

# ADVANCE

by @signify

## LED Driver

Xitanium

XG020C056V054BST1



Advance Xitanium linear LED drivers with SimpleSet technology are designed to give OEMs ultimate flexibility. The drivers' wide operating windows, slim profile and simple programming allow luminaire manufacturers to design luminaires of different sizes and lumen levels for office and retail applications.

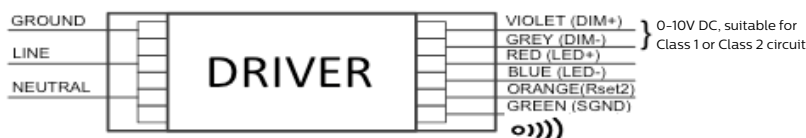
### Specifications

Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ 35.7V and 70°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
347	20	27 - 54	0.1-0.56	84	80	0.08	26	<10%	>0.95	2.5	UL damp & dry

### Enclosure

	In. (mm)
Case Length	10.0 (254)
Case Width	1.18 (30)
Case Height	1.00 (25)
Mounting Length	9.68 (246)

### Wiring Diagram



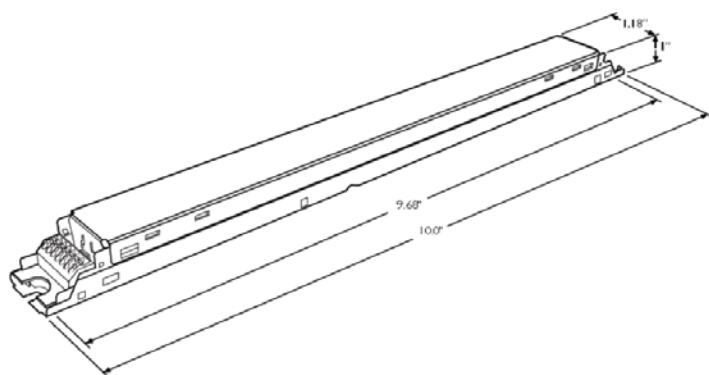
### Warning

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 2 Wiring	1% ~ 100% (for output current range 0.1-0.56A)	0.001	Dimming source current: 150 µA



# Xitanium XG020C056V054BST1

20W 0.1-0.56A 54V 0-10V 1% 347V with SimpleSet

## Features

- 50,000+ hour lifetime<sup>1</sup>
- SimpleSet programmable
- Large operating window
- 1% minimum dim level

## 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

## Electrical Specifications

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

## Product Data

Order Information	
Full Product Code	XG020C056V054BST1M (Mid-Pack, 18pcs/Box), 12NC: 929000775013
Line Frequency	50/60Hz
Min. Mains Voltage Operational	312 Vac
Max. Mains Voltage Operational	382 Vac
Output Information	
Maximum Open Circuit Voltage	< 60Vdc
Output Current Ripple (ripple = peak to average / average)	15% max. @ max Iout 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)	100mA to 560mA via external resistor or SimpleSet programming (default set to 560mA, refer to graph)
Additional SimpleSet Configurable Features	Adjustable minimum dimming level, Dimming curve selection (linear or logarithmic), Adjustable output level, Adjustable output min., OEM write protection
Environment & Approbation	
Operating Ambient Temp. Range	-20°C to +50°C
Max. Case Temperature (Tcase)	80°C
Agency Approbations	UL8750, UL1310, CSA-C22.2 No. 250.13-12, CSA Class P, UL Class P
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Audible Noise	<24dB Class A
Weight	0.49Lbs / 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.

