

Datasheet

LED drivers – Extreme Small

Xitanium 23W 0.15-0.7A 38V 230V
9290 034 16206

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

Logistical data

Specification item	Value
Product name	Xitanium 23W 0.15-0.7A 38V 230V
EOC	871951445235000
Logistic code 12NC	9290 034 16206
EAN1 (GTIN)	8719514452350
EAN3 (box)	8719514452367
Pieces per box	25
Strain Relief 12NC	929001431106
Weight	90 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	0.12	A	@ rated output power @ rated input voltage
Rated input power	27.0	W	@ rated output power @ rated input voltage
Power factor performance range	≥ 0.90 C		@ rated output power @ rated input voltage@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	86.0	%	@ rated output power @ rated input voltage @ max. U _{out}
Rated input voltage DC	186...250	V _{dc}	Performance range
Rated input current DC	≥ 0.14	A _{dc}	Performance range
Input voltage AC	198...264	V _{ac}	Safety operational range
Input frequency AC	45...66	Hz	Safety operational range
Input voltage DC	168...275	V _{dc}	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 _{dc}	
Output voltage max.	60	V	Maximum voltage at open load
Output current	150...700	mA	
Output current tolerance ±	5	%	@full load
Output current ripple LF	≤ 4	%	Ripple = peak / average @ 1kHz
Output P _{st} ^{LM}	≤ 0.3		
Output SVM	≤ 0.1		
Output power	6.9...23.0	W	

Control interfaces

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 ² / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Input wire cross-section	0.5...1.5	mm ² / AWG	solid / stranded wire
Input wire strip length	8.5...9.5	mm	
Output wire cross-section	0.75...1.5 / 18...16	mm ² / AWG	solid / stranded wire
Output wire strip length	8.5...9.5	mm	
Output wire cross-section	0.5...1.5	mm ² / 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

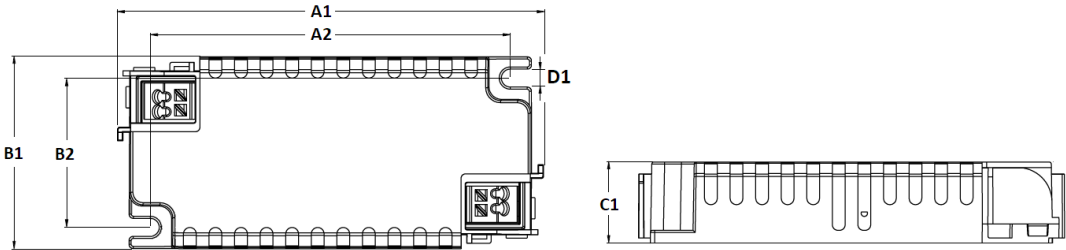


Isolation

Insulation per IEC61347-1	Input	Output
Input	-	SELV
Output	SELV	-

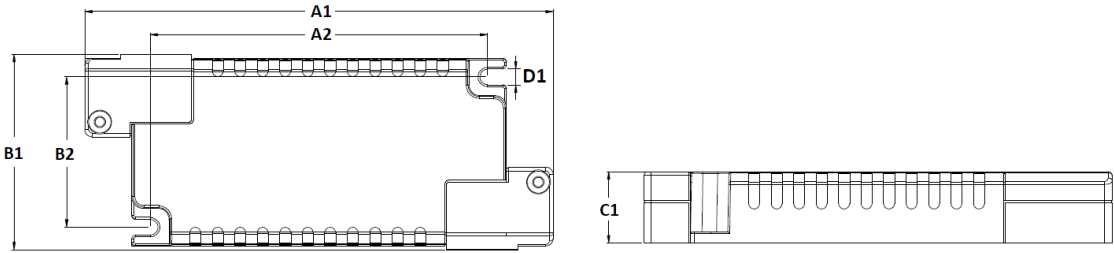
Dimensions and weight (for housing Mini flat 100x45x19 built-in 2p2p)

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	

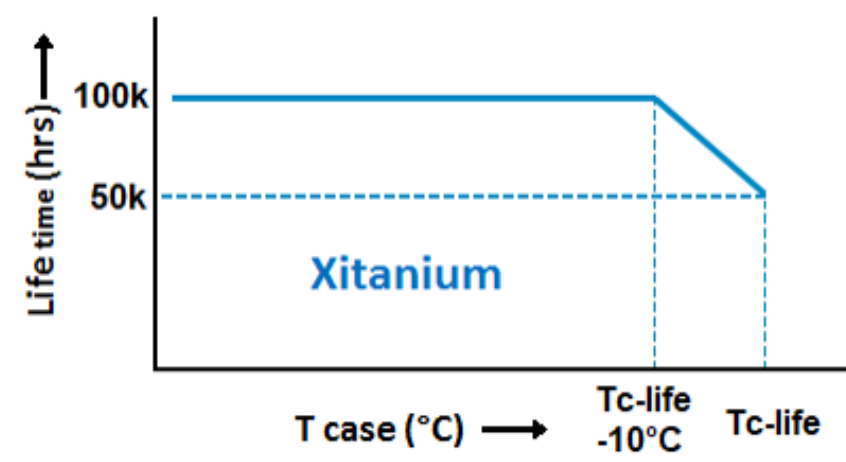


Operational temperatures and humidity

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%
Driver lifetime Tcmax	0	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%



Maximum failures = 10%

Temperature [°C]	Lifetime	Unit	Condition
80	50000	hr	Temperature measured @Tc point
75	>50000	hr	
70	>50000	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)	SimpleSet	150 mA	Approach SimpleSet antenna from the top of the driver
Adjustable Light Output (ALO)	Yes	OFF	
OEM Write Protection (OWP)	Yes	OFF	
Luminaire Info (DALI part 251)	Yes		

