PHILIPS
ADVANCE

# LED Driver

## Xitanium SR

150W 120-277V 1.05A SR
XI150C105V157VSF1


RoHS COMPLIANT
Type HL

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

LISTED
E321253

Class P
For Dry and Damp Location

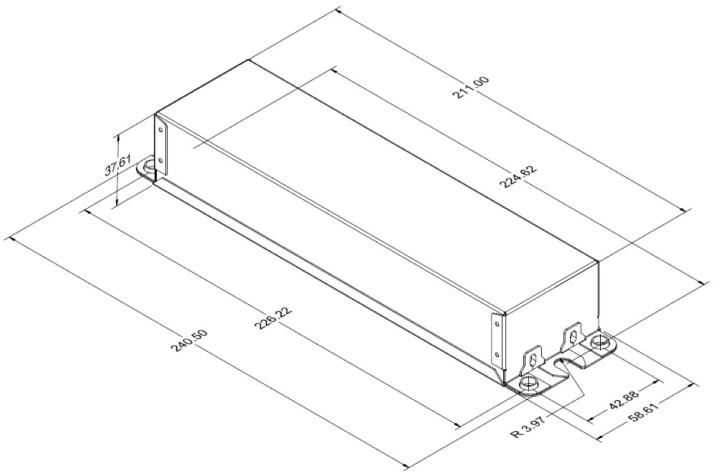
The Philips Advance Xitanium SR LED driver can help reduce complexity and cost of light fixtures used in wireless connected lighting systems. It features a standard digital interface to enable direct connection to SR-certified components. Functionality that ordinarily would require additional auxiliary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

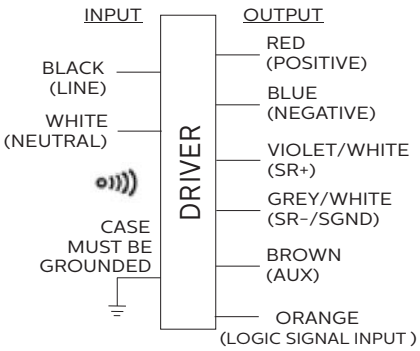
| Input Voltage (Vrms) | Output Power (W) | Output Voltage (V) | Output Current (A) | Efficiency@ Max. Load and 70°C Case | Max. Case Temp. (°C) | Input Current (Arms) | Max. Input Power (W)[1] | Inrush Current (Apk/10%-µs) | THD @ Max. Load | Power Factor @ Max. Load | Surge Protection Common/ Diff (KV) | Weight (Lbs/kgs) | Envir. Protection Rating |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | 150 | 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 including integral power supply
- 24VDC auxiliary power supply for higher power device requirements
- Accurate energy 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
- 2% metering accuracy meets proposed ANSI standard C136.52
- Can be used with standard motion sensors for local control to complement network control

### 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. Iout (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 via SimpleSet or SR using MultiOne, 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. View limited warranty at www.philips.com/warranties for details and restrictions.
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)

| | |
|---|---|
| **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** | Specifications available to SR-certified Partners |
| **SR Power Supply** | 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 |

# Xitanium SR 150W 120-277V 1.05A

## Electrical Specifications

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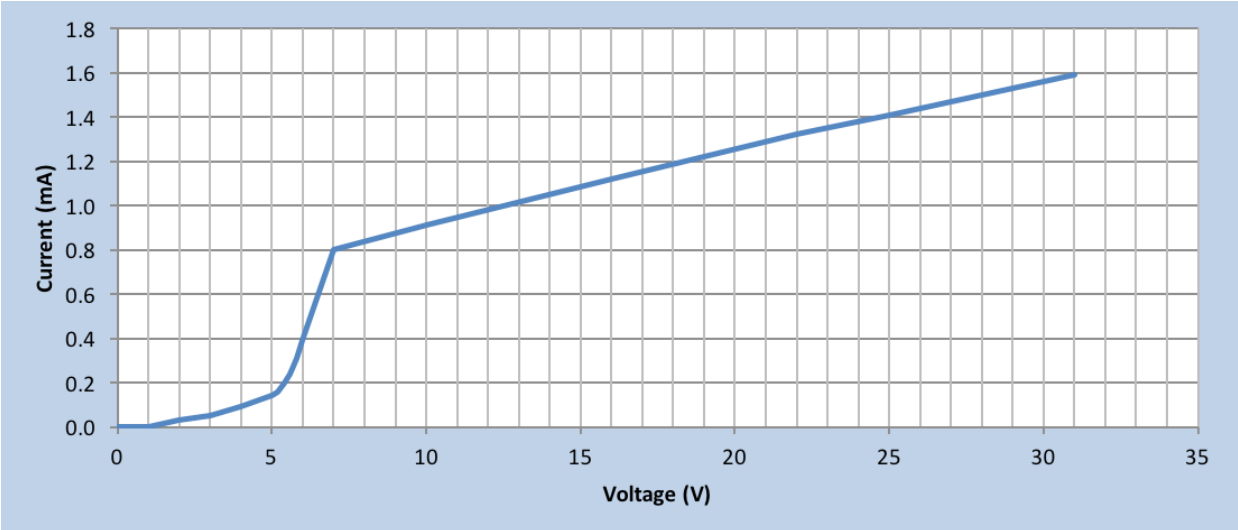
### Logic Signal Input (LSI) Characteristics (Typical)