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## 0-10V Dimming Curve

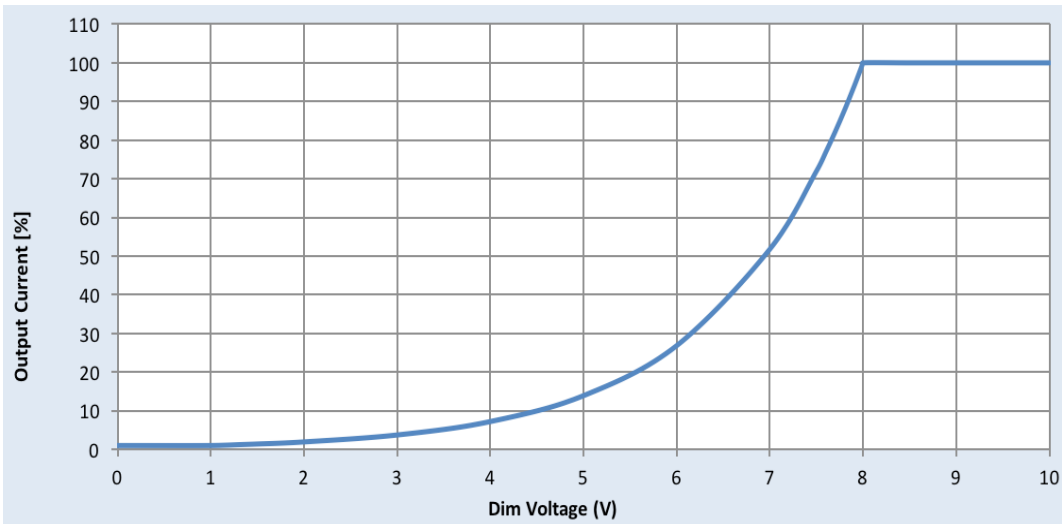
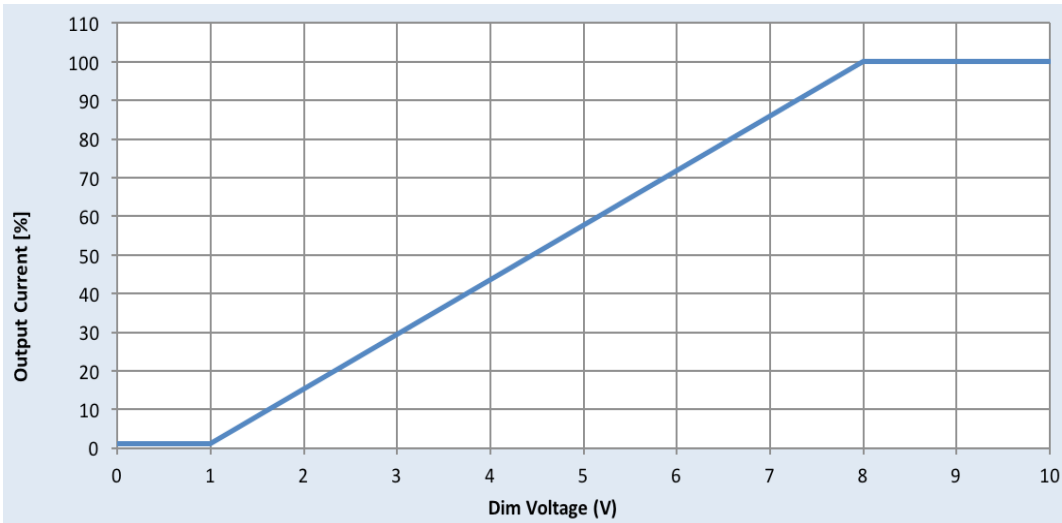
Dimming source current from the driver: 150µA (@ 0<Vdim<8V)

