

**PHILIPS  
ADVANCE**



LED Driver

Xitanium SR

150W 120-277V 1.05A SR  
XI150C105V157VSF1



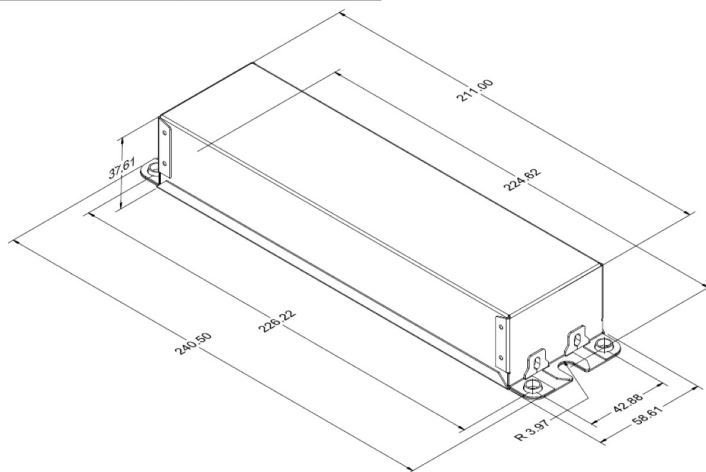
The Philips Advance Xitanium SR LED driver can help reduce complexity and cost of light fixtures used in wireless connected lighting systems. It features a standard digital interface to enable direct connection to SR-certified components. Functionality that ordinarily would require additional auxiliary 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**

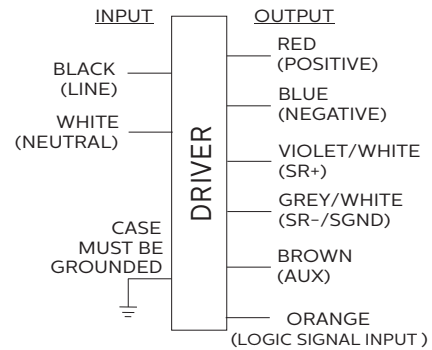
| Input Voltage (Vrms) | Output Power (W) | Output Voltage (V) | Output Current (A) | Efficiency@ Max. Load and 70°C Case | Max. Case Temp. (°C) | Input Current (Arms) | Max. Input Power (W) <sup>1</sup> | Inrush Current (Apk/10%-µs) | THD @ Max. Load | Power Factor @ Max. Load | Surge Protection Common/Diff (KV) | Weight (Lbs/kgs) | Envir. Protection Rating |
|----------------------|------------------|--------------------|--------------------|-------------------------------------|----------------------|----------------------|-----------------------------------|-----------------------------|-----------------|--------------------------|-----------------------------------|------------------|--------------------------|
| 120                  | 150              | 44-157             | 0.105-1.05         | 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%    | 0.105                      |

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

# Xitanium SR 150W 120-277V 1.05A

## 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 energy metering
- Logic signal input
- Drive current setting via SimpleSet
- 5-year limited warranty<sup>1</sup>

### Benefits

- Enables interoperability with multiple sensor/network system vendors
- Reduces cost and complexity of outdoor connected lighting systems<sup>2</sup>
- 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                      | XI150C105V157VSF1   |
| Full Product Code               | XI150C105V157VSF1M (Mid-pack, 10pcs/box)  |
| Full Product Name               | XITANIUM 150W 1.05A 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            | 44VDC to 157VDC   |
| Output Current Range            | 0.105A to 1.05A   |
| Output Current Ripple           | <15% at max lout (ripple = pk-avg/avg) Low frequency (<120 Hz) content <1%          |
| Output Current Tolerance        | ±5% at max output current   |
| Open Circuit Voltage            | 210VDC  |
| Protections                     | Short Circuit and Open Circuit Protection for LED + and LED-                        |
| Features                        |   |
| AOC (Adjustable Output Current) | 0.105A to 1.05A 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 (DALI 2.0), 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.

