PHILIPS
ADVANCE

LED Driver

Xitanium SR

150W 120-277V 0.7A SR
XI150C070V235VSF1

RoHS COMPLIANT
Type HL

Intertek
Class P
Conforms to UL STD 8750
Certified to CAN/CSA STD C22.2 No. 250.13

c UL us LISTED E321253
Class P
For Dry and Damp Location

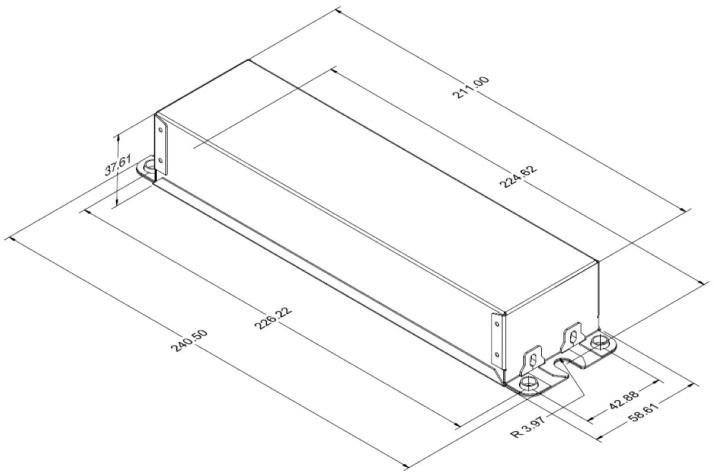
The Philips Advance Xitanium SR LED driver can help reduce complexity and cost of light fixtures used in wireless connected lighting systems. It features a standard digital interface to enable direct connection to SR-certified components. Functionality that ordinarily would require additional auxiliary components is integrated into the driver. The result is a simple, cost-effective light fixture that can enable every fixture to become a wireless node.

Specifications

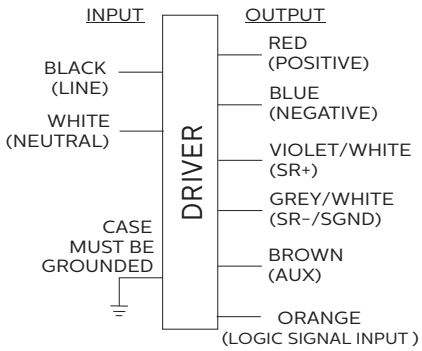
Input Voltage (Vrms)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ Max. Load and 70°C Case	Max. Case Temp. (°C)	Input Current (Arms)	Max. Input Power (W)[1]	Inrush Current (Apk/10%-µs)	THD @ Max. Load	Power Factor @ Max. Load	Surge Protection Common/ Diff (KV)	Weight (Lbs/kgs)	Envir. Protection Rating
120	150	78-235	0.07-0.70	91	80	1.5	180	54 / 280	<10%	>0.95	6/6	2.1/0.95	UL damp & dry
277				93		0.65		133 / 270					

Enclosure

	In. (mm)
Case Length	8.38 (211.1)
Case Width	2.35 (59.1)
Case Height	1.49 (37.6)
Mounting Length	9.0 (226.2)
Mounting Width	1.7 (42.9)
Overall Length	9.54 (240.5)



Wiring Diagram



Input and output use lead-wires.

Lead-wires are 18AWG 105C/600V solid copper per UL1452.

Lead length outside enclosure: 270 mm (±30mm) on all wires.

Dimming	Dimming Range	Minimum Output Current (A)
DALI	10% ~ 100%	0.070

1. Based on 1W load from SR power supply and 6.2W load from auxiliary power supply.

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Electrical Specifications

All the specifications are typical and at 25°C Tcase unless specified otherwise.

Features

- Compatible with SR-Certified devices
- Standard digital interface based on DALI including integral power supply
- Auxiliary power supply for higher-power device requirements
- Accurate power metering
- Logic signal input
- Drive current setting via SimpleSet
- 5-year limited warranty[1]

Benefits

- Enables interoperability with multiple sensor/network system vendors
- Reduces cost and complexity of outdoor connected lighting systems[2]
- Eliminates need for high-voltage relays to increase system reliability
- Metering accuracy meets proposed ANSI standard C136.52
- Can be used with standard motion sensors

Application

- Area
- Roadway
- Parking garages
- Floodlights

Product Data

Ordering Information	
Order Code	XI150C070V235VSF1
Full Product Code	XI150C070V235VSF1M (Mid-pack, 10pcs/box)
Full Product Name	XITANIUM 150W 0.7A 120-277V SR
Net Weight Per Piece	0.95 KG / 2.1 lbs
Input Information	
Inrush Current	Per NEMA 410
Line Voltage (AC Operation)	120-277VAC +/- 10%
Line Current	1.50A @ 120V, 0.65A @ 277V
Line Frequency	50/60Hz
Surge Protection	Refer to table
Output Information	
Output Voltage Range	78VDC to 235VDC
Output Current Range	0.07A to 0.70A
Output Current Ripple	<15% at max Iout (ripple = pk-avg/avg) Low frequency (<120 Hz) content <1%
Output Current Tolerance	±5% at max output current
Open Circuit Voltage	310VDC Max
Protections	Short Circuit and Open Circuit Protection for LED + and LED-
Features	
AOC (Adjustable Output Current)	0.07A to 0.70A via SimpleSet programming (refer to graphs and notes)
Life @ TC 80˚C	50000 hr [nom] (refer to graphs)
Suitable for Outdoor Use?	Yes
Interfaces	AOC (SimpleSet), SR, Logic Signal Input (LSI), Auxiliary Power Supply
Min. Ambient Temp	-40°C
Max. Case Temperature (Tcase)	80°C
Input Over-voltage	Can survive input over-voltage stress of 320VAC for 48 hours and 350VAC for 2 hours
Earth Leakage Current	0.75 mA [max]
THD Total	Refer to graph

1. Philips Advance Xitanium LED drivers are designed and manufactured to engineering standards correlating to an average life expectancy of 50,000 hours of operation at maximum rated case temperature. Minimum 90% survivals based on MTBF modeling.
2. Functionality that ordinarily would require additional auxiliary components is integrated into the driver.

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Product Data (continued)

Power Factor	Refer to graph
Efficiency	Refer to table
Power Reporting Accuracy	± 2% in performance window and under nominal operating conditions
SR Interface	
Digital Protocol	Detailed specifications available to SR-Certified Partners
SR Power Supply	Detailed specifications available to SR-Certified Partners
Auxiliary Power Supply	
Power	3W continuous, 10.5W peak for 1.2ms
Voltage	24V+/-10%
Ripple	300mV peak-peak for resistive load
Protection	Overload and short circuit protected
Last Gasp Energy	200mJ typ.
Logic Signal Input (LSI)	
Dry Contact Input	Yes
Logic Low	<3V or open
Logic High	>7V
Max. Current Draw	2mA
Environment & Approbation	
Agency Approbations	UL8750, UL1310, UL935, CSA-C22.2 No. 250.13-12, CSA C22.2 No. 223
Audible Noise	<24dB Class A
Isolation Between Output and Input	Refer to table
Isolation of Controls	Refer to table
EMC (Electromagnetic Compliance)	Meets FCC 47 Part 15 Class A
Envir. Protection Rating	UL Dry & Damp

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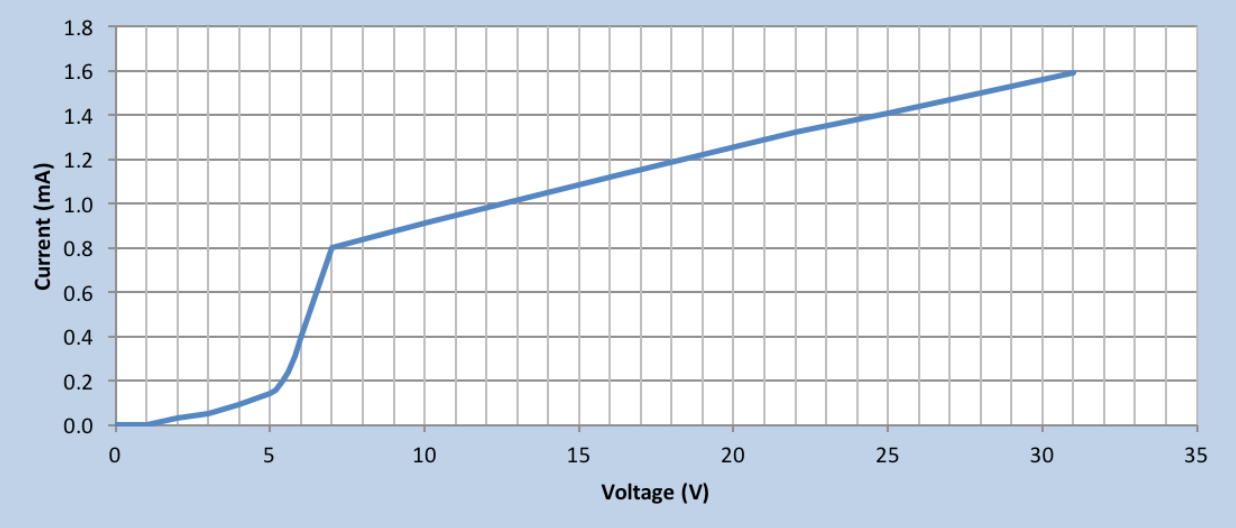
Logic Signal Input (LSI) Characteristics (Typical)



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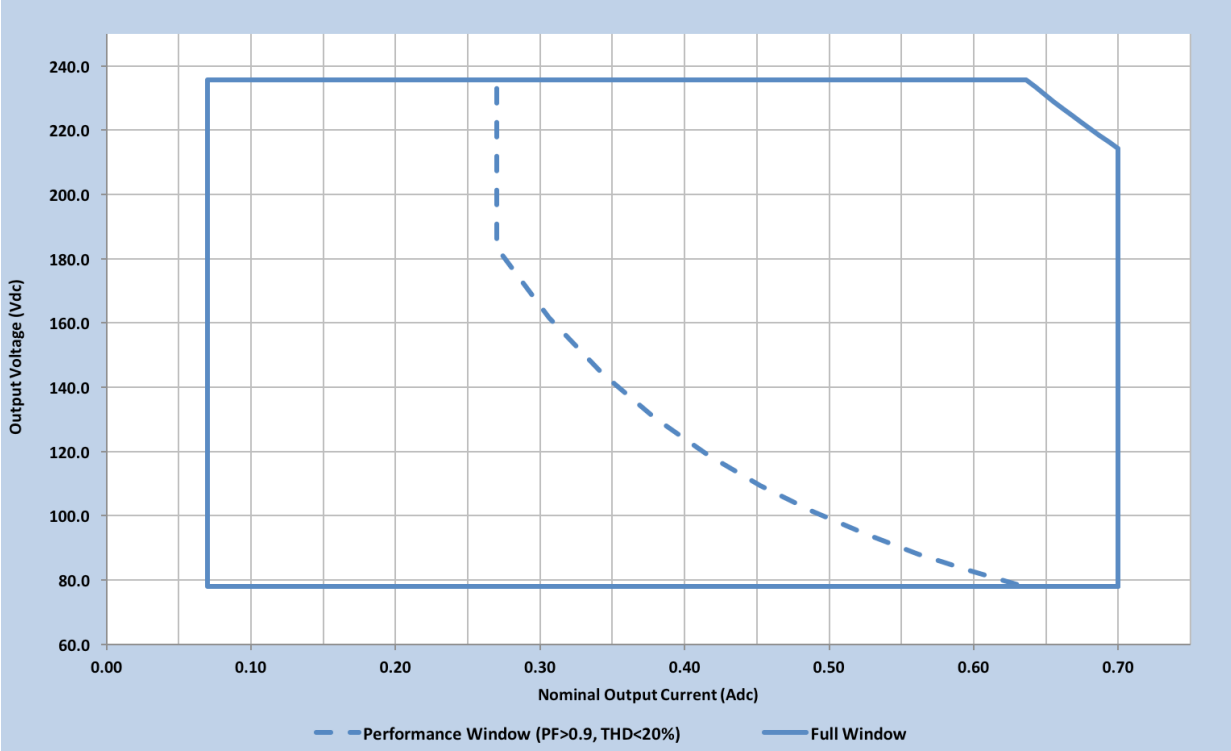
Operating Window

The Driver Current Cutback feature provides for an increased output voltage with a reduced output current during abnormal LED operation, such as cold weather starting. Output tolerance +/-5%.



