ADVANCE
by signify

# LED Driver

## Xitanium

XI050C150V038CNH1

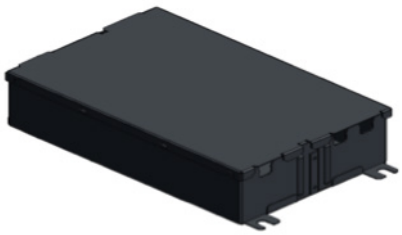
Long-lasting and low maintenance, LED-based light sources are an excellent solution for all lighting applications. For optimal performance, these solutions require reliable drivers matching the long lifetime of the LEDs. **The Advance Xitanium LED Outdoor Driver portfolio** offers a range of products specially designed to operate LED solutions in outdoor applications. These drivers are designed for hard-wired integration into outdoor luminaires even in rugged applications. They operate to specification under wide temperature and electrical ranges to help ensure reliability.

### Specifications

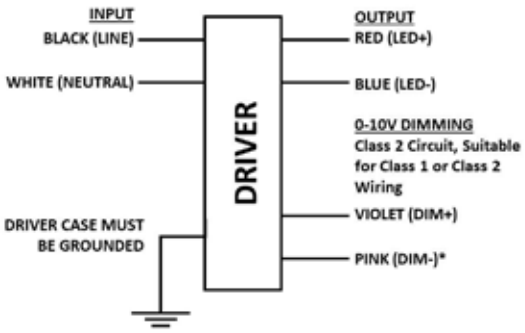
| Input Voltage (Vac) | Output Power (W) | Output Voltage Range (V) | Output Current (A) | Efficiency@ Max Load and 70°C Case | Max Case Temp. (°C) | Input Current (Arms) | Max. Input Power (W) | THD @ Max Load (%) | Power Factor @ Max Load | Surge Protection (Combi-Wave, KV) | Envir. Protection Rating | Driver Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | 50 | 20-36 Class 2 Output | 1.5 | 86.8 | 80°C | 0.53 | 62 | <10% | >0.95 | 4 | UL damp & dry and Type HL | Constant Current |
| 277 | | | | 87.9 | | 0.23 | | <10% | | | | |

### Enclosure

| | In. (mm) |
|---|---|
| Case Length | 5.7 (144.7) |
| Case Width | 3.6 (91.4) |
| Case Height | 1.5 (38.2) |
| Mounting Length | 6 (151.5) |
| Overall Length | 6.32 (160.5) |



### Wiring Diagram




Input lead wires are 18AWG 105C/600V stranded copper with flag terminals per UL1452.

Lead Length outside enclosure: 7" (+2"/-1").

Dimming and Output lead wires are 18AWG 105C/600V solid copper per UL1452.

Lead Length outside enclosure: 12" (+2"/-1").

Driver case must be grounded.

| Dimming | Dimming Range | Minimum Output Current (A) | Other Comments |
|---|---|---|---|
| 0-10V Analog | 10% ~ 100% | 0.15 | Dimming source current: 150µA (±3%) |

### Warning

- Install in accordance with national and local electrical codes.
- The field-wiring leads or push-in terminals shall be enclosed.

RoHS COMPLIANT

# Xitanium XI050C150V038CNH1

## 50W 120–277V 1.5A 0–10V

### Features

- UL Class 2 output
- 50,000+ hour lifetime[1]
- Isolated 0-10V dimming

### Benefits

- Flexibility and ease of design for Class 2 luminaire designs
- Enables long life luminaire designs
- Helps maximize energy savings and allows application-specific light levels

### Application

- Roadway
- Parking garages
- Wallpacks

### Electrical Specifications

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

### Product Data

| | |
|---|---|
| **Order Information** | |
| **Full Product Code** | XI050C150V038CNH1M (Mid-Pack, 10pcs/Box) |
| **Line Frequency** | 50/60Hz |
| **Min. Mains Voltage Operational** | 108Vac |
| **Max. Mains Voltage Operational** | 305Vac |
| **Output Information** | |
| **Maximum Open Circuit Voltage** | 53Vdc |
| **Output Current Ripple (ripple = peak to average / average)** | 15% max @ max Iout<br>Low frequency (≤120 Hz) content <5% |
| **Output Current Tolerance at maximum output current** | <5% |
| **Protections** | Short Circuit, Open Circuit Protection for LED + and LED – and Temperature Foldback |
| **Features** | |
| **0-10V Dimming** | 150µA source current from driver. See dim curve for detail. |
| **Environment & Approbation** | |
| **Operating Ambient Temp. Range** | -40°C to +55°C |
| **Max Case Temperature (Tcase)** | 80°C |
| **Agency Approbations** | UL8750, UL1310, UL935, cUL |
| **Electromagnetic Compliance** | FCC Title 47 Part 15 Class A |
| **Audible Noise** | <24dB Class A |
| **Weight** | 1.94 Lbs/0.88 kgs |

