

PHILIPS

Product Overview

XR054C150V054RNT1

Brand Name	XITANIUM
Description	XITANIUM 54W 0.7-1.5A 54V Mrk10 Dim
Input Voltage	120 V
Input Freq.	60Hz
RoHS	Yes
Status	Released

Input Voltage (Vac)	Output Power (W)	Output Voltage Range (V)	Output Current (A)	Efficiency@ Max Load and 70°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	84	85 °C	0.6	68	7.8/ 325	<10%	>0.95	2/2	0.734/ 0.333	UL damp and dry

Note: All the above presented data is without dimmer

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
Mark10 dimming	5% ~100%	0.035	

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

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Order code	XR054C150V054RNT1
Full product code	XR054C150V054RNT1M
Full product name	XITANIUM 54W 0.7-1.5A 54V Mrk10 Dim
Line Voltage	120Vac rms
Line Current	0.6A @ 120V
Line Frequency	60Hz
Min. Mains voltage operational	108 V [min]
Max. Mains voltage operational	132V [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
Lightning Surge Protection	Per ANSI C62.41 Category A (2KV Combination Wave and 6KV ring wave)
Output voltage range	27V to 54Vdc
Maximum open circuit 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	Partial potting
Interfaces	Mark10 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
Mar10 Dimming Specifications	5% of Iout_set
Environmental Protection Rating	UL damp and dry
Life @ Tcase 75C	50000 hr [nom] refer to graph below
Life @ Tcase 85C	25000 hr [nom] 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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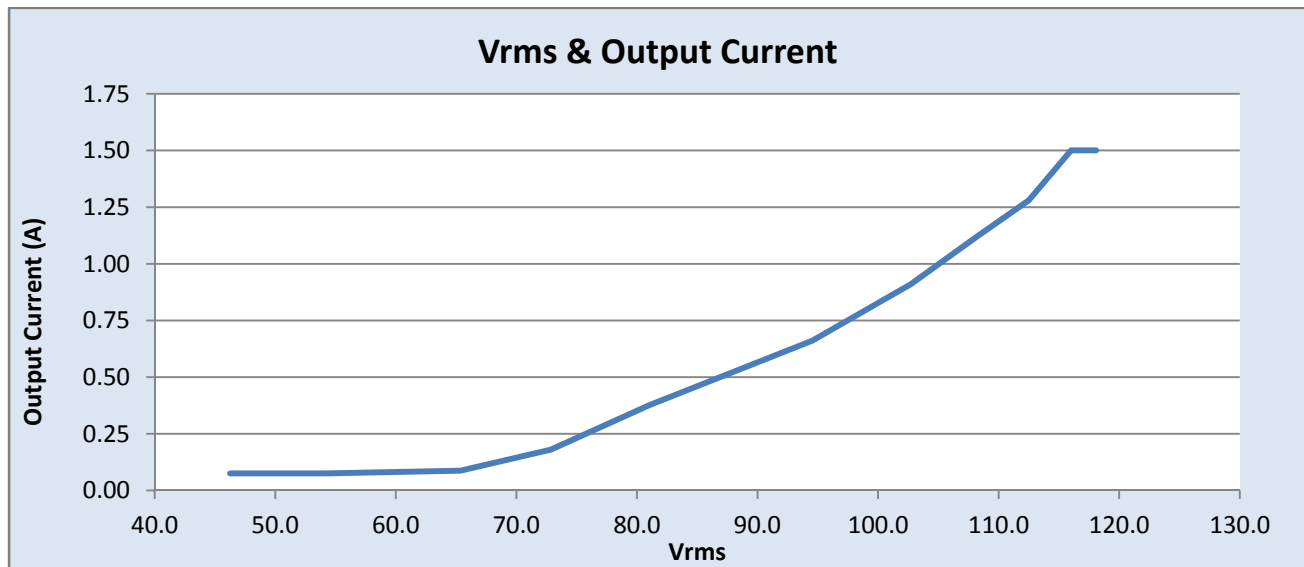
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Mark10 Dimming:

LED Current Tolerance is 5% of I_{max} over temperature and component variations.