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

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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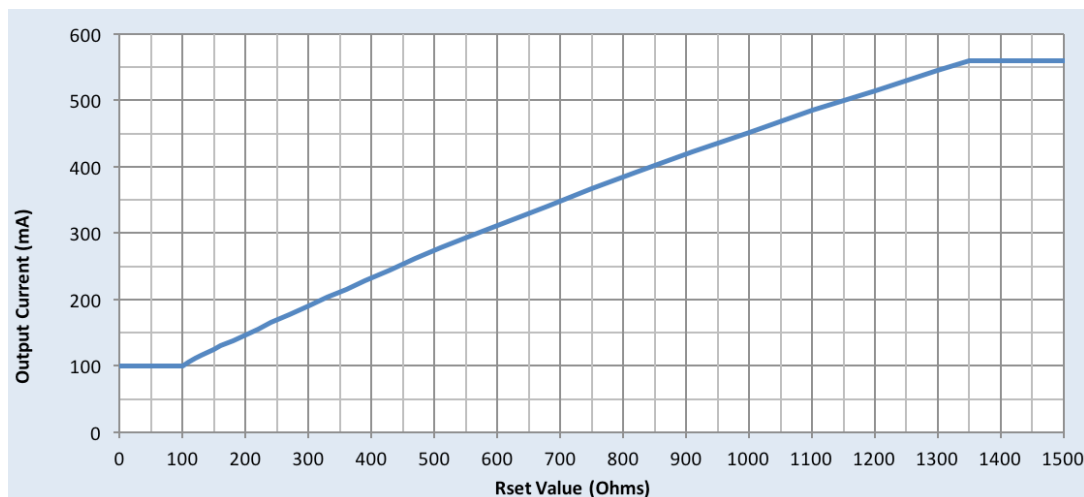
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## Electrical Specifications

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

Rset (Ohms)	Current (mA)
0	100
100	100
110	105
120	111
130	116
150	125
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
620	318
680	340
750	368
820	392
910	422
1000	452
1100	485
1200	515
1300	545
1350	560
2000	560
>100,000	560



## 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.

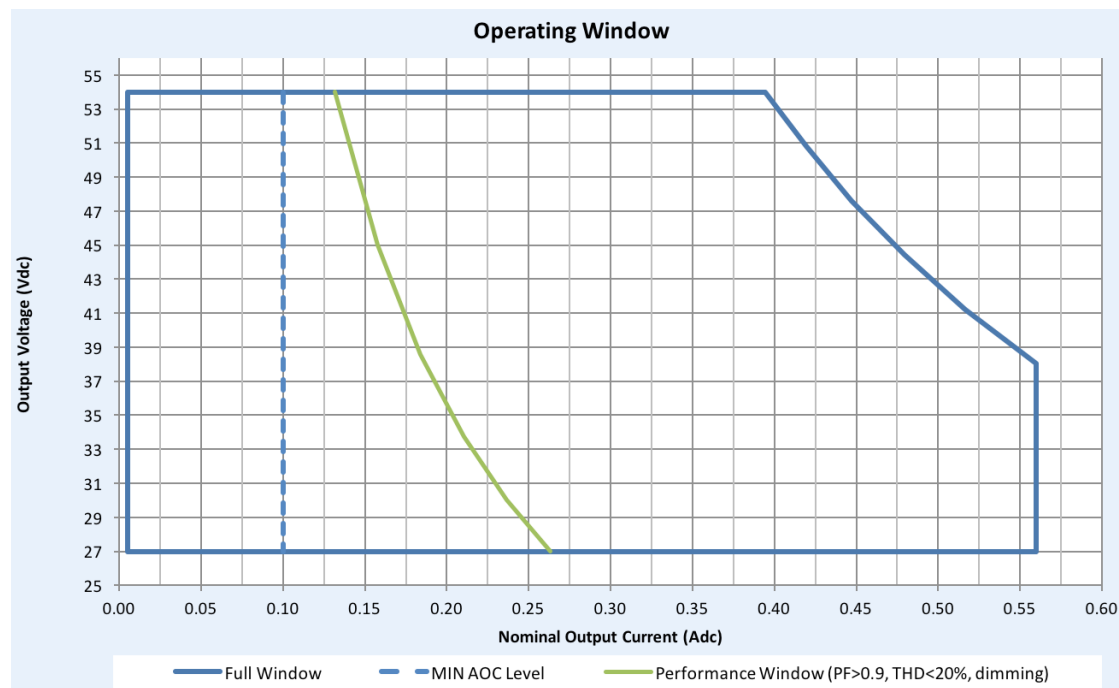
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## Electrical Specifications