1. Advance Xitanium LED Drivers are manufactured to engineering standards correlating to a designed and average life expectancy of 50,000 hours of operation at maximum rated case temperature. Minimum 90% survivals based on MTBF modeling.

## Electrical Specifications

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

## 0-10V Dimming Curve

Dimming source current from the driver: 150µA (@ 0<Vdim<8V)

Minimum Dim Level: 10% of Iout minimum 150mA

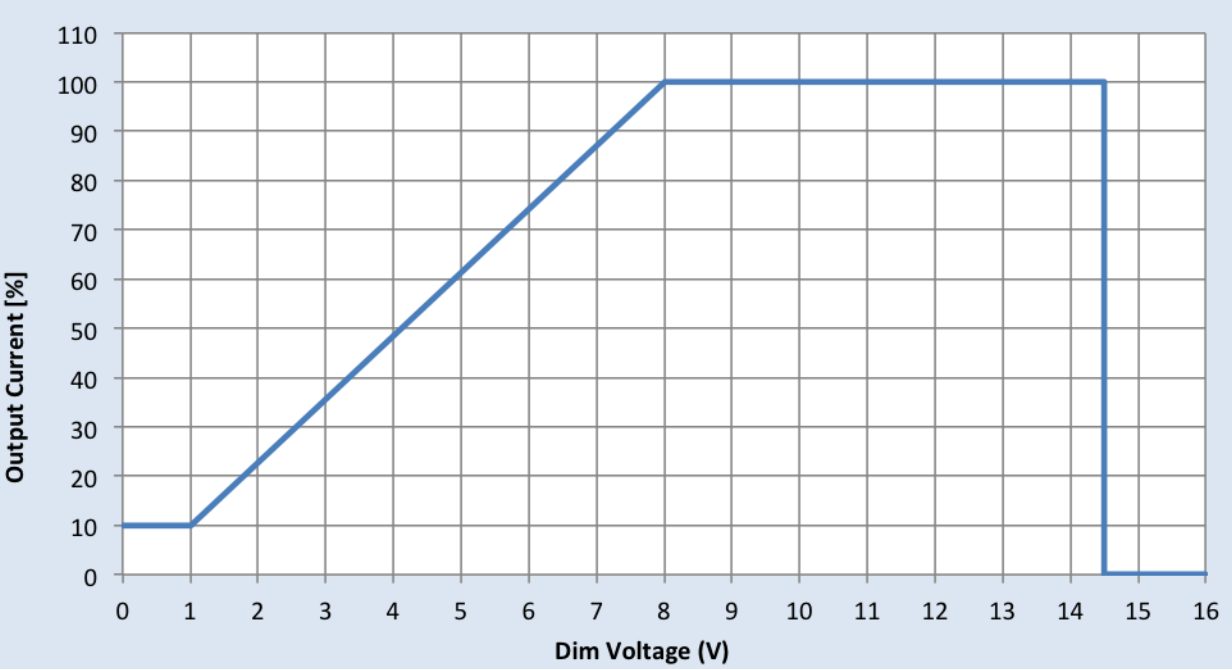
Vdim guaranteed not to shutdown the driver: ≤12V

Vdim for shutdown: ≥14.5V

The dimming lead leakage current is 0.01mA. The maximum number of drivers that can be connected in parallel to one dimming control circuit is based on this dimming lead leakage current and the calculation is described in the corresponding Design-in Guide.

