



The Advance Xitanium range of downlight LED drivers is designed to provide OEMs with ultimate flexibility. These models are compatible with standard 0-10V dimming systems to deliver reliably smooth dimming performance down to a minimum of 1%. The drivers' wide operating windows, compact size and simple current adjustability allow luminaire manufacturers to easily design downlight fixtures with desired lumen levels to suit the application.

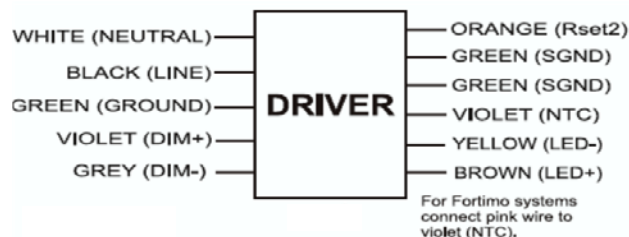
### Specifications

| Input Voltage (Vac) | Output Power (W) | Output Voltage (V) | Output Current (A) | Efficiency@ Max Load and 75°C Case | Max Case Temp. (°C)  | Input Current (A) | Max. Input Power (W) | THD @ Max Load (%) | Power Factor @ Max Load | Surge Protection (Combi-Wave, KV) | Envir. Protection Rating |
|---------------------|------------------|--------------------|--------------------|------------------------------------|----------------------|-------------------|----------------------|--------------------|-------------------------|-----------------------------------|--------------------------|
| 120                 | 13               | 27 - 54            | 0.1 - 0.36         | 81                                 | Life-80°C<br>UL-90°C | 0.14              | 16.3                 | <10%               | >0.95                   | 2.5                               | UL damp & dry            |
| 277                 |                  |                    |                    | 82                                 |                      | 0.06              |                      | <15%               |                         |                                   |                          |

### Enclosure

|                 | In. (mm)      |
|-----------------|---------------|
| Case Length     | 4.21 (107.00) |
| Case Width      | 2.38 (60.4)   |
| Case Height     | 0.98 (25.00)  |
| Mounting Length | 4.57 (116.00) |
| Overall Length  | 5 (127.00)    |

### Wiring Diagram

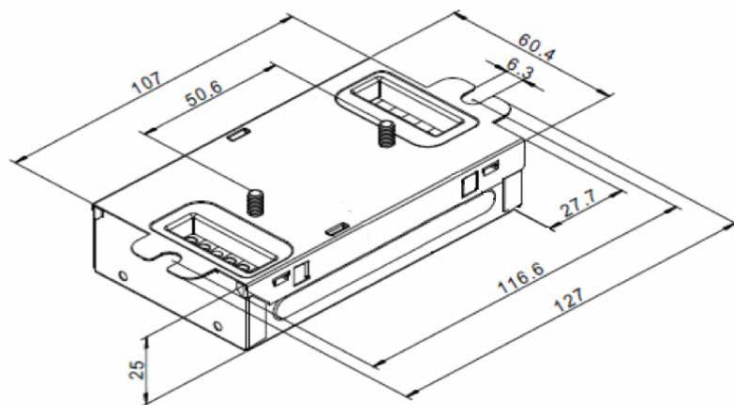


#### WARNING:

Install in accordance with national and local electrical codes. Use 18AWG solid or tinned stranded copper wire.

#### GROUNDING:

Driver case must be grounded.



| Dimming                                | Dimming Range (with specified dimmers)         | Minimum Output Current (A) | Other Comments                 |
|--|--|----------------------------|--------------------------------|
| 0-10V Analog Class 1 or Class 2 Wiring | 1% ~ 100% (for output current range 0.1-0.36A) | 0.001                      | Dimming source current: 150 µA |



# Xitanium XI013C036V054DNM2 (bottom entry)

13W 0.36A 54V 0-10V INT (1% log dim)

## Features

- 50,000+ hour lifetime<sup>1</sup>
- Large operating window
- 1% minimum dim level
- Compatible with Fortimo downlight modules

## Benefits

- SmartMate style housing enables easy design-in with excellent thermal performance
- Enables fixture designs with comprehensive application coverage for various loads and lumen levels
- A single source system offer optimized for performance

## Application

- Indoor downlight applications
- Wall sconces and ceiling surface luminaires
- Offices (corridors, conference rooms, lobby areas)
- Retail, hospitality

## Electrical Specifications

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

## Product Data

| Order Information  |   |
|--|---|
| Full Product Code  | XI013C036V054DNM2M [bottom entry] (Mid-Pack, 16pcs/Box), 12NC: 929000780813                 |
| Line Frequency   | 50/60Hz   |
| Min. Mains Voltage Operational                             | 108 Vac   |
| Max. Mains Voltage Operational                             | 305 Vac   |
| Output Information   |   |
| Maximum Open Circuit Voltage                               | < 60Vdc, Class 2 output   |
| Output Current Ripple (ripple = peak to average / average) | 15% max @ max lout<br>4% max @ Visible for stroboscopic frequency range 60Hz-3KHz           |
| Output Current Tolerance (in the performance window)       | <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.                                 |
| AOC (Adjustable Output Current)                            | 0.1A-0.36A via External Resistor (default set to 0.36A, refer to graph)                     |
| Additional Features  | Logarithmic dimming   |
| Environment & Approbation                                  |   |
| Operating Ambient Temp. Range                              | -20°C to +50°C  |
| Max Case Temperature (Tcase)                               | 80°C  |
| Agency Approbations  | UL8750, UL991, CSA250.13-14, C22.2 No. 0.8-12, Class P (UL, CSA, ETL), UL2043 Plenum Rating |
| Electromagnetic Compliance                                 | FCC Title 47 Part 15 Class A  |
| Audible Noise  | <24dB Class A   |
| Weight   | 0.44 Lbs / 0.2 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.

