ADVANCE
by signify

LED Driver

Xitanium

XI055C180V054BSJ2

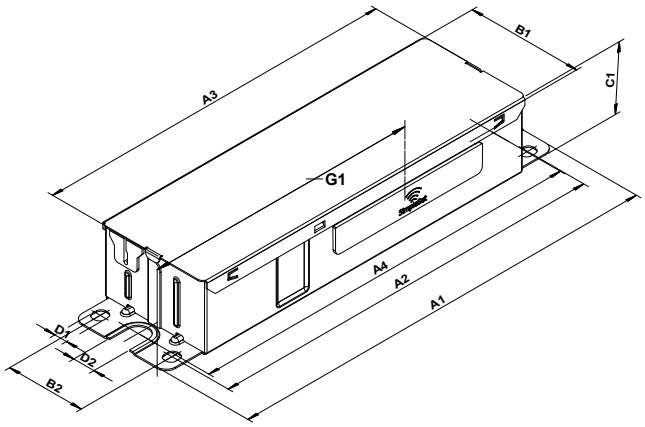
Advance Xitanium outdoor LED drivers with SimpleSet technology are designed to give OEMs ultimate flexibility. With wide operating windows and simple programming, the drivers make it easy for luminaire manufacturers to design luminaires of different sizes and lumen levels for outdoor applications.

Specifications

Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency @ Max Load and 85°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	Dim	Dimming Range (with specified dimmers)	Min. Output Current (A)	Driver Type
120	55	18-54 Class 2 Output	0.1 - 1.8	88	Life:85 UL: 90	0.53	64	<10% @120 Vac <15% @277 Vac	>0.95	6	UL damp & dry and Type HL	0-10V Analog Class 1 and 2 Wiring	1% ~ 100%	0.007	Constant Current
277				89		0.23									

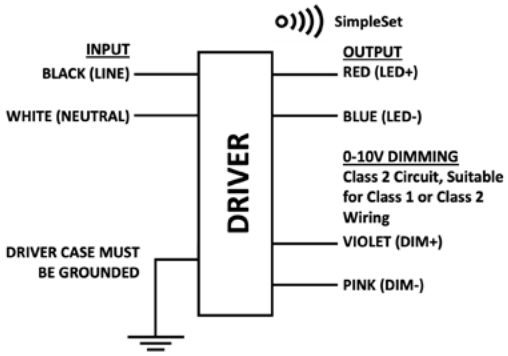
Enclosure

	In. (mm)	Tolerance (mm)
Overall Length (A1)	6.61 (168.0)	± 0.5mm
Mounting Length (A2)	6.06 (153.8)	± 0.5mm
Case Length (A3)	5.50 (139.8)	± 0.5mm
Case Width (B1)	1.78 (45.1)	± 0.5mm
Mounting Length2 (A4)	5.98 (152)	± 0.5mm
Mounting Width (B2)	1.22 (31)	± 0.5mm
Case Height (C1)	1.11 (28.2)	± 1.0mm
Mounting Hole Diameter (D1)	0.20 (5.0)	± 0.3mm
Mounting Hole Diameter (D2)	0.35 (8.8)	± 0.3mm
Center of SimpleSet Antenna (G1)	3.99 (101.5)	± 3.0mm



Wiring Diagram

	Wire Length (mm)
Black (Line)	270 (± 30)
White (Neutral)	270 (± 30)
Red (Positive, LED output)	270 (± 30)
Blue (Negative, LED output)	270 (± 30)
Violet (Positive, 0-10V)	270 (± 30)
Pink (Negative, 0-10V)	270 (± 30)



Warning

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

RoHS COMPLIANT

c UL us LISTED

NOM

Xitanium XI055C180V054BSJ2

55W 0.1–1.8A 0–10V Dimming with SimpleSet

Features

- 50,000+ hour lifetime[1] at 85C Tc
  100,000 hour lifetime[1] at 75C Tc
- Programmable output current through SimpleSet
- Class 2 voltage-current window coverage
- 6kV combi-wave surge rating to comply with ANSI C82.77-5 CAT C low

Benefits

- Enables long life luminaire designs
- Fast and simple way of programming
- Enables fixture designs with a wide variety of loads and adjustable current options
- No external surge protection required to pass C82.77-5 CAT C low