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## Driver Output Window



## 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  $\geq 0.1A$ .

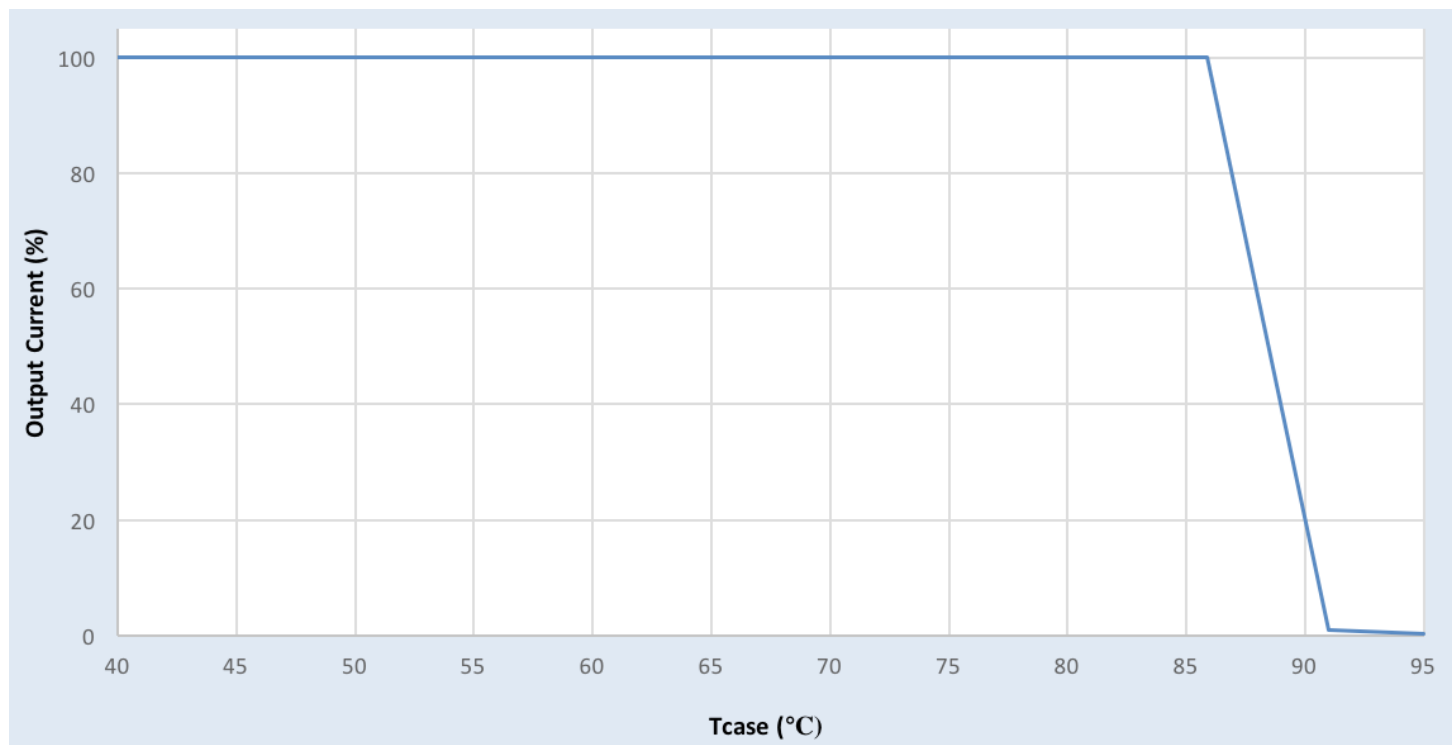
