**ADVANCE**

by **signify**

The Advance Xitanium range of linear 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%. Enabled with SimpleSet technology, these drivers offer the needed flexibility and performance for the application with precise tuning of drive currents, selectable dimming curves and adjustable minimum dimming levels. With wide operating windows, slim profile and simple current adjustability, the drivers make it easy for luminaire manufacturers to design linear fixtures with desired lumen levels to suit the application.
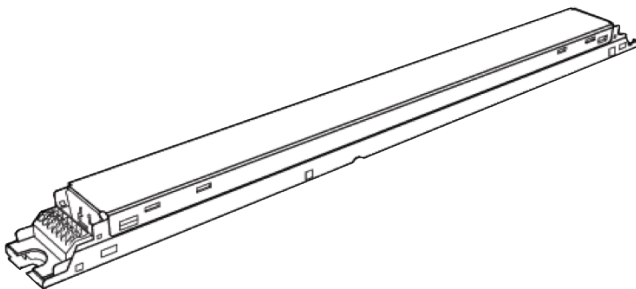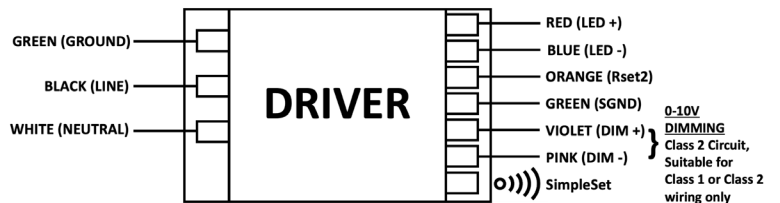
## Specifications

| 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 (Ring Wave, KV) | Envir. Protection Rating | Driver Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | 20 | 22.5 – 54 Class 2 Output | 0.1 - 0.56 | 83 | Life–75°C UL–80°C | 0.21 | 26 | <10% | >0.95 | 2.5 | UL damp & dry | Constant Current |
| 277 | | | | 85 | | 0.1 | | <10% | | | | |

## Enclosure

| | In. (mm) |
|---|---|
| Case Length | 10.0 (254) |
| Case Width | 1.18 (30) |
| Case Height | 1.00 (25.4) |
| Mounting Length | 9.68 (246) |

## Wiring Diagram



GREEN (GROUND)
BLACK (LINE)
WHITE (NEUTRAL)

**DRIVER**

RED (LED +)
BLUE (LED -)
ORANGE (Rset2)
GREEN (SGND)
VIOLET (DIM +)
PINK (DIM -)
SimpleSet

**0-10V DIMMING** Class 2 Circuit, Suitable for Class 1 or Class 2 wiring only

## Warning

Install in accordance with national and local electrical codes.
The field–wiring leads or push–in terminals shall be fully enclosed.
Use 18 AWG Solid Copper Wire.
Rated >=300V. Strip Wire 3/8".

## Grounding

Driver case must be grounded.

| Dimming | Dimming Range (with specified dimmers) | Minimum Output Current (A) | Other Comments |
|---|---|---|---|
| 0-10V Analog Class 2 Wiring | 1% ~ 100%  (for output current range 0.1–0.56A) | 0.001 | Dimming source current: 150 µA |

# Xitanium   XI020C056V054BST2

## 20W 0.1-0.56A 54V 0-10V INT (1% dim) with SimpleSet

### Features

- 50,000+ hour lifetime[1]
- SimpleSet programmable
- Large operating window
- 1% minimum dim level
- Constant Current Reduction Dimming

### Benefits

- Slim profile housing enables easy design-in with excellent thermal performance
- Enables simple, fast, flexible application-specific configurations
- Enables fixture designs with comprehensive application coverage for various loads and lumen levels

### Application

- Indoor linear applications such as troffers and pendants
- Office
- Education
- Healthcare
- Retail

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### Electrical Specifications