Application

- Area
- Roadway
- Parking garages (interior and exterior)
- Floodlights
- Low-bay and mid-bay

Electrical Specifications

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

Product Data

Order Information		
Full Product Code	XI055C180V054BSJ2M (Mid-Pack, 12pcs/box), 12NC: 929002766013	
Line Frequency	50/60Hz	
Min. Mains Voltage Operational	108 Vac	
Max. Mains Voltage Operational	305 Vac	
DC Input Voltage	125/250Vdc An additional EMC filter may be necessary for the product to comply with FCC Part 15 class A limit at DC Mains operation.	
Output Information		
Maximum Open Circuit Voltage	<60Vdc (UL Class 2 Output)	
Output Current Ripple (ripple = peak to average / average)	15% max. @ max. Iout (Low frequency ripple (≤120Hz) content <5%)	
Output Current Tolerance (in performance window)	<5%	
Protections	Short Circuit, Open Circuit Protection for LED + and LED – and Temperature Foldback	
Features		
0–10V Dimming	150µA (±3%) source current from driver. See dim curve for detail.	
AOC (Adjustable Output Current)	0.1A–1.8A via SimpleSet (Factory Default at 1.05A)	
Additional SimpleSet Configurable Features	Adjustable Min Dim level, Adjustable Lumen Output (ALO), Adjustable Lumen Output Min, OEM Write Protection	Dim to Off Function (selectable) Constant Light Output (CLO), Fast Fade, Dynadimmer, Driver Temperature Limit (DTL), Dimming Curve Selection (Linear or Logarithmic)
Environment & Approbation		
Operating Ambient Temp. Range	-40°C to +55°C	
Max. Case Temperature (Tcase)	85°C for Life & 90°C for UL	
Agency Approbations	UL 8750, UL Listed, NOM, cUL, Class P (UL, cUL)	
Electromagnetic Compliance	FCC Title 47 Part 15 Class A for 120–277 AC Mains input.	
Audible Noise	<24dB Class A	
Weight	0.89 Lbs / 0.404 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 MTTF modeling.

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55W 0.1–1.8A 0–10V Dimming with SimpleSet

Electrical Specifications

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0–10V Dimming Curve

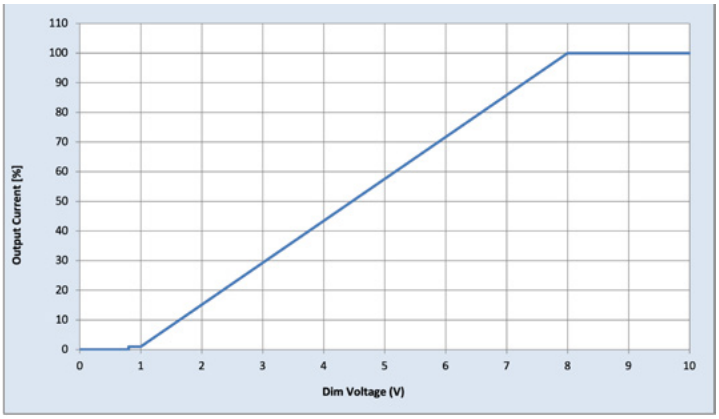
- Dimming source current from the driver: 150µA (@ 0<Vdim<8V)
- Minimum dim level: 10% of Iout setting as default
- Maximum output voltage on the dimming wires: 12V
- When FastFade is enabled, Fade off time<70mS & Fade on time<300mS
- Leakage current of dimming leads: 0.010mA, recommended max number of control circuits in parallel refer to Design-in Guide