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## 0-10V Dimming Curve

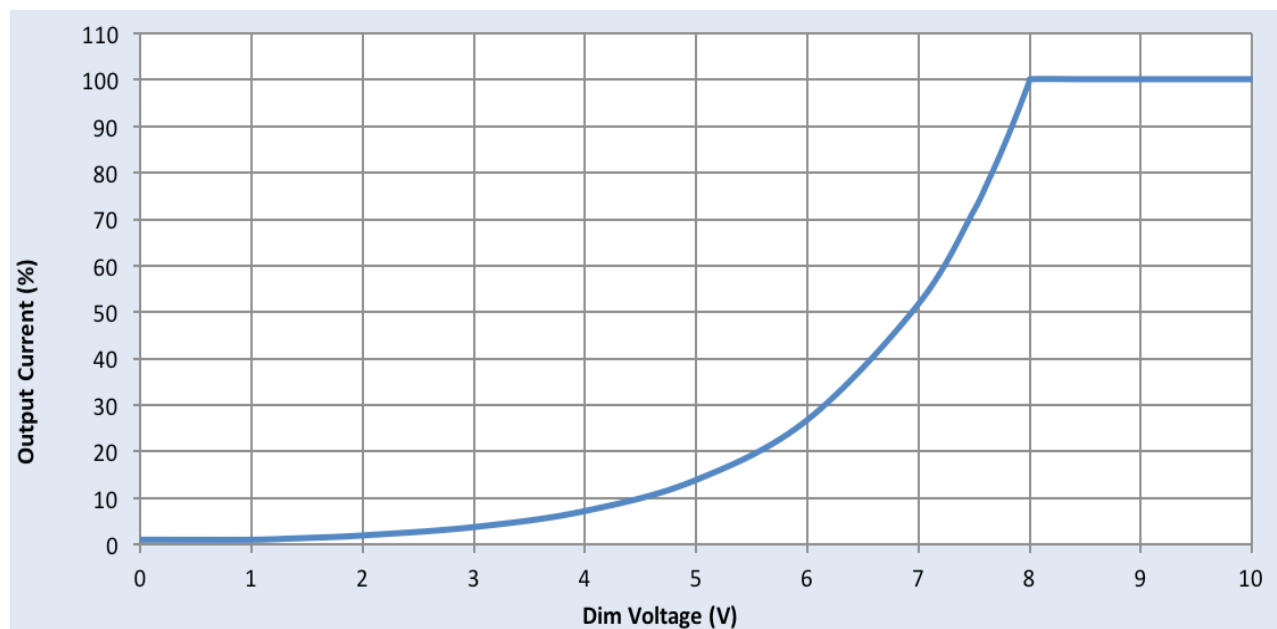
Dimming source current from the driver: 150µA (@ 0<Vdim<8V)

Minimum dim level: 1% of Iout (minimum 100mA)

Maximum output voltage on the dimming wires: 12V

## Approved Dimmer List

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



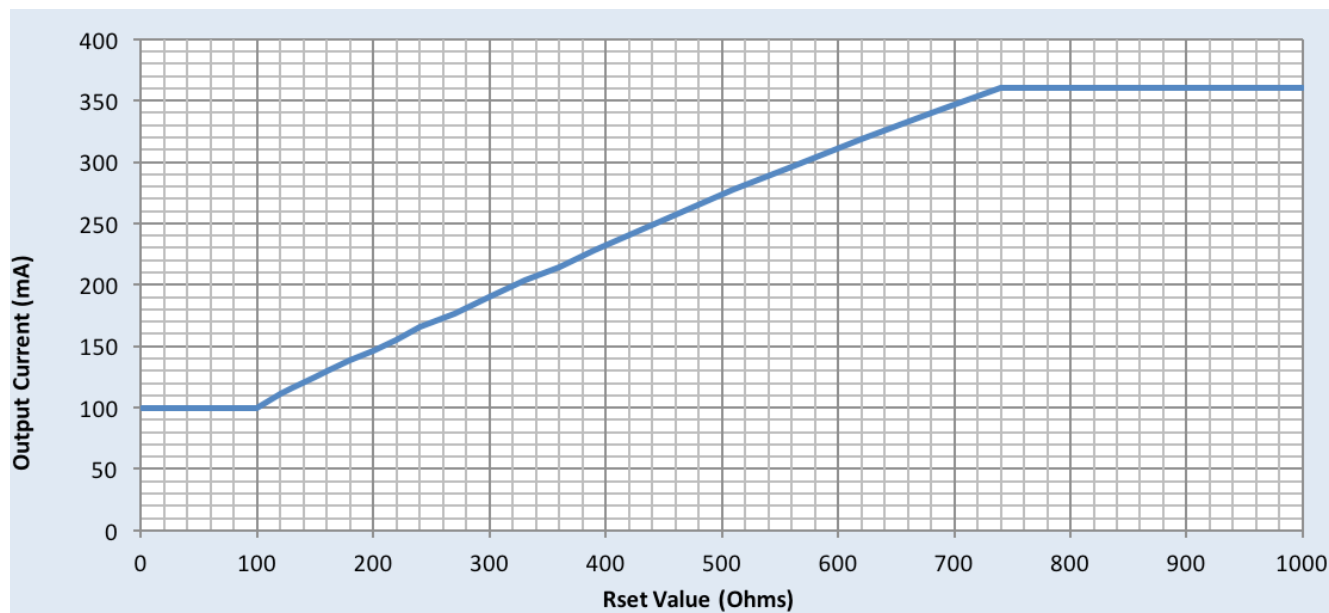
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## Electrical Specifications