Minimum Dim Level: 5% of I_{out_set} (minimum 35mA)



Conduction angle(degree)	Vrms (V)	output current (A)
149	118.1	1.50
140	116.0	1.50
130	112.5	1.28
121	108.2	1.12
112	102.7	0.910
101	94.5	0.661
86	81.0	0.376
78	72.9	0.180
71	65.3	0.087
61	54.2	0.075
54	46.3	0.075

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Approved Dimmer List:

Dimmer manufacturer	Brand	Model	Dimmer type	Neutral wire	Wattage /VA	Input voltage	Min. no. of drivers/dimmer
Philips Mark 10 Dimmer	Intellisight	ITSEBU	Mark 10, Occupancy sensor	Yes	1000VA	120/277V	2 @ 277V
	Occuswitch Wireless	LRD1730	Mark 10 wireless dimmer	Yes	800W/1600W	120/277V	2 @ 277V
	Sunrise/Momentum	ZP1000EB	Mark 10	Yes	1000VA	120V	1
	Onset	OS600EB	Mark 10	Yes	600VA	120V	1
	VEGA	V1500EBU	Mark 10	Yes	1500W	120/277V	2 @ 277V
	Multiset Pro	MSP600EB	Mark 10	Yes	600VA	120V	1
	Multiset Pro	MHP1000EB	Mark 10	Yes	1000W	120V	1
Philips Phase Cut Dimming Amplifier	Occuswitch Classic	LCU2425	Mark 10 power extender	Yes	1920W	120V	1
	Occuswitch Classic	LCU2430	Mark 10 power extender	Yes	3000W	277V	2
Leviton Phase Cut Dimmer	Renoir II	AWSMT-XAW	Mark 10	Yes	600/1150/1385W	120/230/277 V	2@120V / 3@277V
	Renoir II	AWSMT-XBW	Mark 10	Yes	1000/1917/2308W	120/230/277 V	2@120V / 3@277V
	Renoir II	AWSMT-XCW	Mark 10	Yes	1500/2875/3463W	120/230/277 V	2@120V / 3@277V
	Renoir II	AWSMT-XDW	Mark 10	Yes	1920/3680/4432W	120/230/277 V	2@120V / 3@277V
	Vizia+	VPX10-1LZ	Mark 10	Yes	1000VA	120V	2
	Vizia+	VPX12-7LZ	Mark 10	Yes	1200VA	277V	2 @ 277V
	Illumatech	IPX06-10Z	Mark 10	No	600VA	120V	1
	Illumatech	IPX06-70Z	Mark 10	No	600VA	277V	2 @ 277V
	Illumatech	IPX10-10Z	Mark 10	No	1000VA	120V	1
	Illumatech	IPX12-70Z	Mark 10	No	1200VA	277V	2 @ 277V
	Sureslide	6674	LED/CFL/Incandescent	No	150/150/600W	120V	1
	Renoir	2666-31	Mark 10	No	900W/1200VA	120V	2
	Renoir	2666-37	Mark 10	No	900W/1200VA	277V	2 @ 277V
	D4200	D4206	station, 6dimmers, Mark 10, Incandescent	Yes	6x1000W	120V	1 per dimmer
Wattstopper Mark 10 Dimmer		WD170	Mark 10, Occupancy sensing	No	500W	120V	1
		WD180	Mark 10, Occupancy sensing	No	500W	277V	2
		ADFM-8A	Mark 10	No		120V	1
		ADFM277-10A	Mark 10	No		277V	2 @ 277V
	Miro	DCD267	Universal Mark 10 incandescent	Yes	500W	120V	1
	Miro wireless	DRD4	universal Mark 10 incandescent	Yes	500W	120V	1
	DLM	LMRC-222	Universal Mark 10 incandescent	Yes	2x1920W/4432W	120/277V	2
Lutron Mark 10 Dimmer	Nova	NFTU-5A	Mark 10 (Tu-wire)	No		120V	1
	Spacer System	SPSFTU-5A	Mark 10 (Tu-wire)	Yes		120V	1
	Diva	DVFTU-5A3P	Mark 10 (Tu-wire)	No		120V	1
	Grafik Eye QS	QSGRJ-X ^{††} P ⁺⁺	Mark 10 (Tu-wire)	Yes	800W/1200W	120V	1
	Dimming Amplifier	HP-2	Mark 10	Yes		120V/277V	1@120V / 2@277V
	Nova T	NTFTU-5A-277	Mark 10 (Tu-wire)	Yes		277V	2