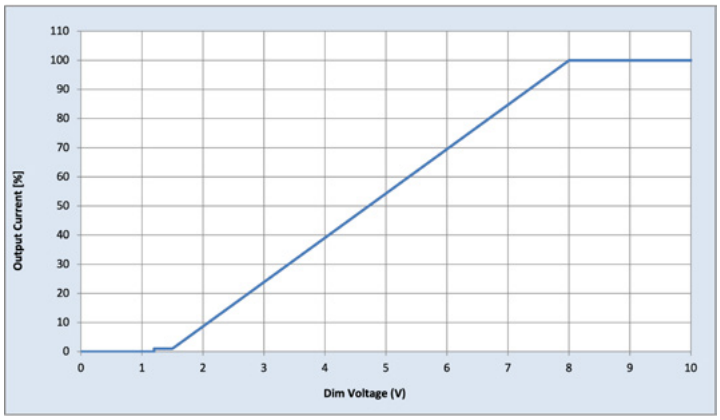
Approved Dimmer List

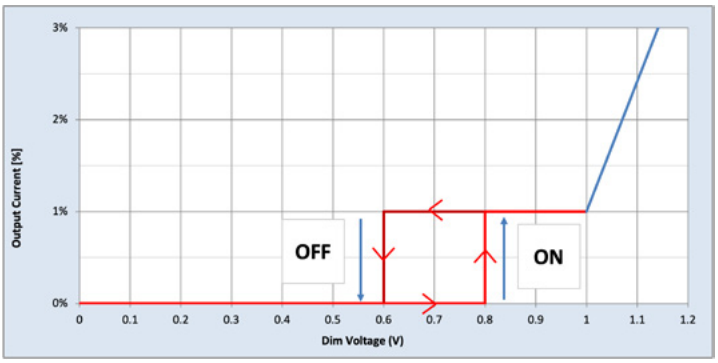
Manufacturer	Manufacturer Part Number
Lutron	Visit www.lutron.com/advance for a list of dimmers (Mark VII) that will work with this driver
Leviton	IllumaTech IP7 series
Advance	Sunrise - SR1200ZTUNV

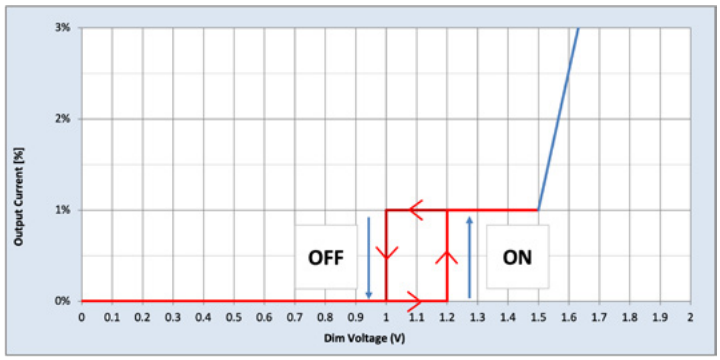
Dim to off function

Symbol	Parameter	Min	Typical	Max	Unit
Von-1	Turn on threshold	0.7	0.8	0.9	V
Voff-1	Turn off threshold	0.5	0.6	0.7	V
Von-2	Turn on threshold	1.1	1.2	1.3	V
Voff-2	Turn off threshold	0.9	1	1.1	V
Ton	Turn on time		300		mS
Toff	Turn off time			1000	mS









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55W 0.1–1.8A 0–10V Dimming with SimpleSet

