



Features

- Wide input: 90-305Vac
- Constant power mode operation
- 2-in-1 dimming function (0-10Vdc, PWM Signal), dim-to-off
- Surge protection: Line-Line 4KV / Line-Earth 6KV
- Output over-voltage, over-temperature and short-circuit protections
- IP65 enclosure for indoor and outdoor applications
- UL 8750 recognized



Applications

- High bay lighting, canopy lighting, stage lighting, spot lighting

Selection Guide

Part Number	Max Output Power (W)	Output Voltage Range (Vdc)	Output Current Adjustable Range (A)	Full Power Current Adjustable Range (A)	Default Output Setting	Typical Efficiency
LTA160X-038C	160	24-38	2.90-5.00	4.20-5.00	24-32V/5.00A	88%
LTA160X-054C		27-54	2.10-3.80	2.96-3.80	27-42V/3.80A	89%
LTA160X-068C		40-68	1.70-2.85	2.35-2.85	40-56V/2.85A	89%

Note: X in the Part Number can be either M or V, M means 2-in-1 dimming function and offline programmable; V means non-dimmable and output current adjustable via built-in potentiometer.

Input Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Input Voltage Range	AC input	90	100-277	305	Vac
Input Frequency Range		47	50/60	63	Hz
Input Current	100-277Vac input, full load	-	-	2.2	A
Power Factor	230Vac input, full load	0.95	0.97	-	-
Inrush Current	230Vac input, full load, cold start	-	-	75	A
Leakage Current	277Vac input, 60Hz	-	-	0.7	mA
THD	120-230Vac input, 80-100% of full load	-	7	10	%
	277Vac input, 70-100% of full load	-	-	20	

Output Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Output Current Tolerance	Full load	-5	-	+5	%Iset
Output Current Set Point Range LTA160M-038C LTA160M-054C LTA160M-068C		0.50 0.38 0.29	- - -	5.00 3.80 2.85	A
Output Current Set Point Range LTA160V-038C LTA160V-054C LTA160V-068C		2.90 2.10 1.70	- - -	5.00 3.80 2.85	A
Output Current Set Point Range LTA160X-038C LTA160X-054C LTA160X-068C	Constant power	4.20 2.96 2.35	- - -	5.00 3.80 2.85	A
Total Output Current Ripple	230Vac input, full LED load, peak-peak	-	5	10	%
Startup Overshoot Current	120-277Vac input, full LED load	-	-	10	%Iset
Output Voltage LTA160X-038C LTA160X-054C LTA160X-068C	No load	- - -	- - -	50 70 80	V
Line Regulation	115-277Vac input	-	-	1	%
Load Regulation	230Vac input, 60-100% of full load	-	-	3	%
Turn-on Delay	120Vac input, full load	-	-	3	s
	230Vac input, full load		0.5	1	
Efficiency LTA160X-038C I _o = 4.20A I _o = 5.00A LTA160X-054C I _o = 2.96A I _o = 3.80A LTA160X-068C I _o = 2.35A I _o = 2.85A	120Vac input, full load	84 84 85 84 85 85	86 86 87 86 87 87	- - - - - -	%
Efficiency LTA160X-038C I _o = 4.20A I _o = 5.00A LTA160X-054C I _o = 2.96A I _o = 3.80A LTA160X-068C I _o = 2.35A I _o = 2.85A	230Vac input, full load	86 86 87 87 87 87	88 88 89 89 89 89	- - - - - -	%
Efficiency LTA160X-038C I _o = 4.20A I _o = 5.00A LTA160X-054C I _o = 2.96A I _o = 3.80A LTA160X-068C I _o = 2.35A I _o = 2.85A	277Vac input, full load	87 87 87 87 88 88	89 89 89 89 90 90	- - - - - -	%

Note:

1. Unless otherwise specified, data in this datasheet should be tested under the conditions of 230Vac input, rated load and Ta=25°C.
2. Ripple is measured at 20MHz bandwidth by using a 0.1μF & 10μF parallel capacitor.

Protection Specifications

Parameter	Notes
Over Voltage Protection	The driver will enter protection mode and will resume normal operation when the fault condition is cleared.
Over Temperature Protection	The output current will decrease up to 30% of its set point, and will return to its set point when the over temperature condition is cleared.
Short-circuit Protection	The driver will enter constant current/auto recovery mode. No damage will occur when the output is shorted. The output current will return to its set point when the fault condition is cleared.