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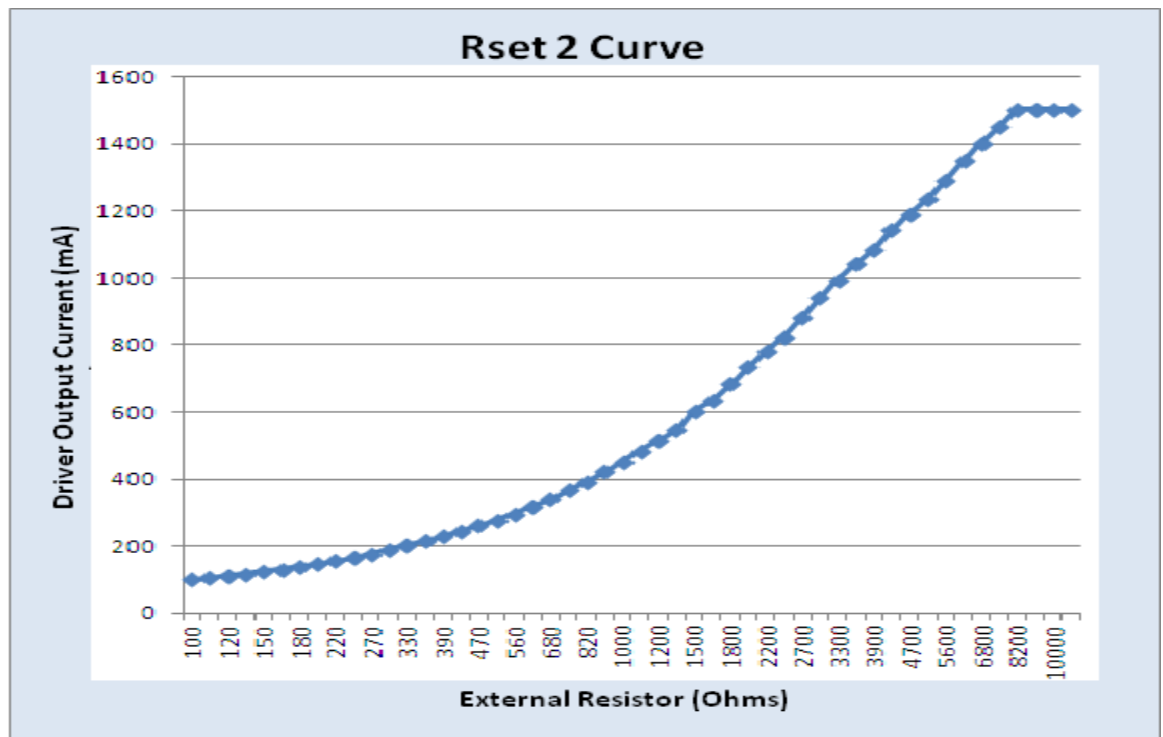
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RoHS	Yes
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AOC (Adjustable Output Current) Settings:

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

Rset (Ohms)	Current (mA)
100	98.2
120	110.2
150	129.2
180	142.4
220	156.8
270	177.6
330	214.9
390	236.5
470	266.2
560	298
680	353.4
820	396.3
1000	456.9
1200	515.1
1500	607.5
1800	687.6
2200	780.3
2700	888.8
3300	986.9
3900	1084.6
4700	1186.1
5600	1283.2
6800	1408.3
8200	1498.2
>8200	1498.2



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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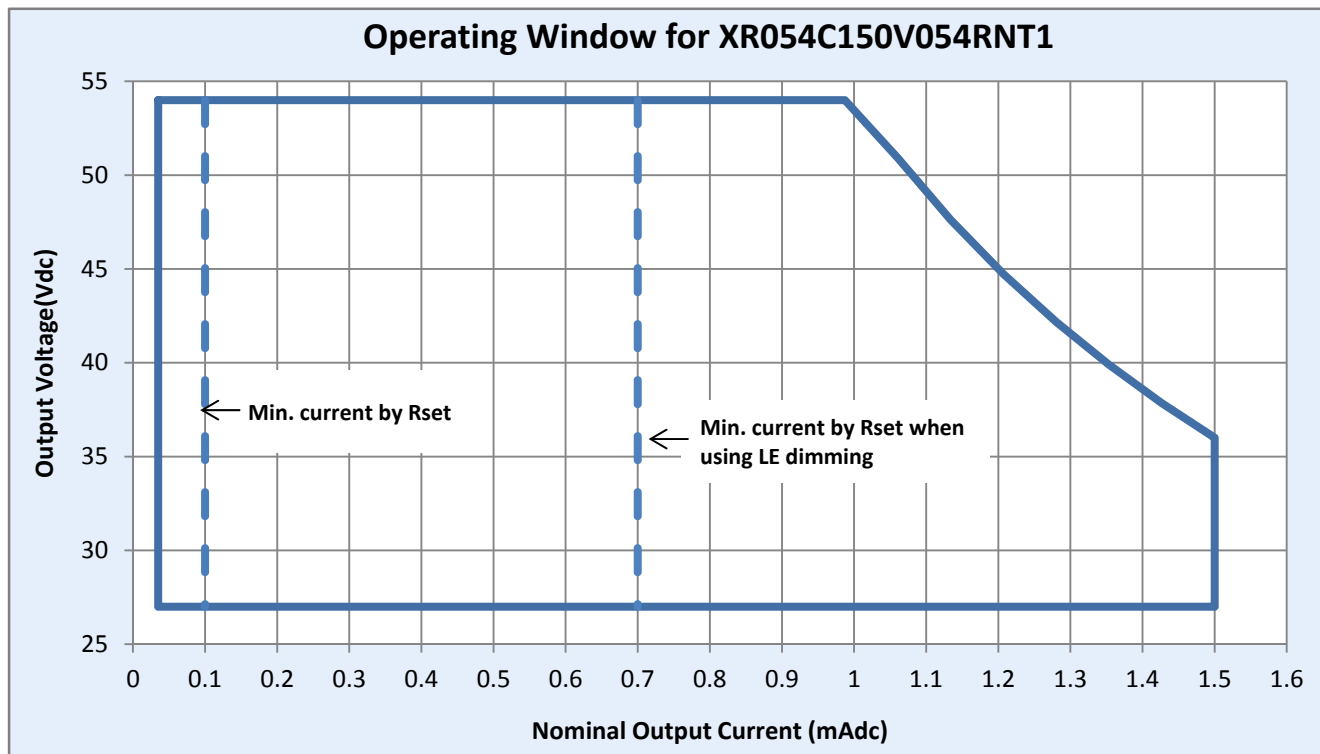
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Operating Window:



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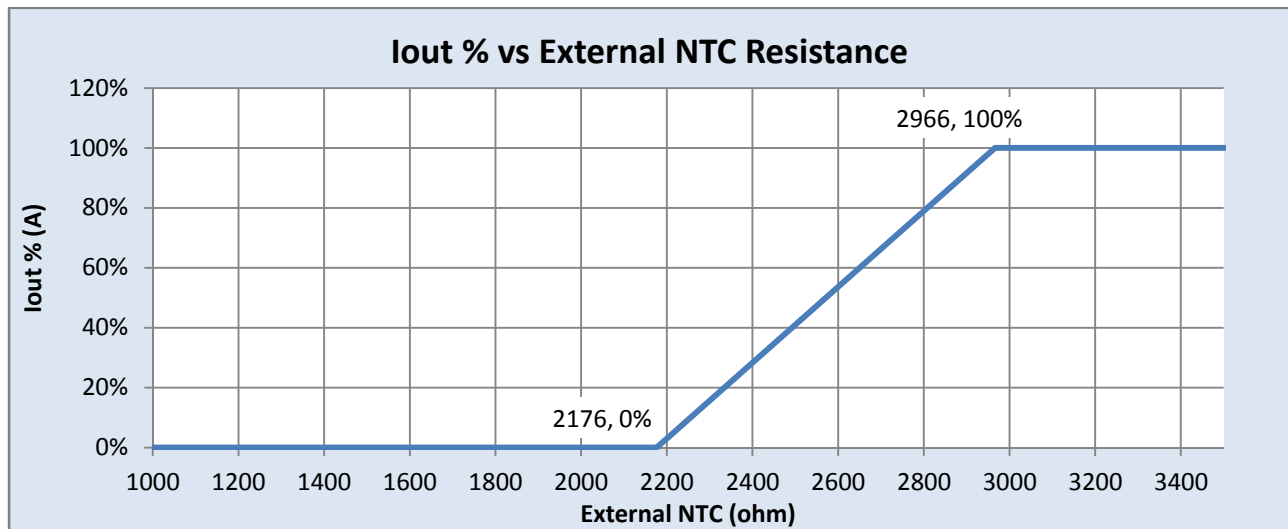