Electrical Specifications

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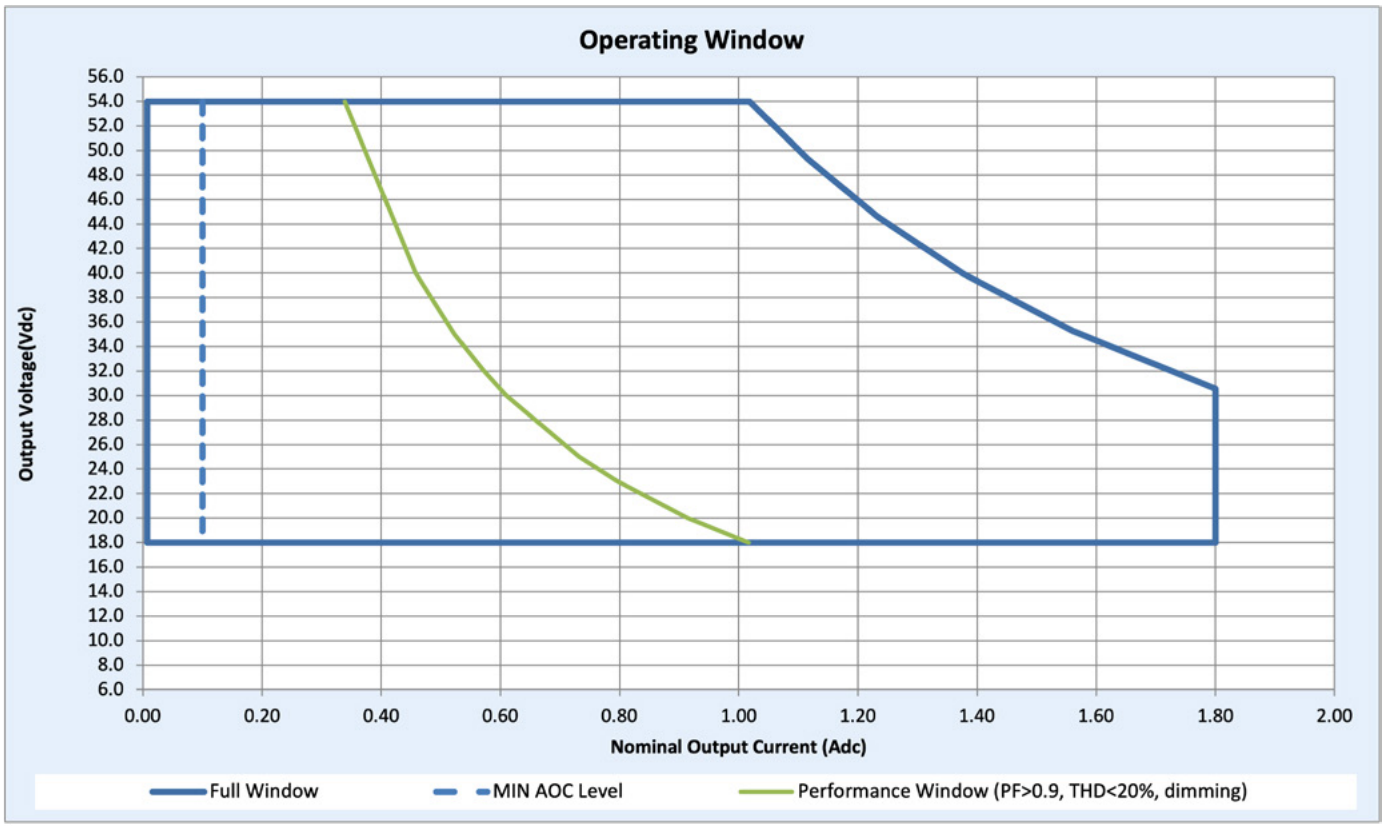
Driver Output Window