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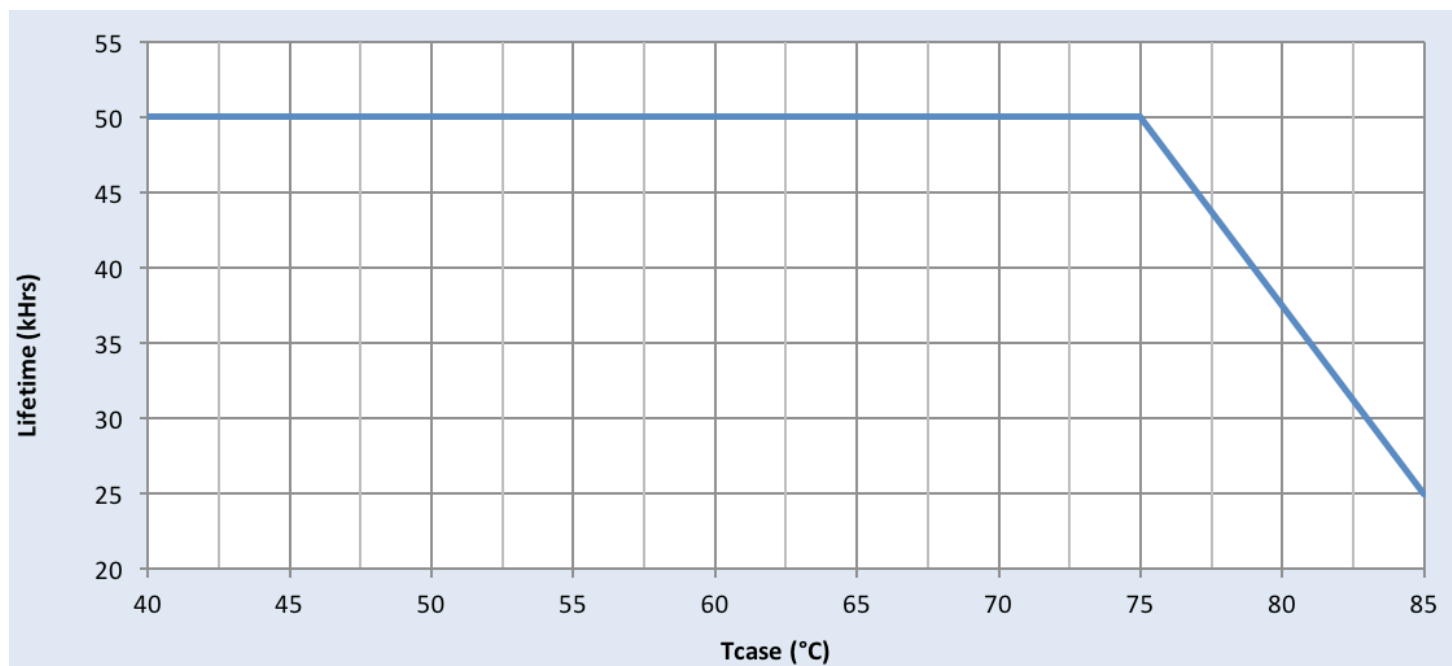
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## Output Current Vs. Driver Case Temperature