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

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### Product Data

| Order Information | |
|---|---|
| Full Product Code | XI020C056V054BST2M (Mid-Pack, 18pcs/Box), 12NC: 929000754913 |
| Line Frequency | 50/60Hz |
| Min. Mains Voltage Operational | 108 Vac |
| Max. Mains Voltage Operational | 305 Vac |
| **Output Information** | |
| Maximum Open Circuit Voltage | < 60Vdc |
| Output Current Ripple (ripple = peak to average / average) | 15% max @ max Iout<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 − |
| **Features** | |
| 0-10V Dimming | 150µA source current from driver. See dim curve for detail. |
| AOC (Adjustable Output Current) | 100mA to 560mA via external resistor or SimpleSet programming (refer to graph and notes below) |
| Additional SimpleSet Configurable Features | Adjustable minimum dimming level,<br>Dimming curve selection (linear or logarithmic),<br>Adjustable output level,<br>Adjustable output min,<br>OEM write protection |
| **Environment & Approbation** | |
| Operating Ambient Temp. Range | −20°C to +55°C |
| Max Case Temperature (Tcase) | 80°C |
| Agency Approbations | UL8750, UL1310, Class P (UL, cUL), UL TL |
| Electromagnetic Compliance | FCC Title 47 Part 15 Class A |
| Audible Noise | <24dB Class A |
| Weight | 0.48 Lbs / 0.22 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.

# Xitanium    XI020C056V054BST2

## 20W 0.1-0.56A 54V 0-10V INT (1% dim) with SimpleSet

### 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: 1% of Iout (minimum 1mA)

Maximum output voltage on the dimming wires: 12V

### 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 |
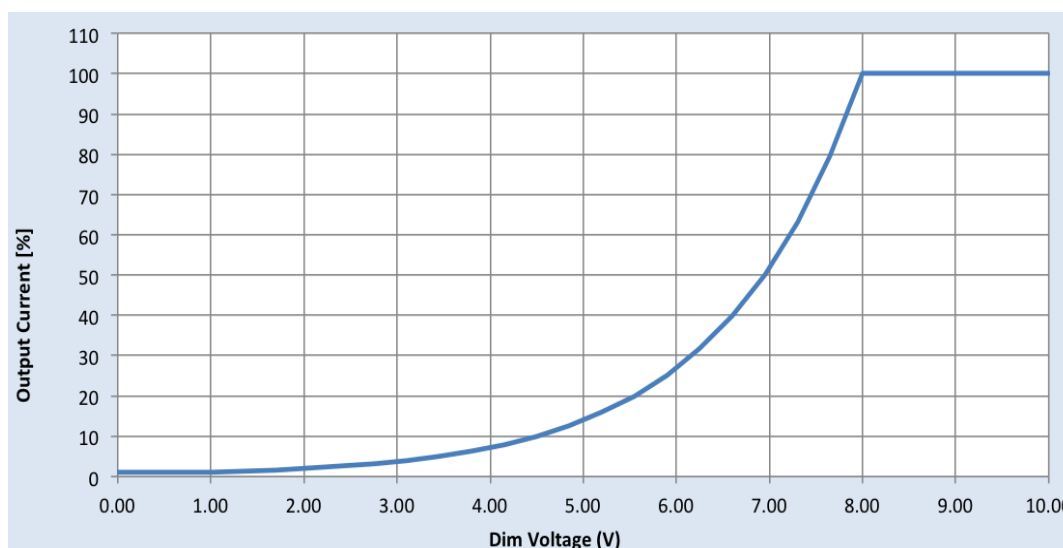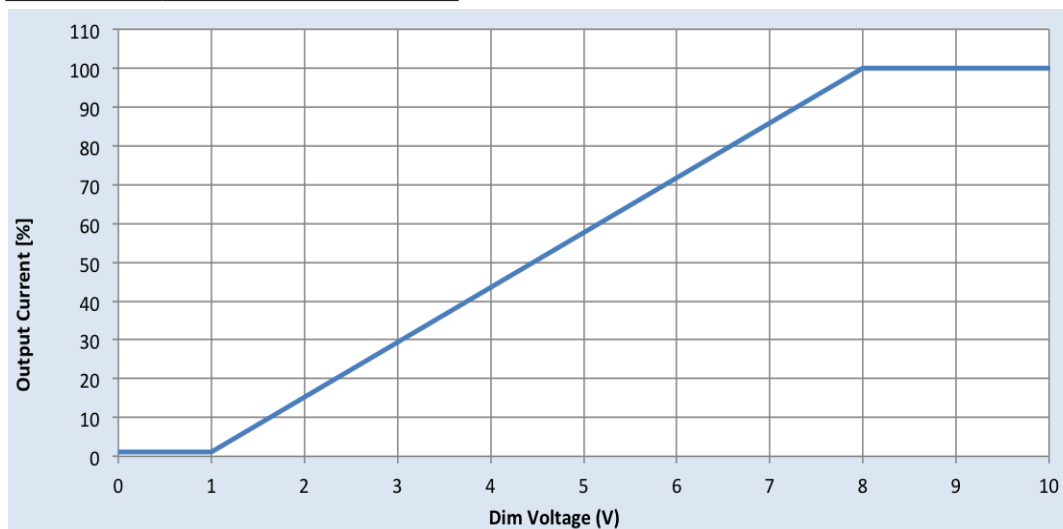
# Xitanium   XI020C056V054BST2