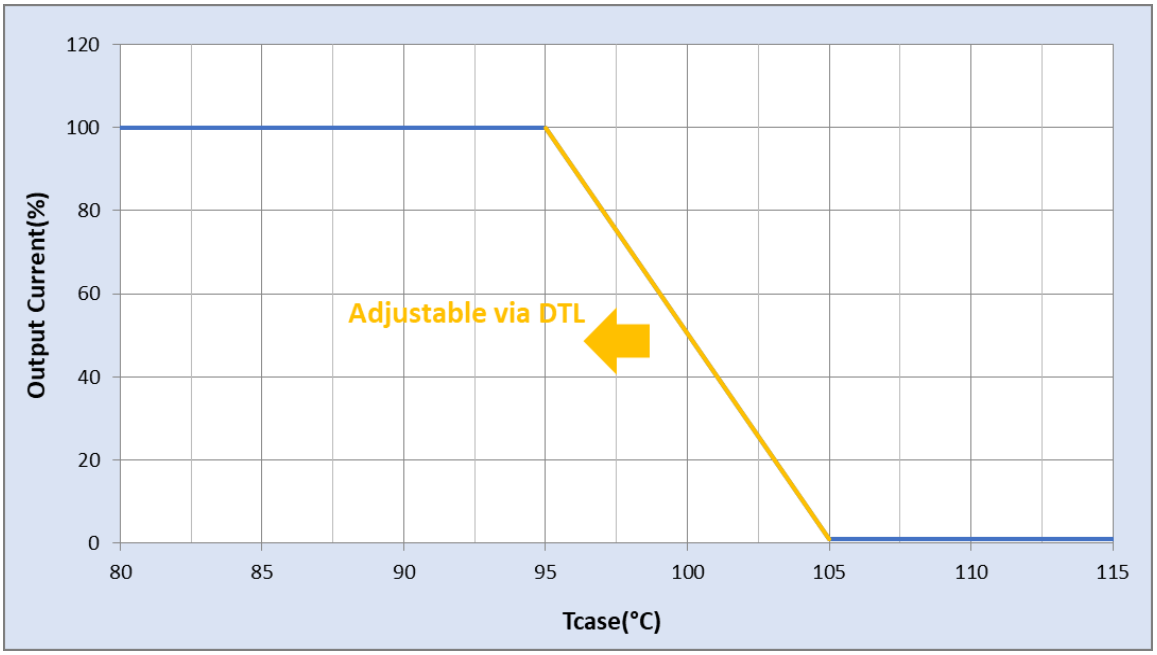
Notes

1. Factory default output current is 1.05A.
2. To get a 100% to 1% dimming range, the output current setting through AOC should be ≥ 0.7A.

Electrical Specifications

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

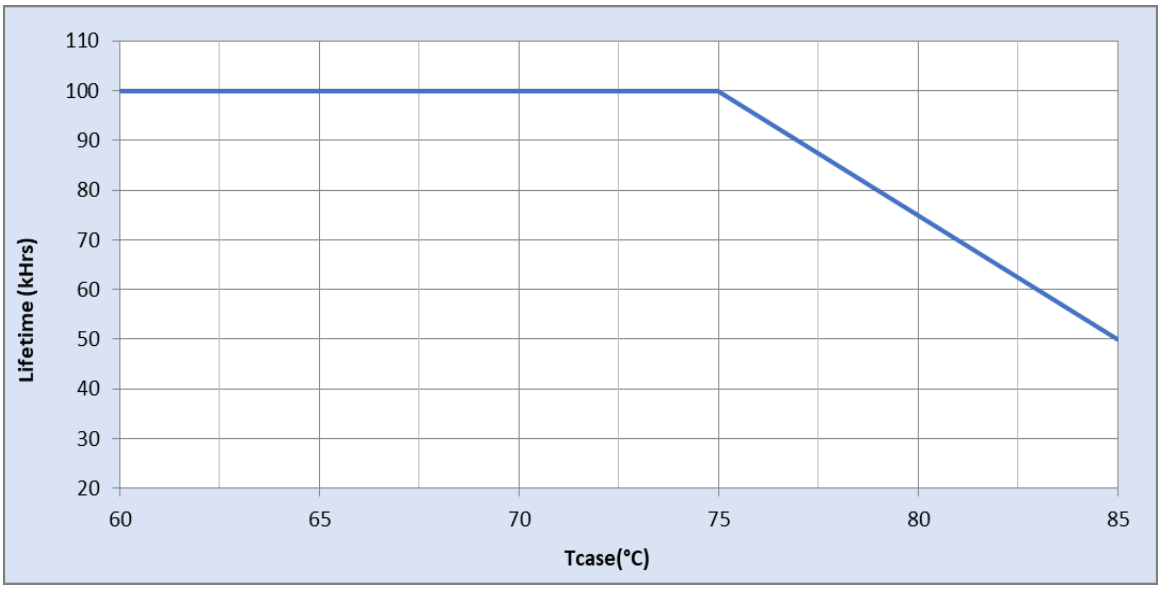
Output Current Vs. Driver Case Temperature