## Approved Dimmer List

| Manufacturer | Manufacturer Part Number |
|---|---|
| Lutron | Visit www.lutron.com/advance for a list of dimmers (Mark VII) that will work with this driver. |
| Leviton | IllumaTech IP7 series |
| Advance | Sunrise - SR1200ZTUNV |



### Electrical Specifications

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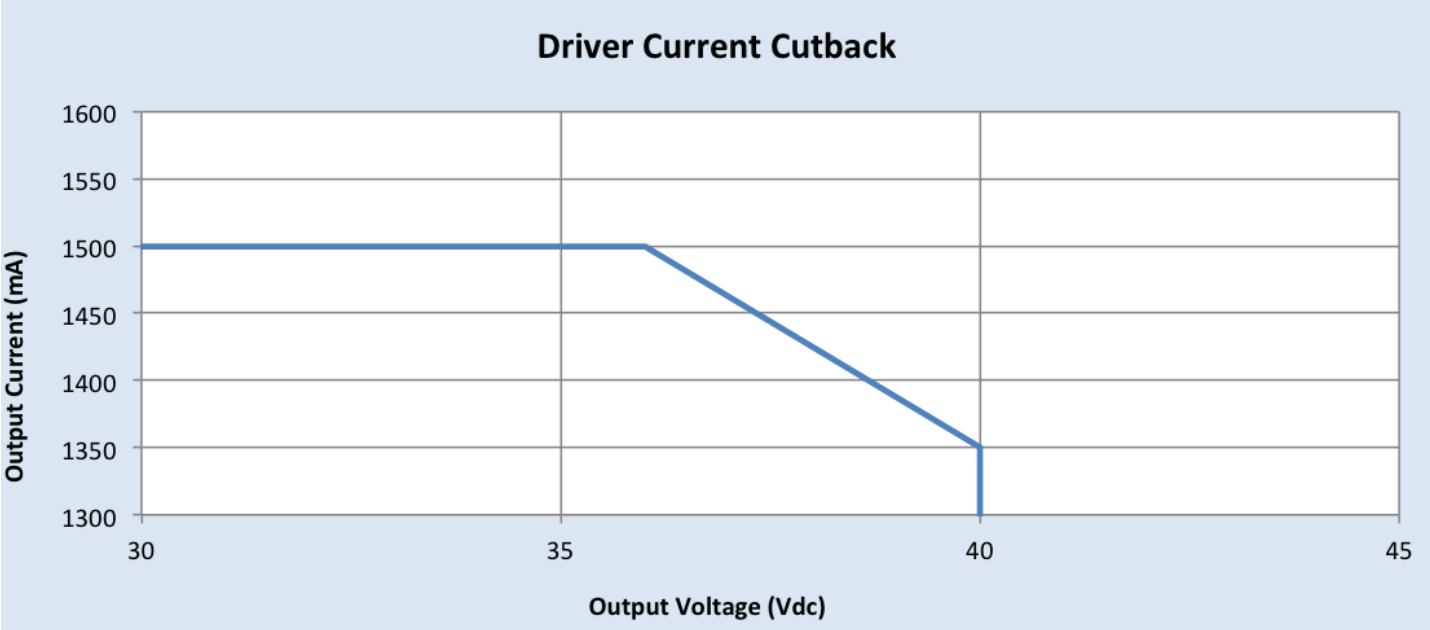
### Driver Current Cutback