## 20W 0.1-0.56A 54V 0-10V INT (1% dim) with SimpleSet

### Electrical Specifications

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

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

| Rset (Ohms) | Current (mA) | Rset (Ohms) | Current (mA) |
|---|---|---|---|
| 0 | 100 | 440 | 247 |
| 80 | 100 | 460 | 256 |
| 90 | 100 | 480 | 264 |
| 100 | 100 | 500 | 272 |
| 110 | 105 | 520 | 280 |
| 120 | 111 | 540 | 288 |
| 130 | 116 | 560 | 297 |
| 140 | 119 | 580 | 302 |
| 150 | 125 | 600 | 310 |
| 160 | 130 | 630 | 321 |
| 170 | 133 | 660 | 335 |
| 180 | 138 | 690 | 346 |
| 190 | 141 | 720 | 357 |
| 200 | 146 | 750 | 368 |
| 210 | 152 | 780 | 376 |
| 220 | 155 | 810 | 387 |
| 230 | 160 | 840 | 398 |
| 240 | 166 | 870 | 408 |
| 250 | 168 | 900 | 419 |
| 260 | 174 | 930 | 430 |
| 270 | 176 | 960 | 439 |
| 280 | 182 | 990 | 449 |
| 290 | 185 | 1020 | 458 |
| 300 | 190 | 1050 | 469 |
| 310 | 196 | 1080 | 479 |
| 320 | 198 | 1110 | 488 |
| 330 | 204 | 1140 | 499 |
| 340 | 206 | 1170 | 507 |
| 350 | 212 | 1200 | 515 |
| 360 | 215 | 1230 | 526 |
| 370 | 220 | 1260 | 534 |
| 380 | 223 | 1290 | 542 |
| 390 | 228 | 1320 | 553 |
| 420 | 239 | 1350 | 561 |
| 400 | 231 | 1500 | 561 |
| | | 1600 | 561 |
| | | 1800 | 561 |
| | | >100000 | 561 |
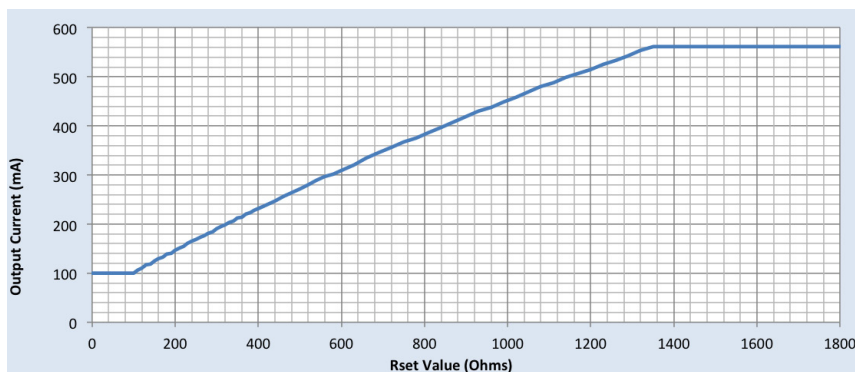


### Notes

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.