Environmental and Other Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Operating Case Temperature	Tc	-40	-	+90	°C
Storage Temperature		-40	-	+85	°C
Storage Relative Humidity		5	-	100	%RH
Isolation Voltage	Input-Output	-	3,750	-	Vac
	Input-PE	-	1,600	-	
	Output-PE	-	1,600	-	
Insulation Resistance	Input-Output/Input-PE/Output-PE, 500Vdc/60s /70%RH	50	-	-	MΩ
Grounding Resistance	25A/60s	-	-	0.1	Ω
Life Time	230Vac, full load, 70°C case temperature	-	50	-	10 ³ hrs
MTBF(MIL-HDBK-217F)	230Vac input, 80% of full load	-	200	-	10 ³ hrs
Dimensions (D*H)	Φ146.0 x 74.1 mm				
Weight	1250±100g				

Dimming Specifications

Parameter	Notes & Conditions	Min	Typical	Max	Unit
Absolute Maximum Voltage	0-10V on the DIM +	-	10	-	V
Source Current	0-10V on the DIM +	-	1	2	mA
Dimming Output Range	LTA160M-038C	0.50	-	5.00	A
	LTA160M-054C	0.38	-	3.80	
	LTA160M-068C	0.29	-	2.85	
Dimming Range		0	-	10	V
PWM	High Level	9.7	-	10.3	V
	Low Level	0	-	0.3	V
	Frequency Range	200	-	2,000	Hz
	Duty Cycle	10	-	100	%

EMC Specifications

Parameter	Standards
EMI	EN55015
	EN61000-3-2,3
EMS	EN61547
	EN61000-4-2,3,4,5,6, 11

Typical V-I Characteristic Curves

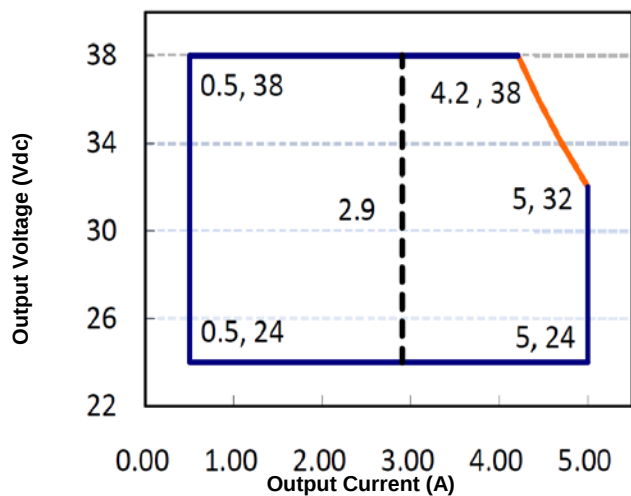


Figure 1: Typical V-I Characteristic Curve
(LTA160X-038C)

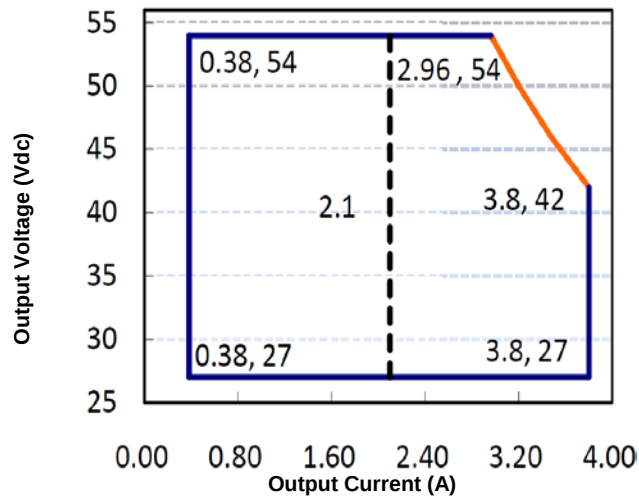


Figure 2: Typical V-I Characteristic Curve
(LTA160X-054C)

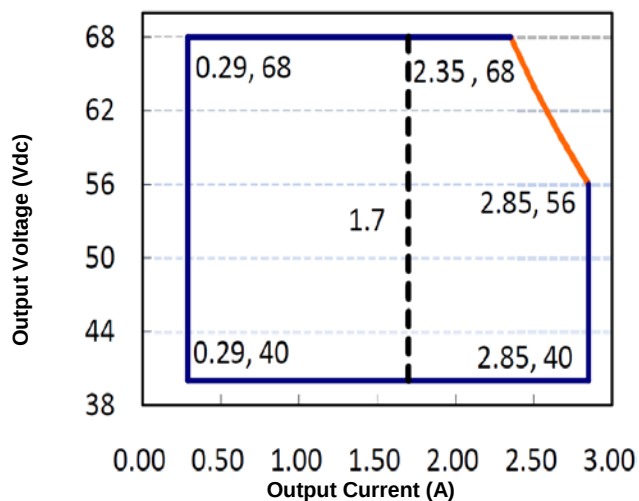


Figure 3: Typical V-I Characteristic Curve
(LTA160X-068C)

Note: X=V is suitable for the right area of dotted line, X=M is suitable for the solid line contained area.