Note

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

Driver Lifetime vs. Driver Case Temperature



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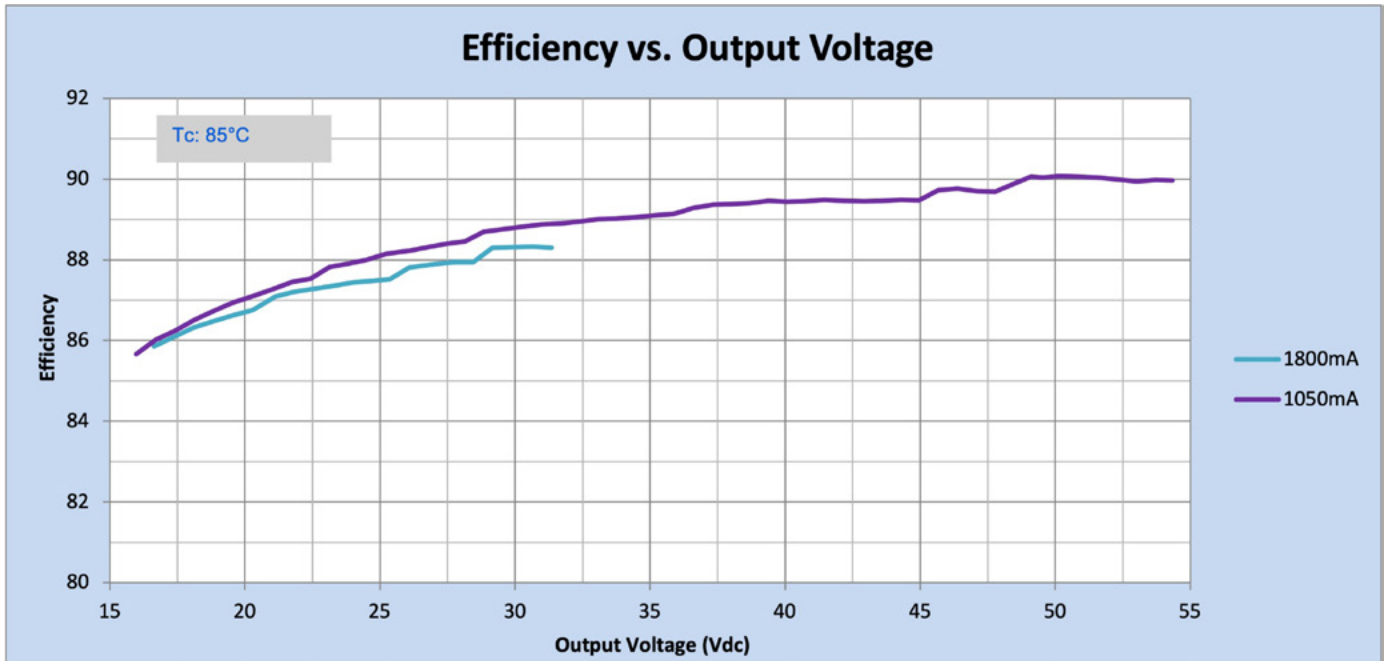
55W 0.1–1.8A 0–10V Dimming with SimpleSet