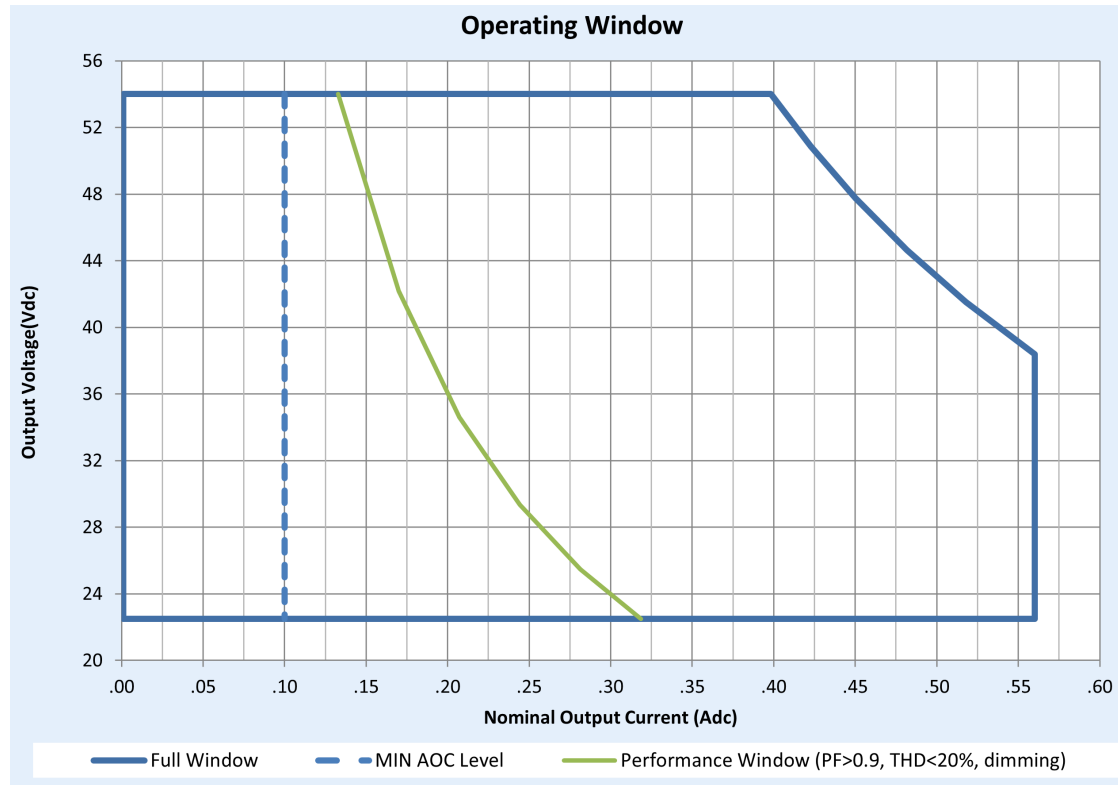3. Driver will default to 560mA when Rset is left open.

# Xitanium   XI020C056V054BST2

## 20W 0.1-0.56A 54V 0-10V INT (1% dim) with SimpleSet

### Electrical Specifications

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

### Driver Output Window

**Operating Window**



Output Voltage(Vdc) vs Nominal Output Current (Adc)

Legend: Full Window — MIN AOC Level — Performance Window (PF>0.9, THD<20%, dimming)