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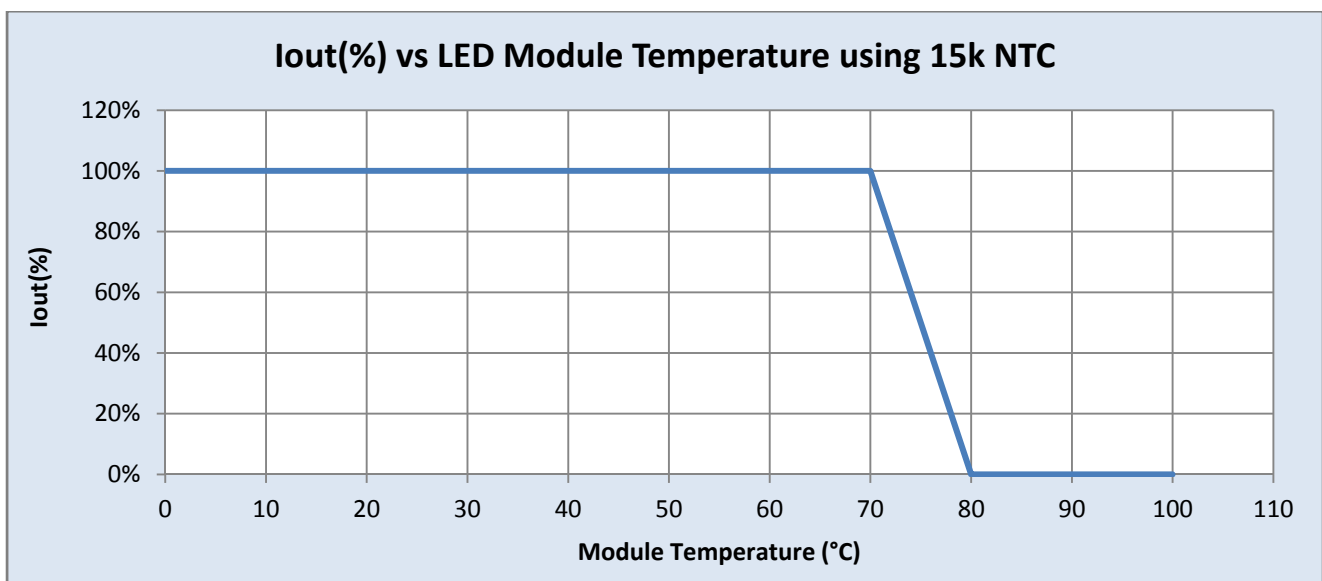
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Module Temperature Protection:



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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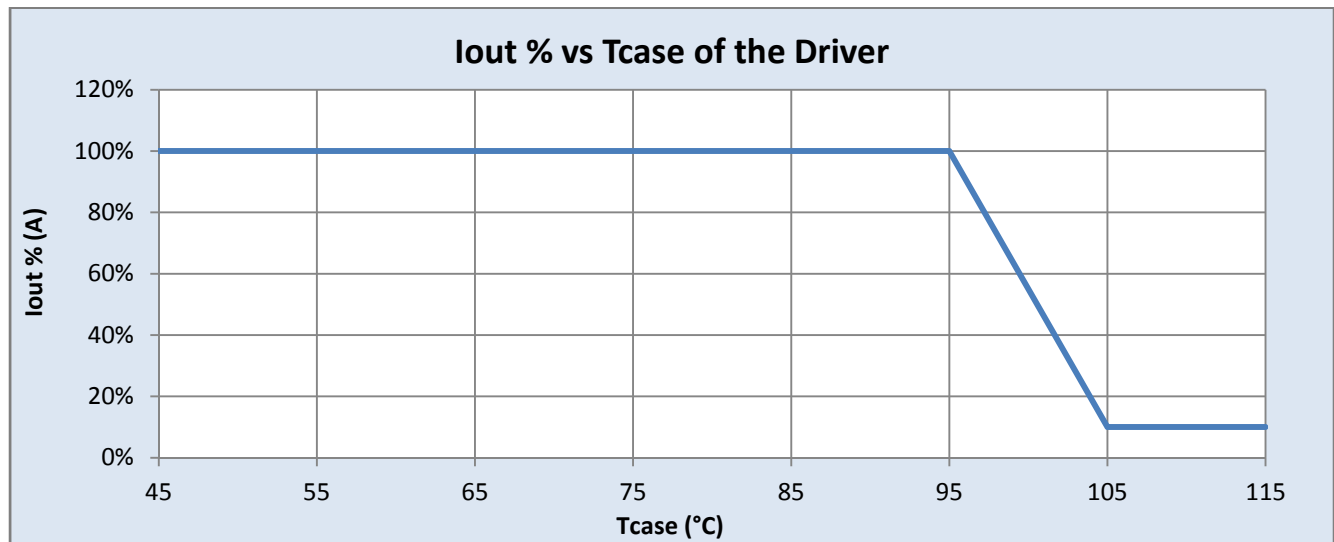