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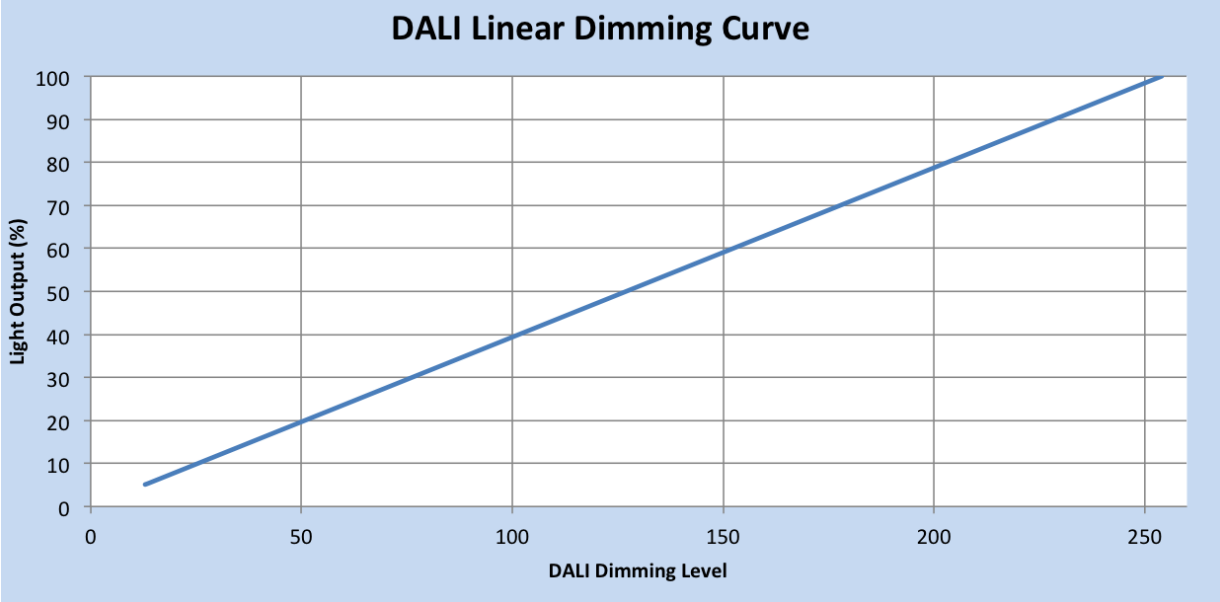
Dimming Characteristics

Dimming is accomplished through the two-wire SR connection to the sensor. DALI standard IEC62386_107 Edition 1 defines the linear dimming curve, as well as the command for switching between logarithmic and linear curves. Only a linear dimming curve is utilized.



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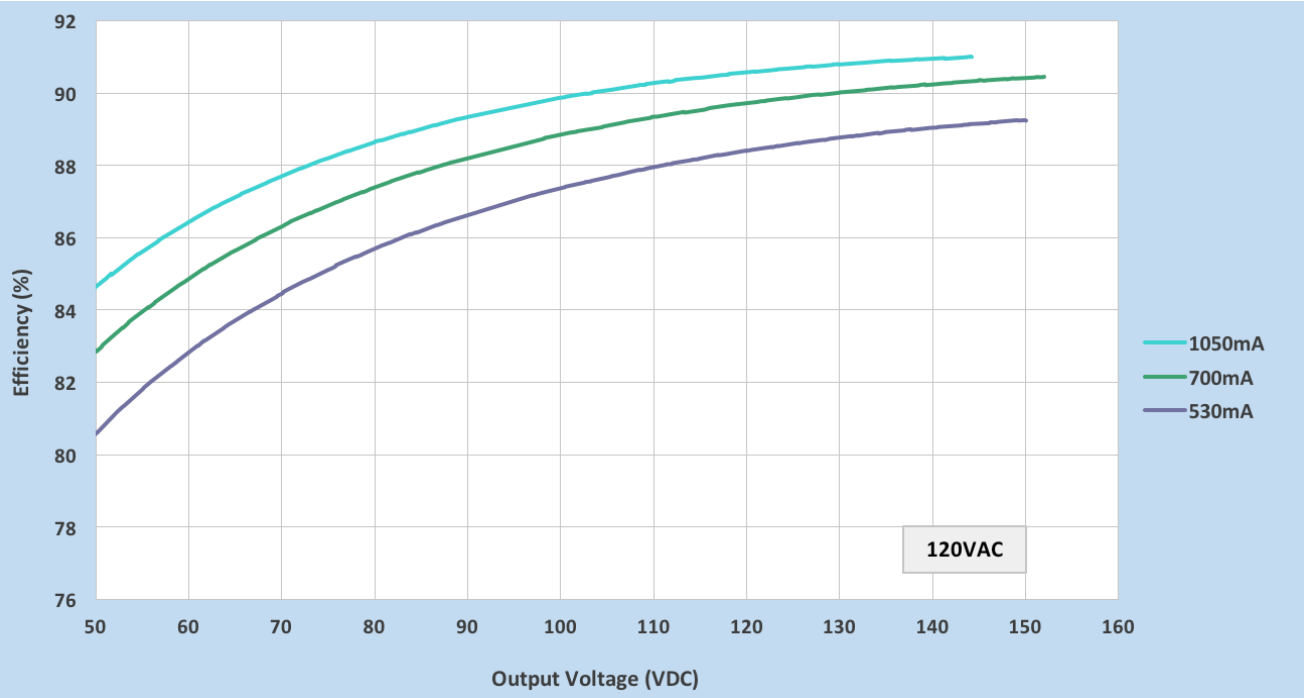
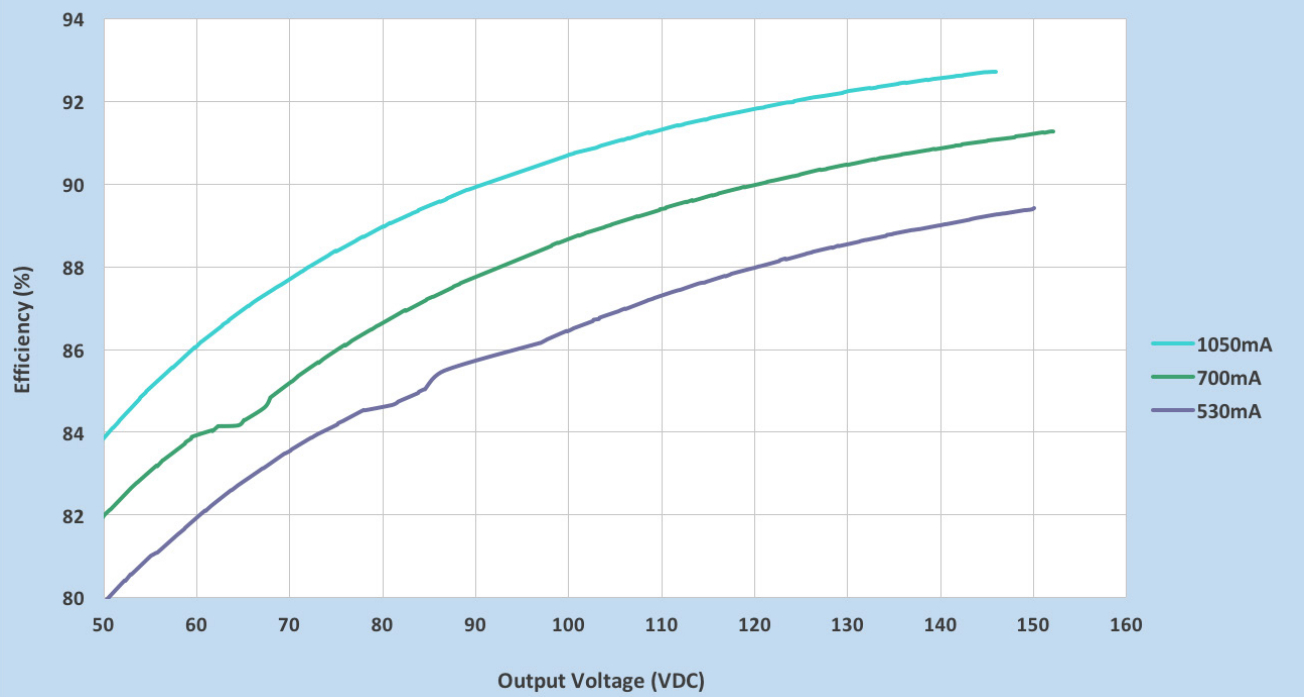
Performance Characteristics

Based on measurements on a typical sample. The accuracy of the measurements is within the tolerance of the measurement instruments. The graphs are meant to be a guideline and not a specification.

Efficiency Vs. Output Voltage @ 120VAC



Efficiency Vs. Output Voltage @ 277VAC

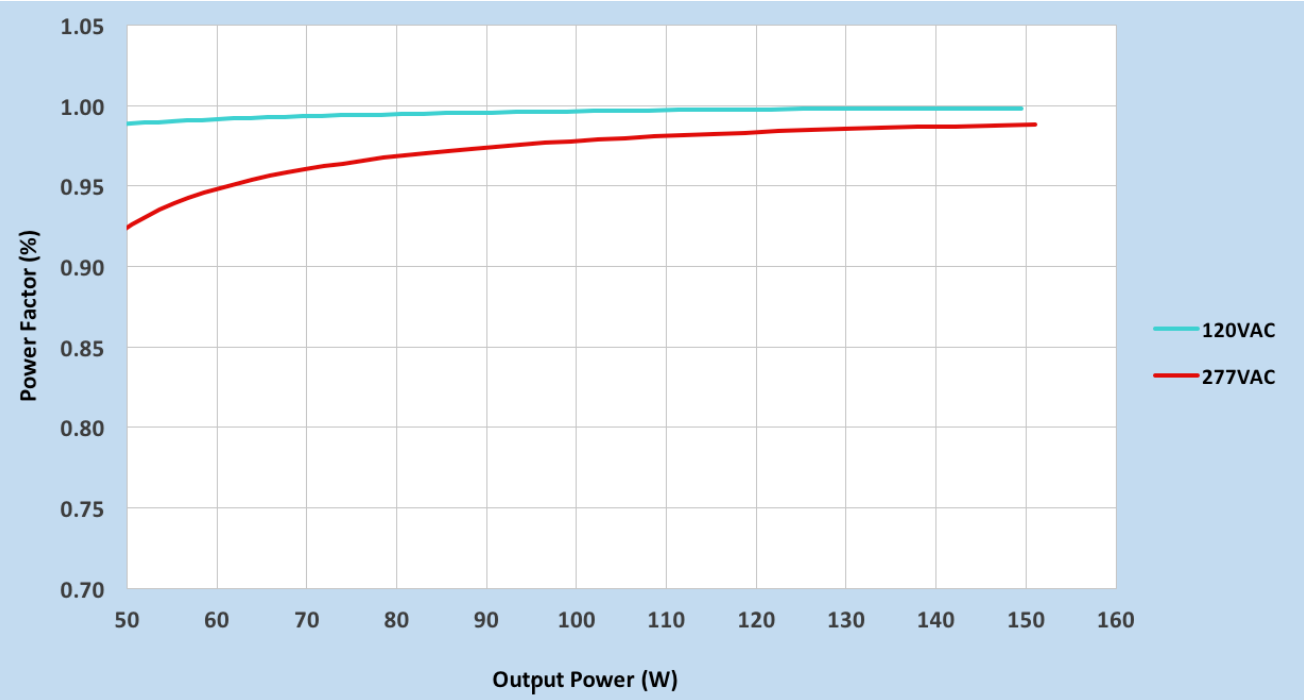


Xitanium SR 150W 120-277V 0.7A

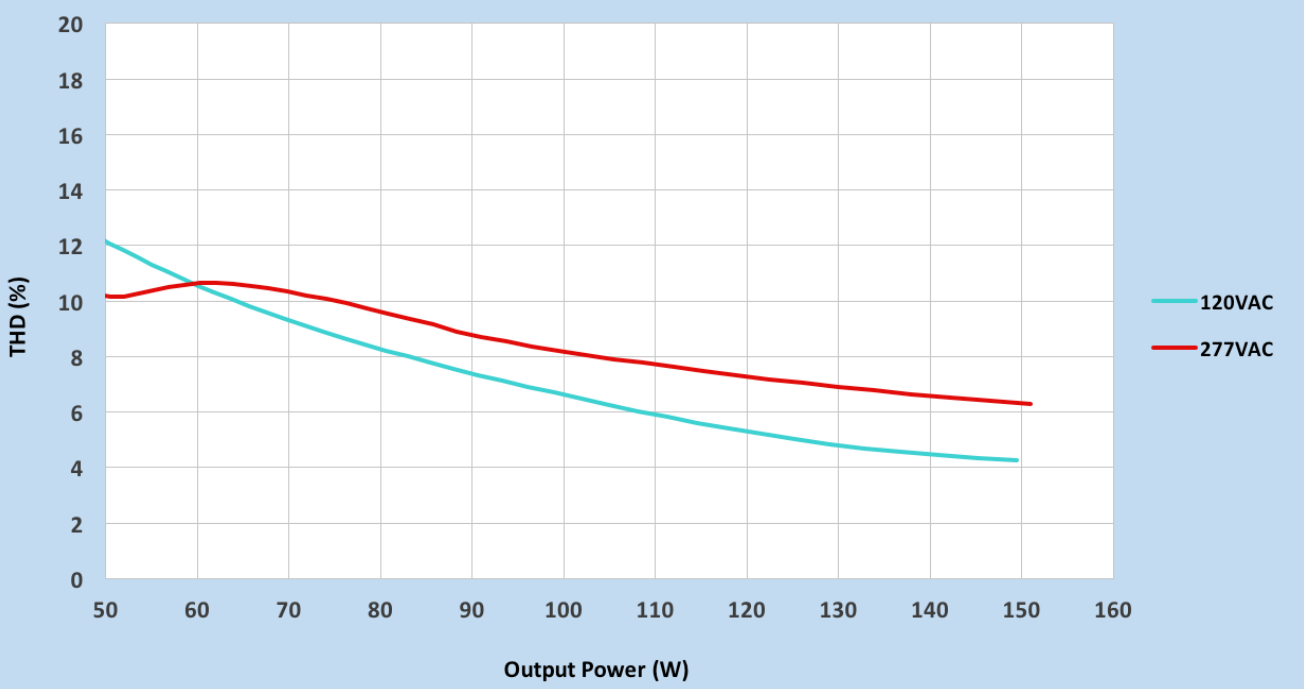
Performance Characteristics

Based on measurements on a typical sample. The accuracy of the measurements is within the tolerance of the measurement instruments. The graphs are meant to be a guideline and not a specification.

Power Factor Vs. Output Power



Total Harmonic Distortion Vs. Output Power



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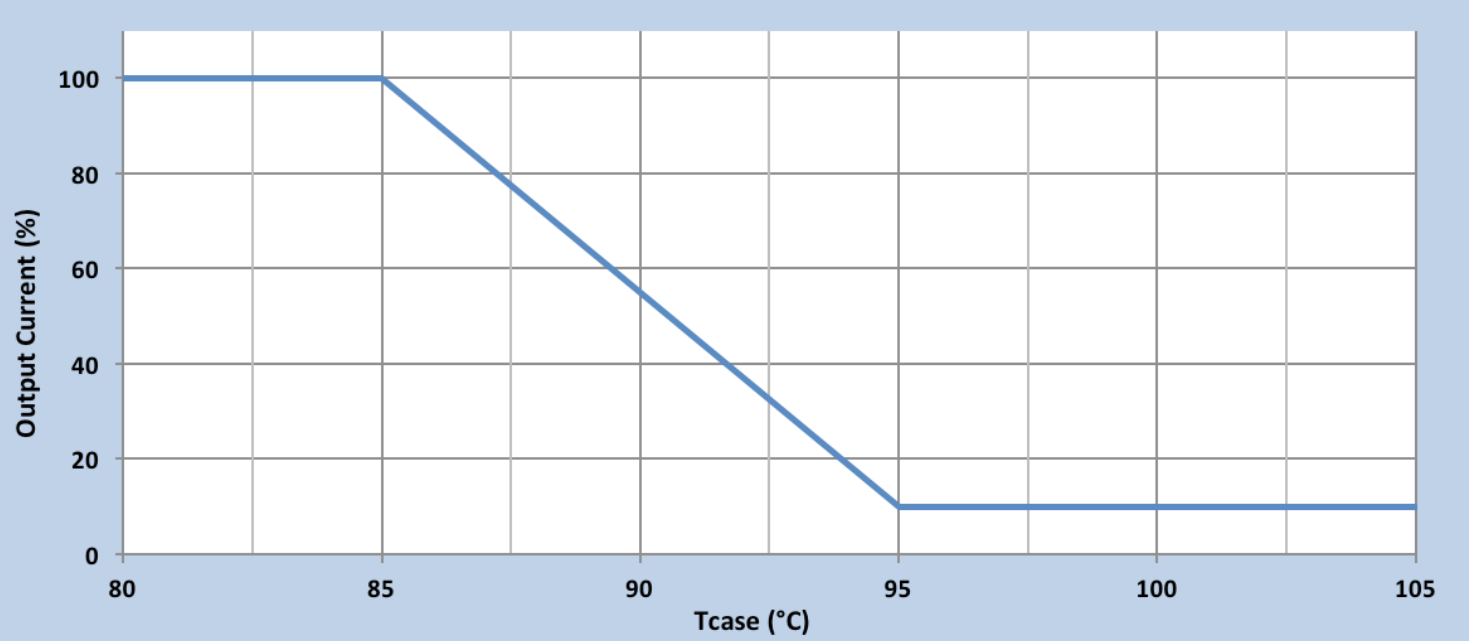
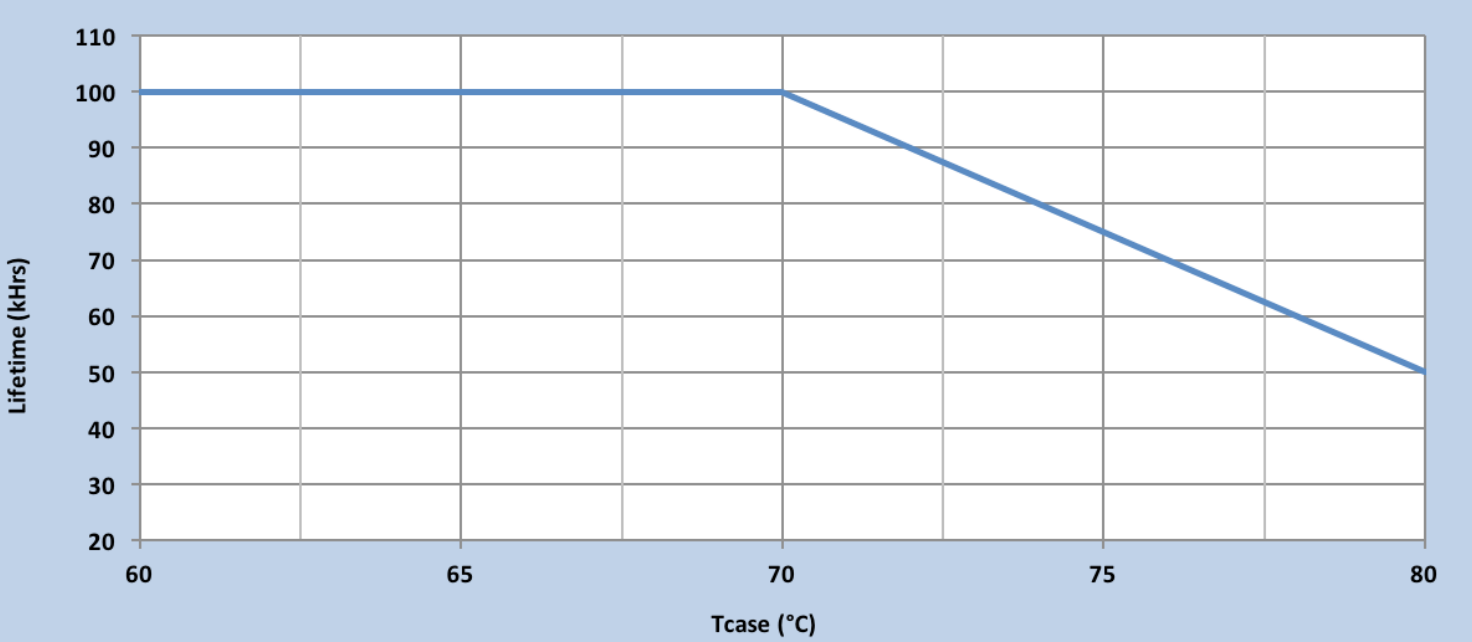
Output Current Vs. Driver Case Temperature