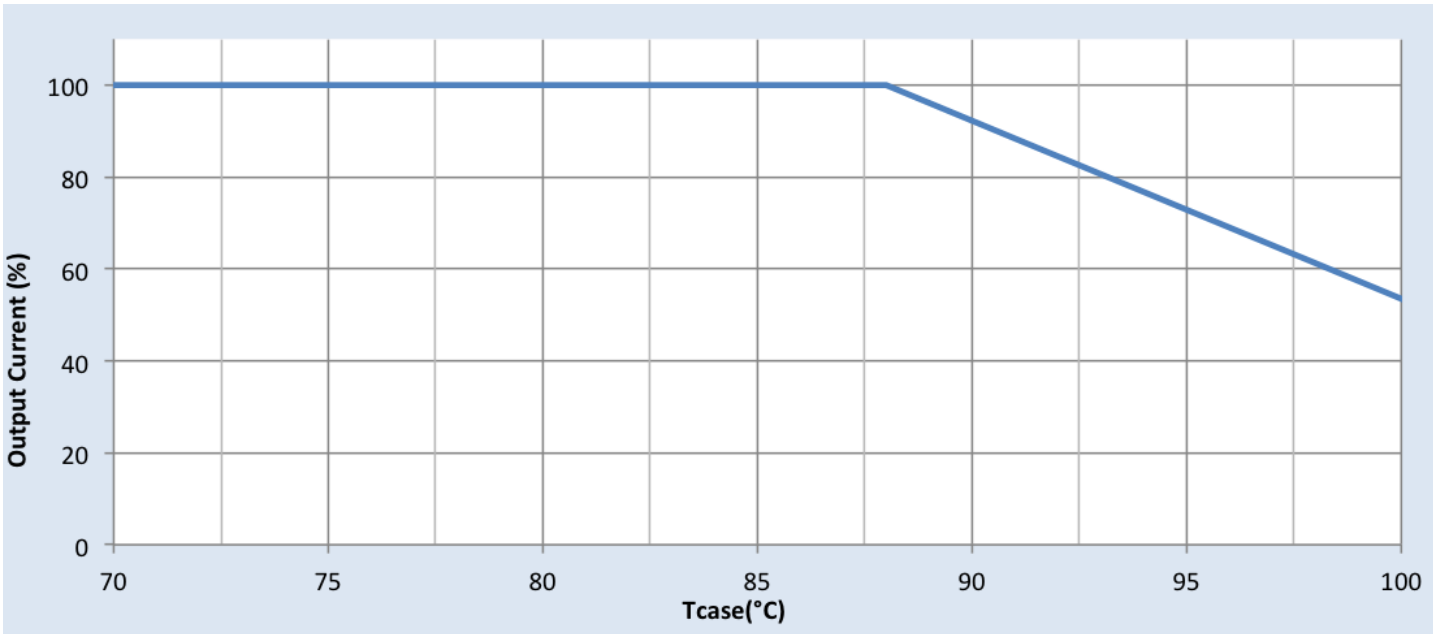
The Driver Current Cutback feature provides for an increased output voltage with a reduced output current during abnormal LED operation, such as cold weather starting.



## Electrical Specifications

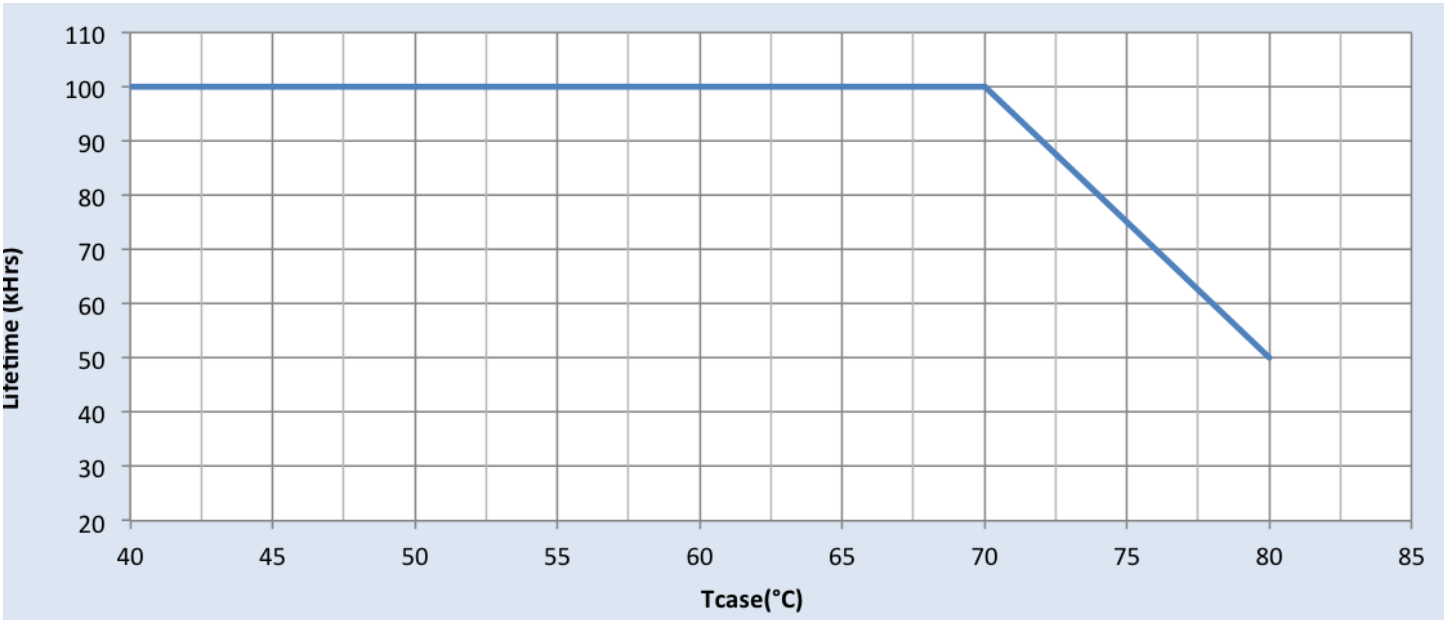
All the specifications are typical and at 25°C Tcase unless specified otherwise.

### Output Current Vs. Driver Case Temperature




Note: There is ±5°C tolerance on the driver case temperature.

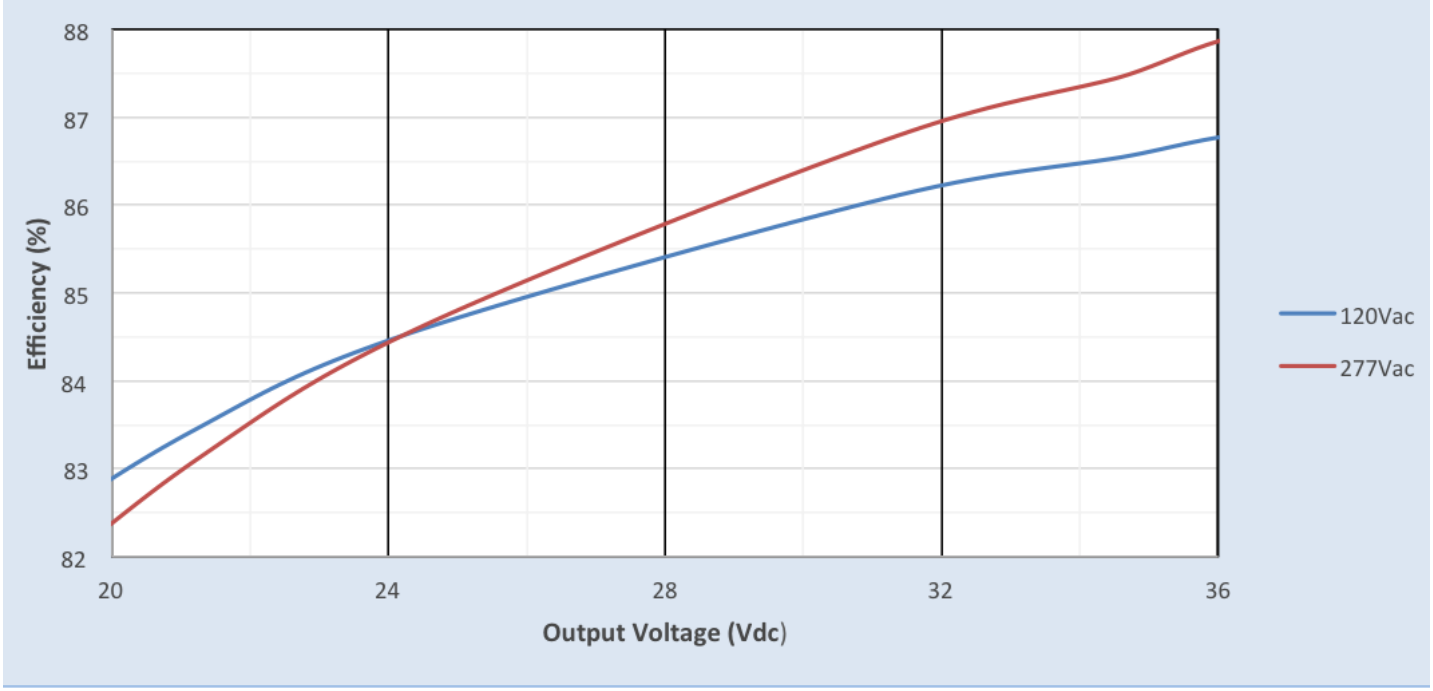
### Driver Lifetime Vs. Driver Case Temperature



