

ADVANCE

by @signify

LED Driver

Xitanium

XI075C200V054DSM1
(bottom entry)

XI075C200V054DSM5
(side entry)



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%. 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. 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 (Ring Wave, KV)	Envir. Protection Rating	Driver Type
120	75	27 - 54 Class 2 Output	0.1 -2.0	87	Life-80°C UL-90°C	0.73	87	<10%	>0.95	2.5	UL damp & dry	Constant Current
277				89		0.31		<15%				

Enclosure

See page 3.

Wiring Diagram



WARNING:

Install in accordance with national and local electrical codes.
Use 18AWG solid or tinned stranded copper wire.
The field-wiring leads or push-in terminals shall be fully enclosed.
USE ONLY WITHIN AN ENCLOSURE.

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 0.7-2.0A)	0.007	Dimming source current: 150 µA



Xitanium XI075C200V054DSM1 (bottom entry) XI075C200V054DSM5 (side entry)

75W 0.1 – 2A 54V 0–10V INT (1% dim) with SimpleSet

Features

- 50,000+ hour lifetime¹
- 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
- Office (corridors, conference rooms, lobby areas, atriums)
- Retail
- Hospitality

Electrical Specifications

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

Product Data

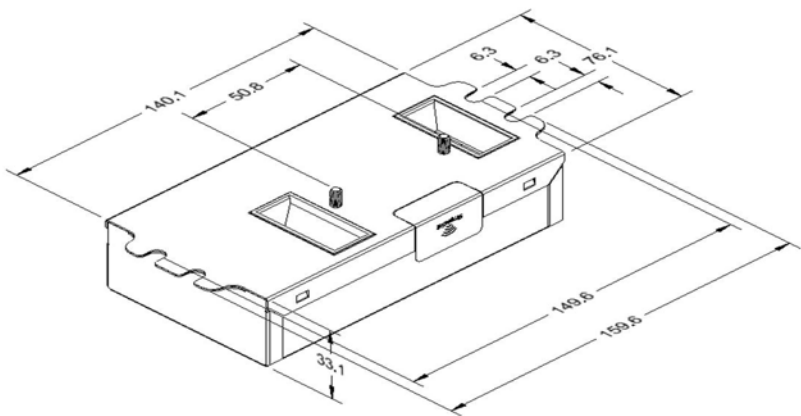
Order Information	
Full Product Code	XI075C200V054DSM1M [bottom entry] (Mid-Pack, 16pcs/Box), 12NC: 929000774813 XI075C200V054DSM5M [side entry] (Mid-Pack, 20pcs/Box), 12NC: 929000774913
Line Frequency	50/60Hz
Min. Mains Voltage Operational	108 Vac
Max. Mains Voltage Operational	305 Vac
Output Information	
Maximum Open Circuit Voltage	< 60Vdc, Class 2 output
Output Current Ripple (ripple = peak to average / average)	15% max @ max lout 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–2A via external resistor and SimpleSet programming (default set to 2A, 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, UL991, cUL, Class P (UL, cUL)
Electromagnetic Compliance	FCC Title 47 Part 15 Class A, CAN ICES–005 (A) / NMB–005 (A)
Audible Noise	<24dB Class A
Weight	1.23Lbs/0.56 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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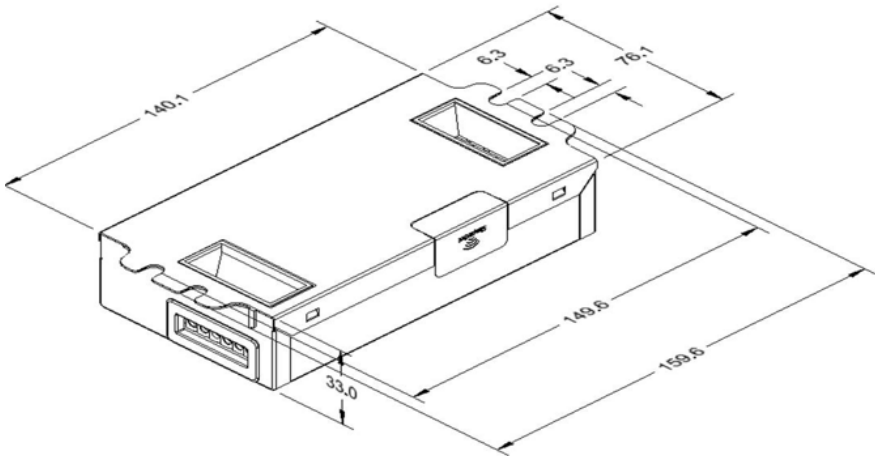
Enclosure – XI075C200V054DSM1 (bottom entry)

	In. (mm)
Case Length	5.51 (140.10)
Case Width	2.99 (76.1)
Case Height	1.3 (33.1)
Mounting Length	5.89 (149.6)
Overall Length	6.28 (159.6)



Enclosure – XI075C200V054DSM5 (side entry)

	In. (mm)
Case Length	5.51 (140.10)
Case Width	2.99 (76.1)
Case Height	1.3 (33.1)
Mounting Length	5.89 (149.6)
Overall Length	6.28 (159.6)



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75W 0.1 – 2A 54V 0–10V INT (1% dim) with SimpleSet

Electrical Specifications

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0–10V Dimming Curve

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

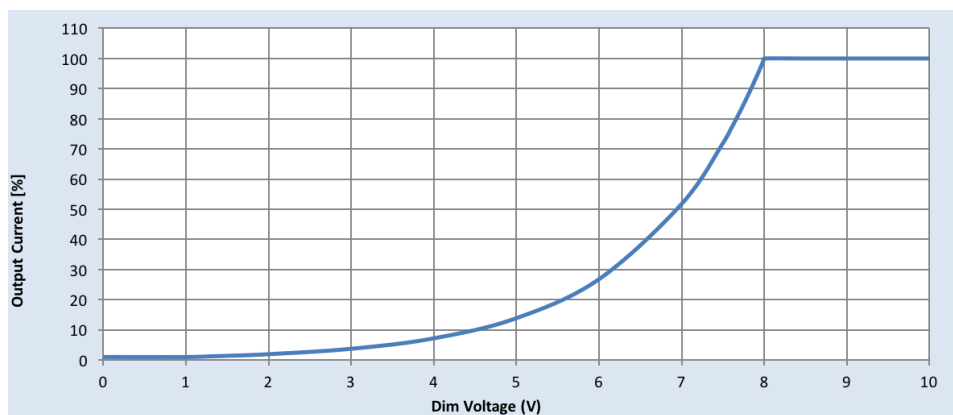
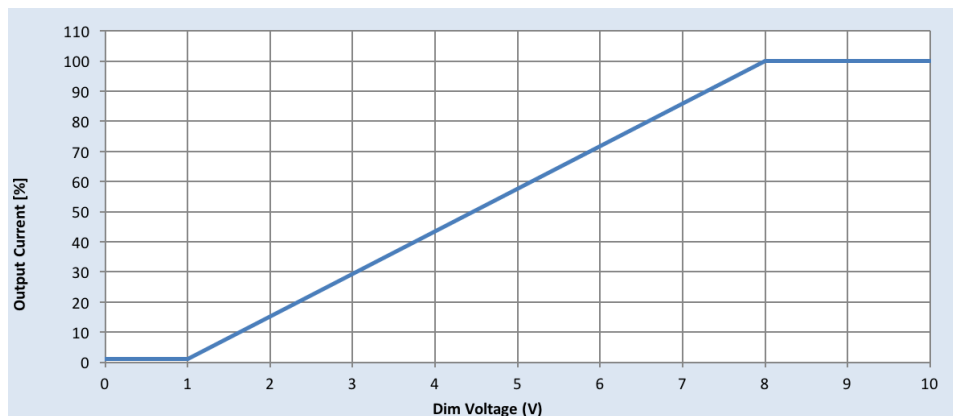
Minimum dim level: 1% of Iout (minimum 700mA)

Maximum output voltage on the dimming wires: 12V

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



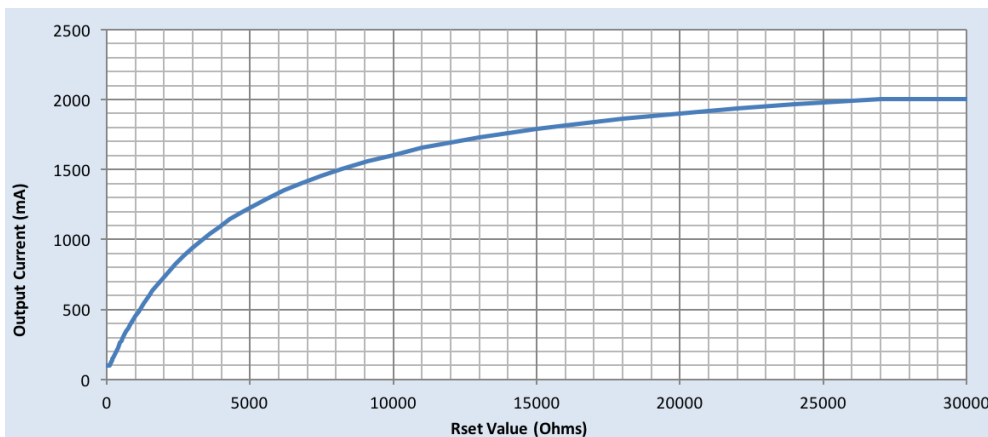
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AOC (Adjustable Output Current) Settings (Rset)

Rset (Ohms)	Current (mA)	Rset (Ohms)	Current (mA)
0	100	3600	1042
100	100	3900	1085
110	105	4300	1143
120	111	4700	1192
130	116	5100	1238
150	125	5600	1293
160	130	6200	1350
180	138	6800	1402
200	146	7500	1454
220	155	8200	1503
240	166	9100	1558
270	176	10000	1604
300	190	11000	1653
330	204	12000	1694
360	215	13000	1730
390	228	15000	1793
430	245	16000	1817
470	261	18000	1864
510	277	20000	1902
560	297	22000	1934
620	318	24000	1965
680	340	27000	2000
750	368	30000	2000
820	392		
910	422		
1000	452		
1100	485		
1200	515		
1300	545		
1500	602		
1600	632		
1800	684		
2000	733		
2200	780		
2400	823		
2700	883		
3000	941		
3300	993		



Notes

Current is set via a resistor between Rset2 and SGND leads.

Any through-hole or SMD resistor with >0.25W and >20V can be used as Rset.

Driver will default to 2000mA when Rset is left open.

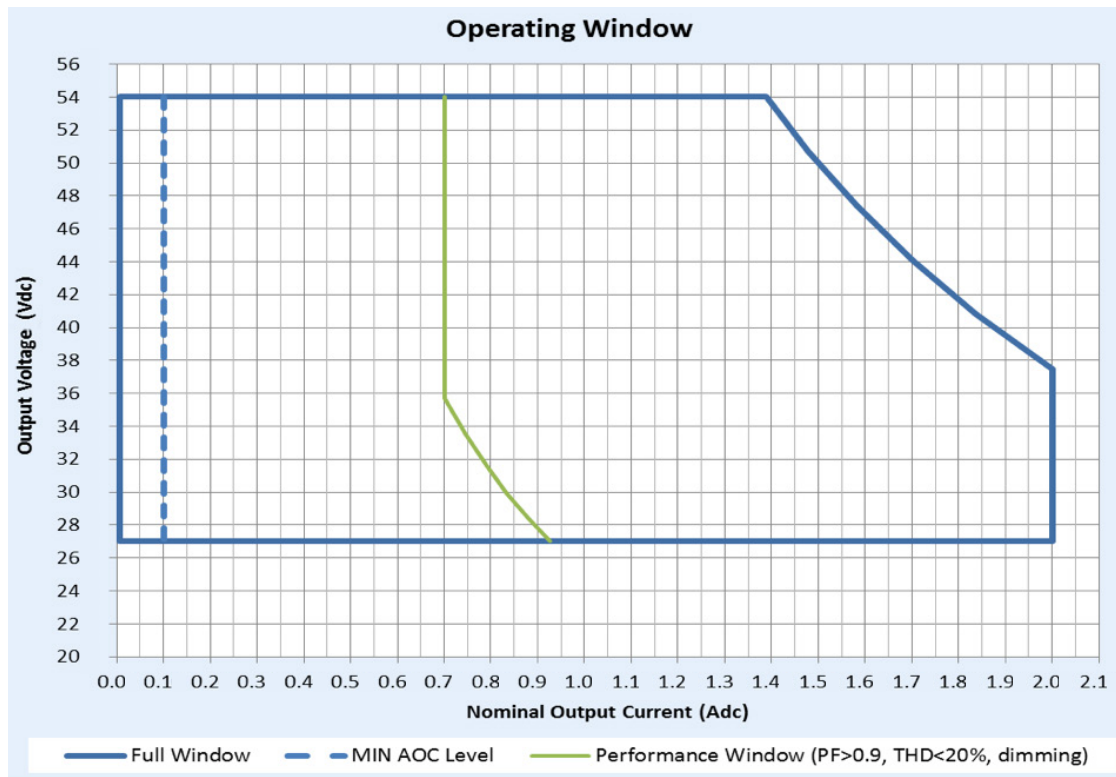
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Driver Output Window



Notes

1. Factory default output current is 2.0A.
2. For dimming to a minimum level of 1% the output current setting through AOC should be $\geq 0.1A$.

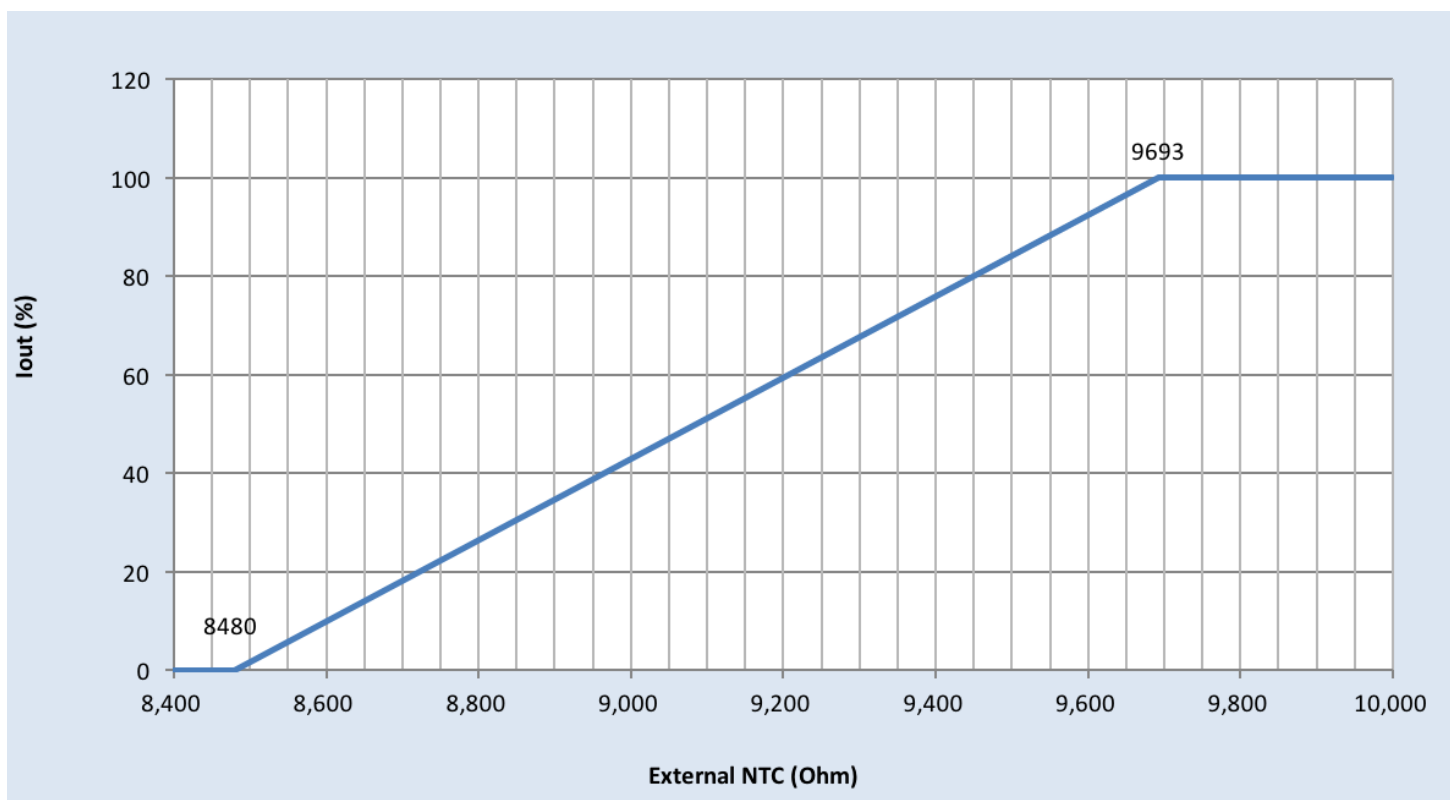
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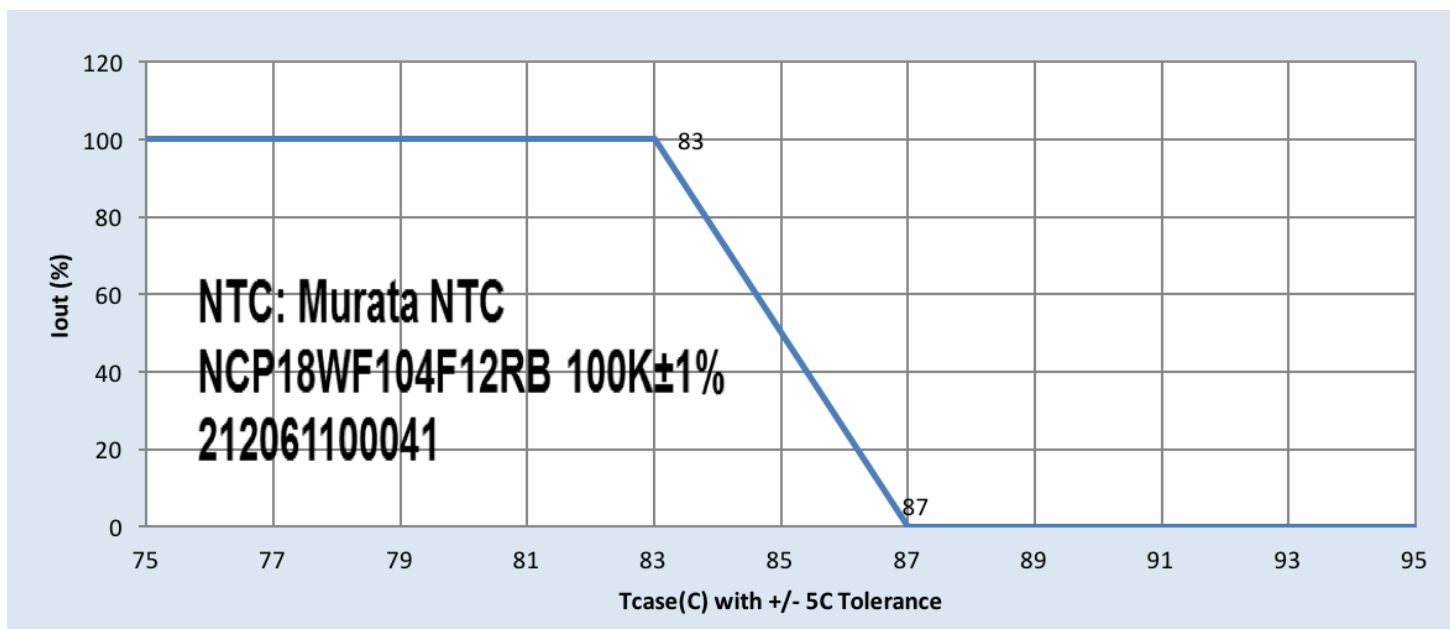
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Output Current Vs. External NTC Resistance



Output Current Vs. LED Module Temperature Using 100kohm NTC



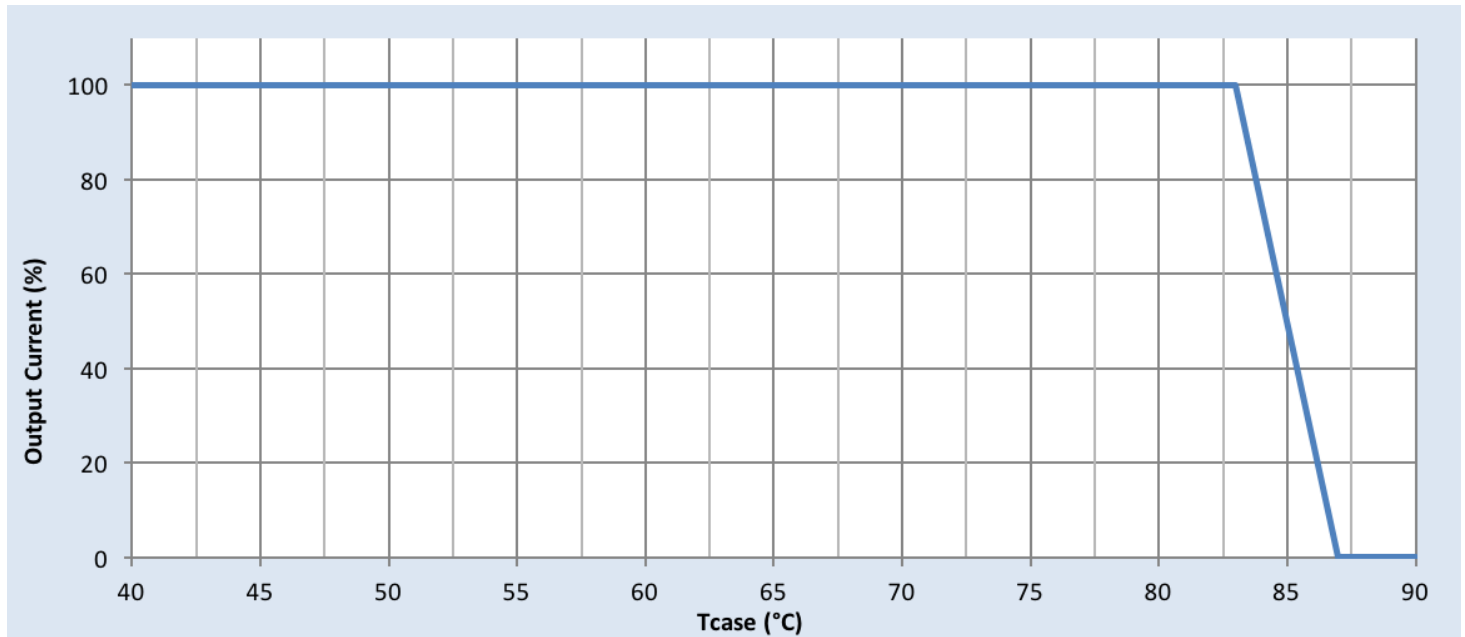
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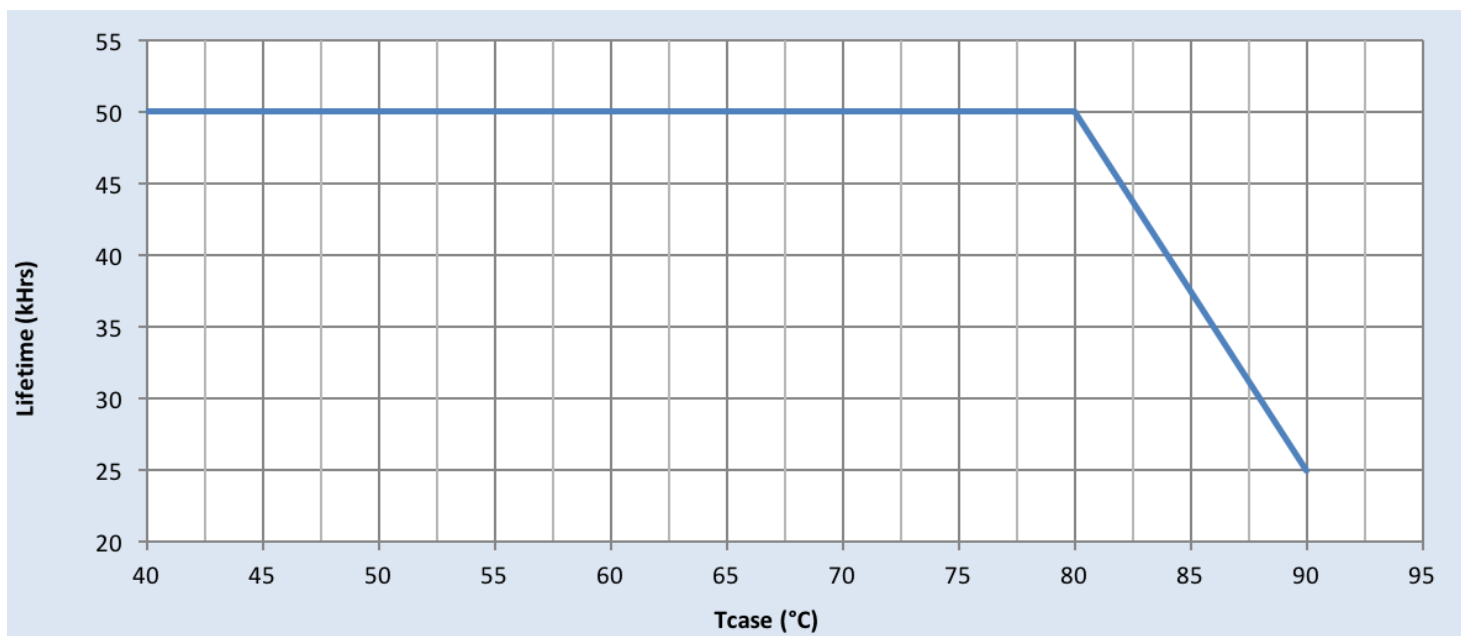
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Output Current Vs. Driver Case Temperature



Note: There is $\pm 5^{\circ}\text{C}$ tolerance on the driver case temperature.

Driver Lifetime Vs. Driver Case Temperature



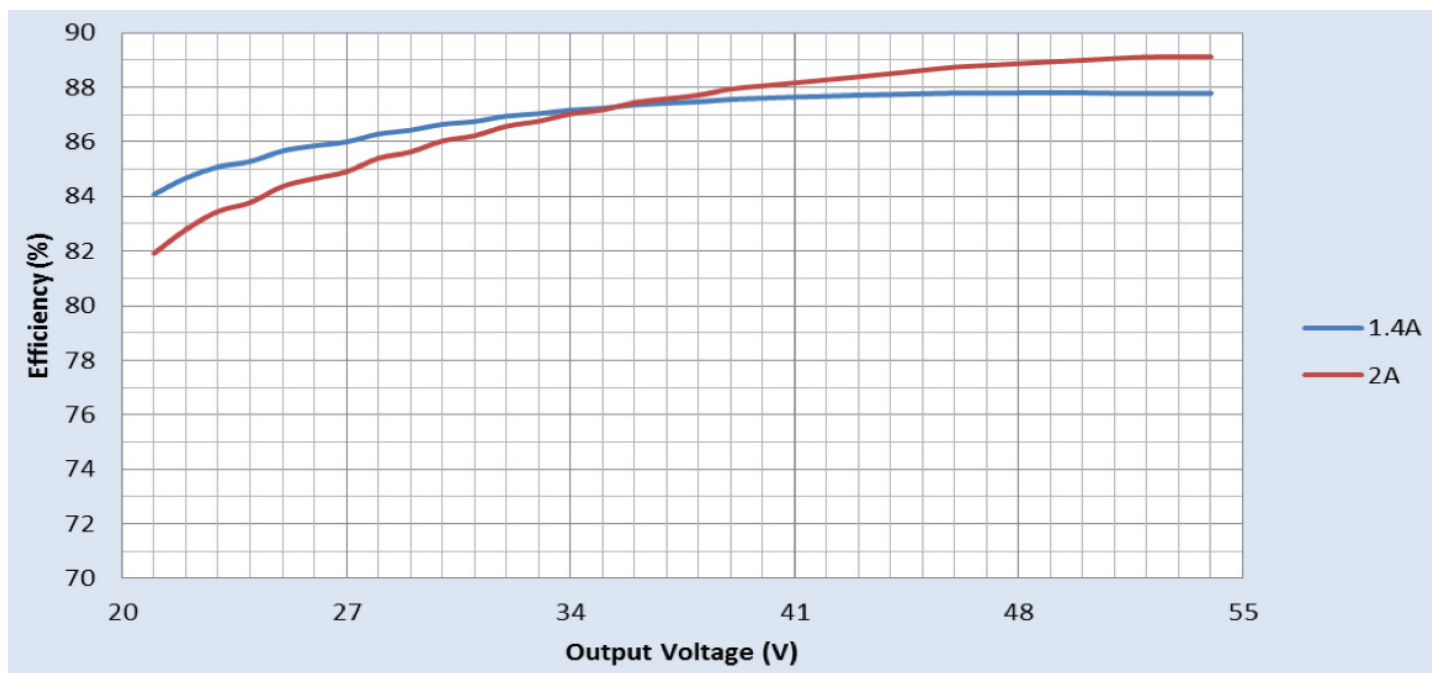
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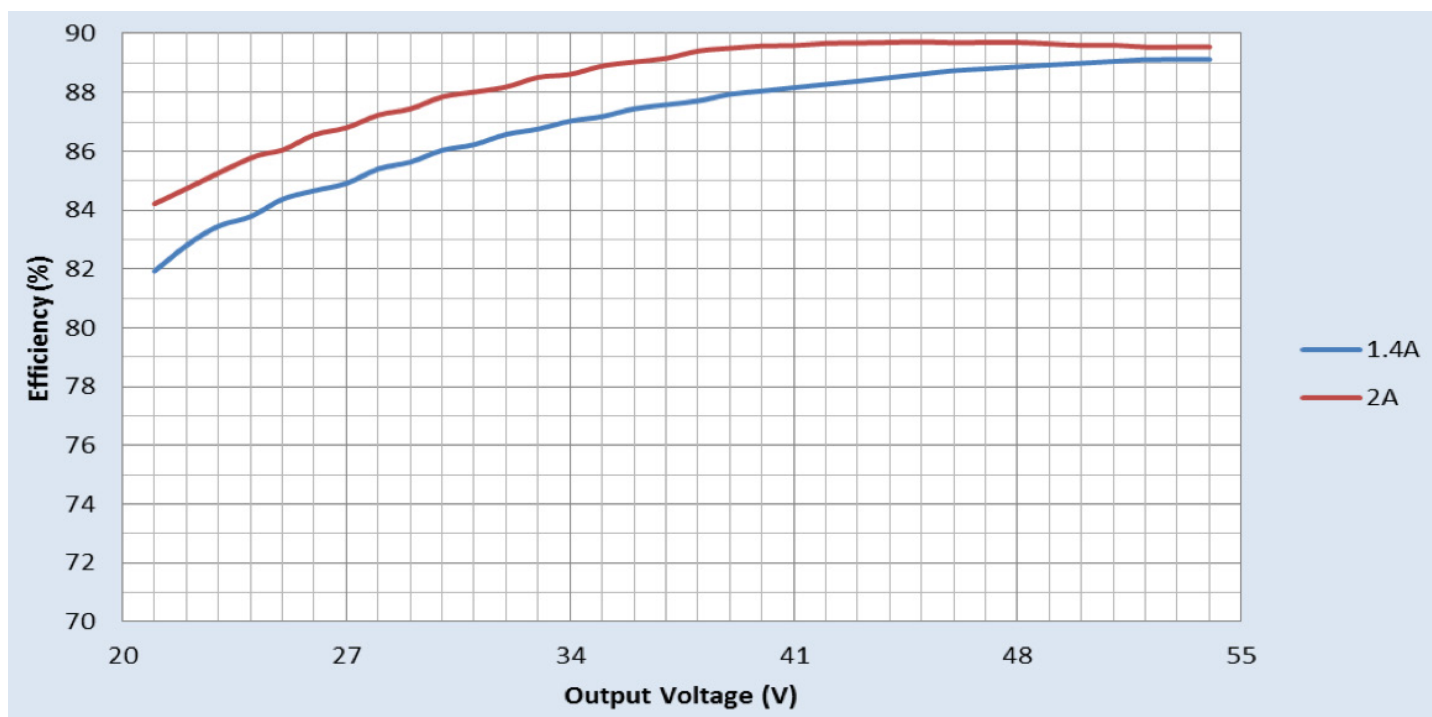
Performance Characteristics

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



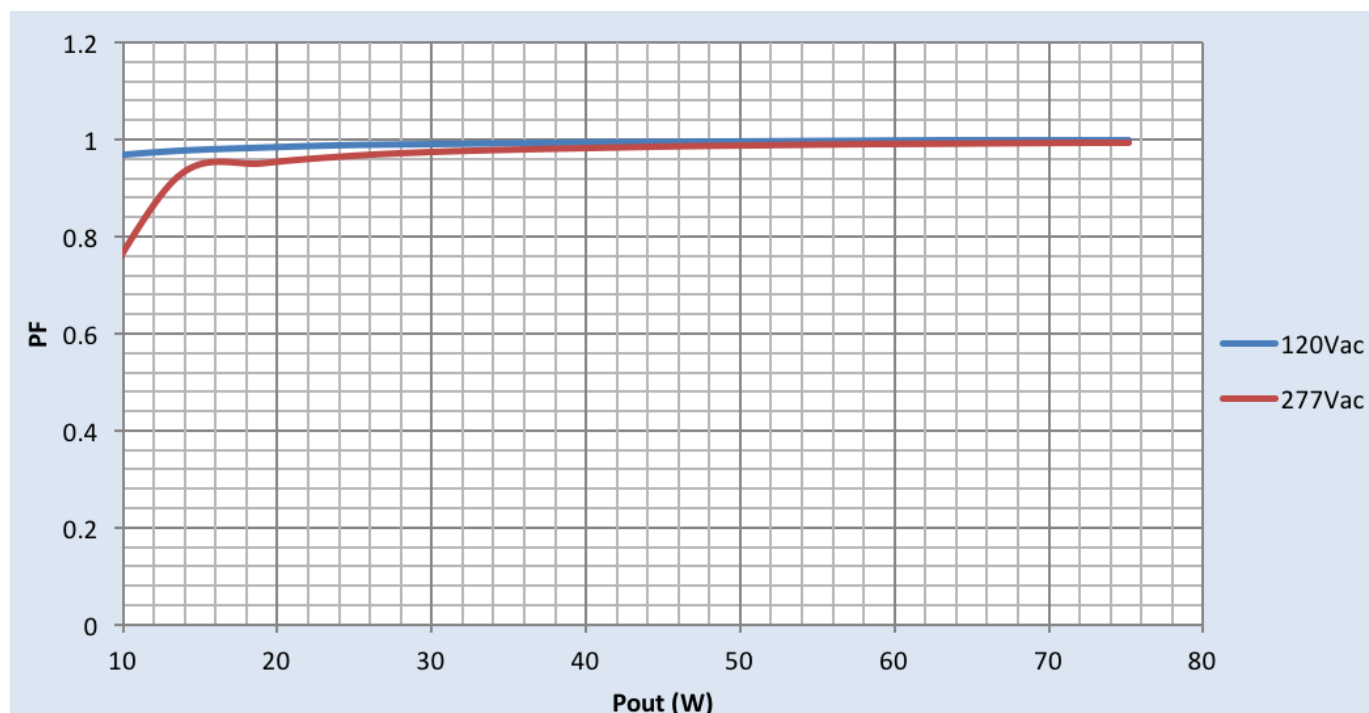
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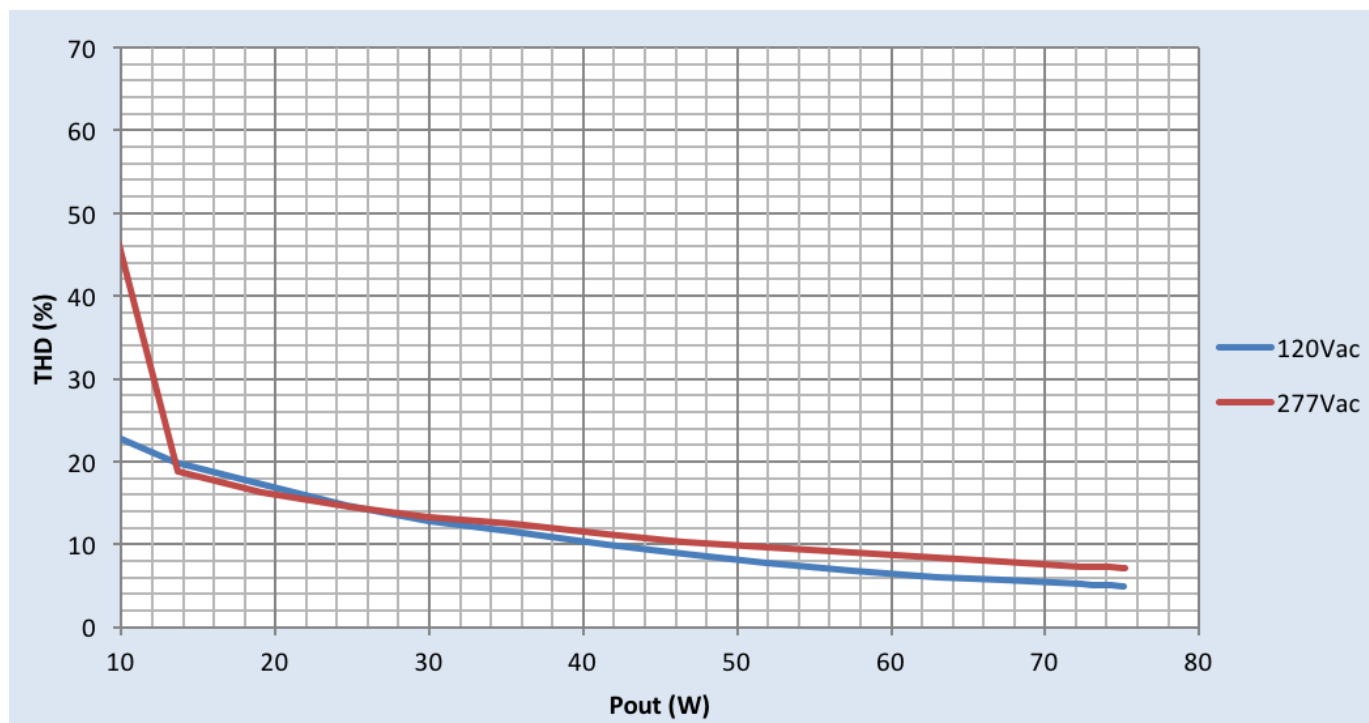
Performance Characteristics

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

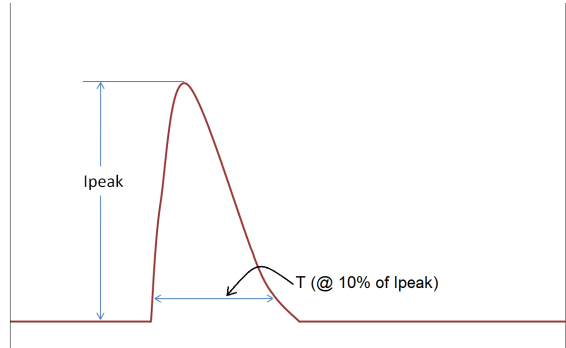


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Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	18.8A	244μS
277 Vrms	51.4A	214μS

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 (class 2) Max working voltage	2.5kV	2.5kV	NA	2xU+1kV
Enclosure	2xU+1kV	2xU+1kV	2xU+1kV	NA

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