Characteristic Curves

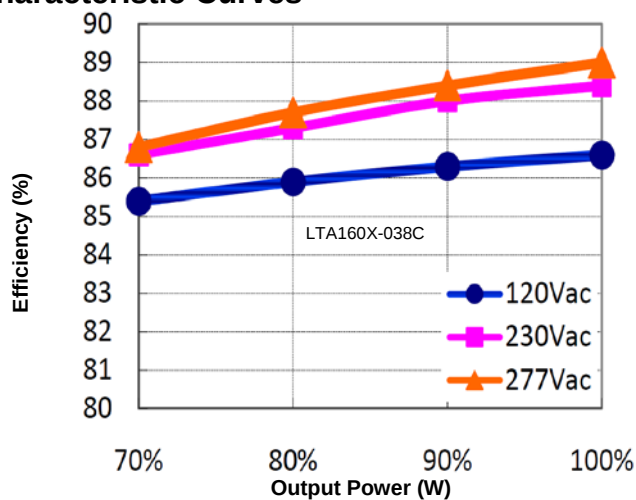


Figure 4: Efficiency vs. Output Power ($I_o=4.00A$)

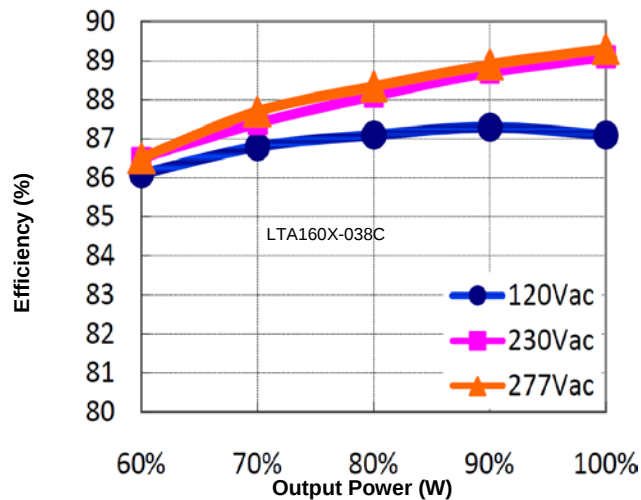


Figure 5: Efficiency vs. Output Power ($I_o=4.20A$)

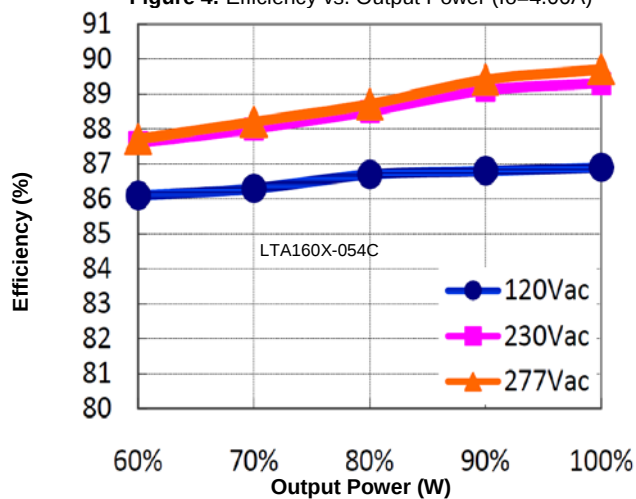


Figure 6: Efficiency vs. Output Power ($I_o=3.80A$)

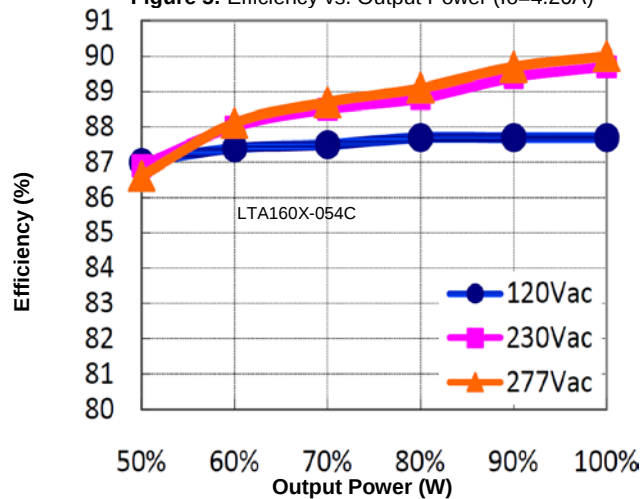


Figure 7: Efficiency vs. Output Power ($I_o=2.96A$)