## 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.

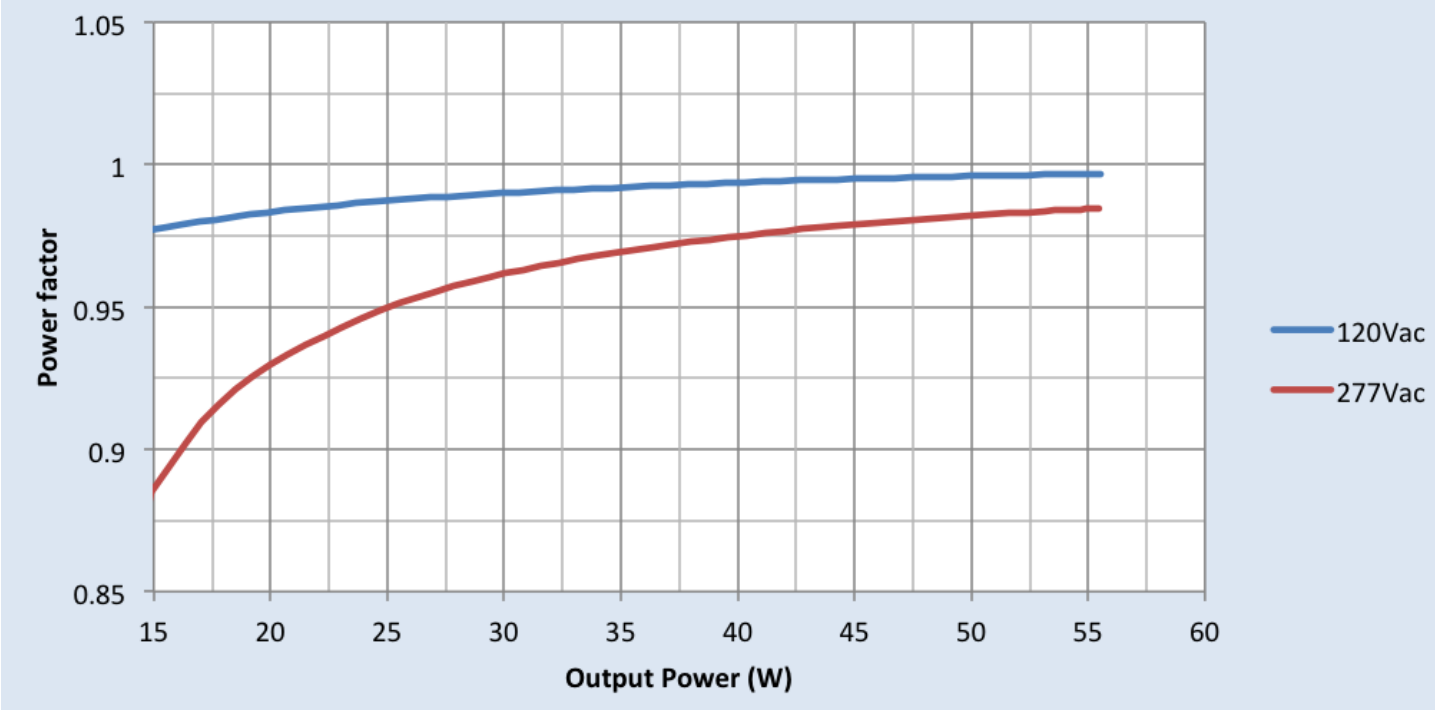
### Efficiency Vs. Output Voltage at 120Vac