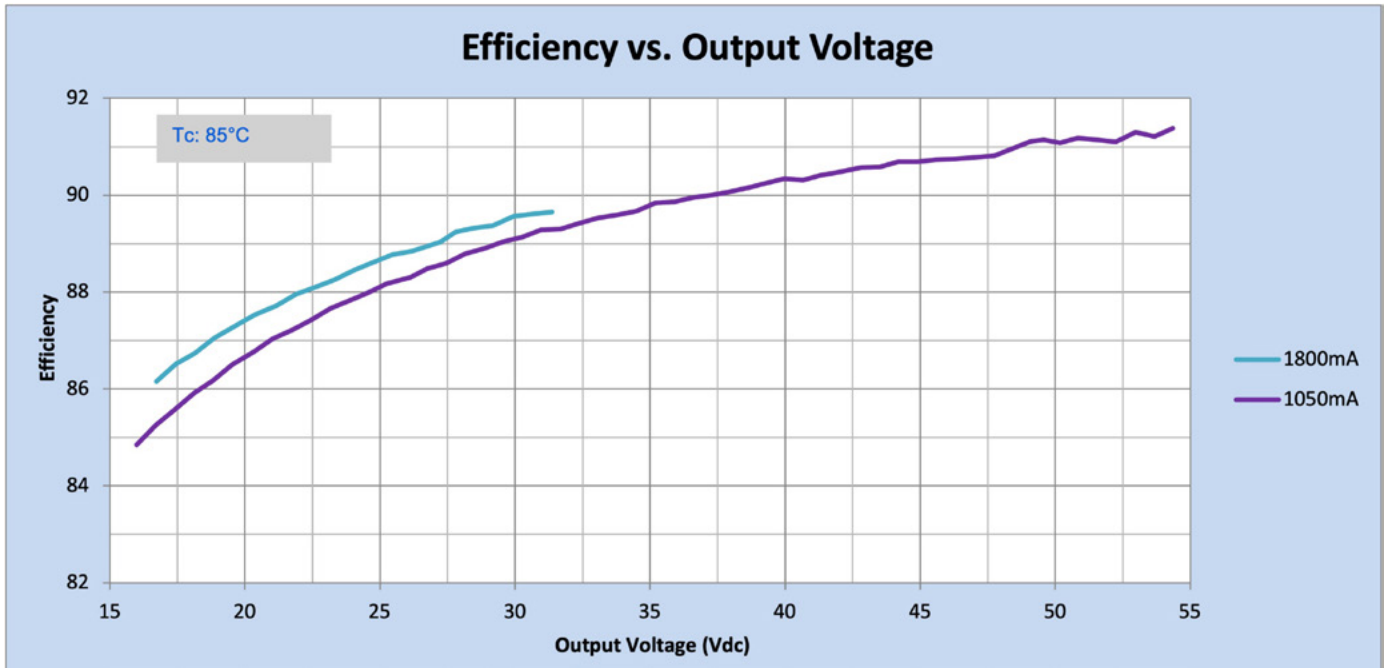
Performance Characteristics

Based on measurements on a typical sample at 85°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