### Notes

1. Factory default output current is 0.56A.

2. For dimming to a minimum level of 1% the output current setting through AOC should be ≥ 0.1A.

# Xitanium    XI020C056V054BST2

## 20W 0.1-0.56A 54V 0-10V INT (1% dim) with SimpleSet

### Electrical Specifications

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

**Driver Lifetime vs. Driver Case Temperature**
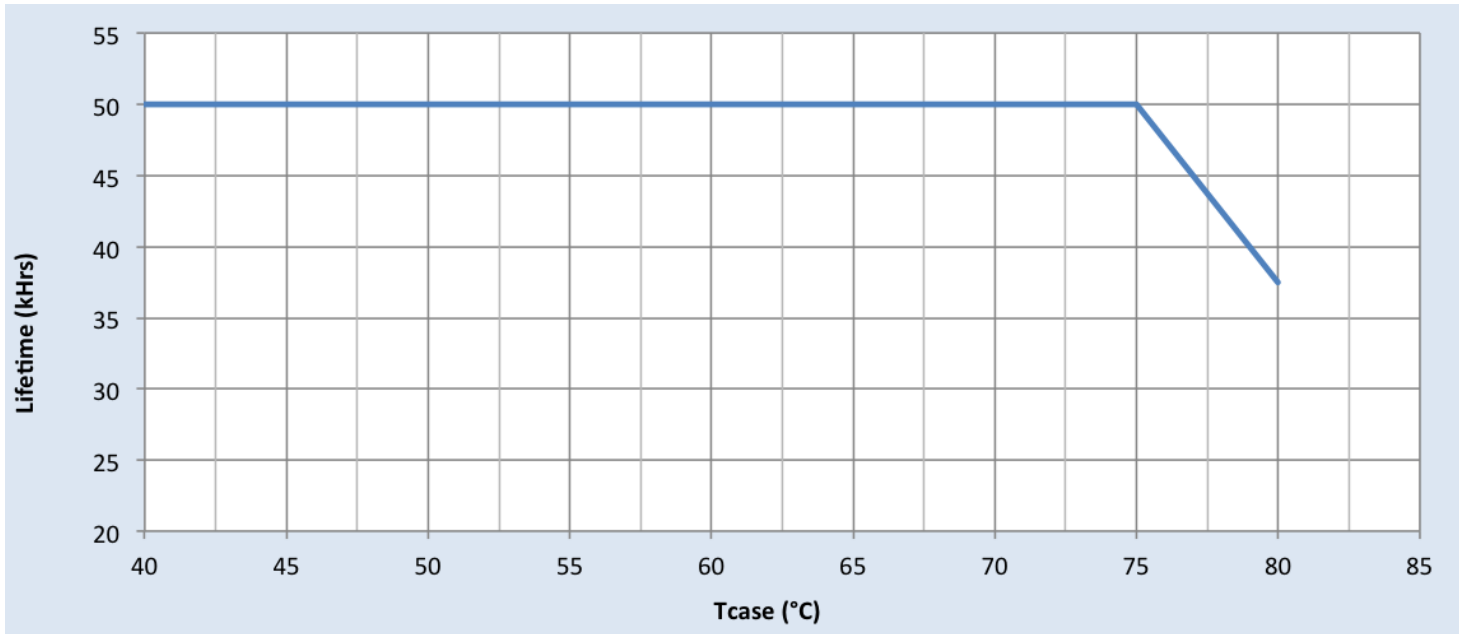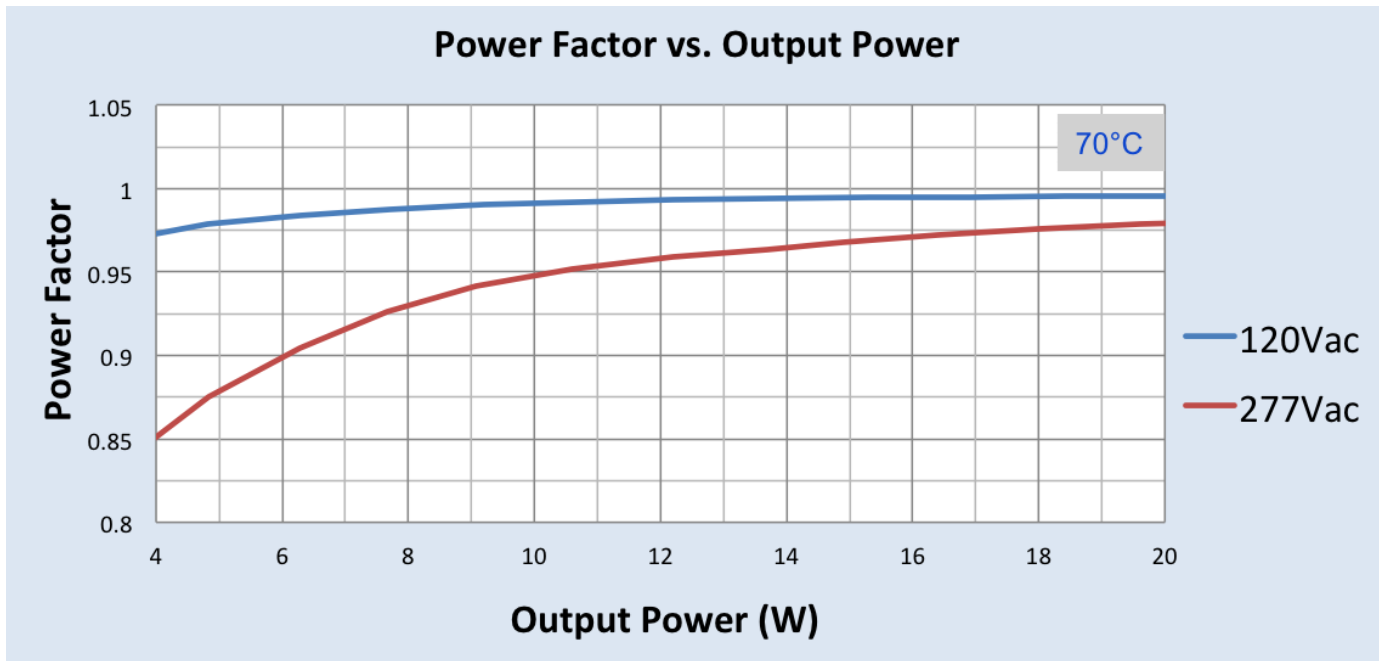
# Xitanium    XI020C056V054BST2