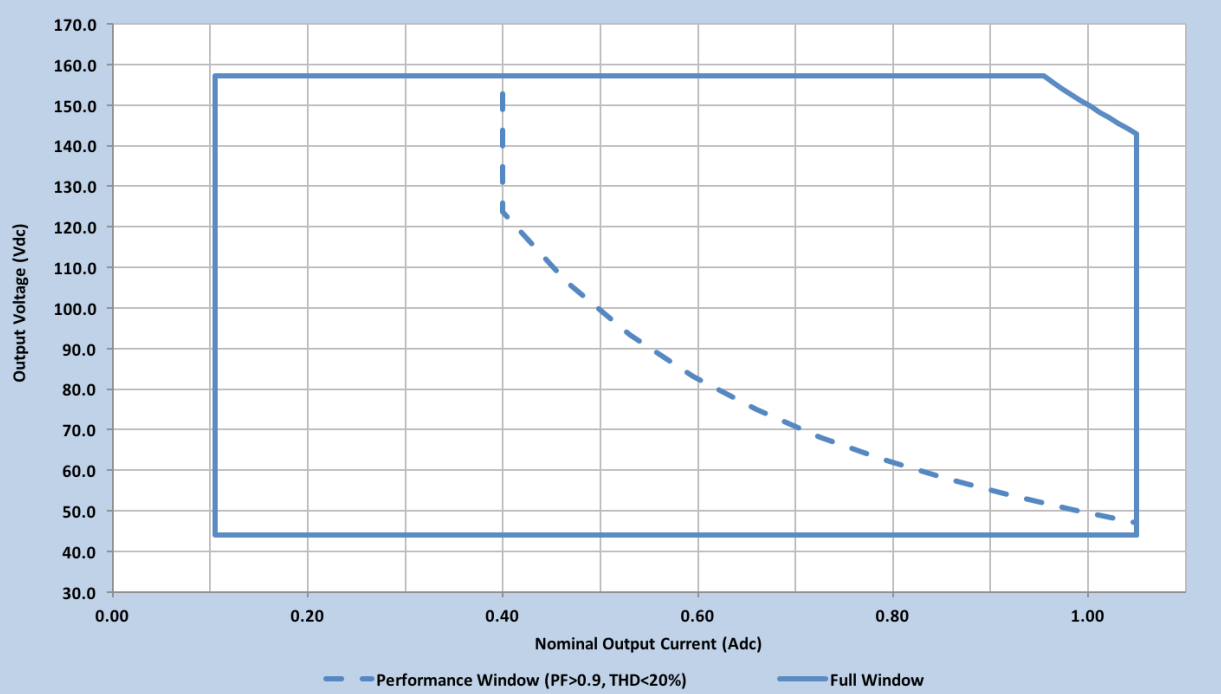
# Xitanium SR 150W 120-277V 1.05A

## Electrical Specifications

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

## 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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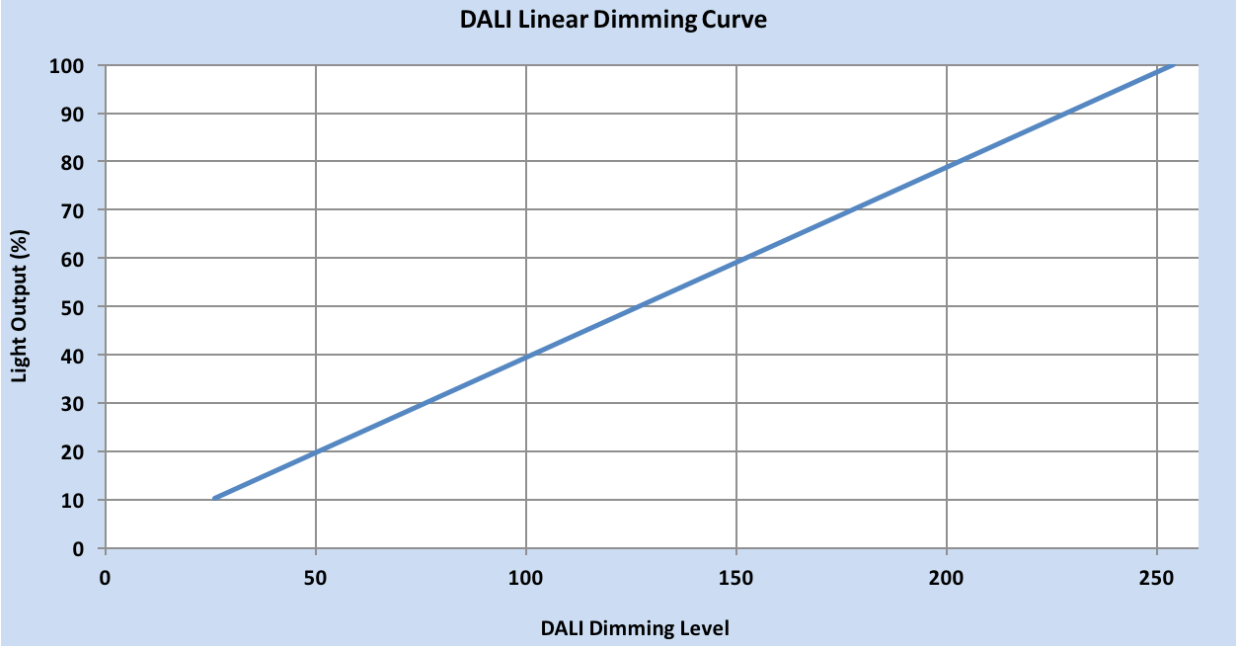
## Dimming Characteristics

Dimming is accomplished through the two-wire SR connection to the sensor. DALI standard IEC62386_207 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.