## Driver Lifetime Vs. Driver Case Temperature



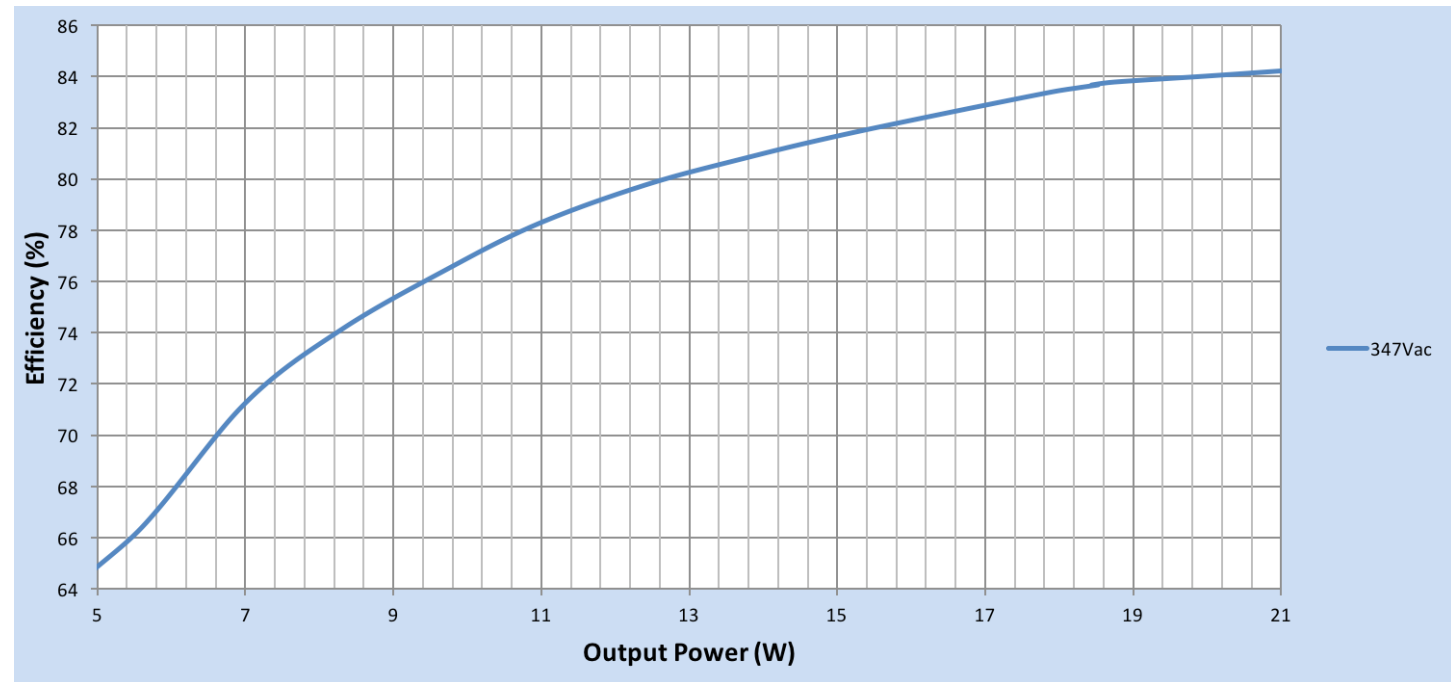