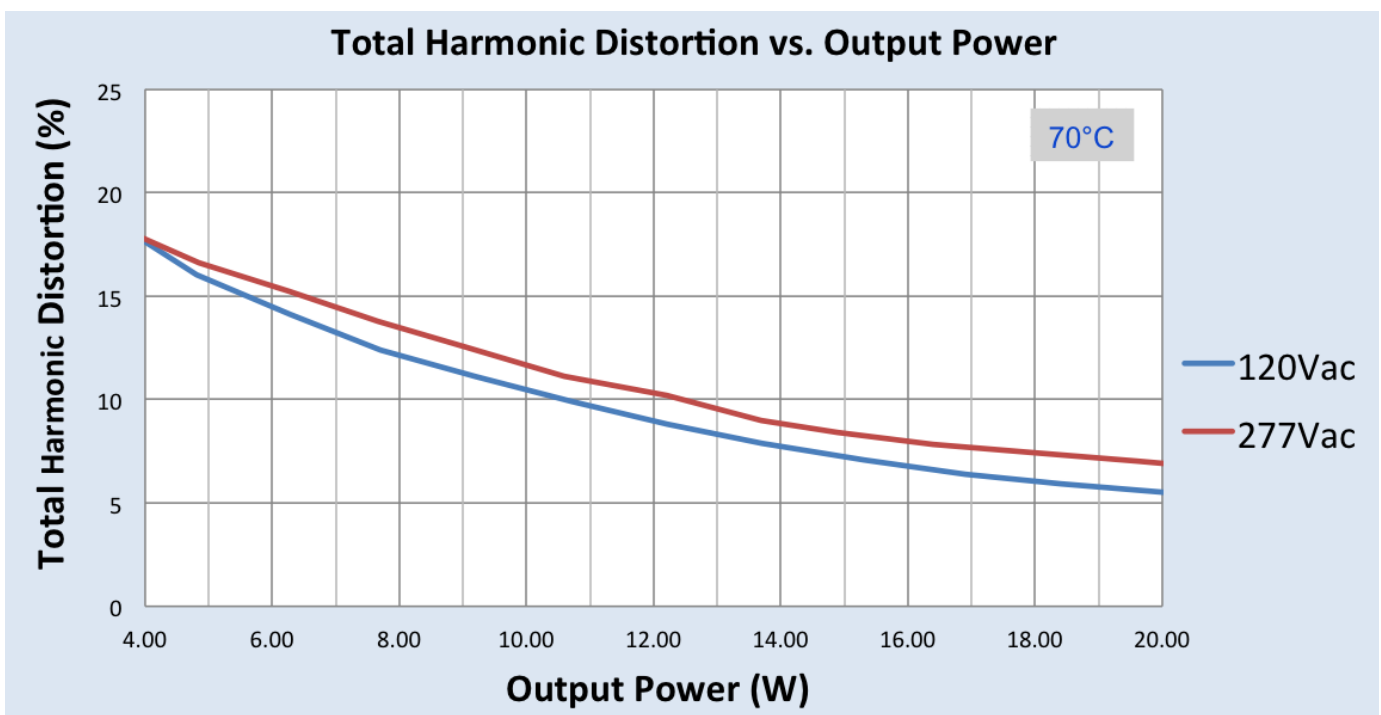## 20W 0.1-0.56A 54V 0-10V INT (1% dim) with SimpleSet