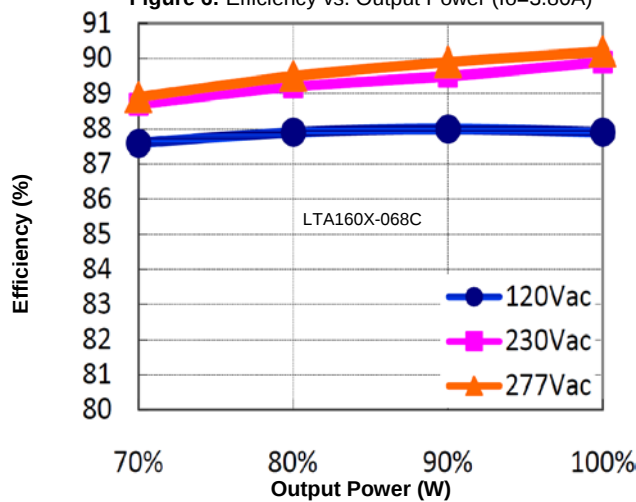


Figure 8: Efficiency vs. Output Power ($I_o=2.85A$)

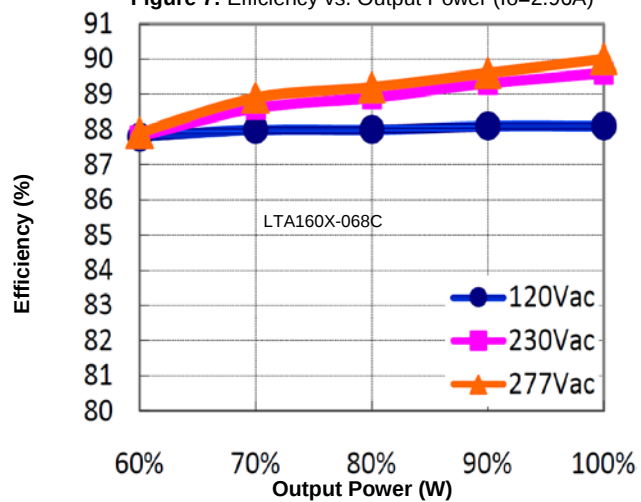


Figure 9: Efficiency vs. Output Power ($I_o=2.35A$)