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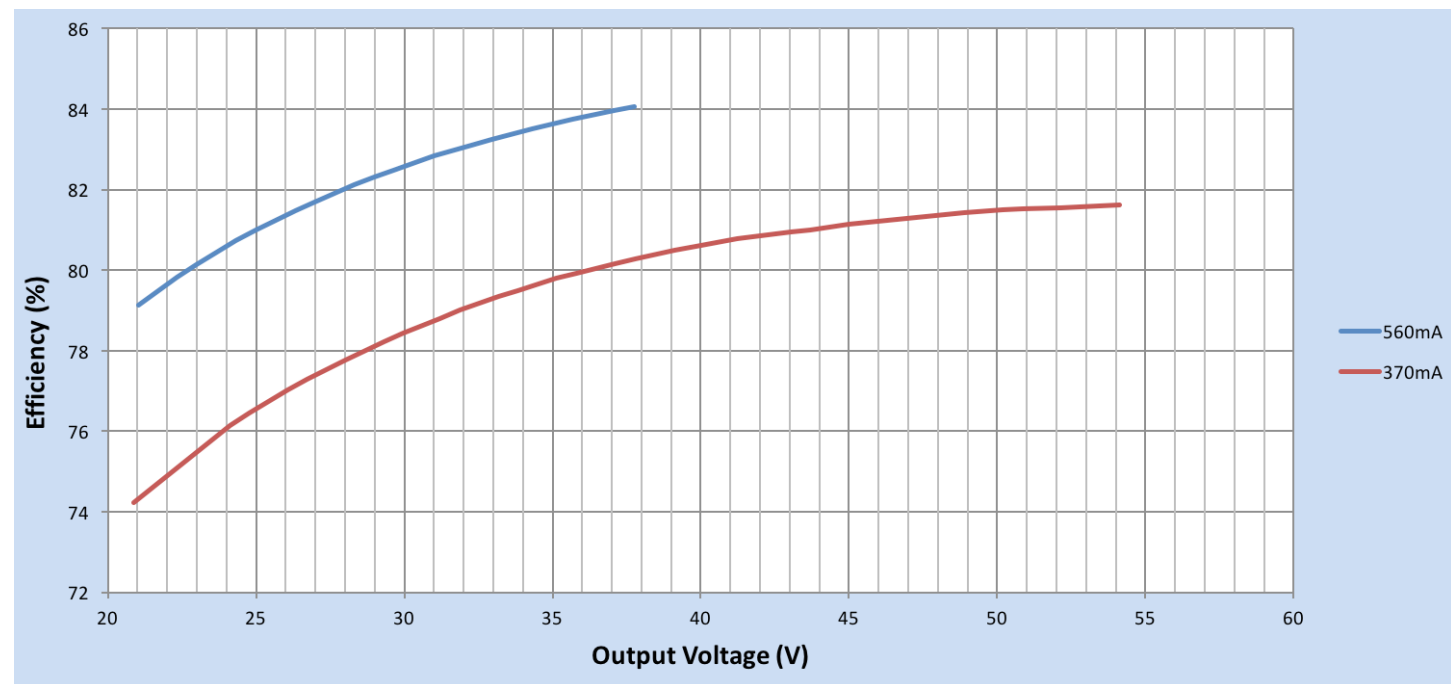
## Performance Characteristics