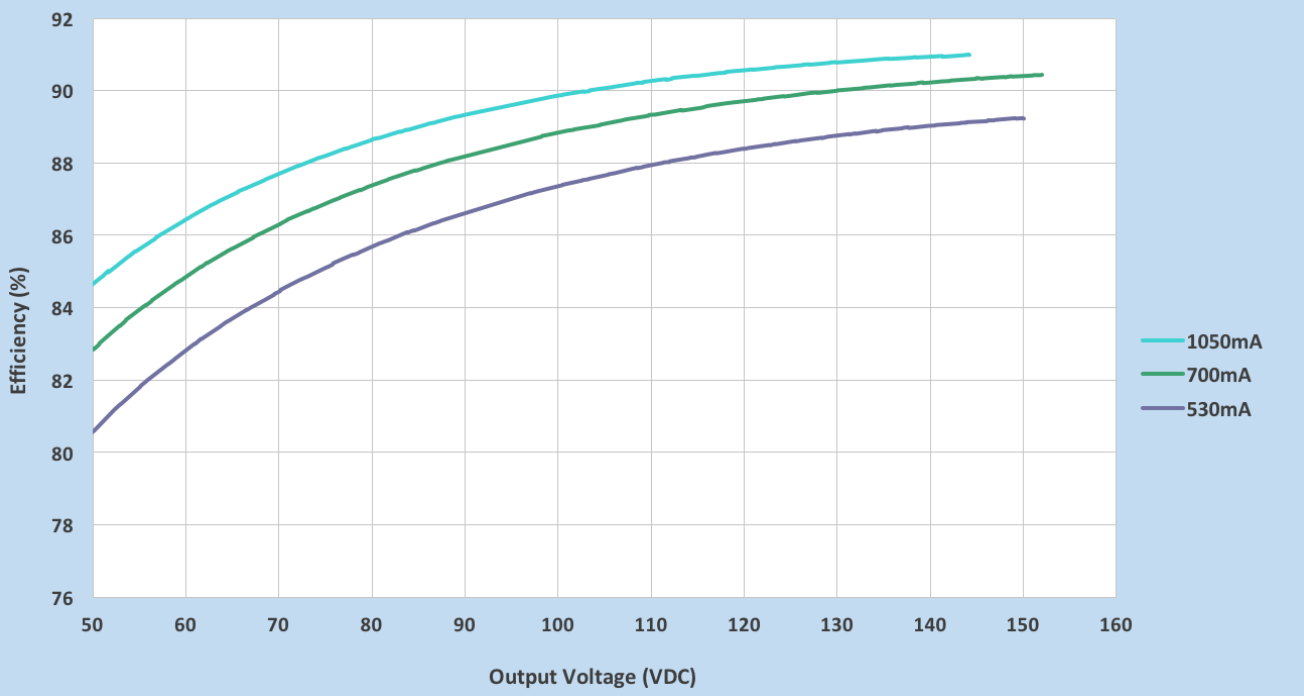


# Xitanium SR 150W 120-277V 1.05A

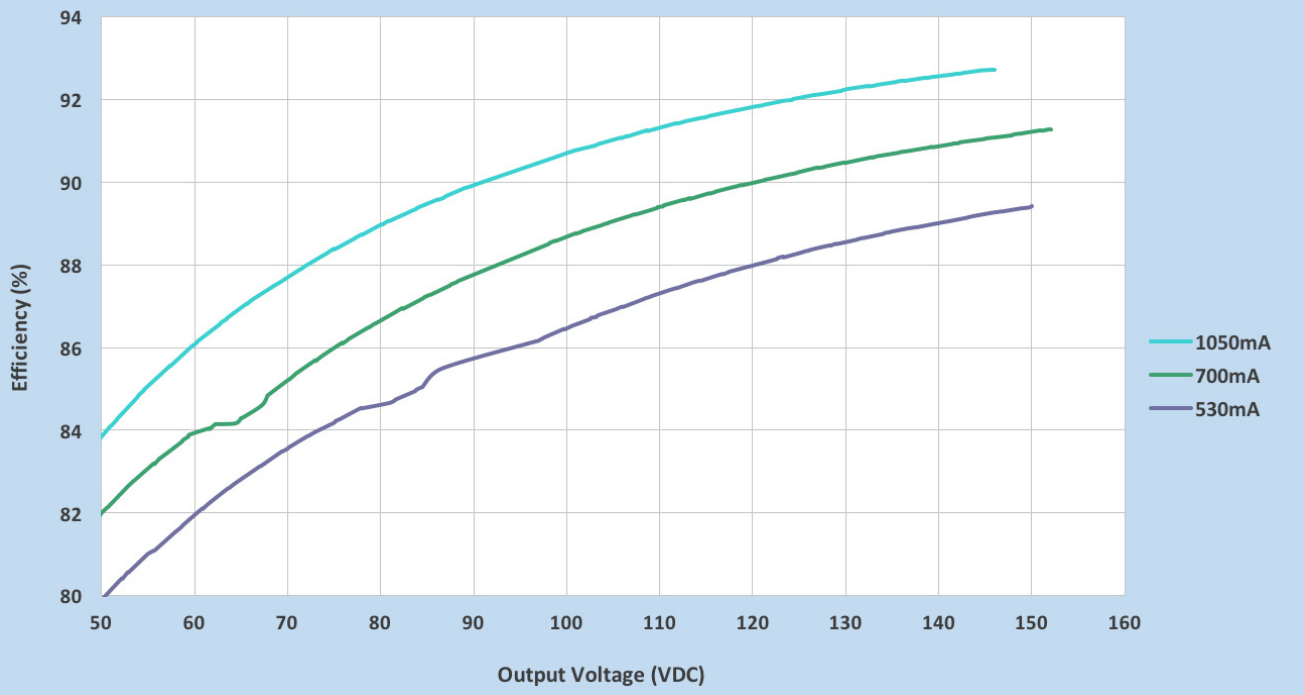
## Performance Characteristics

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. Data below at 70°C Tcase.