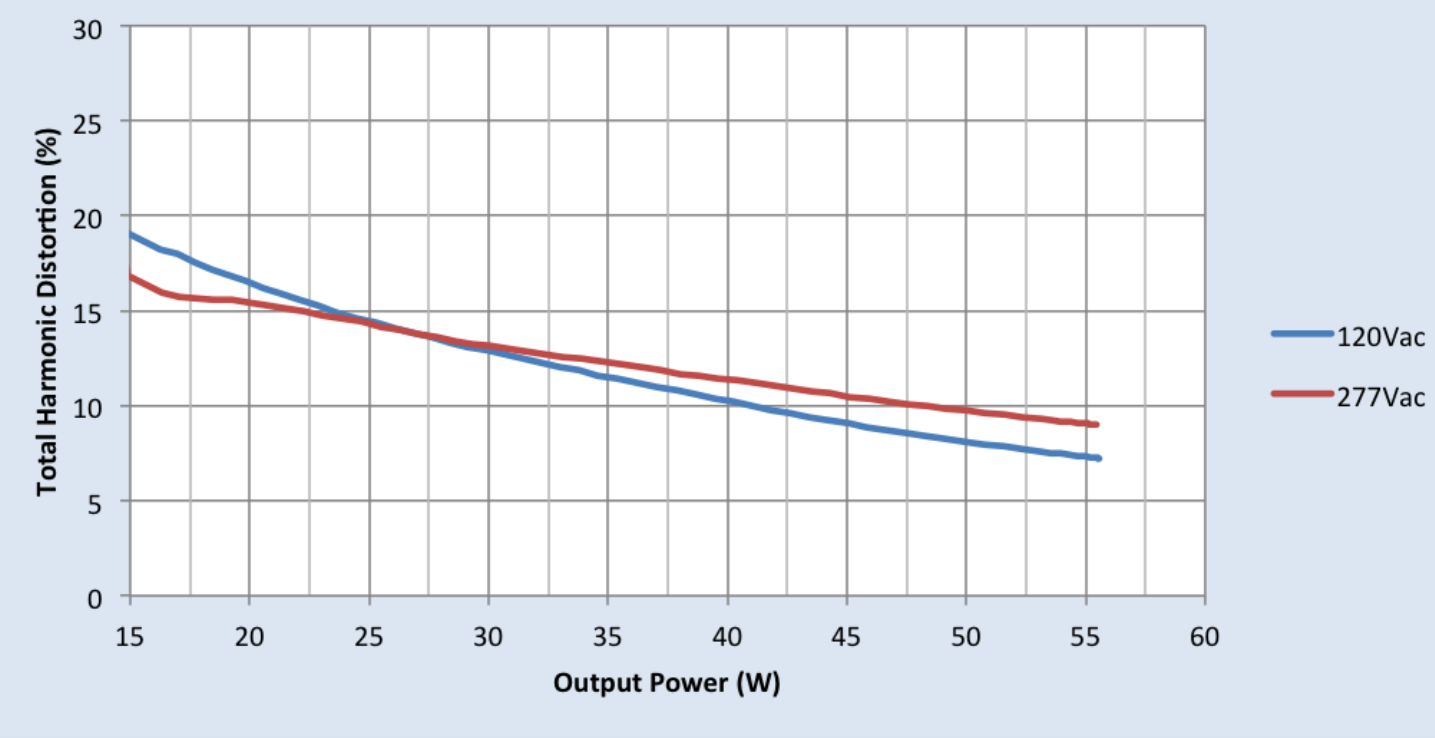
## Performance Characteristics

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



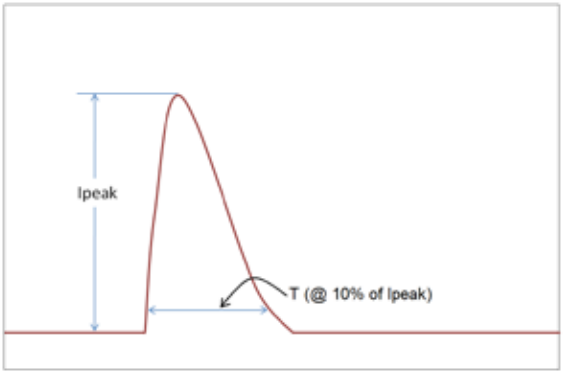

### Total Harmonic Distortion (THD) Vs. Output Power



# Xitanium XI050C150V038CNH1

## 50W 120–277V 1.5A 0–10V

### Inrush Current Info




| Vin | Ipeak | T (@ 10% of Ipeak) |
|---|---|---|
| 120 Vrms | 25A | 103µS |
| 277 Vrms | 83A | 128µS |

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) | 4kV | 4kV |

### Isolation

| Isolation | Input | Output | 0-10V (Class 2) | Enclosure |
|---|---|---|---|---|
| Input | NA | 2xU+1kV | 2.5kV | 2xU+1kV |
| Output | 2xU+1kV | NA | 2.5kV | 500V |
| 0-10V (Class 2) | 2.5kV | 2.5kV | NA | 500V |
| Enclosure | 2xU+1kV | 500V | 500V | NA |

U = Max input voltage

### UL Conditions of Acceptability

Please contact your representative for a copy of the latest UL Conditions of Acceptability (COA).





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