# Xitanium SR 150W 120-277V 1.05A

## Electrical Specifications

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

## Product Data (continued)

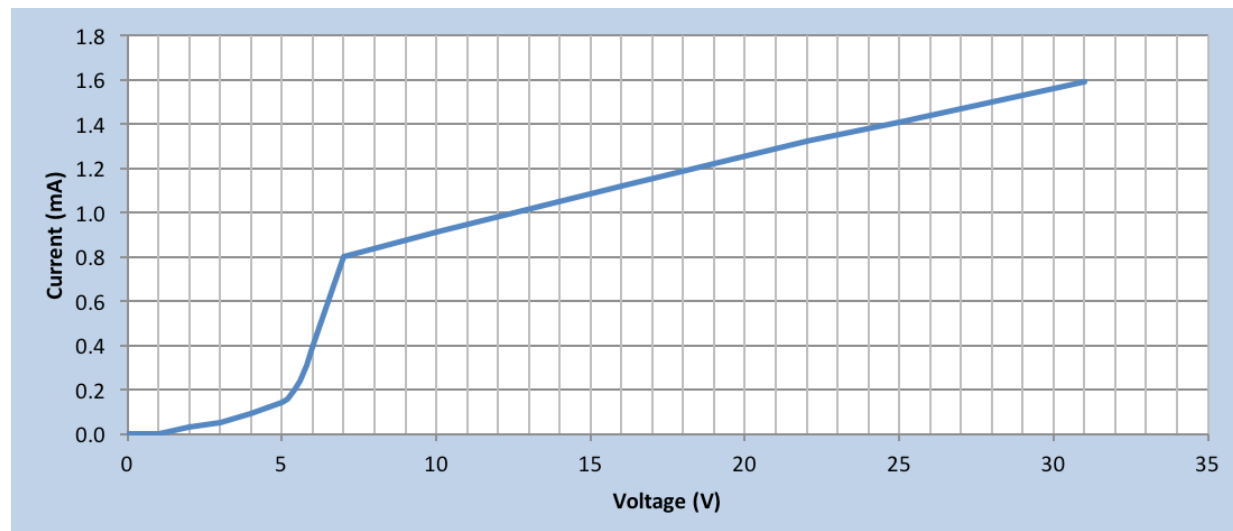
|   |   |
|---|---|
| <b>Power Factor</b>                       | Refer to graph  |
| <b>Efficiency</b>                         | Refer to table  |
| <b>Power Reporting Accuracy</b>           | ± 2% in performance window and under nominal operating conditions |
| <b>SR Interface</b>                 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

# Xitanium SR 150W 120-277V 1.05A

## Electrical Specifications

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

### Logic Signal Input (LSI) Characteristics (Typical)



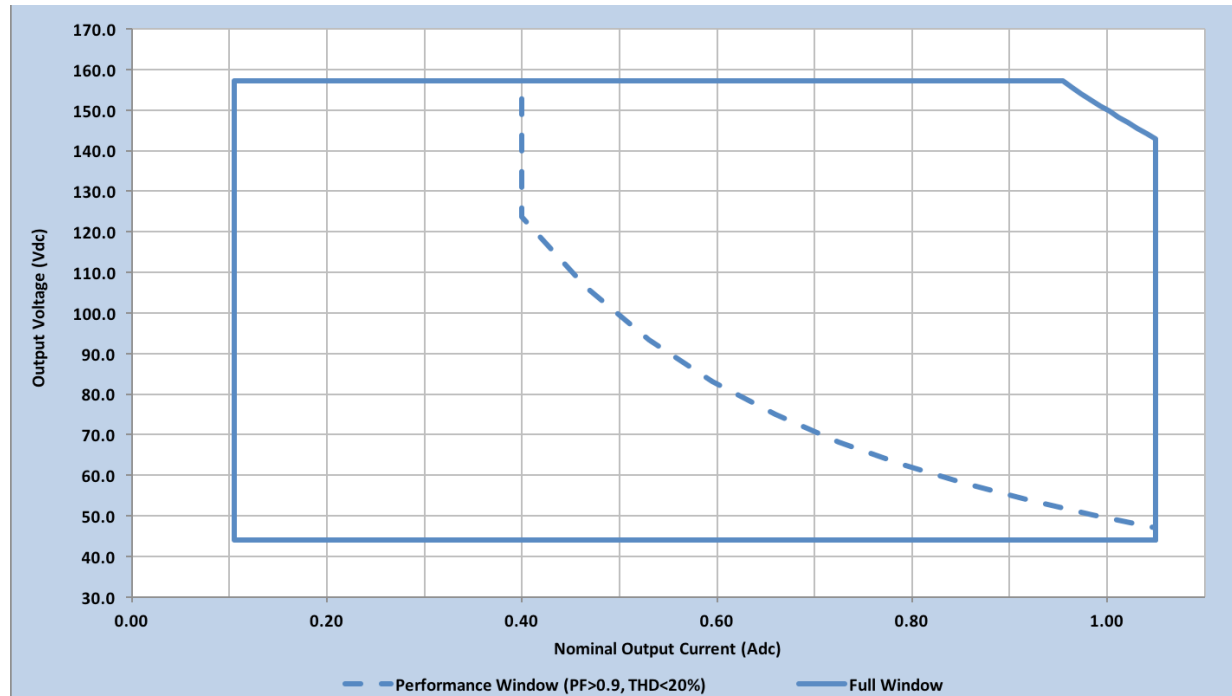
# Xitanium SR 150W 120-277V 1.05A

## Electrical Specifications

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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%.



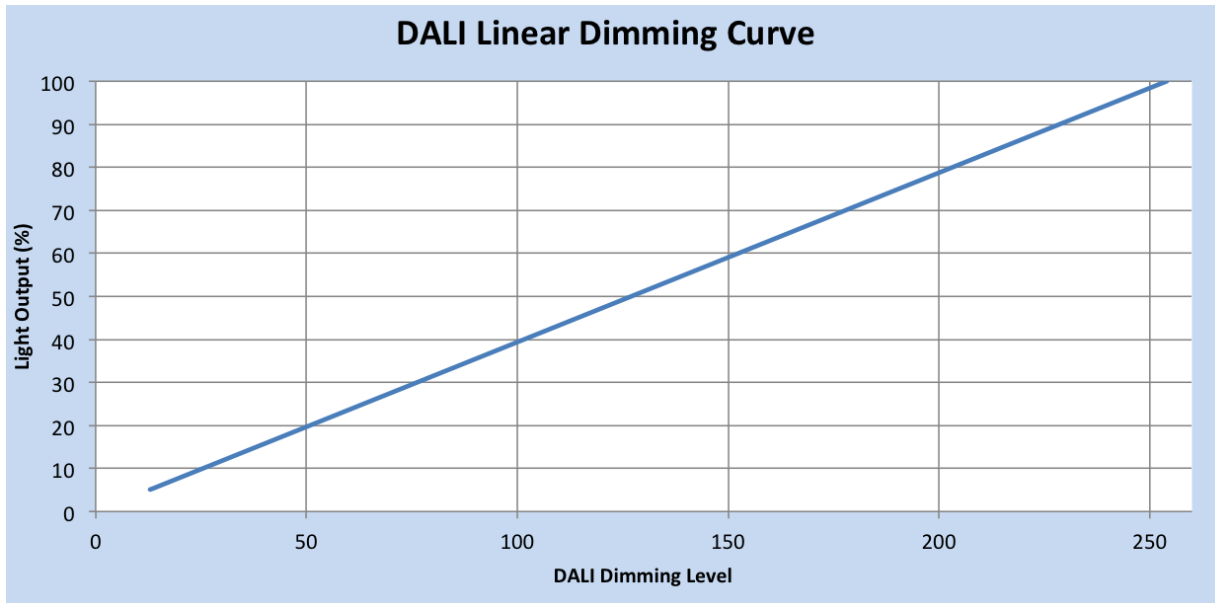
# Xitanium SR 150W 120-277V 1.05A

## Electrical Specifications

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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.

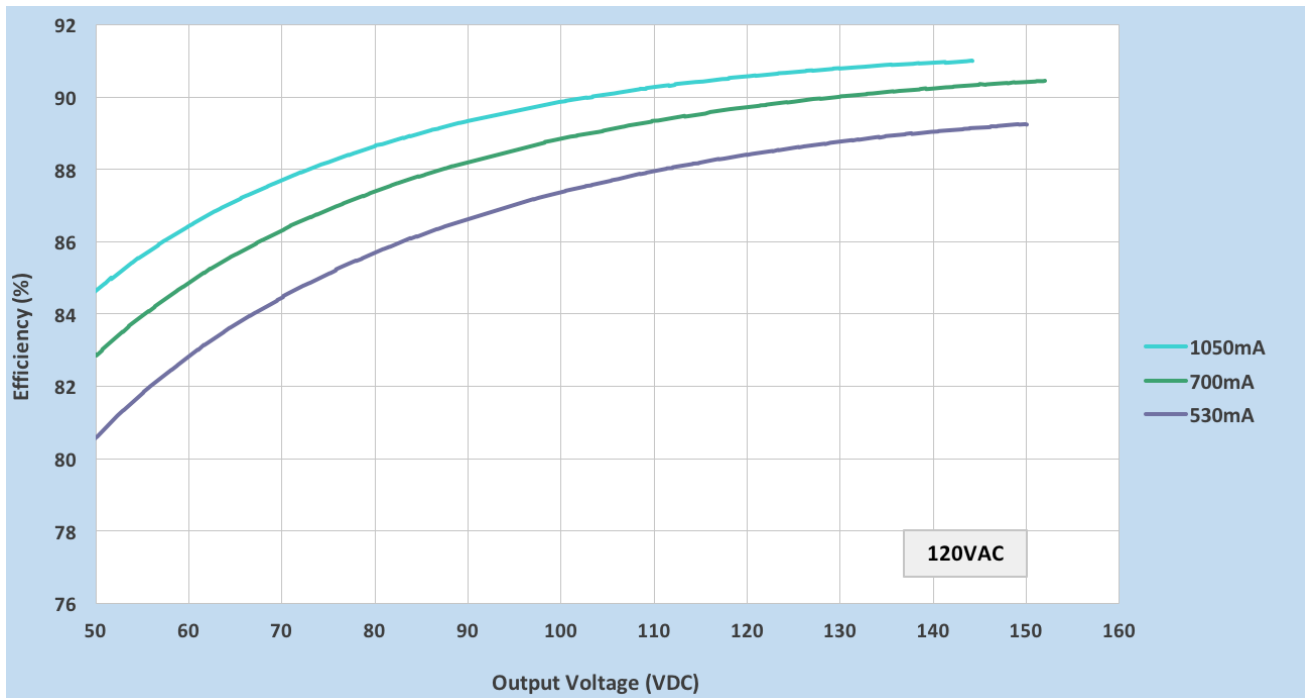


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