### 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
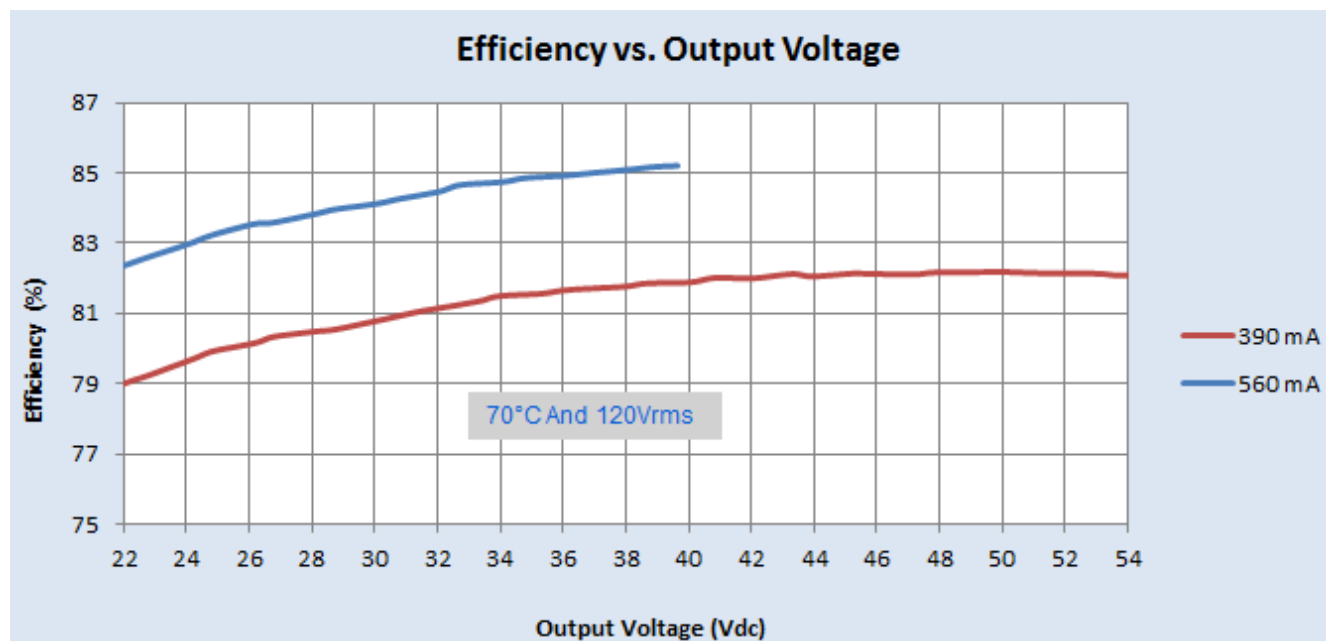


### Efficiency Vs. Output Voltage at 277Vac
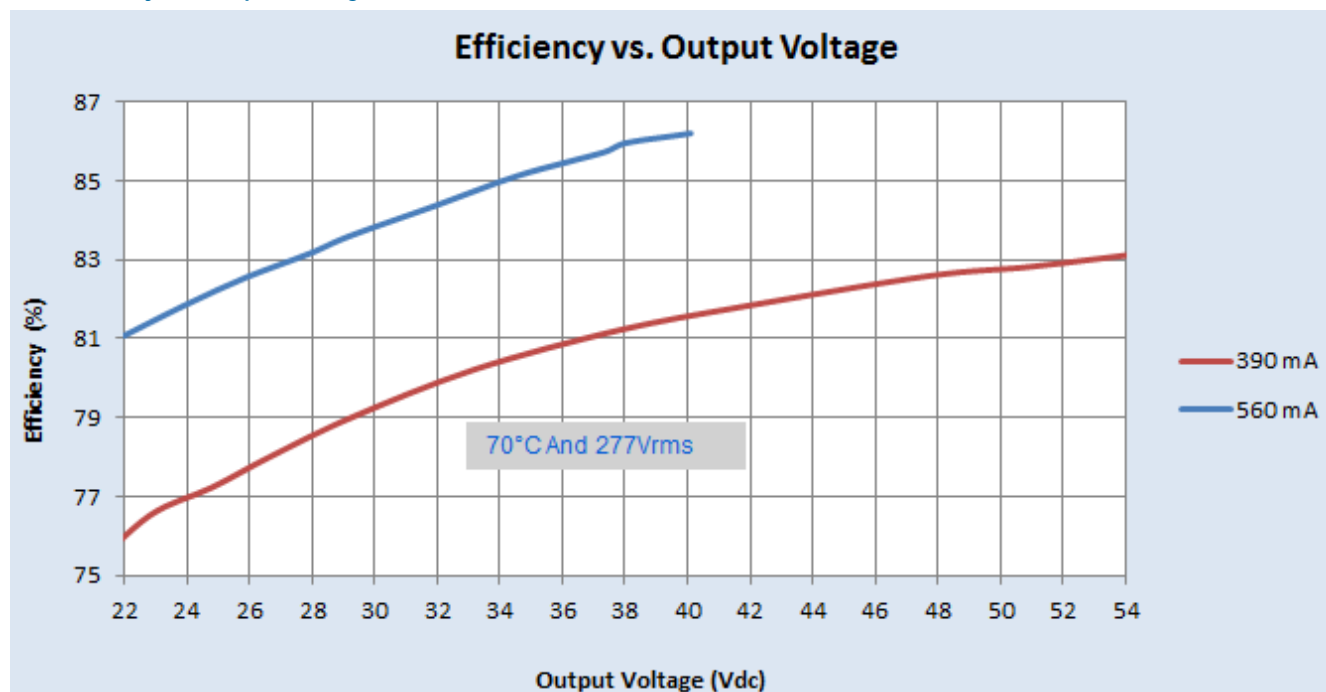
# Xitanium   XI020C056V054BST2

## 20W 0.1-0.56A 54V 0-10V INT (1% dim) with SimpleSet

### 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.
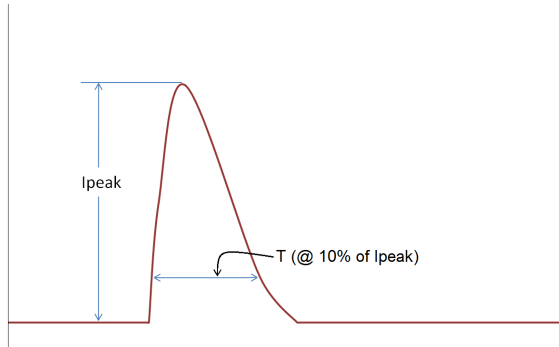
#### Power Factor Vs. Output Power



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

# Xitanium   XI020C056V054BST2

## 20W 0.1-0.56A 54V 0-10V INT (1% dim) with SimpleSet

### Inrush Current Info



| Vin | Ipeak | T (@ 10% of Ipeak) |
|---|---|---|
| 120 Vrms | 10.5A | 210µS |
| 277 Vrms | 25.5A | 225µS |

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 | – | 2xU+1kV | 2xU+1kV | 2xU+1kV |
| Output | 2xU+1kV | – | NA | 500V |
| 0 - 10V (class 2) | 2xU+1kV | Non-isolated | – | 500V |
| Enclosure | 2xU+1kV | 500V | 500V | – |

U = Max input voltage

The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract.