

PHILIPS

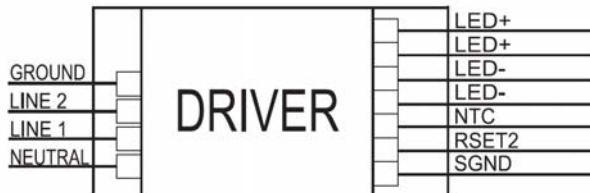
Product Overview

XI054C150V054SNT1

Brand Name	XITANIUM
Description	XITANIUM 54W 0.7-1.5A 54V Step Dim
Input Voltage	120 ~ 277V
Input Freq.	50/60Hz
RoHS	Yes
Status	Released

Input Voltage (Vac)	Output Power (W)	Output Voltage Range (V)	Output Current (A)	Efficiency@ Max Load and 25°C Amb	Max Case Temp. (°C)	Input Current (Arms)	Max. Input Power (W)	Inrush Current (Apk/50%-µs)	THD @ Max Load (%)	Power Factor @ Max Load	Surge Protection Common/Diff (KV)	Weight (Lbs/kgs)	Envir. Protection Rating
120	54	27 - 54	0.7 – 1.5	86	85 °C	0.54	65	18 / 105	<15%	>0.95	2/2	0.734/ 0.333	UL damp and dry
277				88		0.23		46 / 97	<20%				

Wiring Diagram



Input and output are WAGO 250 connectors.

Connect wires:

Use 18 AWG Solid Copper Wire Rated $\geq 300V$.
Strip Wire 3/8".

Dimming	Dimming Range	Minimum Output Current (A)	Other Comments
Step dimming	40% 100%	0.28	

Enclosure



	in. (mm)
Case Length	14.17 (360)
Case Width	1.18 (30)
Case Height	1.0 (25.4)



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10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018

Tel: 800-322-2086 · Fax: 888-423-1882 · www.philips.com/advance

Customer Support/Technical Service: 800-372-3331 · OEM Support: 866-915-5886



Electrical Specifications

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

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Order code	XI054C150V054SNT1
Full product code	XI054C150V054SNT1M
Full product name	XITANIUM 54W 0.7-1.5A 54V Step Dim
Line Voltage	120-277Vac rms
Line Current	0.54A @ 120V, 0.23A @ 277V
Line Frequency	50/60Hz
Min. Mains voltage operational	108 V [min]
Max. Mains voltage operational	305V [max]
THD (total)	Refer to graph
Power Factor (PF)	Refer to graph
Inrush Current	Per NEMA 410
Input Over-voltage	Can survive input over-voltage stress of 320VAC for 48 hours and 350VAC for 2 hours
Lightning Surge Protection	Per ANSI C62.41 Category A (2KV Combination Wave and 6KV ring wave)
Output voltage range	27V to 54Vdc
Maximum Output voltage	57V
Output Current Ripple (ripple = peak to peak / average)	20% max @ 1.5A Low frequency (≤ 120 Hz) content <5%
Protections	Short Circuit and Open Circuit Protection for LED + and LED-
Ambient Temp Range	-20C to +50C (corresponding Tcase +5C to +75C)
Max Case Temperature (Tcase)	85C
Encapsulation	No potting
Interfaces	Step Dimming, AOC, MTP
AOC (Adjustable Output Current)	100mA to 1500mA via external resistor (refer to graph below & notes in the Application section)
MTP (Module Temperature Protection)	refer to graph below
Step Dimming Specifications	40% of Imax
Environmental Protection Rating	UL damp and dry
Life @ Tcase 75C	50000 hr, refer to graph below
Life @ Tcase 85C	25000 hr, refer to graph below
Agency Approbations	UL8750, UL1310, UL935, CSA-C22.2 No. 250.13-12, CSA C22.2 No. 223
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Isolation	Refer to table

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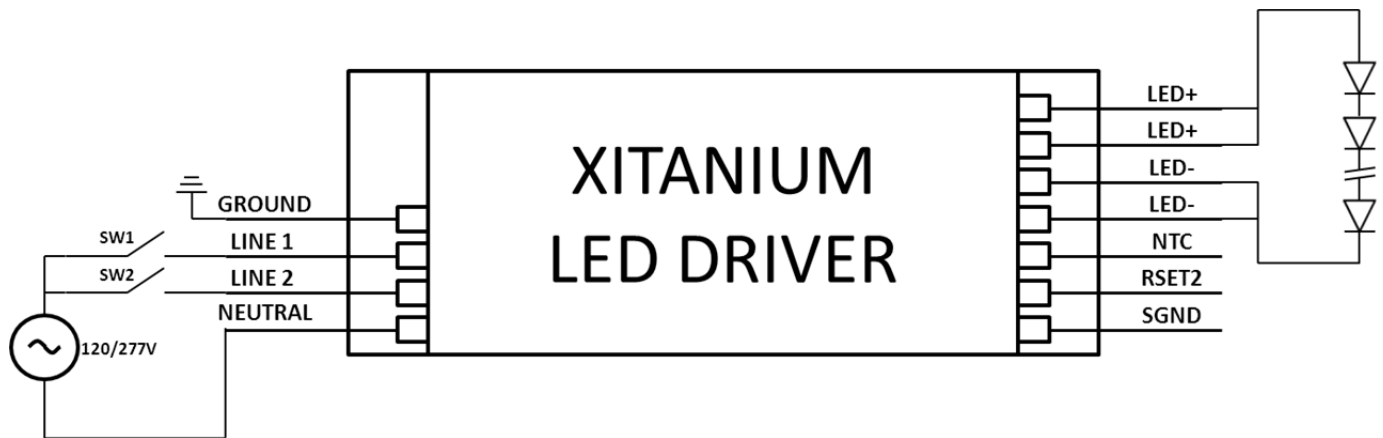
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Step Dimming:

Step Dim Level: 40% of Iout (minimum 280mA)



SW1	SW2	Output Current	Input Power
Close	Open	40%	<50%
Open	Close	40%	<50%
Close	Close	100%	100%
Open	Open	0%	0%

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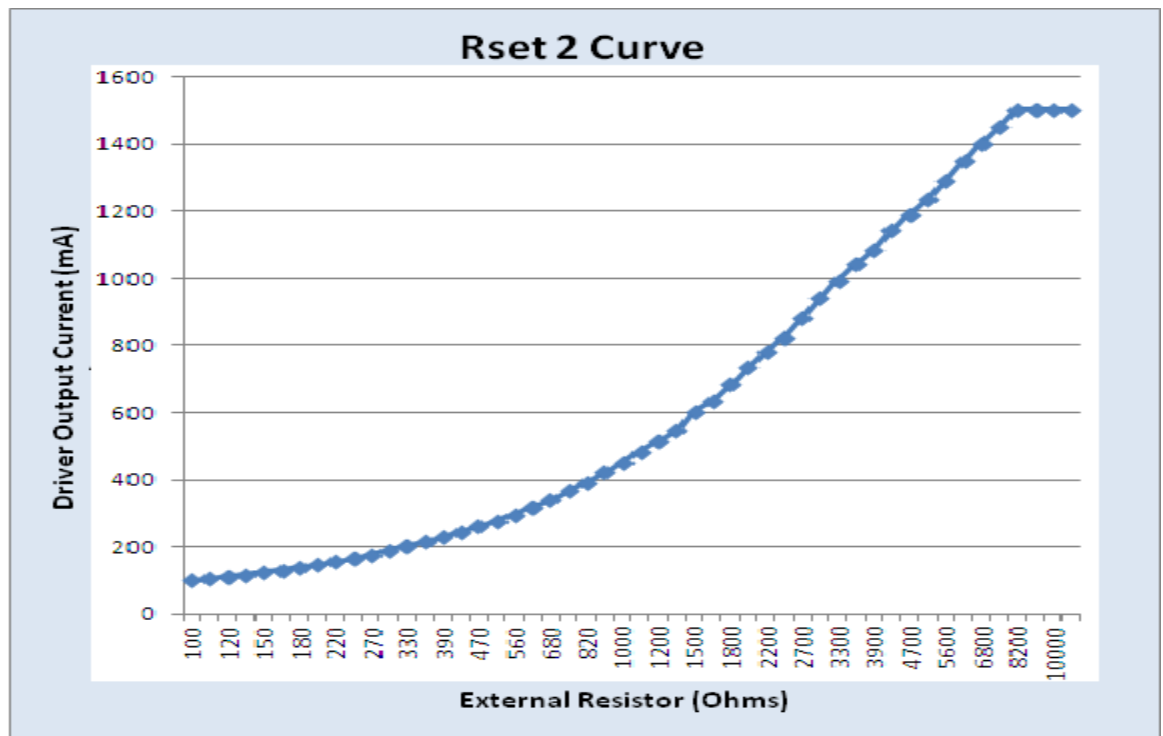
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AOC (Adjustable Output Current) Settings:

LED current tolerance with variation of Rset2 is within $\pm 5\%$ of Imax

Rset (Ohms)	Current (mA)
100	100
120	111
150	124.5
180	138.2
220	154.6
270	176.4
330	203.7
390	228.3
470	261.0
560	296.5
680	340.2
820	392.1
1000	452.1
1200	514.9
1500	602.3
1800	684.2
2200	779.7
2700	883.5
3300	992.7
3900	1085.5
4700	1191.9
5600	1273.0
6800	1402.1
8200	1503.1
>8200	1503.1



Any through hole or SMD resistor with $>0.25W$ and $>20V$ can be used as RSET2 between Rset2 and SGND pins.

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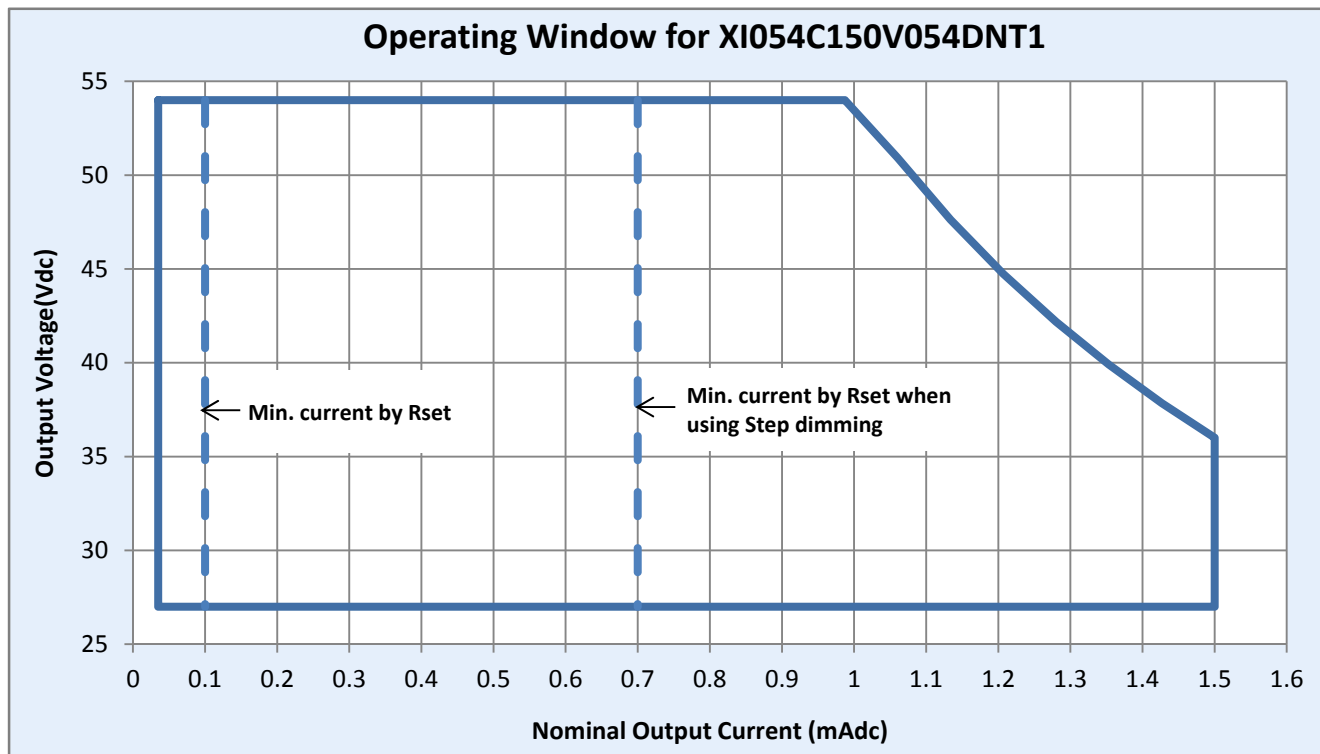
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Operating Window:



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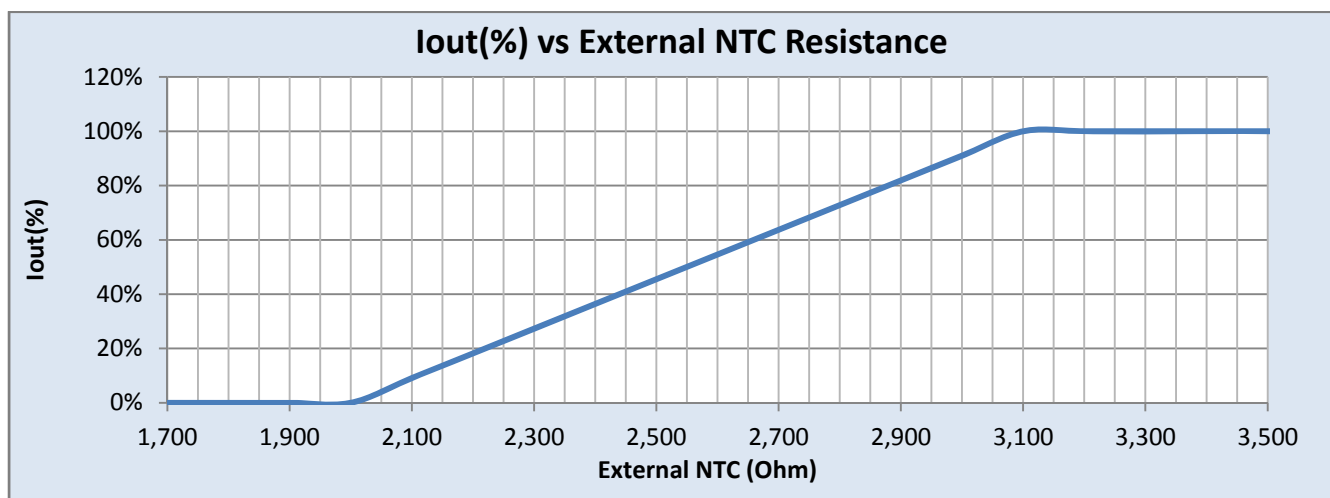
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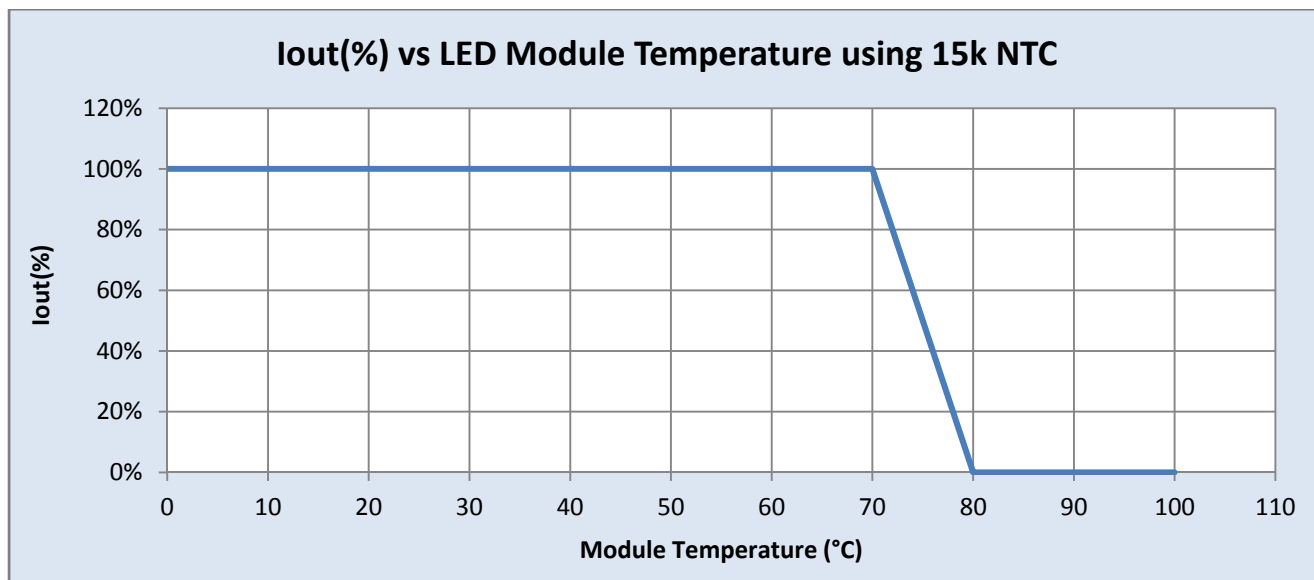
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Module Temperature Protection:



For example: Using NTC Vishay 15kOhm $\pm$ 2% NTC, B25/85=3700 (238I 615 54I53), the output current Vs module temperature behavior is as follows.



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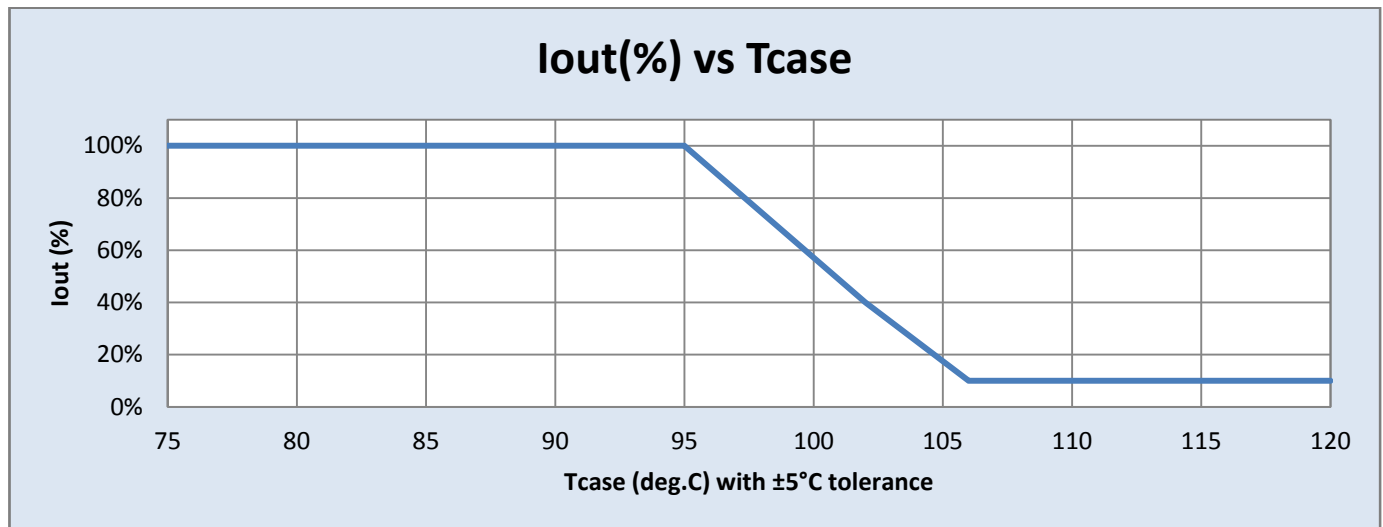


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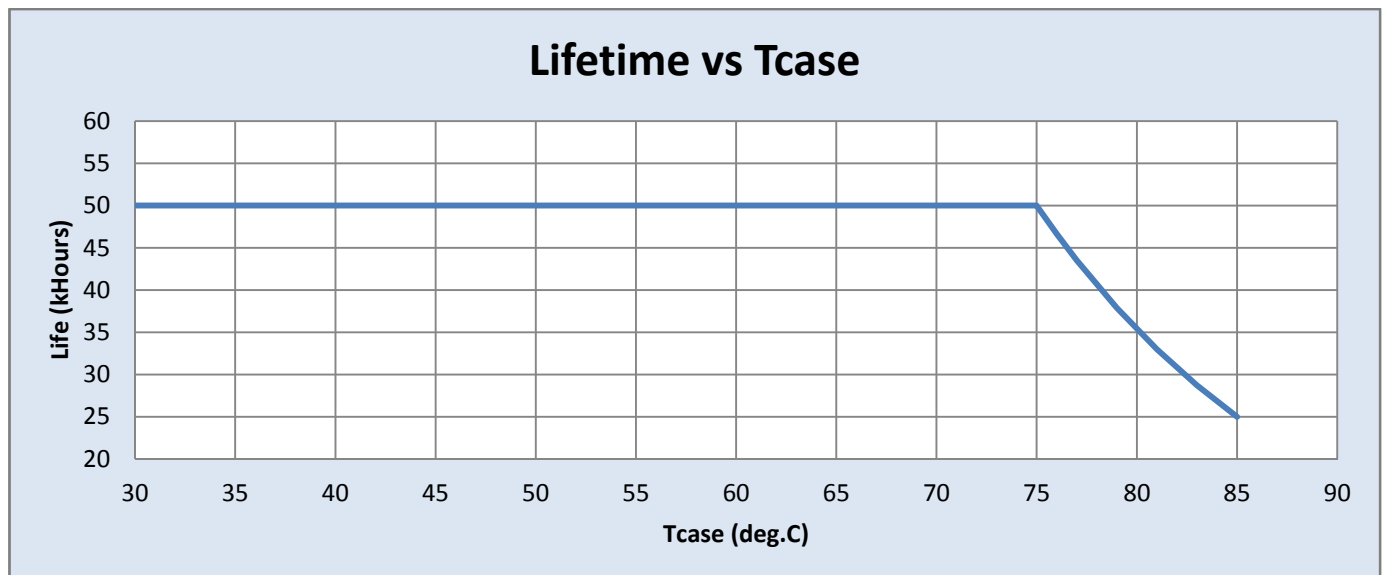
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Iout vs. Tcase of Driver:



Lifetime vs. Tcase of Driver:



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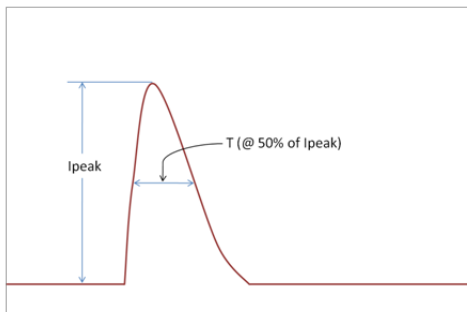
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Failure Rate based upon field call rate data:

- <0.01% per 1k Hrs @ $\leq$ Tcase 75°C

Inrush Current Info:



Vin	Ipeak	T (@ 50% of Ipeak)
120 Vrms	18 A	105 μ s
277 Vrms	46 A	97 μ s

Inrush current is measured at peak of the corresponding line voltage, source impedance per NEMA 410.

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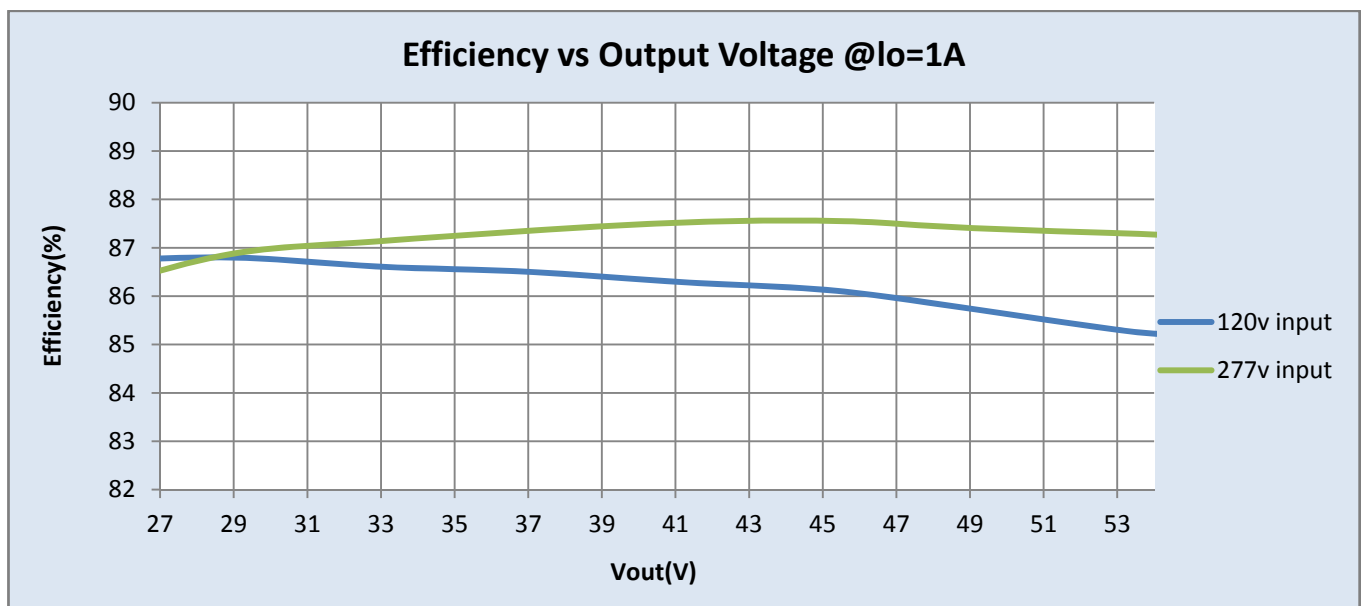
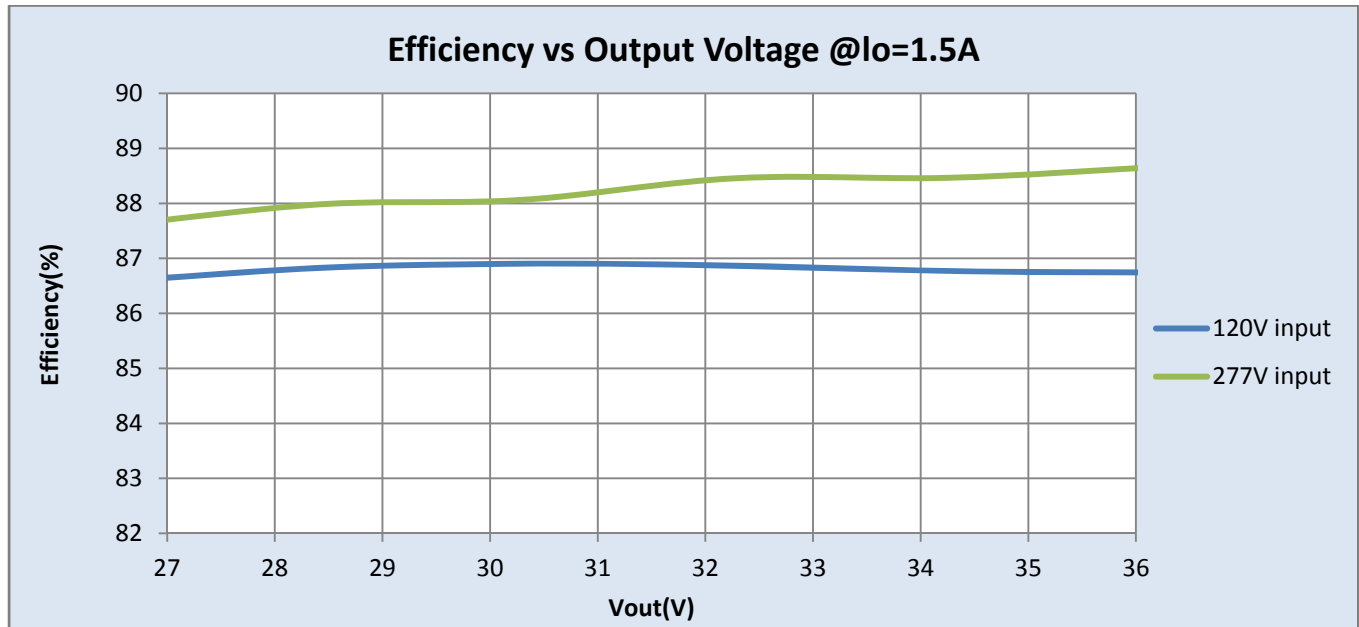
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Performance Characteristics

Based on measurements on a typical sample. The accuracy of the measurements is within the tolerance of the measurement instruments. The graphs are meant to be a guideline and not a specification.

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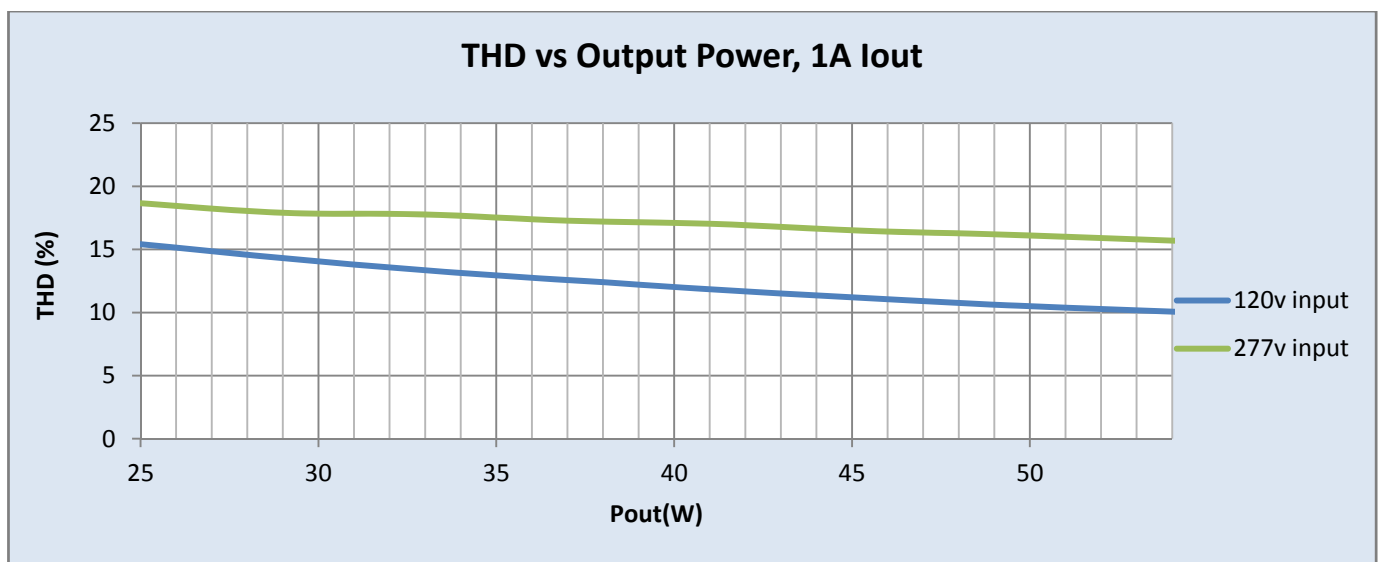
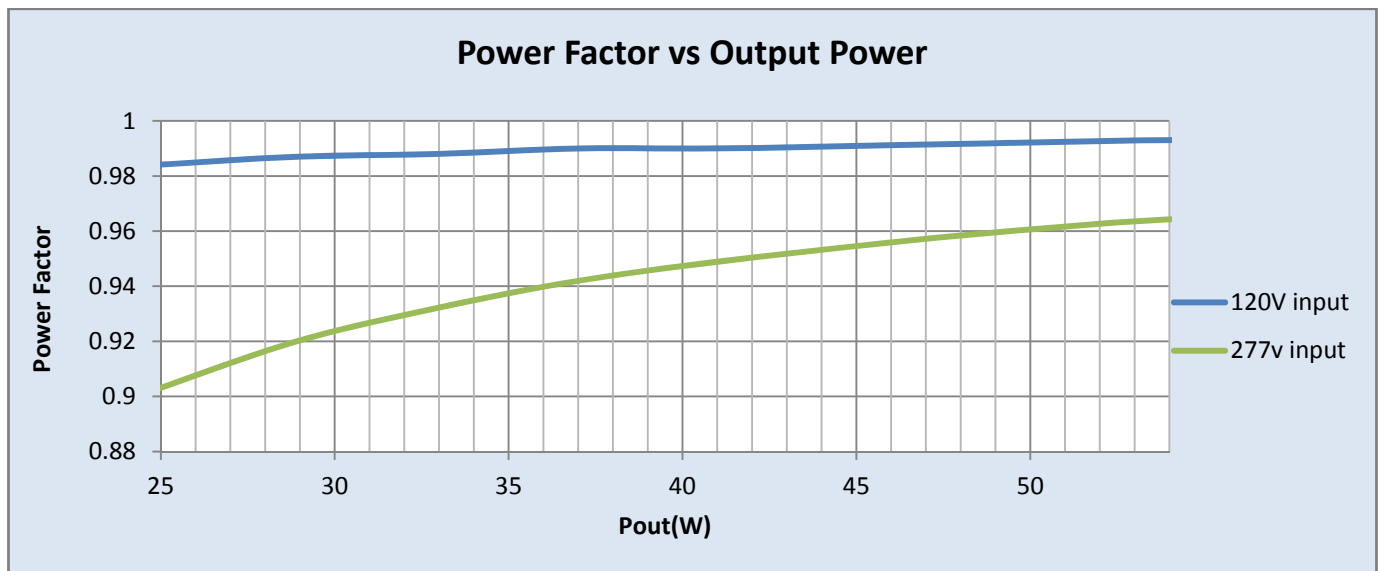
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Application Notes:

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RoHS	Yes
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Installation & Application Notes:

1. LED Driver shall be installed inside an electrical enclosure.
2. Wiring inside electrical enclosure shall comply with 300V/105°C rating or higher.
3. Max number of LEDs in series should not exceed 16.
4. Max LED voltage should not exceed 54V under all operating conditions.
5. Rset can be used to adjust output current between 700 to 1500 mA for Step dimming operation.
6. Rset can be used to adjust output current between 100 to 1500 mA for fixed output operation.

Isolation:

Isolation	Input connectors	Output + AOC & External NTC Connectors	Enclosure
Input connectors	Not applicable	2xU+1KV	2xU+1KV
Output + AOC & External NTC Connectors	2xU+1KV	Not applicable	>500V
Enclosure	2xU+1KV	>500V	Not applicable

UL Conditions of Acceptability:

Please contact your Philips representative for a copy of the latest UL Conditions Of Acceptability (COA).

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