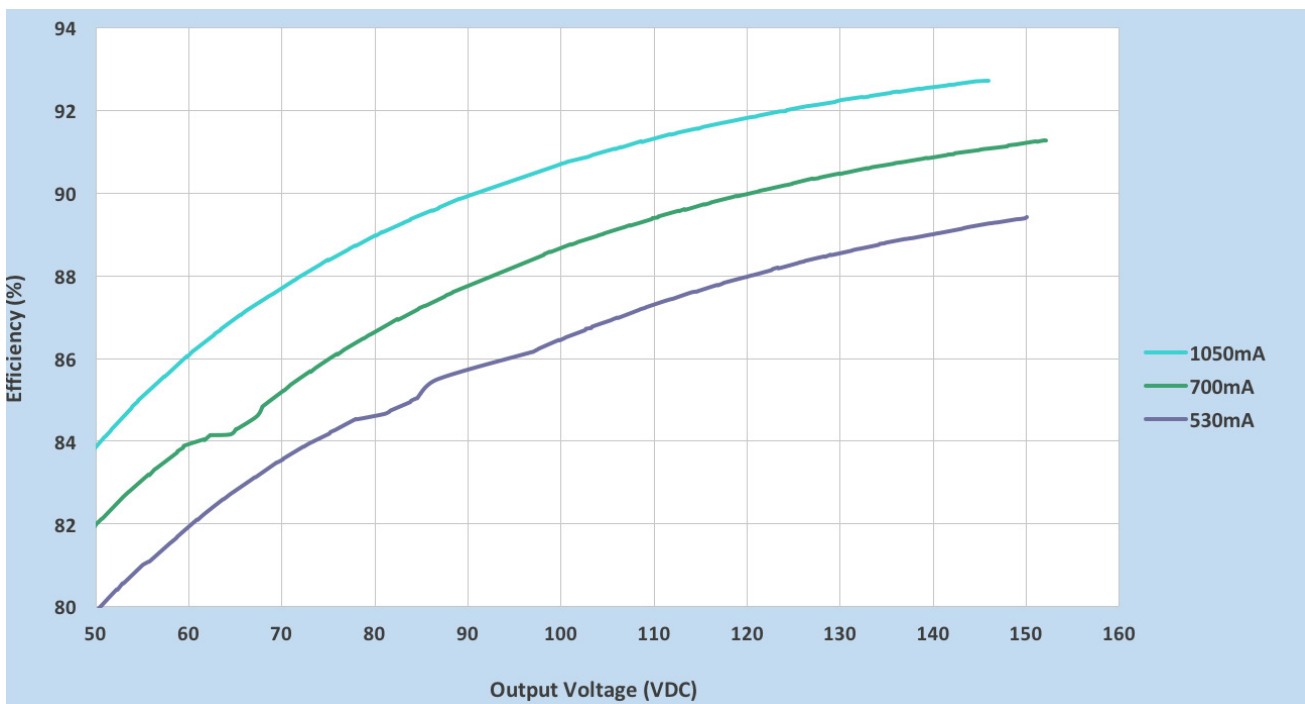
## Performance Characteristics

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

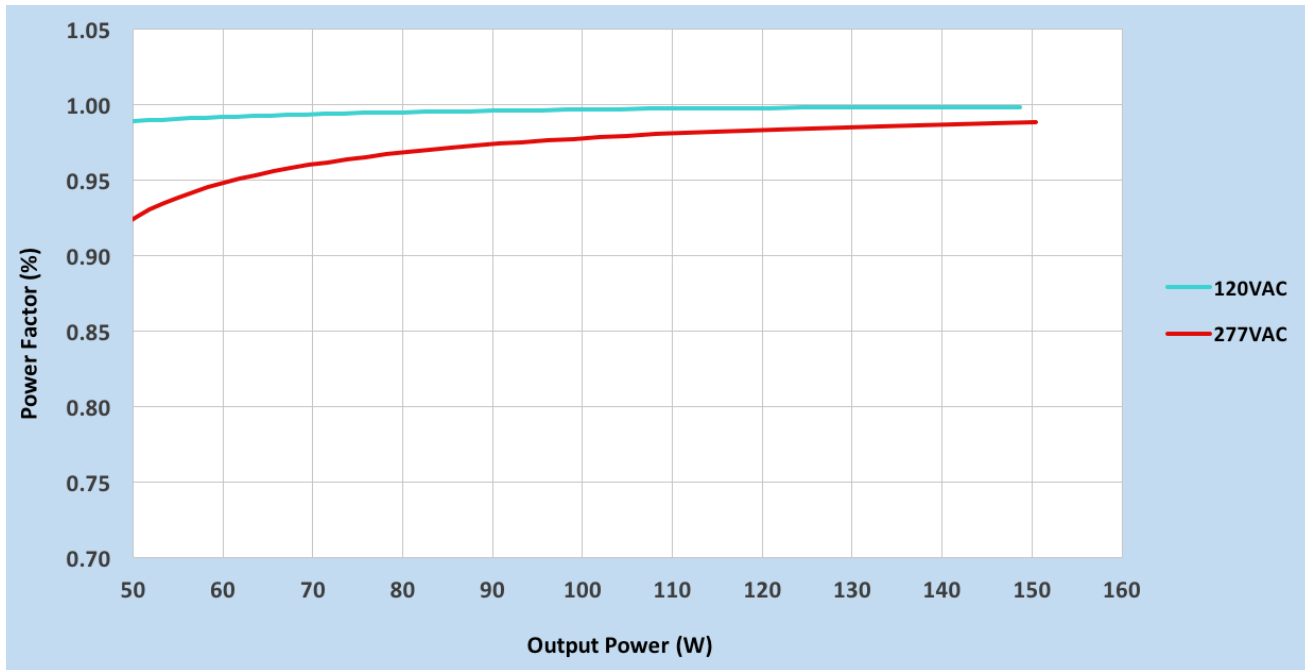


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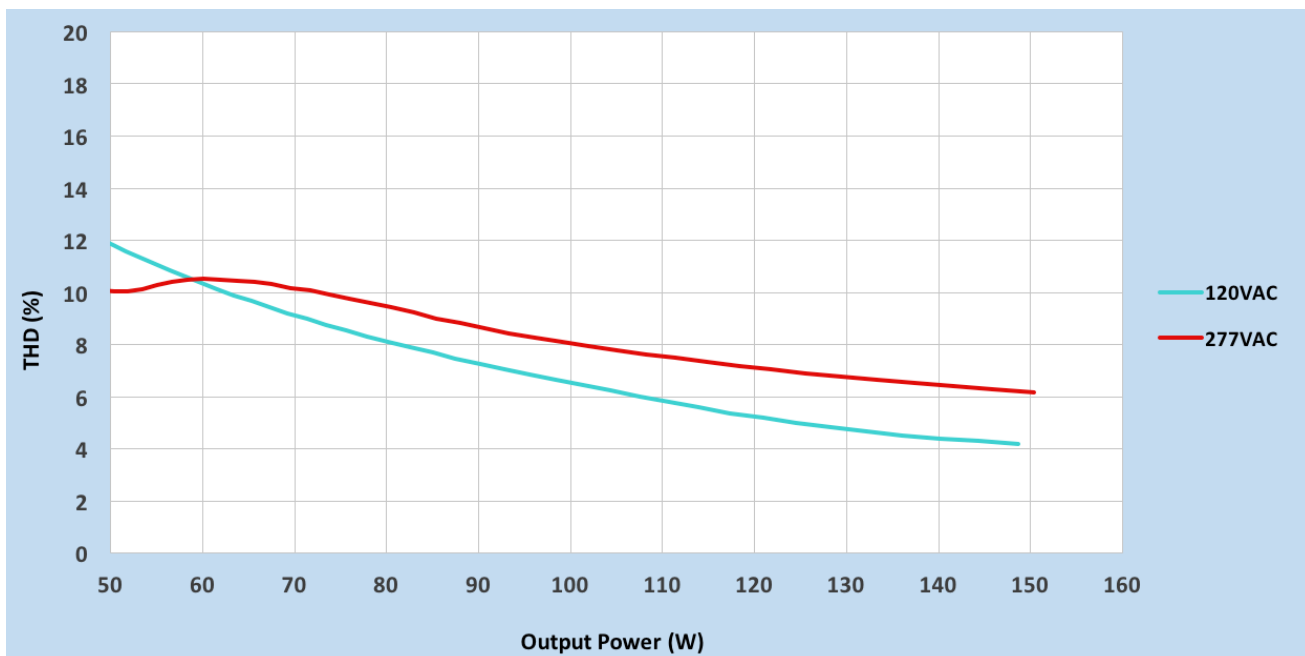
## Performance Characteristics

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.

### Power Factor Vs. Output Power



### Total Harmonic Distortion Vs. Output Power



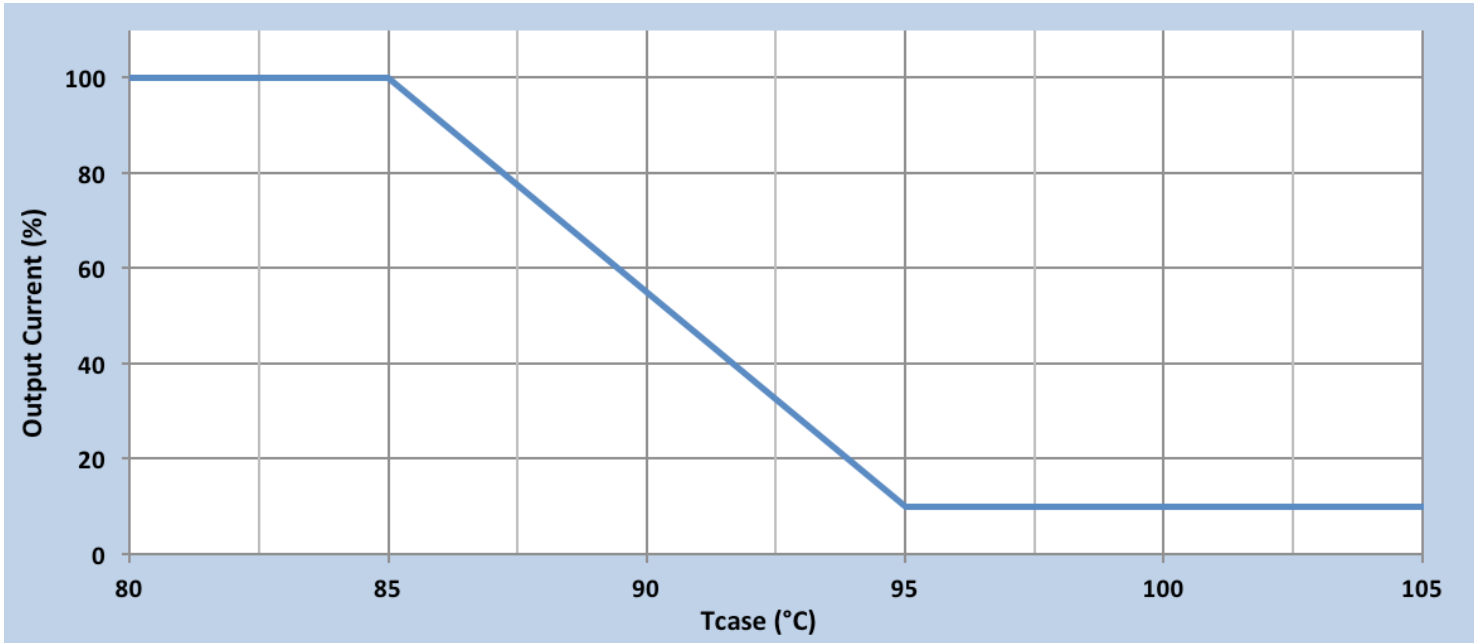


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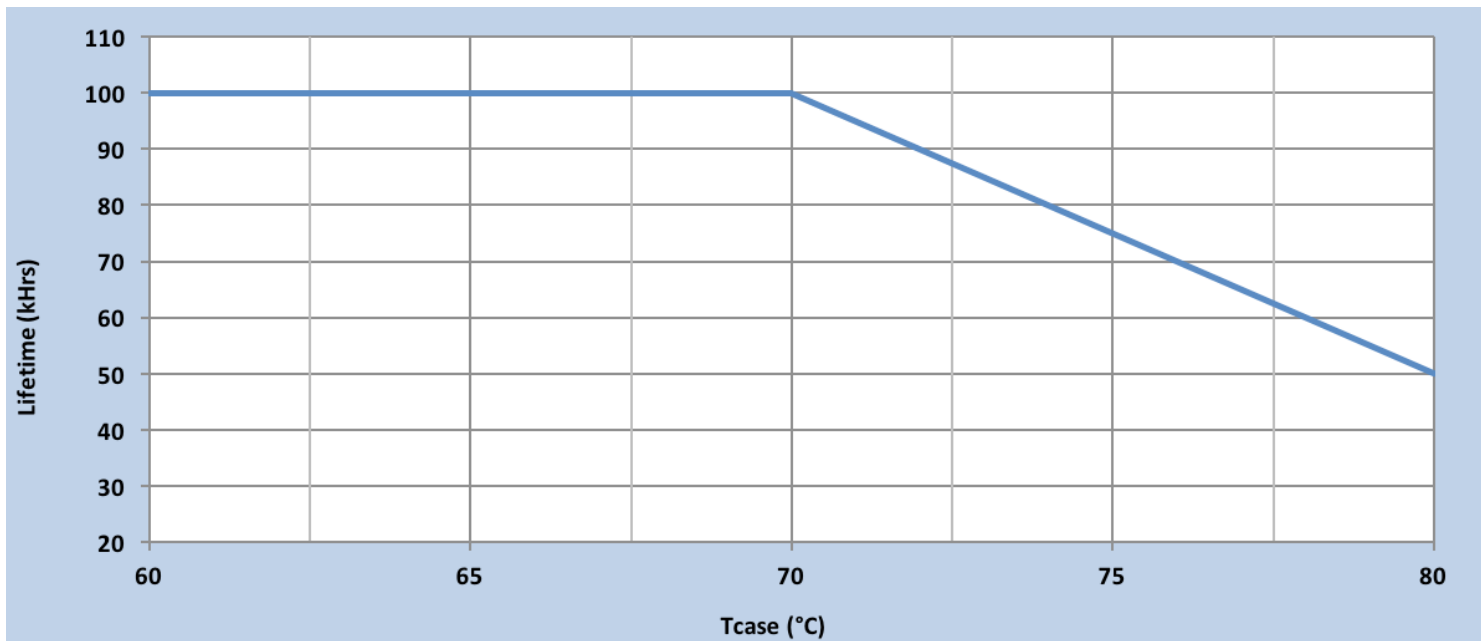
## Electrical Specifications

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### Output Current Vs. Driver Case Temperature

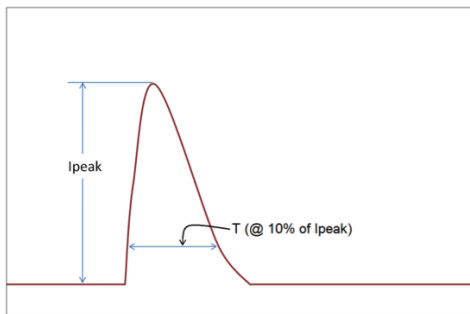


### Driver Lifetime Vs. Driver Case Temperature



# Xitanium SR 150W 120-277V 1.05A

## Inrush Current Info



| $V_{in}$ | $I_{peak}$ | T (@ 10% of $I_{peak}$ ) |
|----------|------------|--------------------------|
| 120 Vac  | 54A        | 280 $\mu$ s              |
| 277 Vac  | 133A       | 270 $\mu$ s              |

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) |
|---|-------------------------|-------------------------------|
| 1.2/50 $\mu$ s Combination Wave (w/t 2 $\Omega$ ) | 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   |
| 0-10V (Class 1 & 2) | 2.5kV   | 2.5kV   | NA                  | 2xU+1kV   |
| Enclosure           | 2xU+1kV | 2xU+1kV | 2xU+1kV             | NA        |

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