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 Power



### Efficiency Vs. Output Voltage



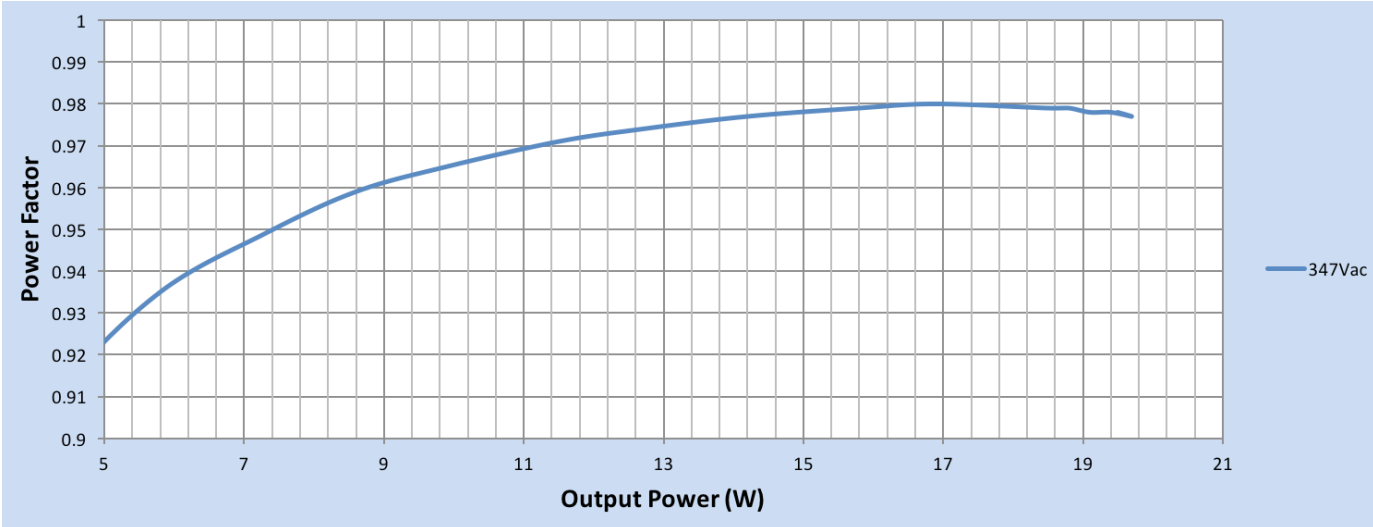
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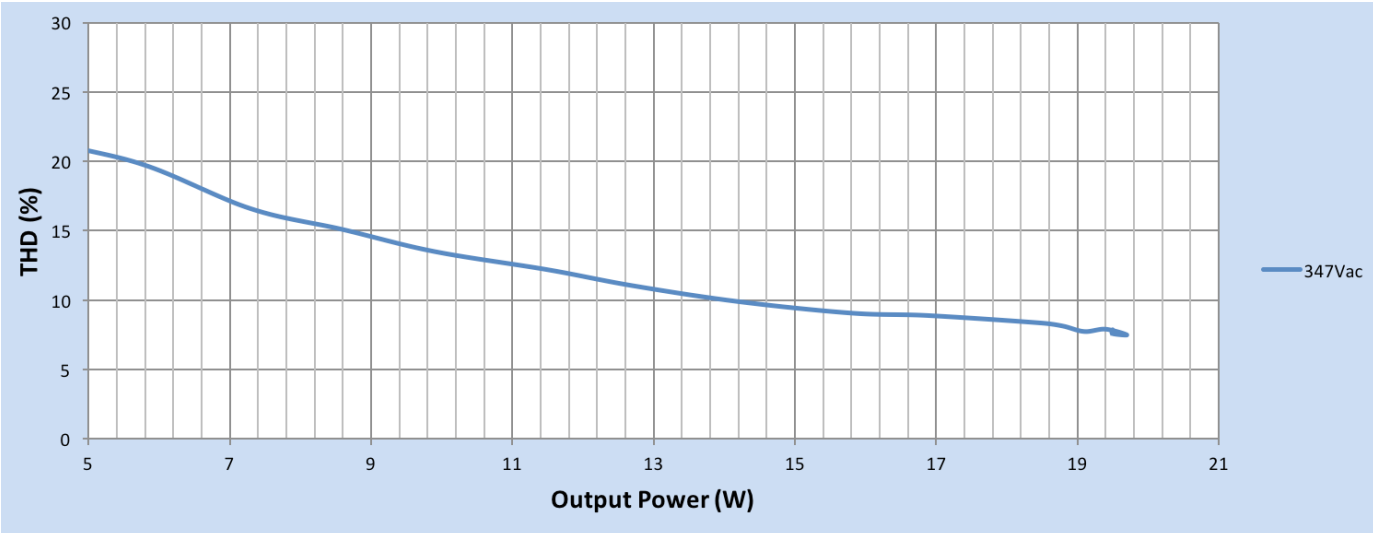
## Performance Characteristics

Based on measurements on a typical sample at 75°C T 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

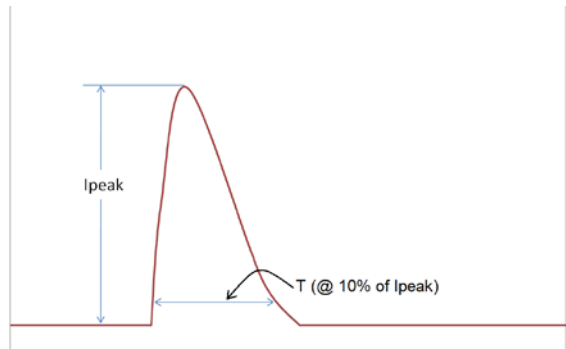




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### Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
347 Vrms	25A	200µS

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	NA	–	500V
Enclosure	2xU+1kV	500V	500V	–

U = Max. input voltage

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