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## AOC (Adjustable Output Current) Settings (Rset)



| Rset (Ohms) | Current (mA) | Rset (Ohms) | Current (mA) |
|-------------|--------------|-------------|--------------|
| 1           | 100          | 620         | 318          |
| 100         | 100          | 680         | 340          |
| 110         | 105          | 740         | 360          |
| 120         | 111          | 820         | 360          |
| 130         | 116          | 910         | 360          |
| 150         | 125          | 1000        | 360          |
| 160         | 130          |             |              |
| 180         | 138          |             |              |
| 200         | 146          |             |              |
| 220         | 155          |             |              |
| 240         | 166          |             |              |
| 270         | 176          |             |              |
| 300         | 190          |             |              |
| 330         | 204          |             |              |
| 360         | 215          |             |              |
| 390         | 228          |             |              |
| 430         | 245          |             |              |
| 470         | 261          |             |              |
| 510         | 277          |             |              |
| 560         | 297          |             |              |

## Notes

1. Current is set via a resistor between Rset2 and SGND leads.
2. Any through-hole or SMD resistor with >0.25W and >20V can be used as Rset.
3. Driver will default to 360mA when Rset is left open.

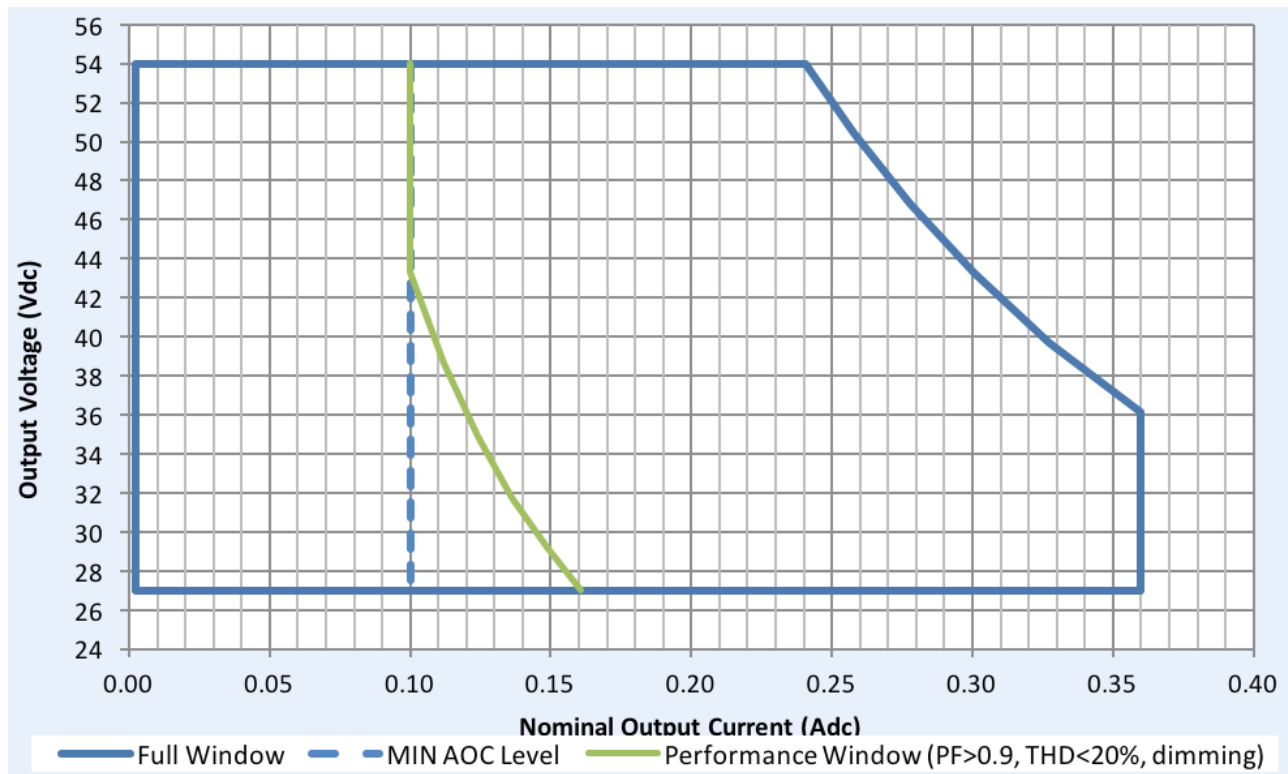
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## Electrical Specifications

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## Driver Output Window



## Notes

1. Factory default output current is 0.36A.
2. For dimming to a minimum level of 1% the output current setting through AOC should be  $\geq 0.1A$ .

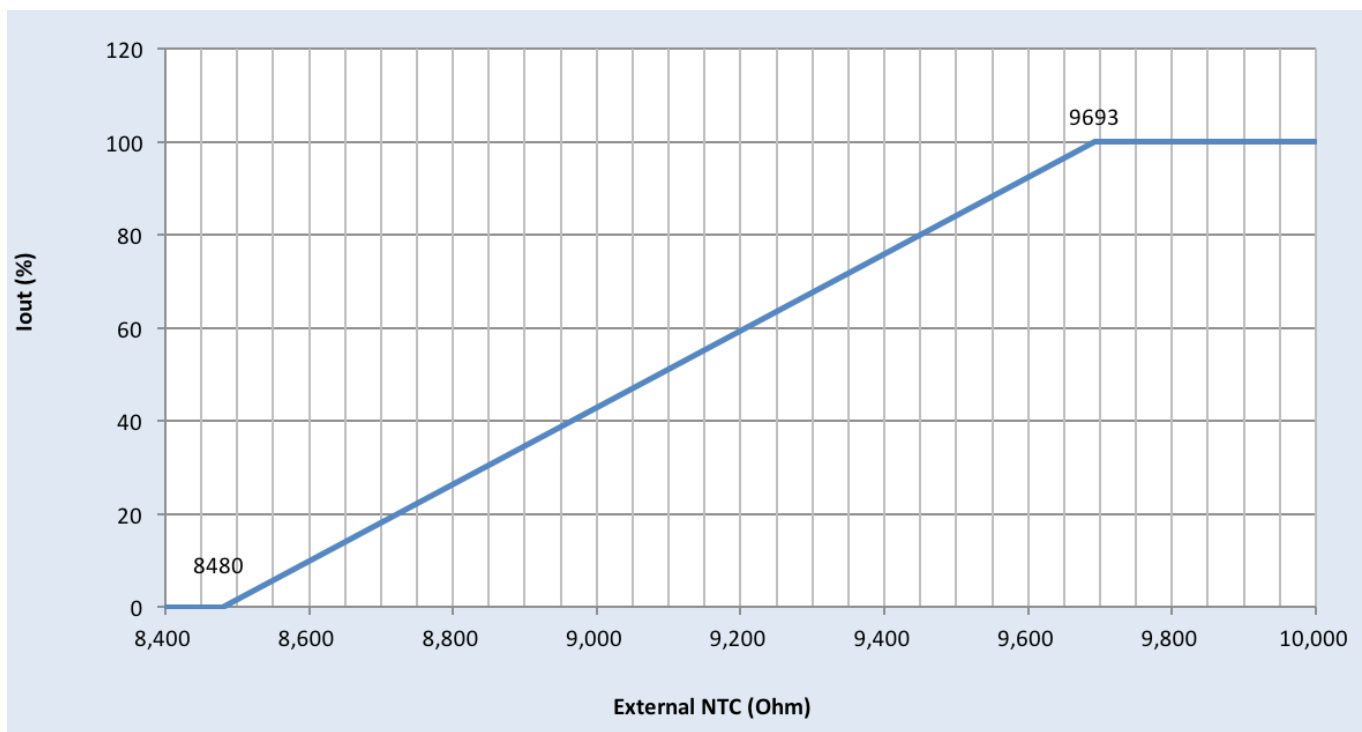
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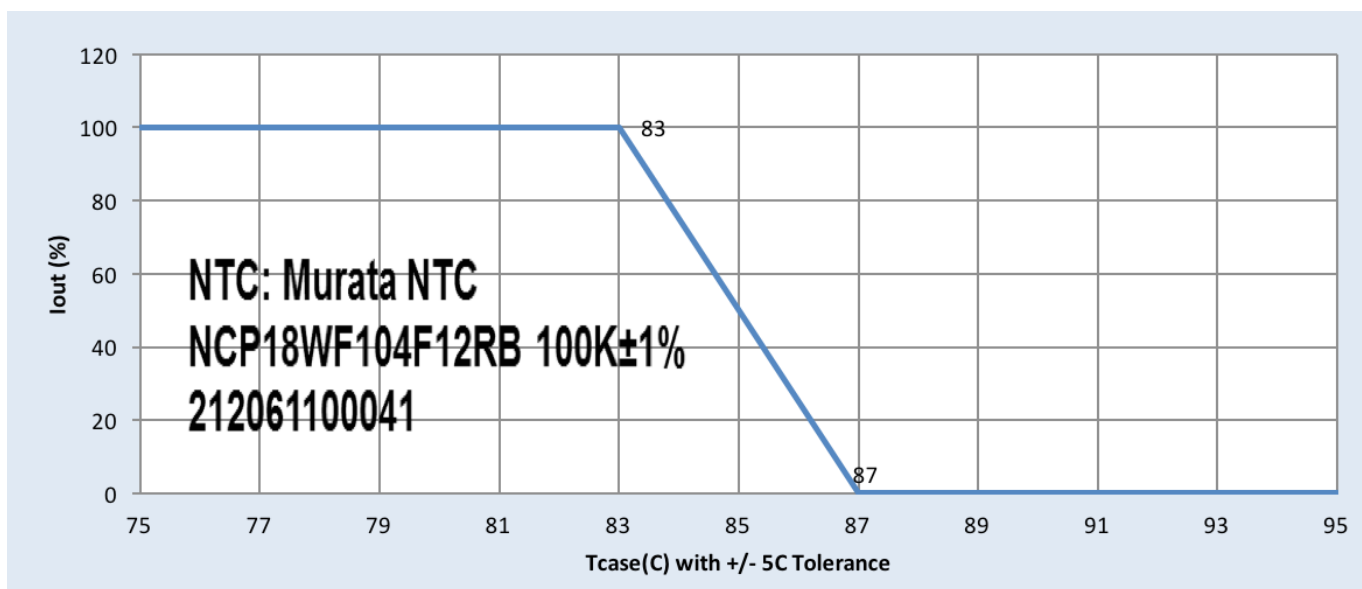
## Electrical Specifications

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## Output Current Vs. External NTC Resistance



## Output Current Vs. LED Module Temperature using 100kohm NTC



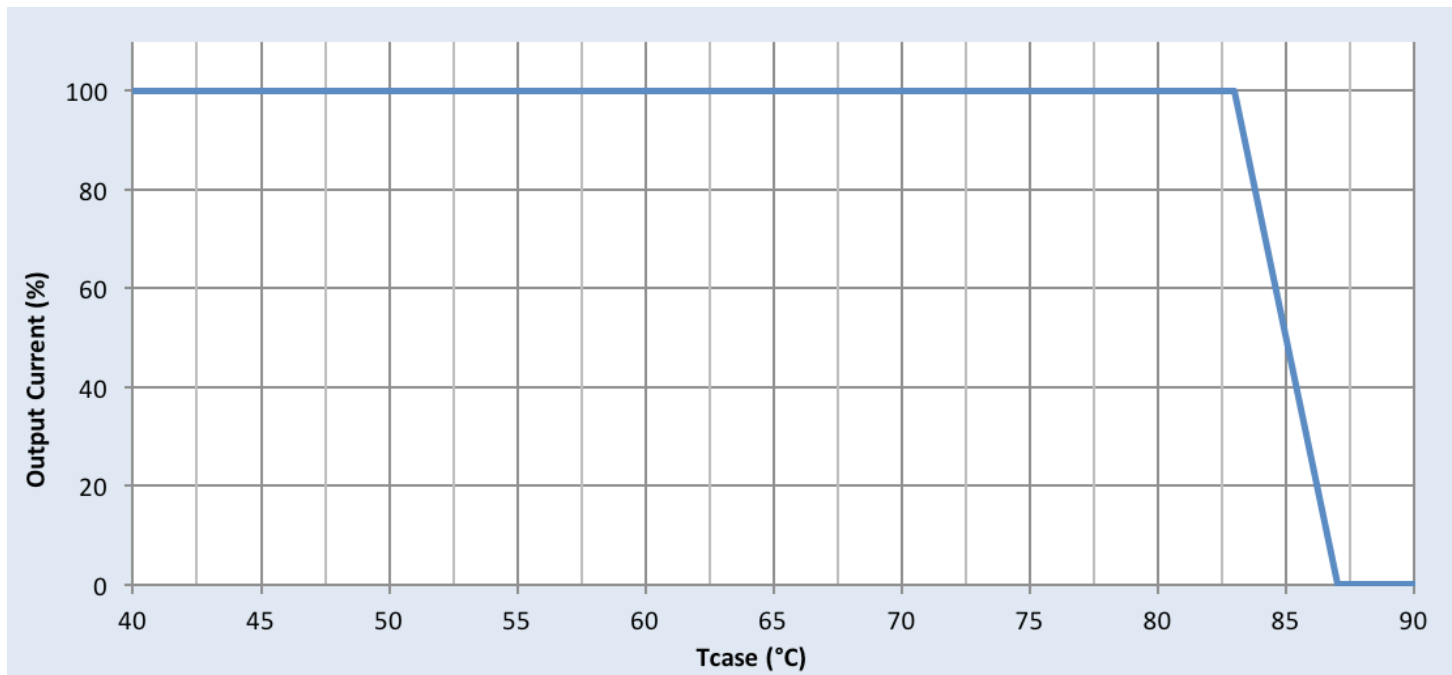
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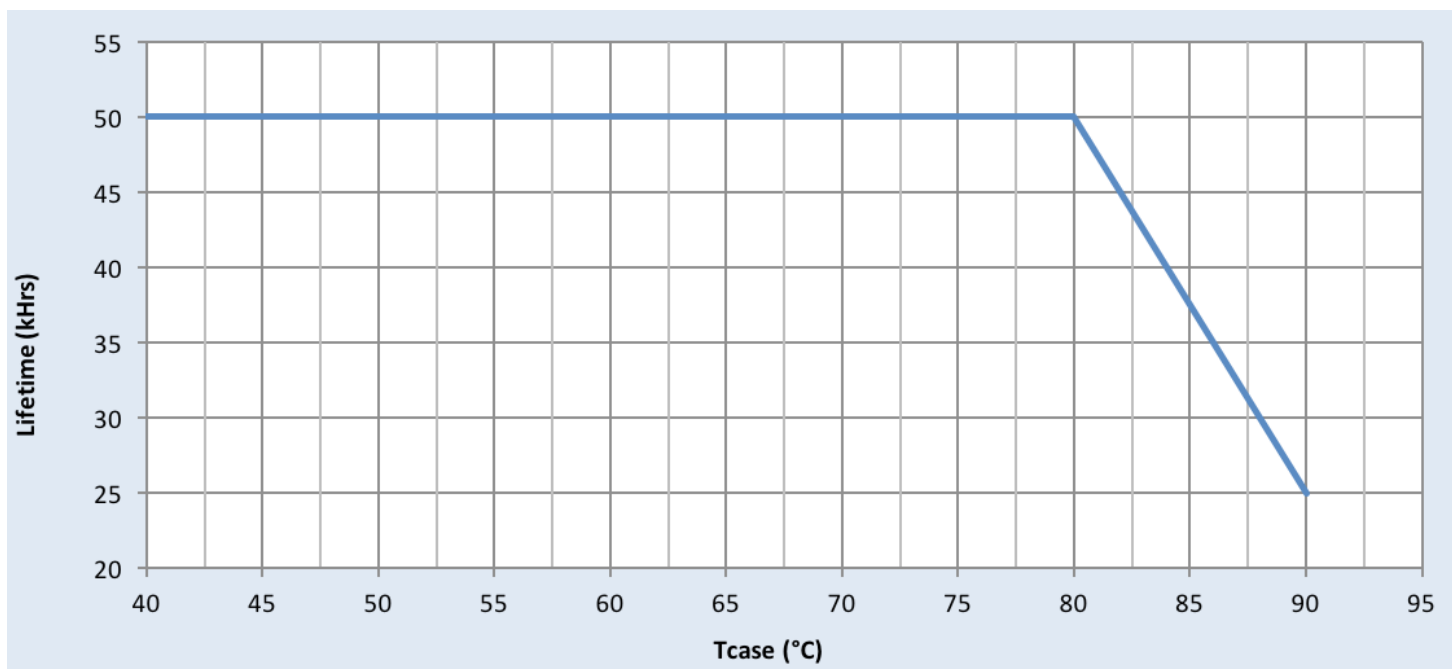
## Output Current Vs. Driver Case Temperature



## Note

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

## Driver Lifetime vs. Driver Case Temperature



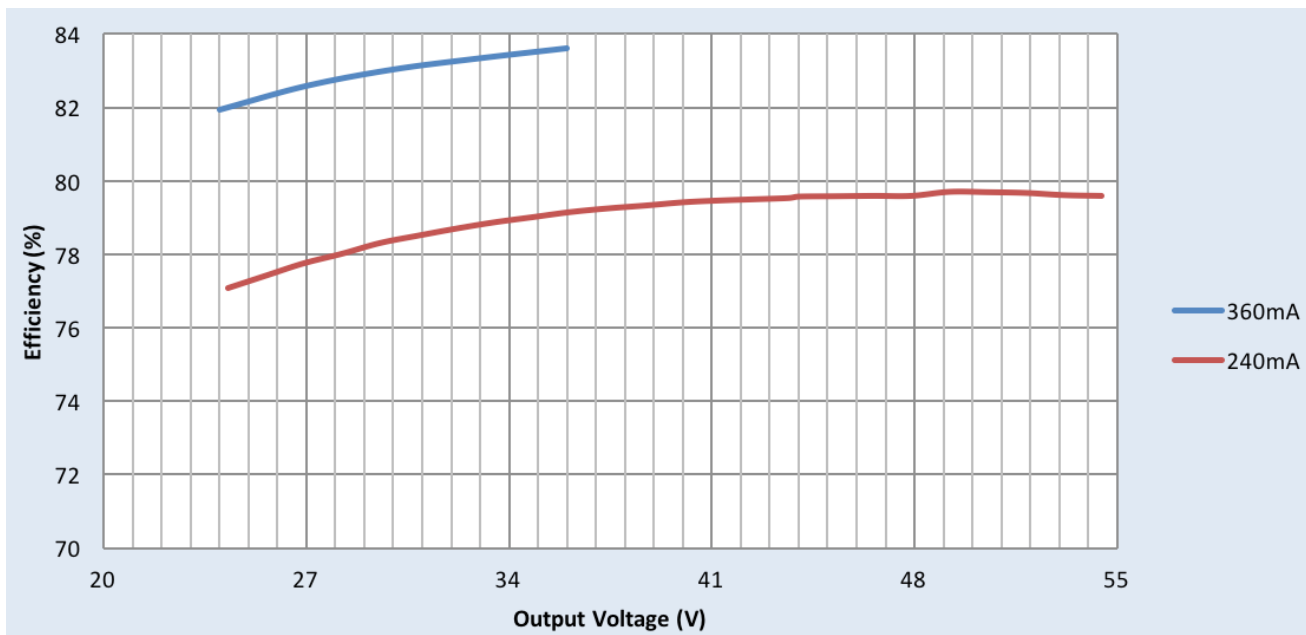
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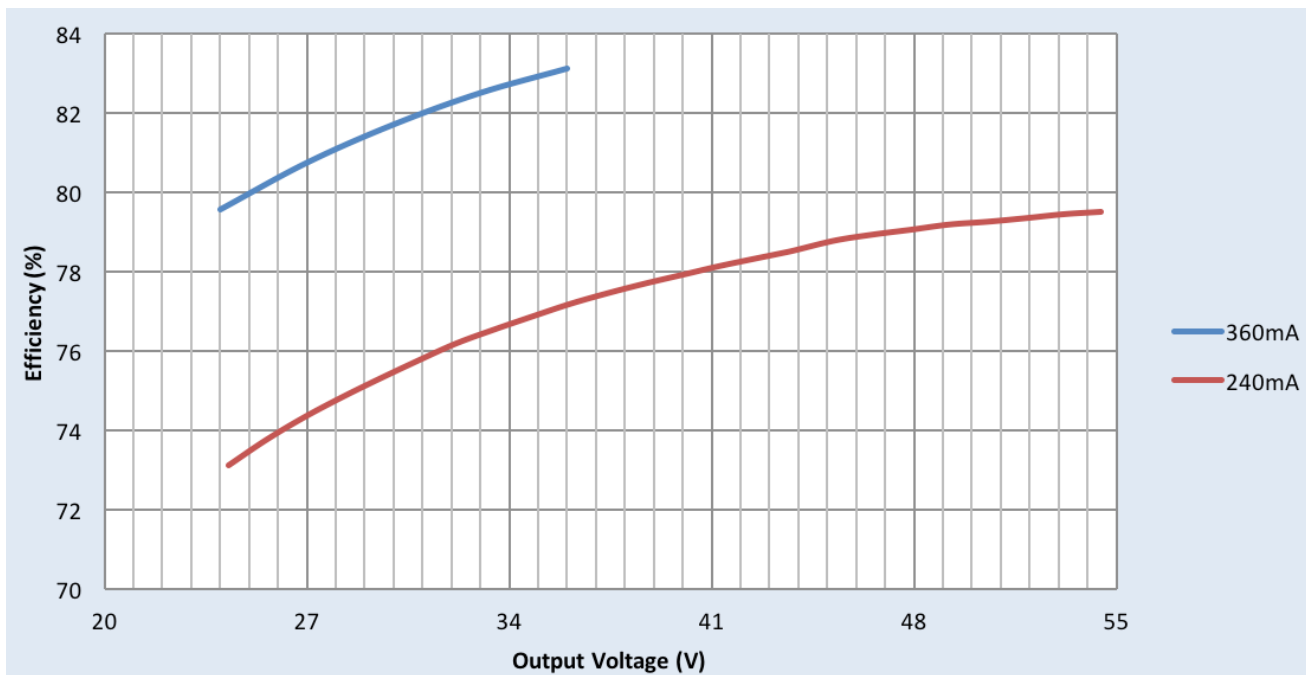
## Performance Characteristics

Based on measurements on a typical sample at 70°C case. The accuracy of the measurements is within the tolerance of the measurement instruments.

### Efficiency Vs. Output Voltage at 120Vac



### Efficiency Vs. Output Voltage at 277Vac





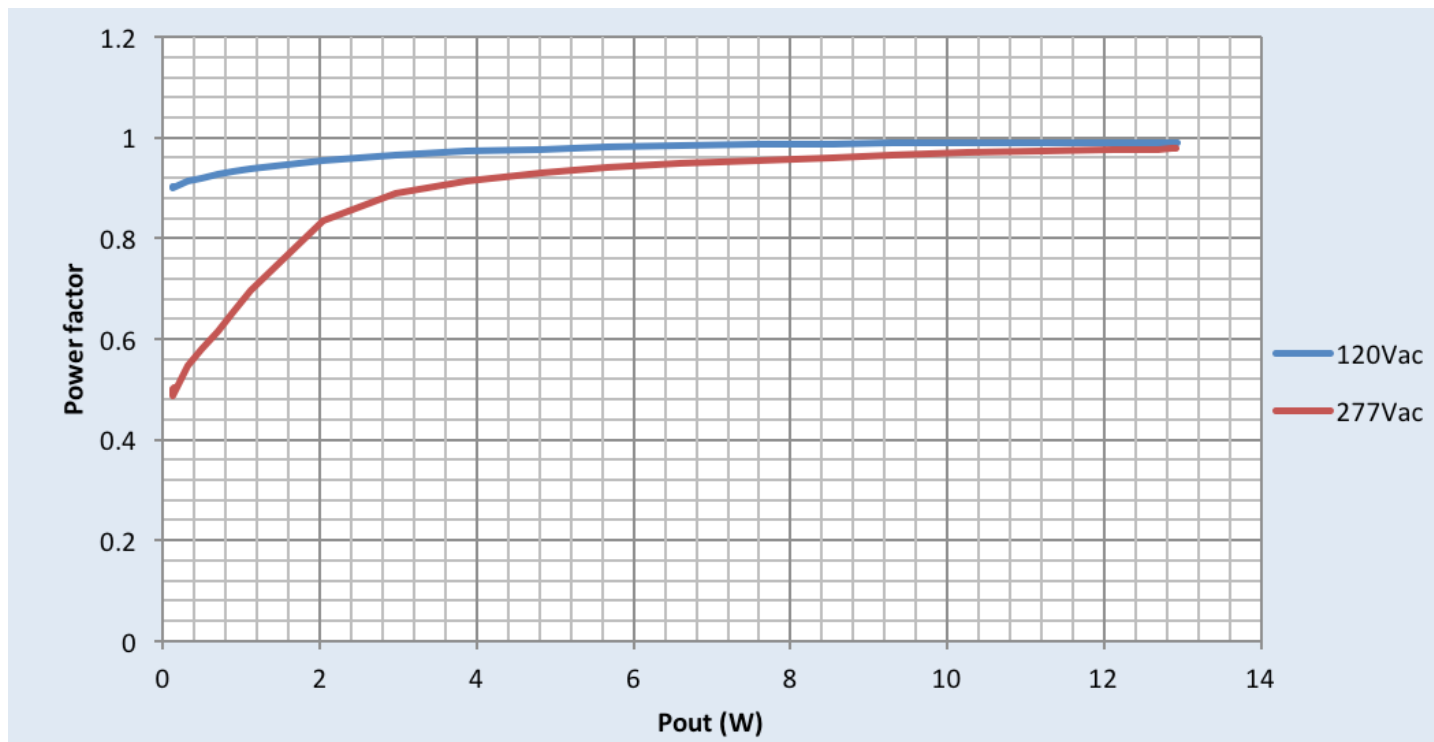
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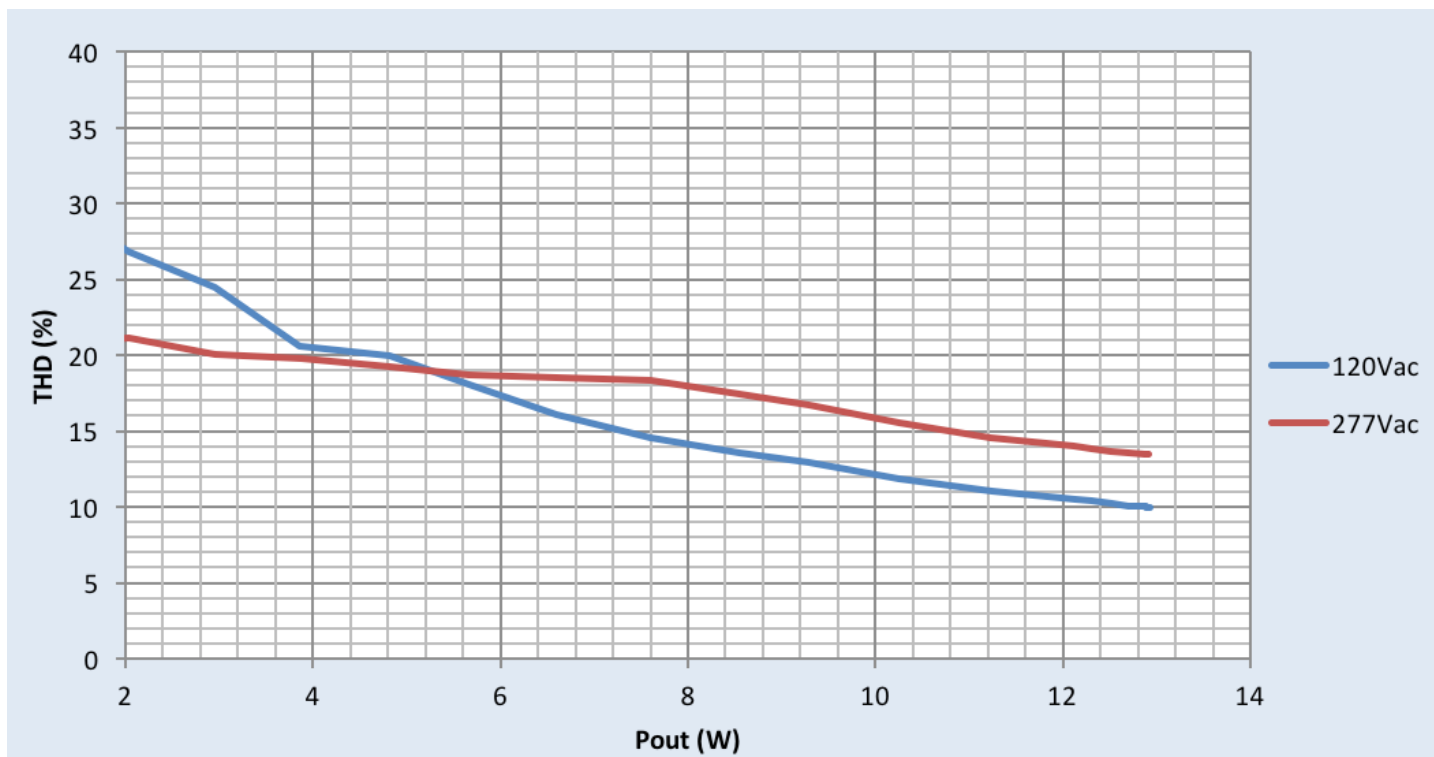
## Performance Characteristics

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### Power Factor Vs. Output Power



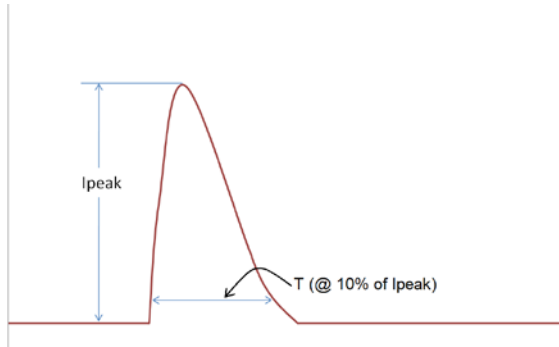
### Total Harmonic Distortion (THD) Vs. Output Power



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13W 0.36A 54V 0-10V INT (1% log dim)

## Inrush Current Info



| Vin      | Ipeak  | T (@ 10% of Ipeak) |
|----------|--------|--------------------|
| 120 Vrms | 10.96A | 300µS              |
| 277 Vrms | 27.1A  | 300µS              |

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) |
|----------------------------|-------------------------|-------------------------------|
| 100kHz Ring Wave (w/t 30Ω) | 2.5KV                   | 2.5KV                         |

## Isolation

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

U = Max working voltage

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