Driver Lifetime Vs. Driver Case Temperature



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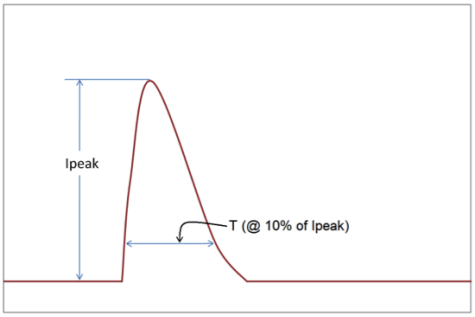
Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vac	54A	280µs
277 Vac	133A	270µs

Inrush current is measured at peak of the corresponding line voltage, source impedance per NEMA 410.

Lightning Surge Info

ANSI Surge Type	Differential Mode (L-N)	Common Mode (L-G, N-G, L&N-G)
1.2/50µs Combination Wave (w/t 2Ω)	6kV	6kV

Isolation

Isolation	Input	Output	0-10V (Class 1 & 2)	Enclosure
Input	NA	2xU+1kV	2.5kV	2xU+1kV
Output	2xU+1kV	NA	2.5kV	2xU+1kV
SR	2.5kV	2.5kV	NA	2xU+1kV
Enclosure	2xU+1kV	2xU+1kV	2xU+1kV	NA

U = Max input voltage

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