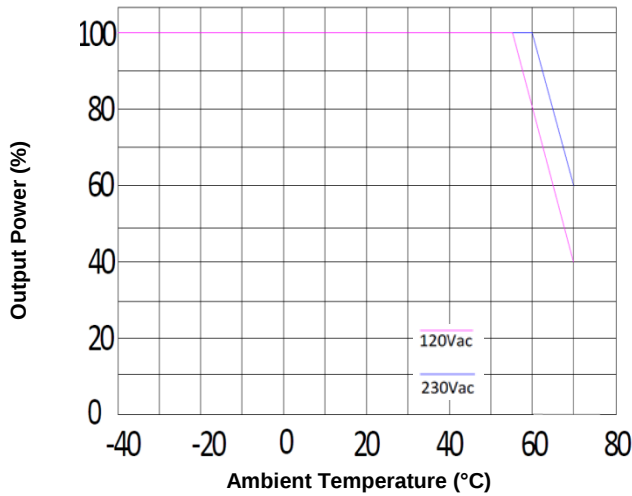


Figure 10: Output Power vs. Ambient Temperature

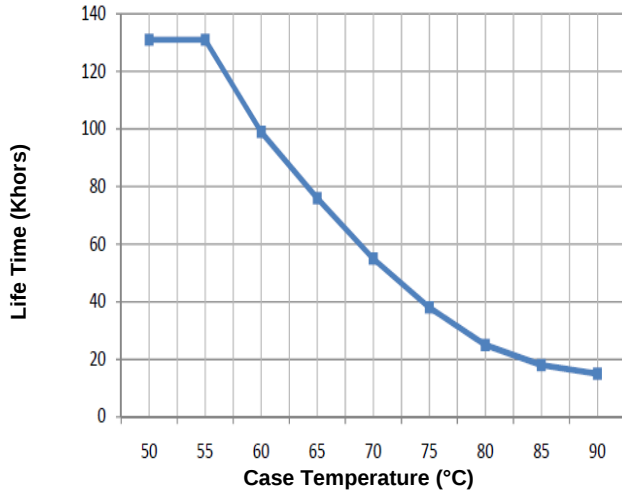


Figure 12: Life Time vs. Case Temperature

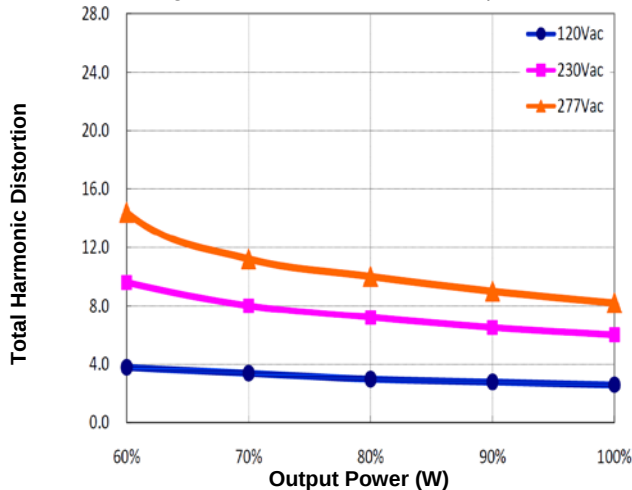


Figure 14: Total Harmonic Distortion vs. Output Power

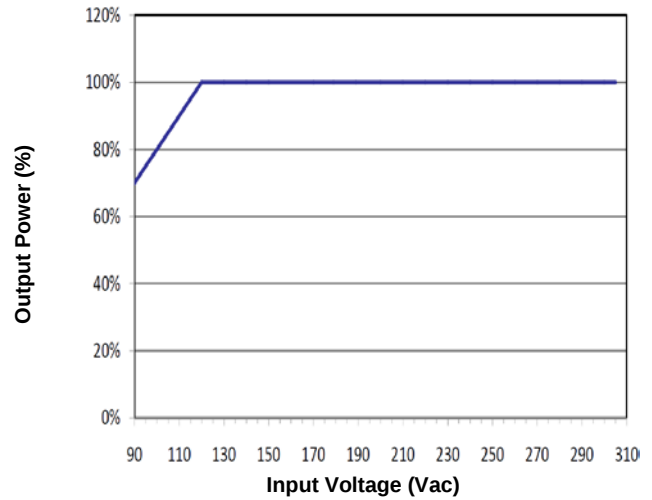


Figure 11: Output Power vs. Input Voltage

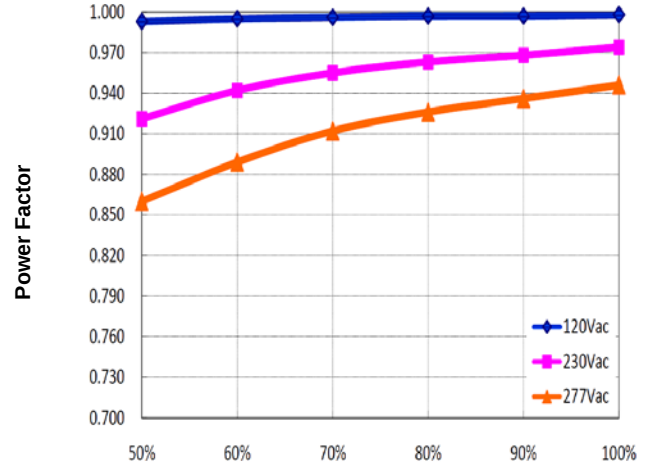


Figure 13: Power Factor vs. Output Power

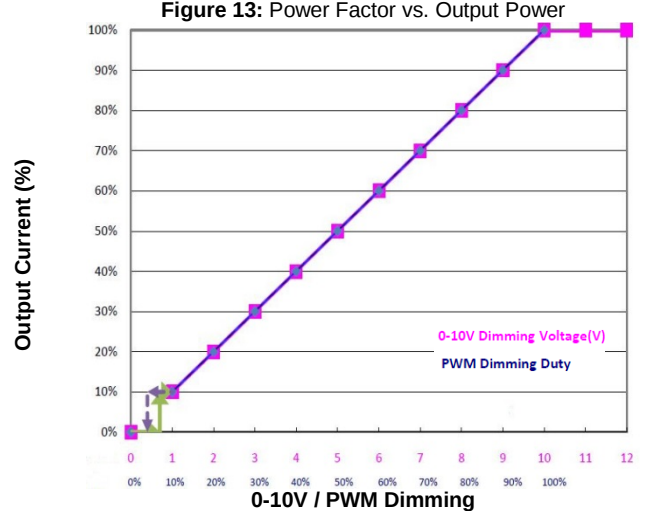


Figure 15: 0-10V/PWM Dimming Curve