### Efficiency Vs. Output Voltage @ 120VAC




### Efficiency Vs. Output Voltage @ 277VAC

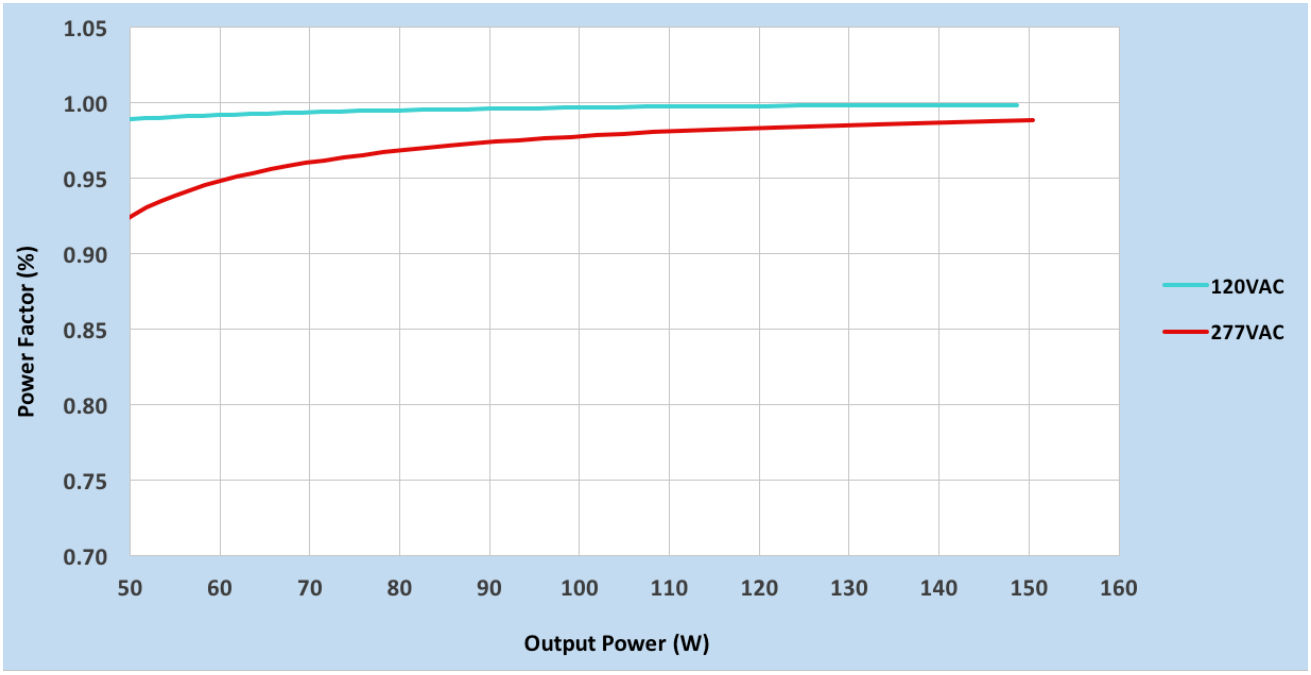


# Xitanium SR 150W 120-277V 1.05A

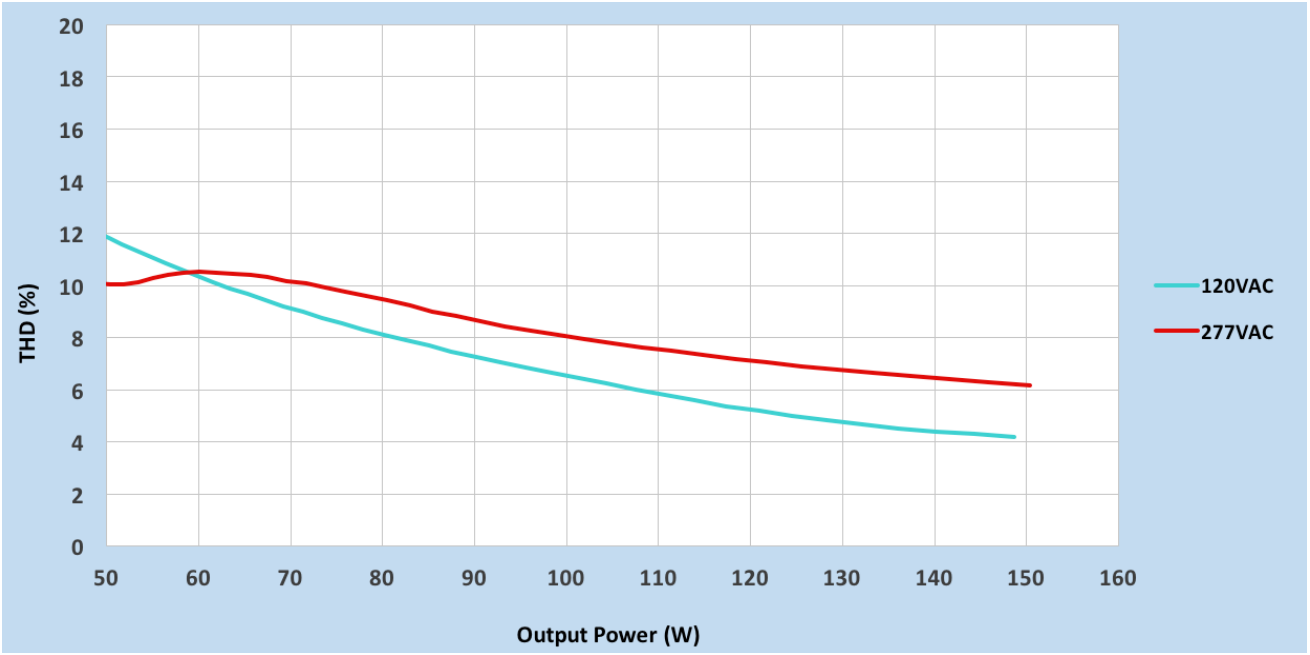
## Performance Characteristics

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. Data below at 70°C Tcase.

