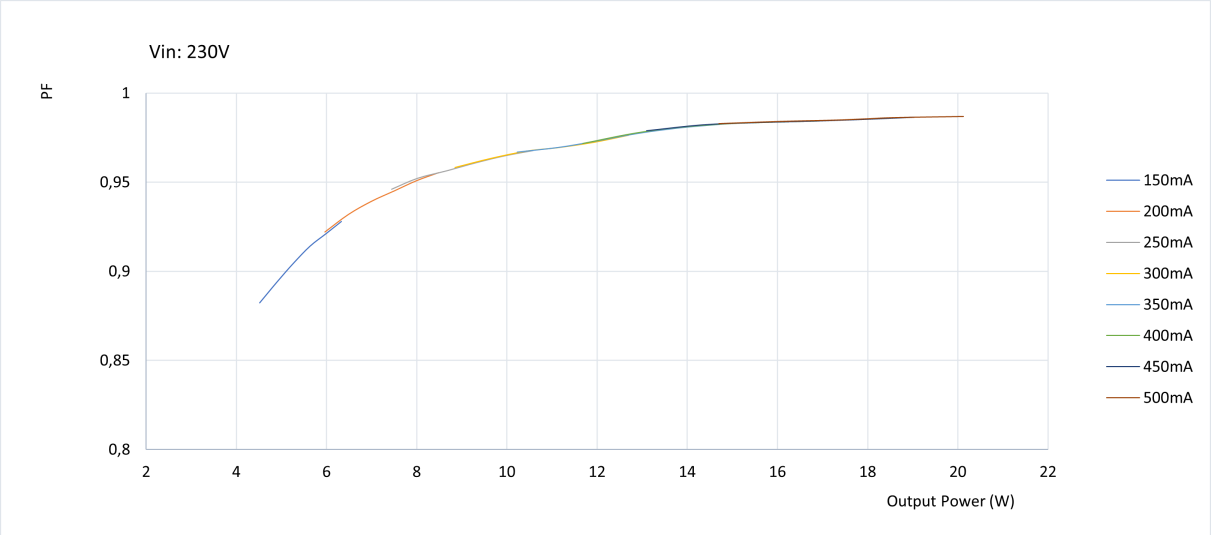
Specification item	Value
Approval marks and Certifications	CB / CCC / CE / EAC / EL / ENEC / RCM / UA / UKCA
Ingress Protection classification (IP)	20
Application	Indoor Point
Mounting Type	Independent

Graphs

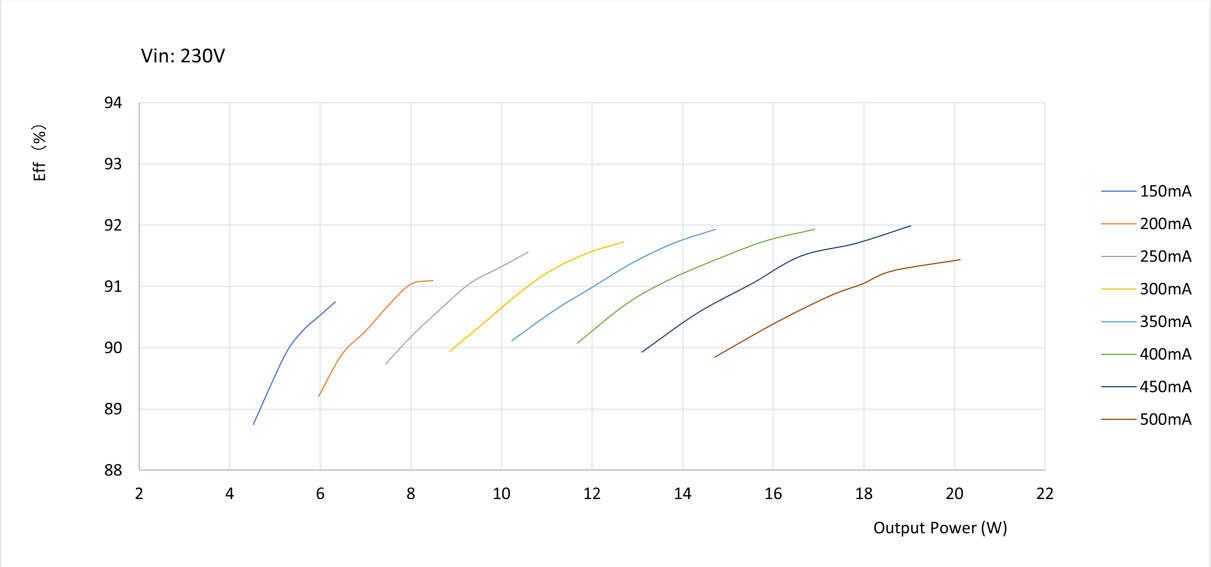
Operating window



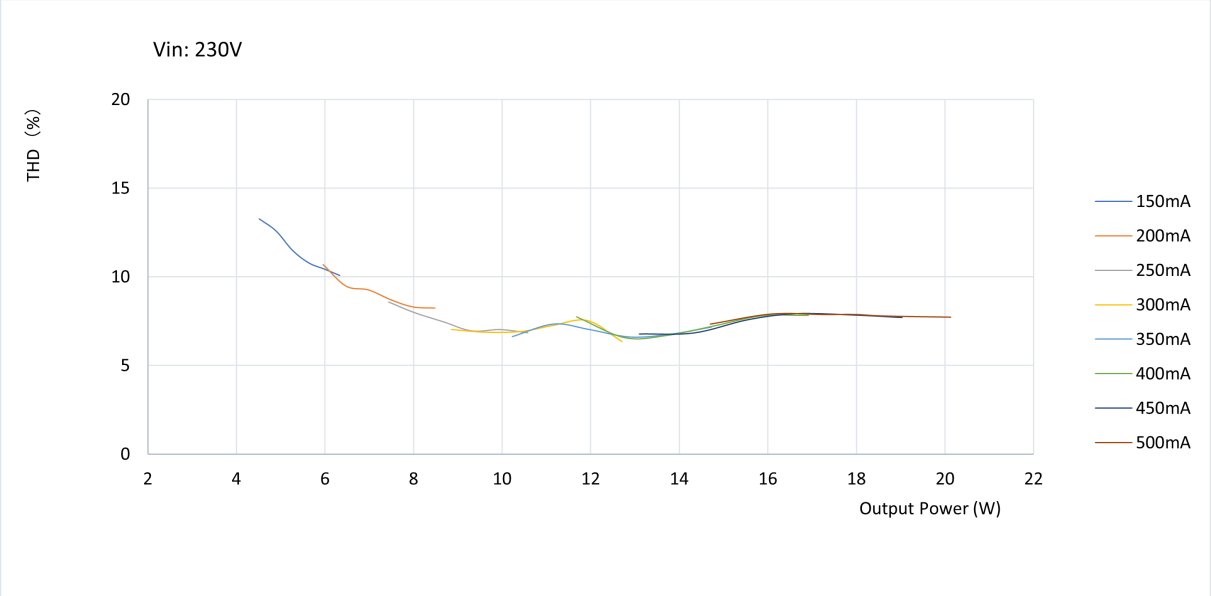
Power factor versus output power



Efficiency versus output power



THD versus output power



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