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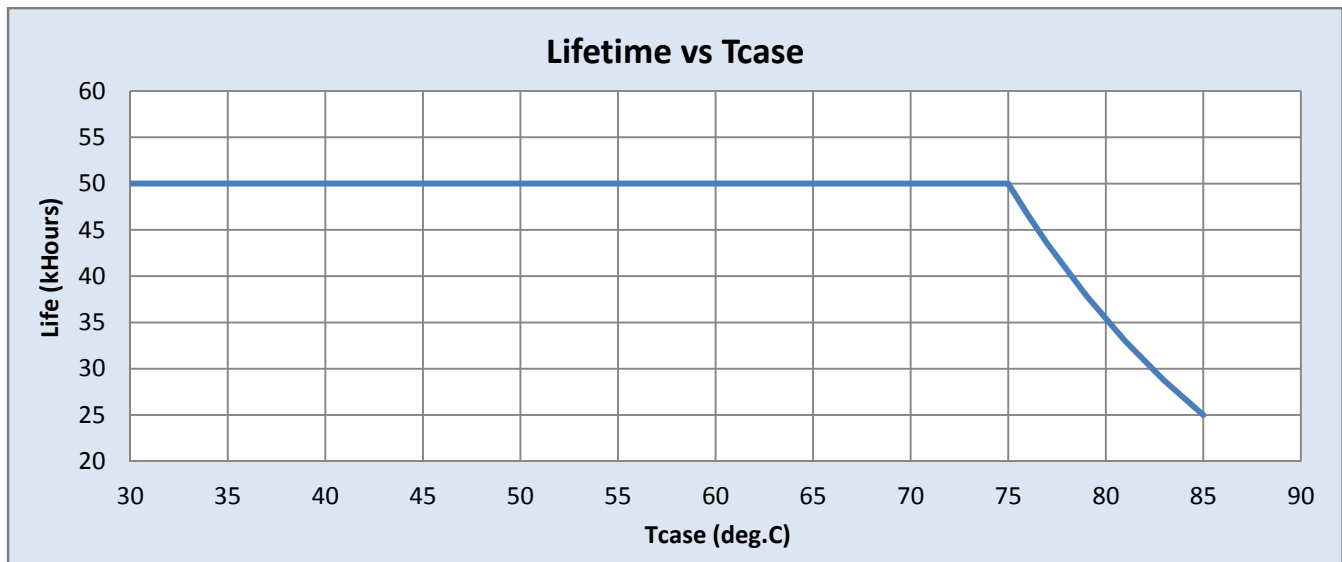
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Iout vs. Tcase of Driver:



Lifetime vs. Tcase of Driver:



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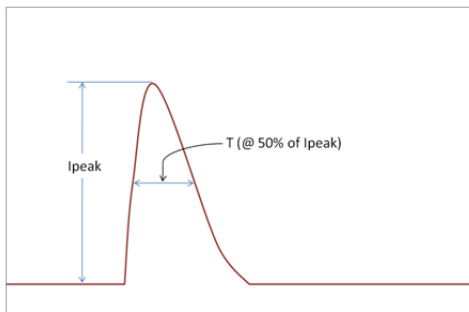
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Failure Rate based upon field call rate data:

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

Inrush Current Info:



Vin	Ipeak	T (@ 50% of Ipeak)
120 Vrms	7.8 A	325 μ s

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

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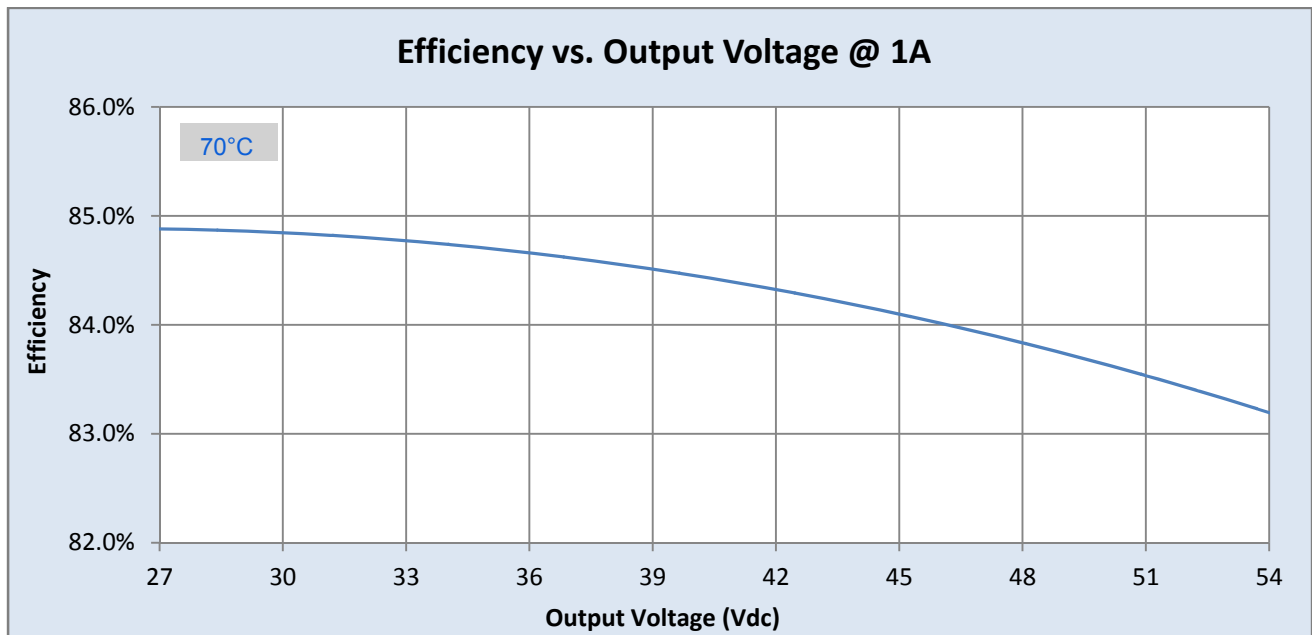
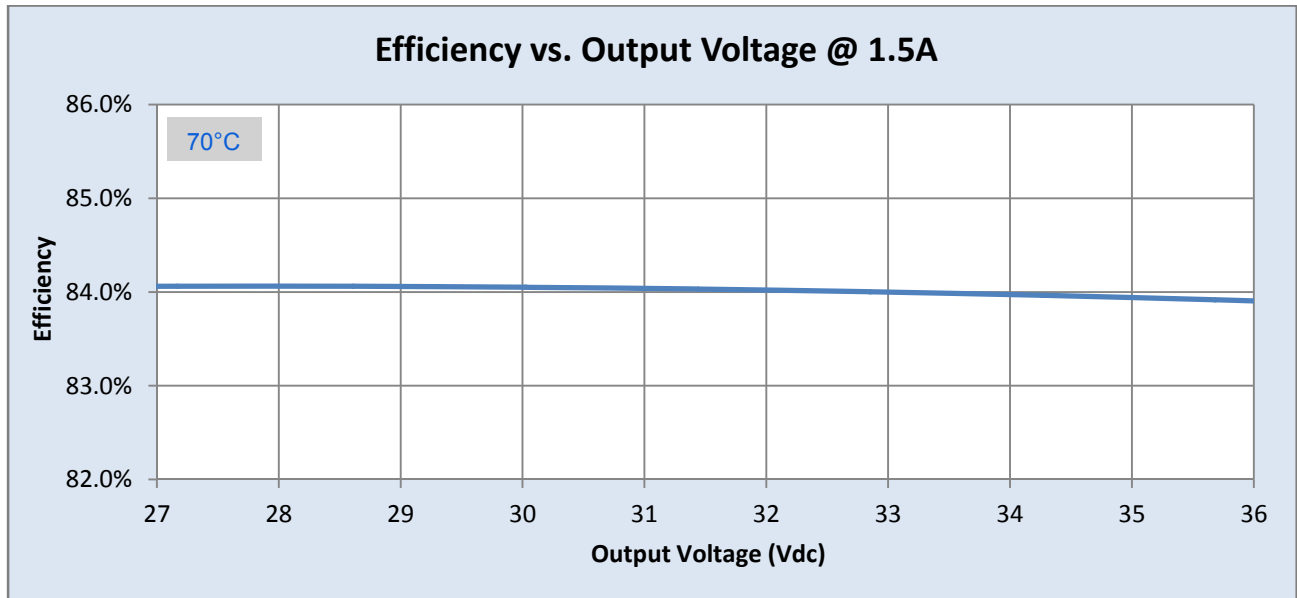
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Performance Characteristics

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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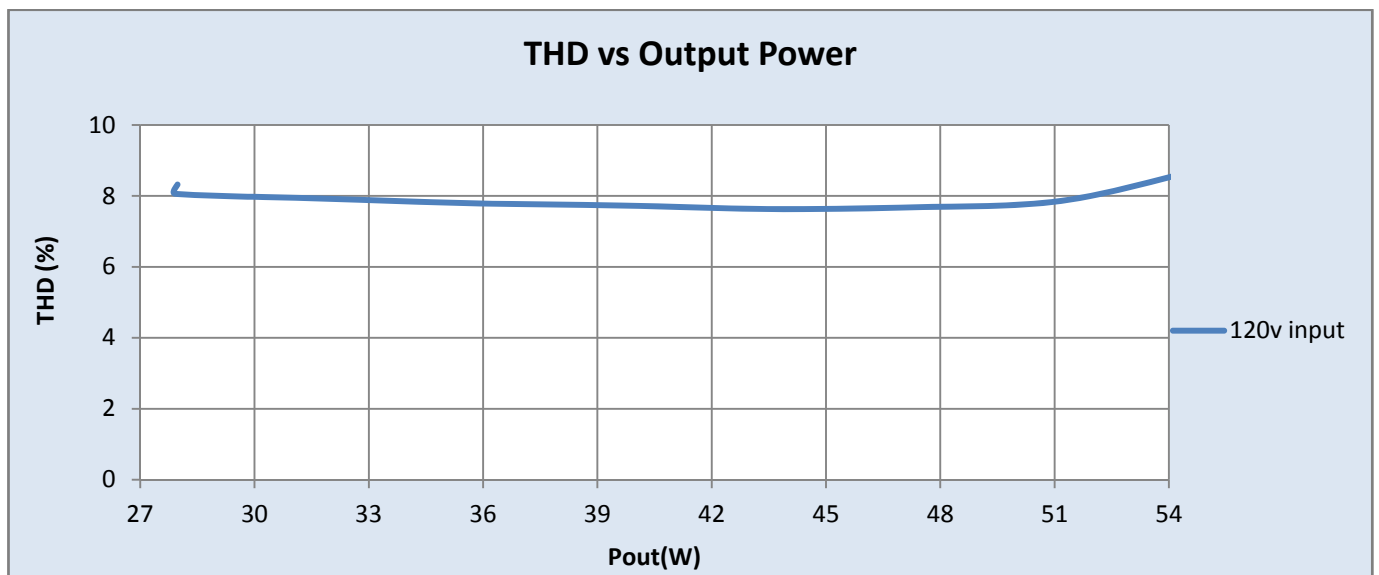
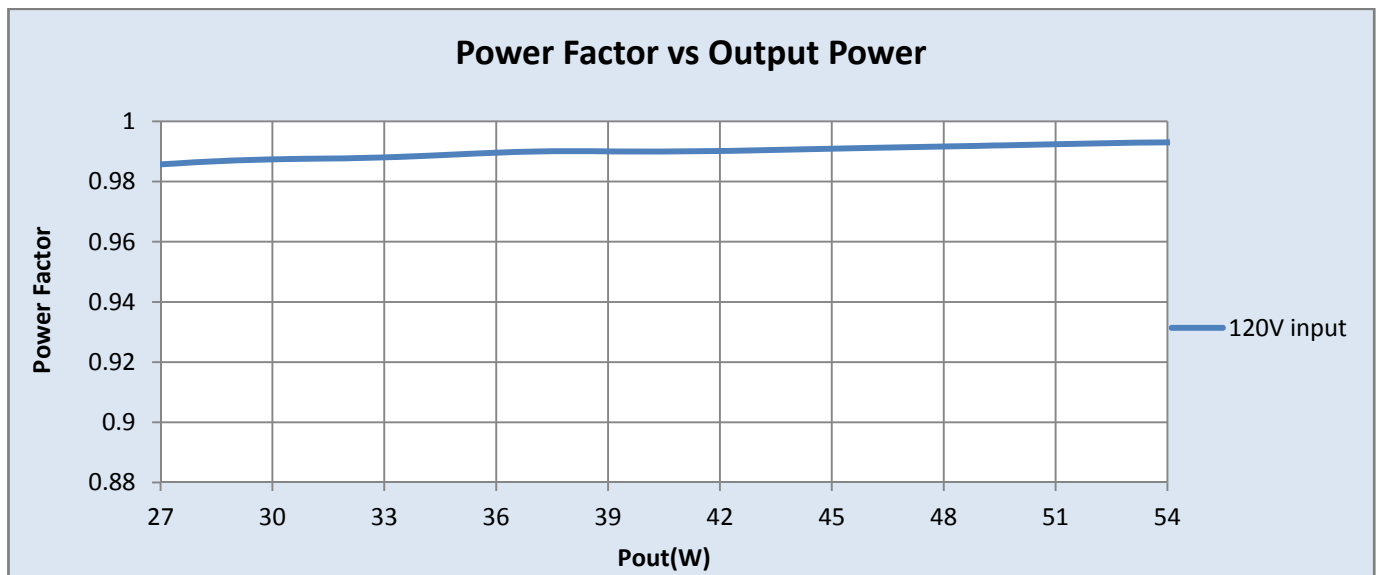
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Application Notes:

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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 Mark10 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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