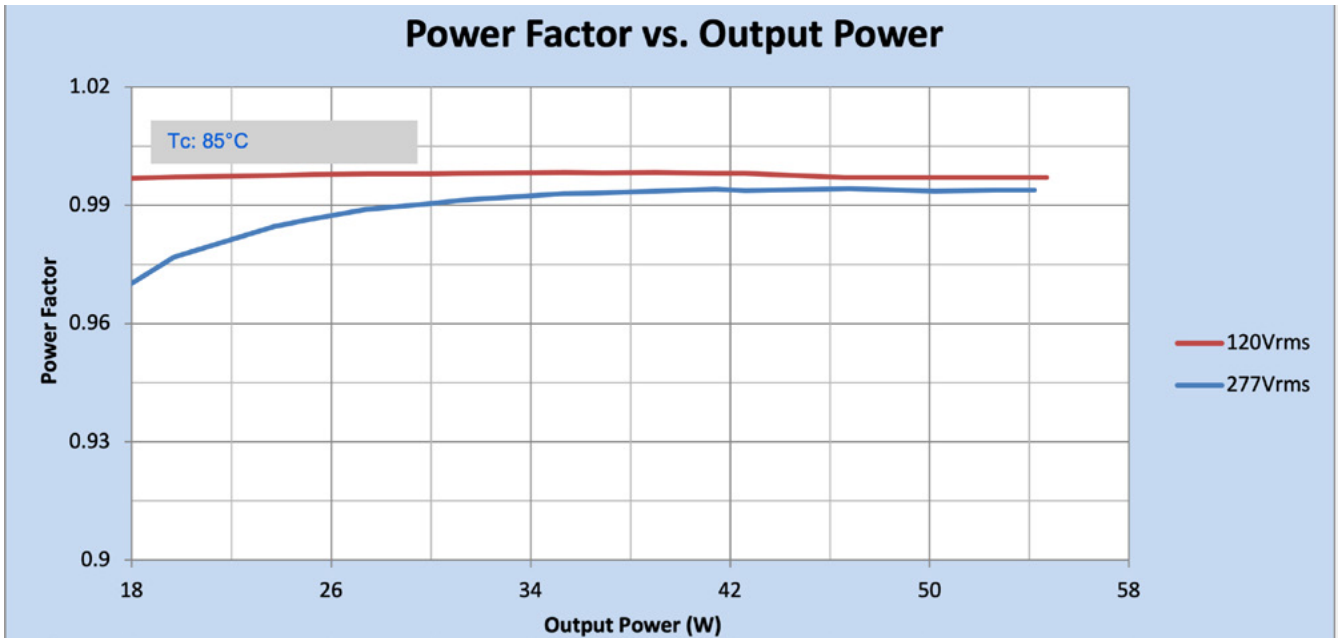
Xitanium XI055C180V054BSJ2

55W 0.1–1.8A 0–10V Dimming with SimpleSet

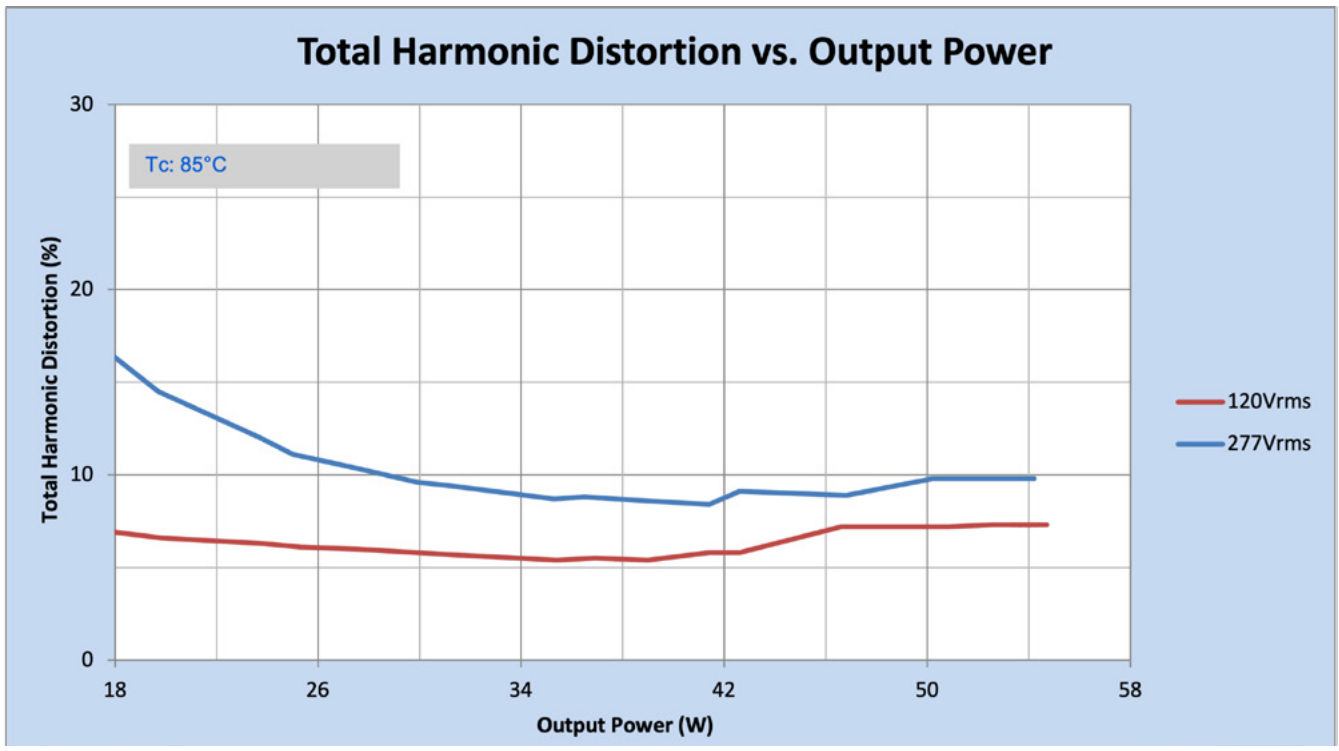
Performance Characteristics

Based on measurements on a typical sample at 85°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



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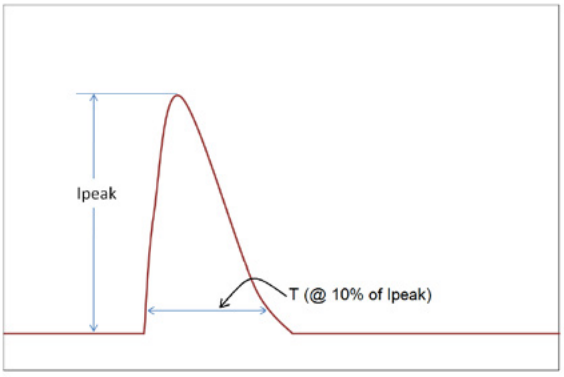
Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	6.79 A	170.5 µs
277 Vrms	17.1 A	107 µs

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	Output	0–10V	Enclosure
Input	NA	2xU+1kV	2xU+1kV	2xU+1kV
Output	2xU+1kV	NA	2xU+1kV	500
0–10V	2xU+1kV	2xU+1kV	NA	2xU+1kV
Enclosure	2xU+1kV	500	2xU+1kV	NA

U = Max. input voltage

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