Non-programmable features

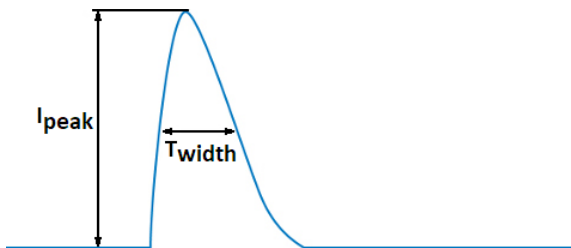
Specification item	Value	Condition
Open load protection	Yes	Automatic recovering
Short circuit protection	Yes	Automatic recovering
Over power protection	Yes	Automatic recovering
Hot wiring	No	
Suitable for fixtures with protection class	I and II	per IEC60598

Inrush current

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

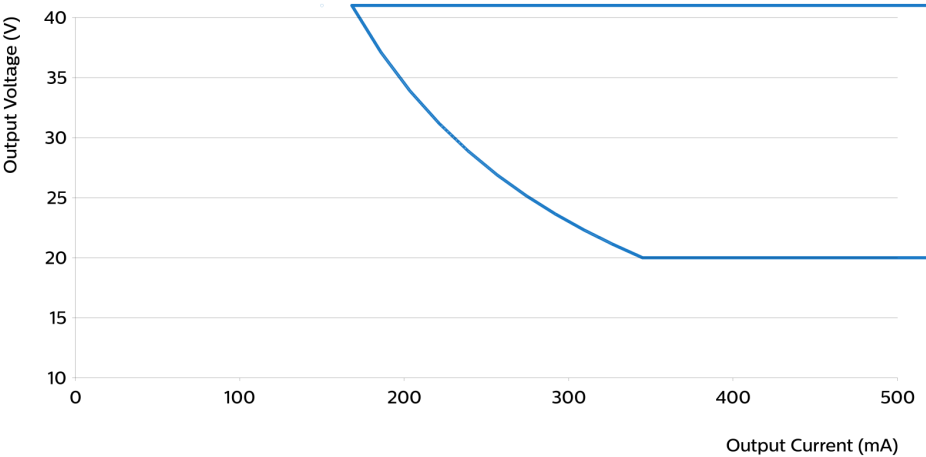
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	L-N acc. IEC61000-4-5. 2 Ohm, 1.2/50µs, 8/20µs
Mains surge immunity (comm. mode)	2	kV	L/N - EQUI: acc. IEC61000-4-5. 12 Ohm, 1.2/50µs, 8/20µs

Application Info (Approbation)

Specification item	Value
Approval marks and Certifications	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

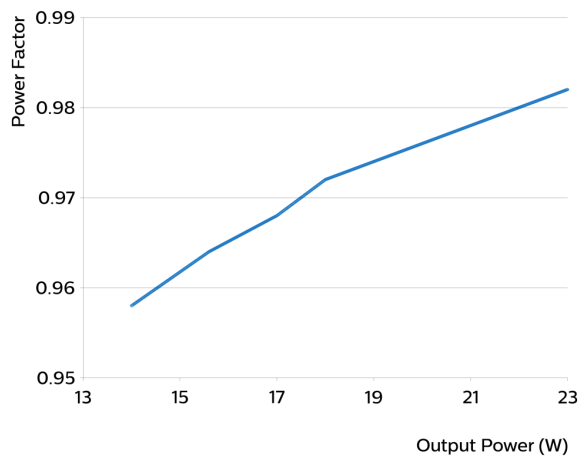
Graphs

Operating window

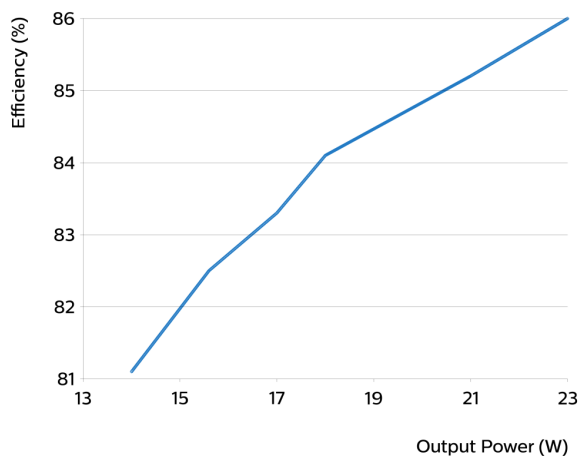


Type	Output current (mA)	Min. output voltage (V)	Max. output voltage (V)	Max. output power (W)
Xitanium 23W 0.15-0.7A 38V 230V	150	46	41	6.15
Xitanium 23W 0.15-0.7A 38V 230V	200	34	41	8.2
Xitanium 23W 0.15-0.7A 38V 230V	250	27	41	10.25
Xitanium 23W 0.15-0.7A 38V 230V	300	23	41	12.3
Xitanium 23W 0.15-0.7A 38V 230V	350	20	41	14.35
Xitanium 23W 0.15-0.7A 38V 230V	400	20	41	16.4
Xitanium 23W 0.15-0.7A 38V 230V	450	20	41	18.45
Xitanium 23W 0.15-0.7A 38V 230V	500	20	41	20.5
Xitanium 23W 0.15-0.7A 38V 230V	550	20	41	22.55
Xitanium 23W 0.15-0.7A 38V 230V	600	20	38	23
Xitanium 23W 0.15-0.7A 38V 230V	650	20	35	23
Xitanium 23W 0.15-0.7A 38V 230V	700	20	32	23

Power factor versus output power



Efficiency versus output power



THD versus output power