### Power Factor Vs. Output Power




### Total Harmonic Distortion Vs. Output Power

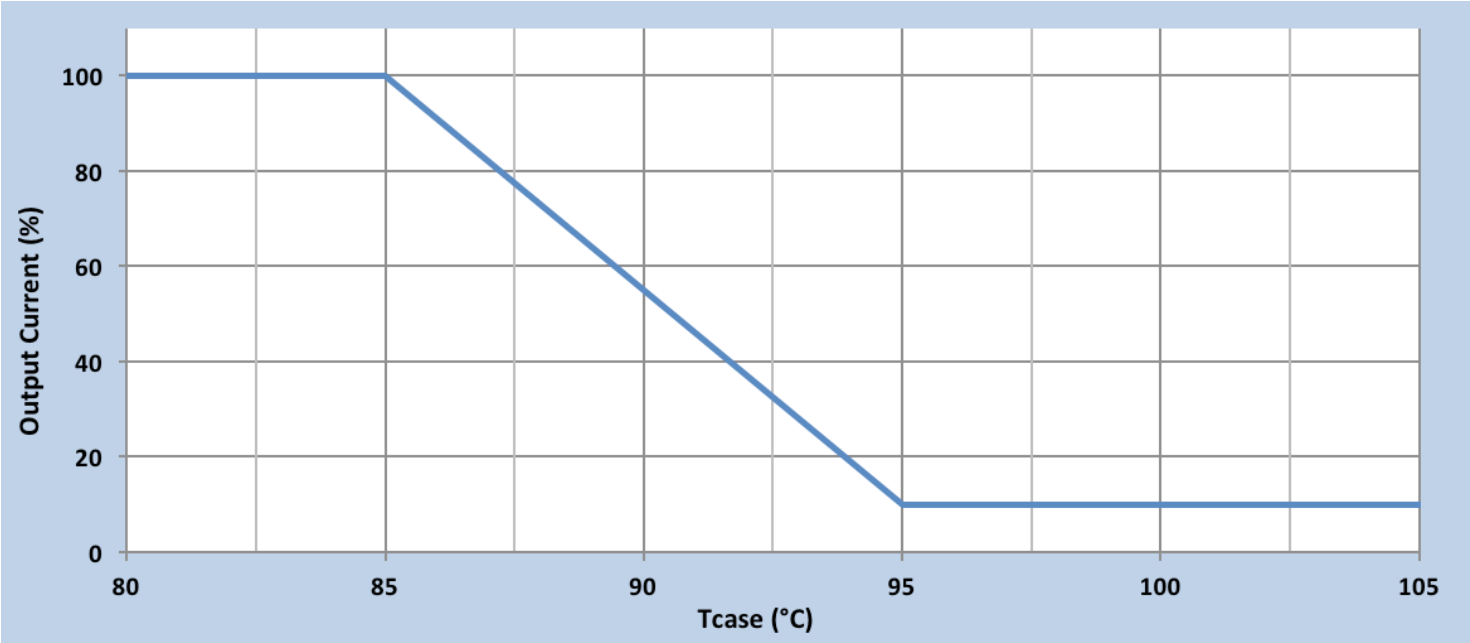


# Xitanium SR 150W 120-277V 1.05A

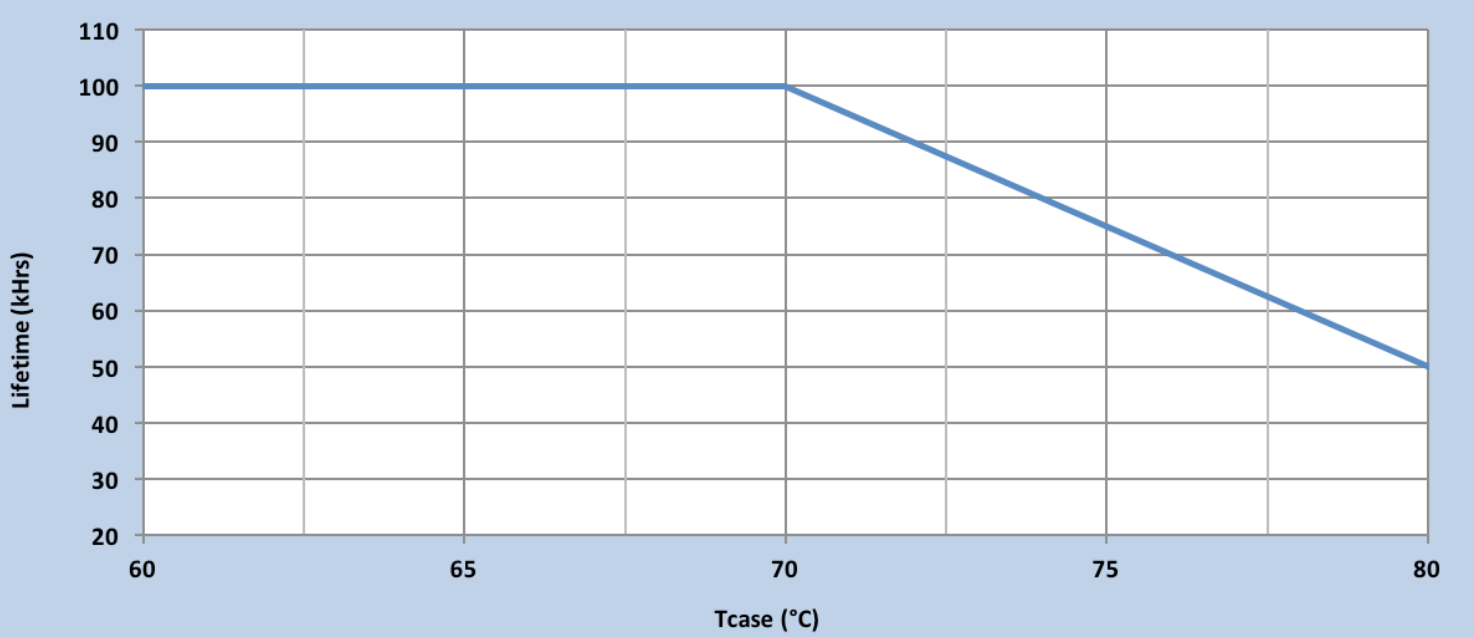
## Electrical Specifications

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

### Output Current Vs. Driver Case Temperature

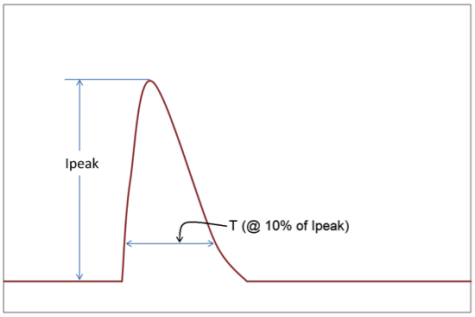



### Driver Lifetime Vs. Driver Case Temperature



# Xitanium SR 150W 120-277V 1.05A

## 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 Leads | Output Leads | SR Leads (SR+, SR-/SGND, AUX, and LSI), Class 2 Only | Enclosure |
|---|---|---|---|---|
| Input Leads | NA | 2xU+1kV | 2xU+1kV | 2xU+1kV |
| Output Leads | 2xU+1kV | NA | 2xU+1kV | 2xU+1kV |
| SR Leads (SR+, SR-/SGND, AUX, and LSI), Class 2 Only | 2xU+1kV | 2xU+1kV | NA | 2xU+1kV |
| Enclosure | 2xU+1kV | 2xU+1kV | 2xU+1kV | NA |

U = Max. input voltage





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