



**FEATURES:**

- AC-DC Constant Current or Constant Voltage LED Driver
- Input range 90-305VAC/47-440Hz
- High Efficiency up to 91%
- Operating temperature -40 to 85°C
- Dimming via analog / 0-10V dimming <sup>②</sup>
- Over Temperature Protection
- Over Current Protection
- Waterproof Case rated IP68
- Power Factor Correction
- Short Circuit Protection



**Models**  
**Single output**

Model	Max Output Power (W) <sup>①</sup>	Output Voltage Range (V) <sup>③</sup>	Output Current (A) <sup>③</sup>	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Mode of Operation	Efficiency (%)
AMER120-50250AZ	125	36-50	0-2.5	90-305/47-440	120-430	Constant Current	91
						Constant Voltage <sup>②</sup>	90
AMER120-36340AZ	122.4	24-36	0-3.4	90-305/47-440	120-430	Constant Current	90
						Constant Voltage <sup>②</sup>	89
AMER120-24500AZ	120	12-24	0-5	90-305/47-440	120-430	Constant Current	89
						Constant Voltage <sup>②</sup>	87
Add Suffix "-F"		No dimming option					

<sup>①</sup> Exceeding the maximum output power will permanently damage the converter

<sup>②</sup> The dimming feature is not supported when units are used in Constant Voltage mode only, Aimtec suggests to order "-F" No dimming option in this case.

<sup>③</sup> In constant current mode output current is maximum shown, in constant voltage mode output voltage is the maximum shown.

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

**Input Specifications**

Parameters	Conditions	Typical	Maximum	Units
Inrush current <2ms	115VAC	45		A
	230VAC	60		
Leakage current	115VAC	0.5		mA
	230VAC	0.75		
AC current	115VAC	1.8		A
	230VAC	0.7		
Power Factor	115VAC		0.98	
	240VAC		0.94	
External fuse			250V/3A	
Start up time		400		ms
Surge voltage	2sec		440	V

**Output Specifications**

Parameters	Conditions	Typical	Maximum	Units
Current accuracy		±3		%
Line regulation	LL-HL	±1		%
Load regulation	0-100% load	±3		%
Ripple & Noise <sup>④</sup>	20MHz Bandwidth	75		mV p-p
Hold-up time		80		ms
Current adjustment range		100-0		%
Minimum Load Voltage	See the models table			

<sup>④</sup> Tested with 0.1µF (M/C) or (C/C) and 47µF (E/C) parallel capacitors at the end.

### Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3sec/3.2mA		3000	VAC
Isolation Resistance	500VDC	>1000		MΩ
Isolation Capacitance			1000	pF

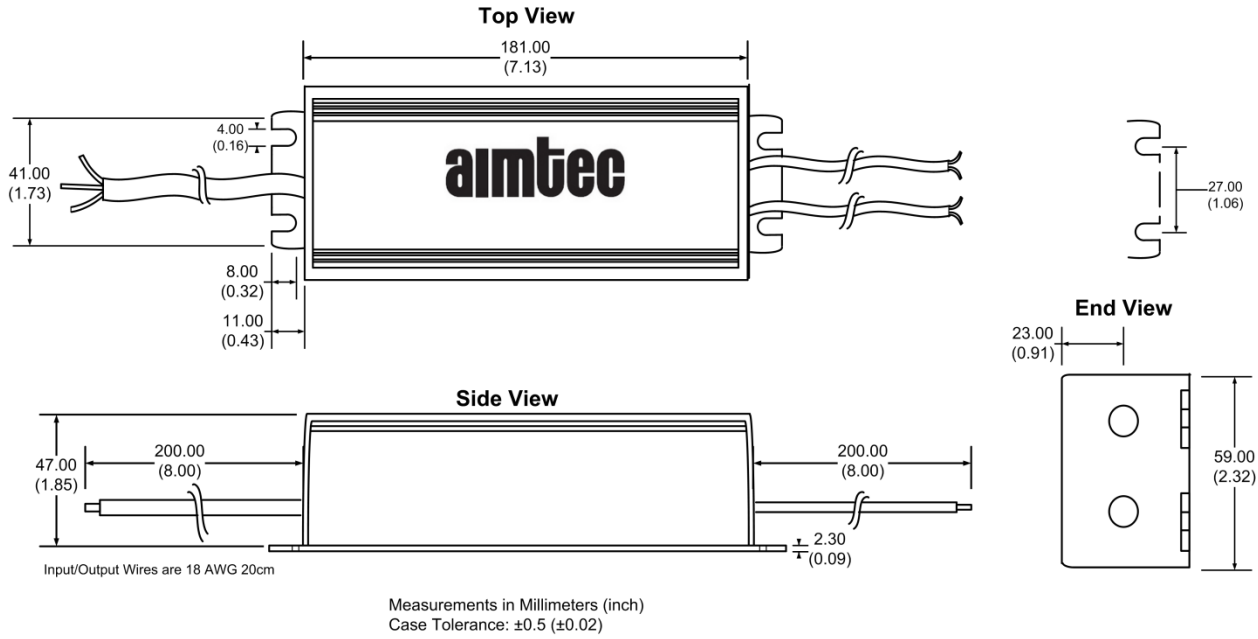
### General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		100		KHz
Over current protection		110% of Iout		
Over voltage protection		110% of Vout		
Short circuit protection		Continuous		
Short circuit restart		Auto recovery		
Over temperature protection		>105°C		
Operating temperature	See derating table	-40 to +85		°C
Maximum case temperature			100	°C
Storage temperature		-40 to +95		°C
Temperature coefficient		±0.02		% / °C
Cooling		Free air convection		
Humidity			95	% RH
Case material		Aluminum		
Potting		Epoxy (IP67 rated)		
Wires		UL1015 18AWG Input & 14AWG output *20CM		
Weight		750		g
Dimensions (L X H X W)		7.13 x 2.32 x 1.85 inches	181.00 x 59.00 x 47.00 mm	
MTBF		>400,000 hrs (MIL-HDBK-217F at +25°C)		

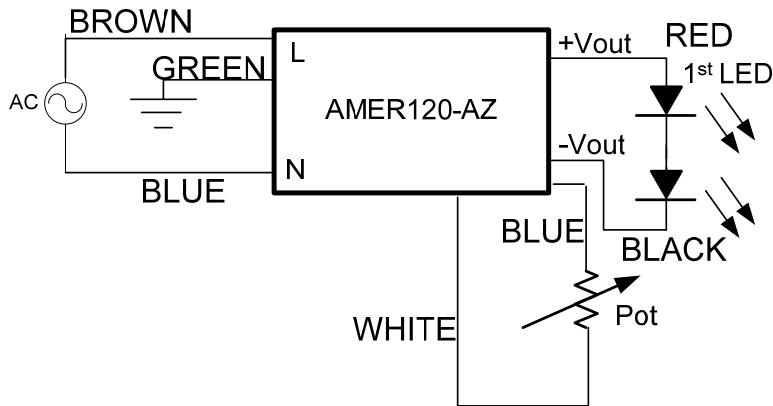
### Safety Specifications

Parameters		
Agency approvals	cULus, CE	
Standards	UL8750, UL60950-1, EN55022, class B, EN60529(IP68), EN61347-1, EN61347-2-13	
	Information Technology Equipment	EN55022 Class B
	Harmonic Current Emissions	IEC/EN 61000-3-2, Class C
	Voltage fluctuations and flicker	IEC/EN 61000-3-3, (EN60555-3)
	Electrostatic Discharge Immunity	IEC 61000-4-2
	RF, Electromagnetic Field Immunity	IEC 61000-4-3
	Electrical Fast Transient / Burst Immunity	IEC 61000-4-4
	Surge Immunity	IEC 61000-4-5
	RF, Conducted Disturbance Immunity	IEC 61000-4-6
	Power frequency Magnetic Field Immunity	IEC 61000-4-8
Voltage dips, Short Interruptions Immunity	IEC 61000-4-11	

**Dimensions**

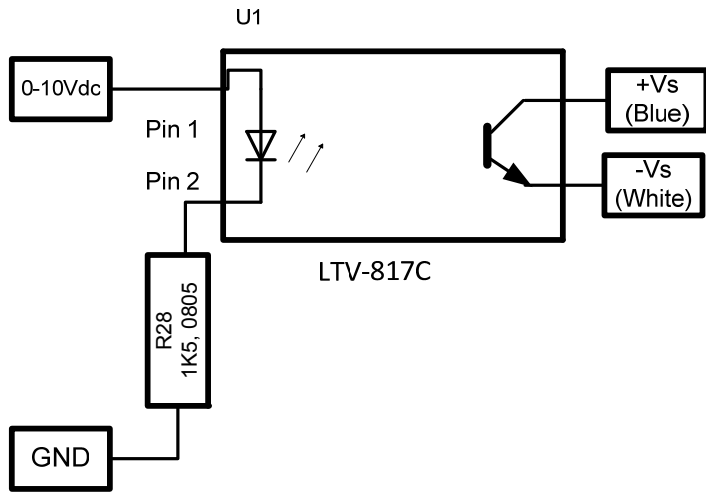


**Analog (resistive) Dimming Application Circuit**

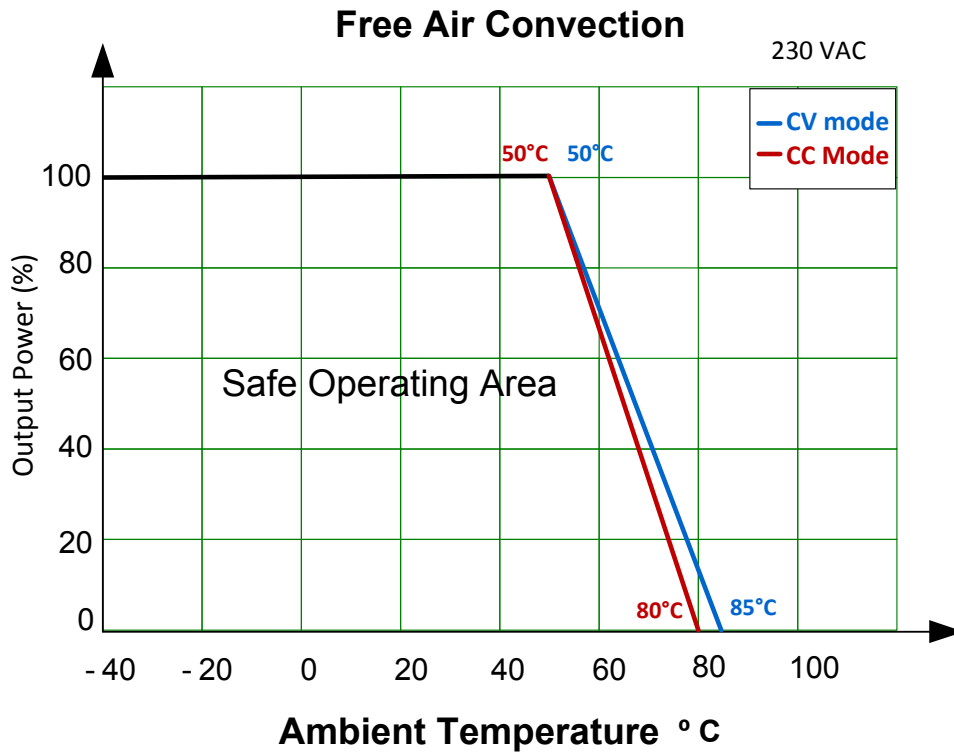


Model Number	Maximum Pot Value (kΩ)
AMER120-50250AZ	31.75
AMER120-36340AZ	25.00
AMER120-24500AZ	26.00

**0-10V Dimming Application Circuit**

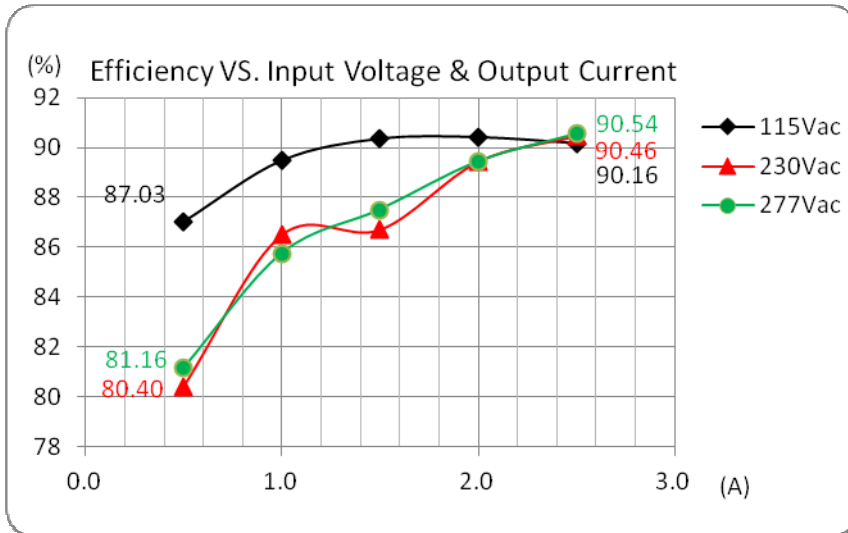


**Derating**

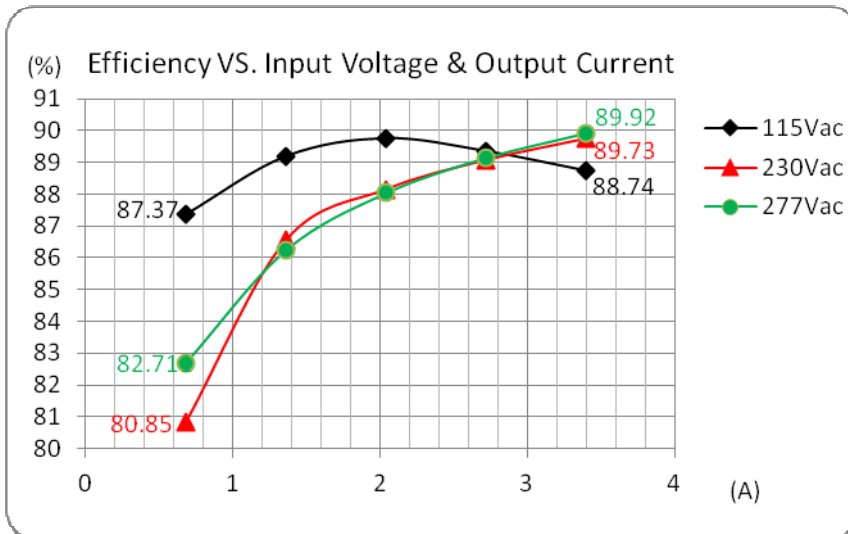


**Efficiency vs. Input Voltage and Output Current (CC Load)**

AMER120-50250AZ

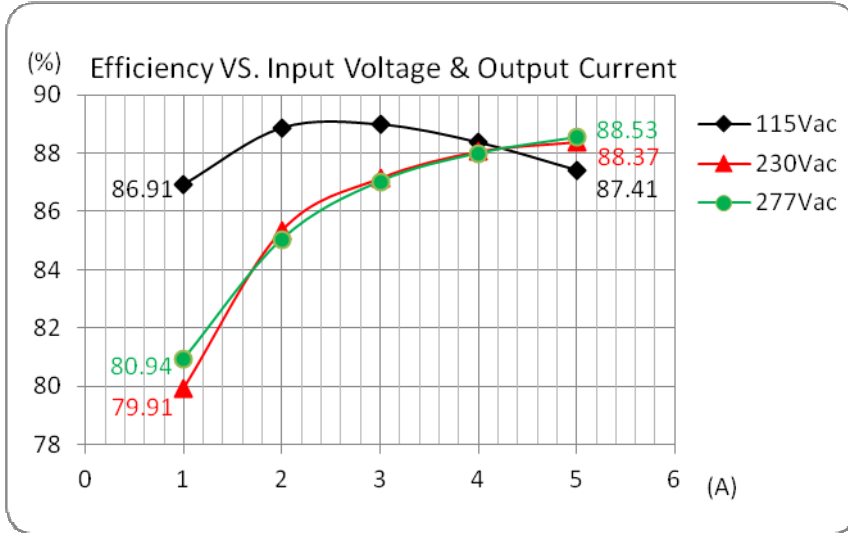


AMER120-36340AZ



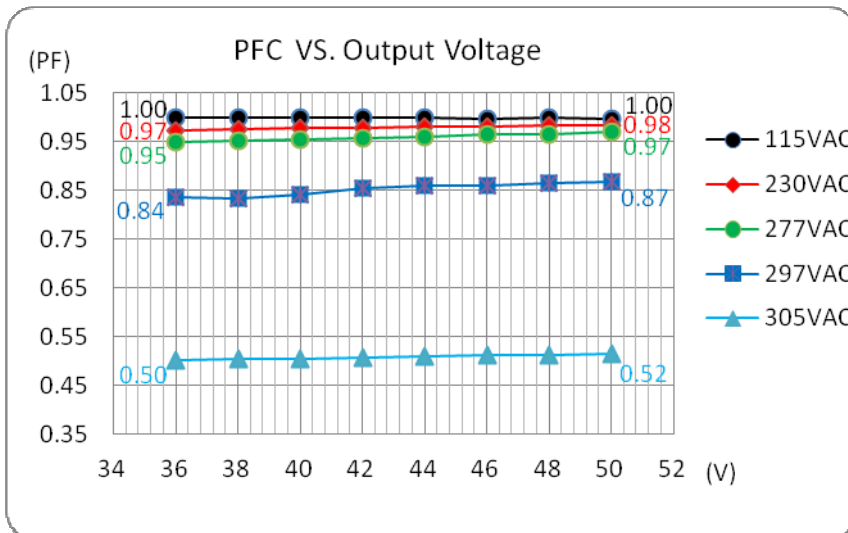
**Efficiency vs. Input Voltage and Output Current (CC Load)  
Continued**

AMER120-24500AZ



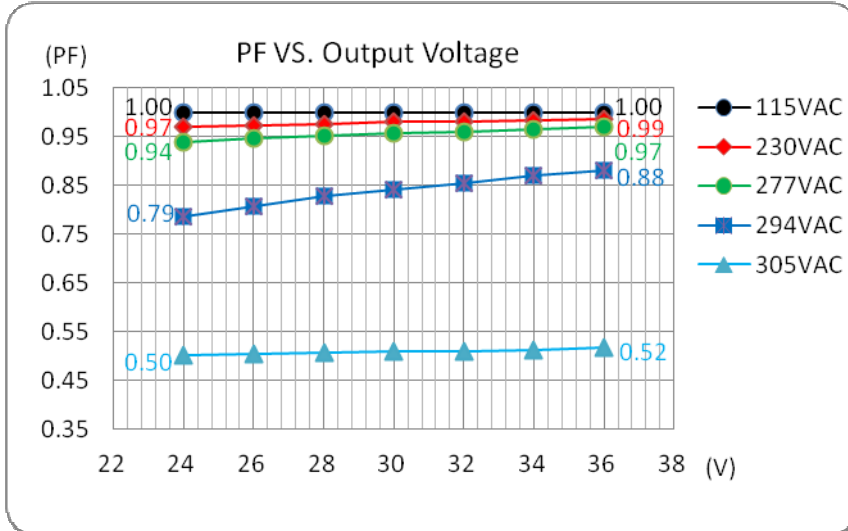
**PFC Value vs. Output Load Current (CC Load)**

AMER120-50250AZ

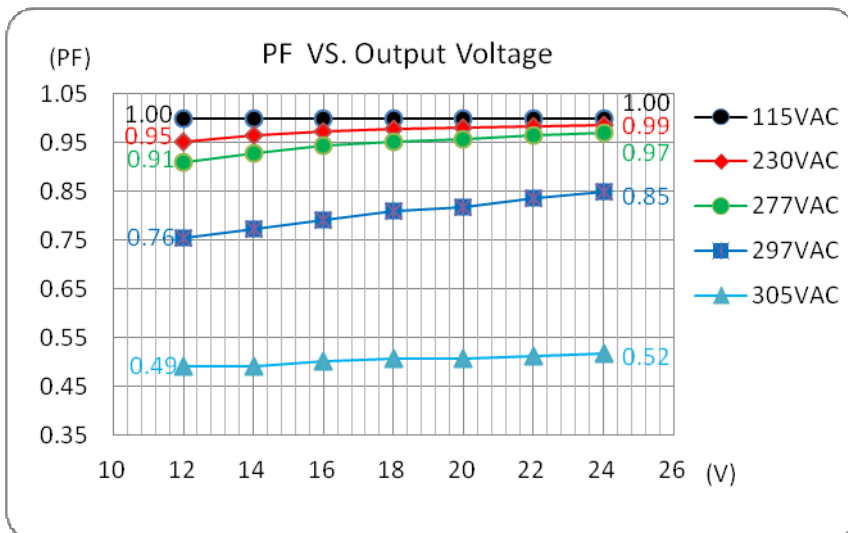


**PFC Value vs. Output Load Current (CC Load)  
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AMER120-36340AZ

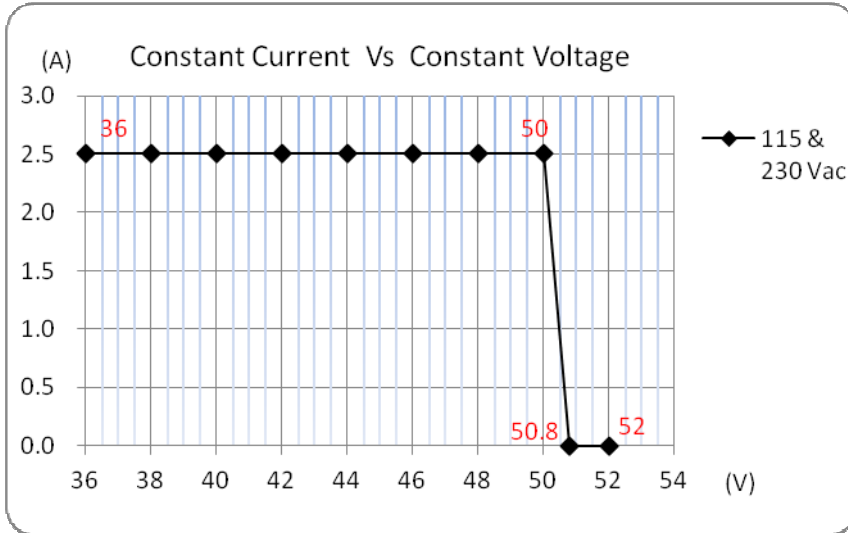


AMER120-24500AZ

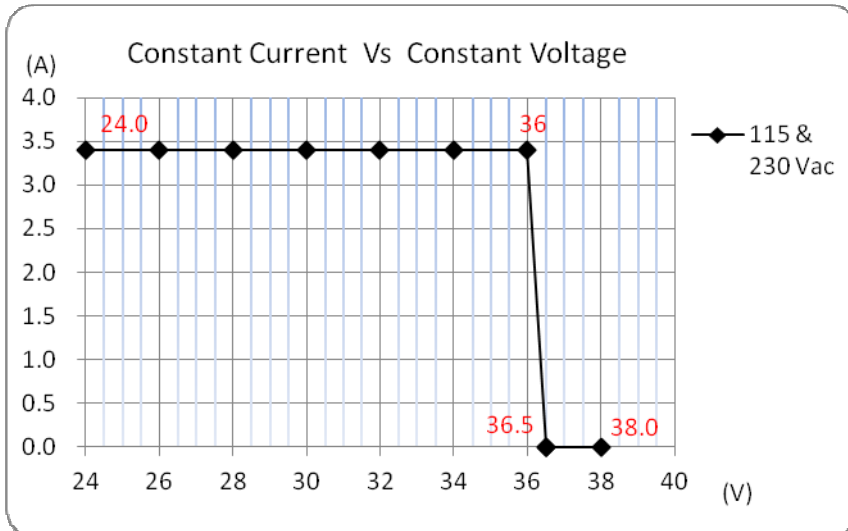


**Constant Current Mode vs. Constant Voltage Mode**

AMER120-50250AZ



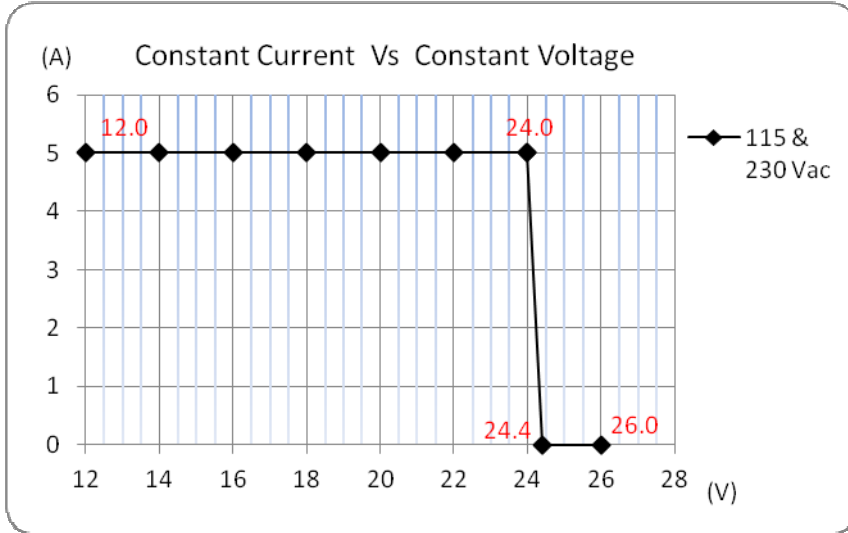
AMER120-36340AZ





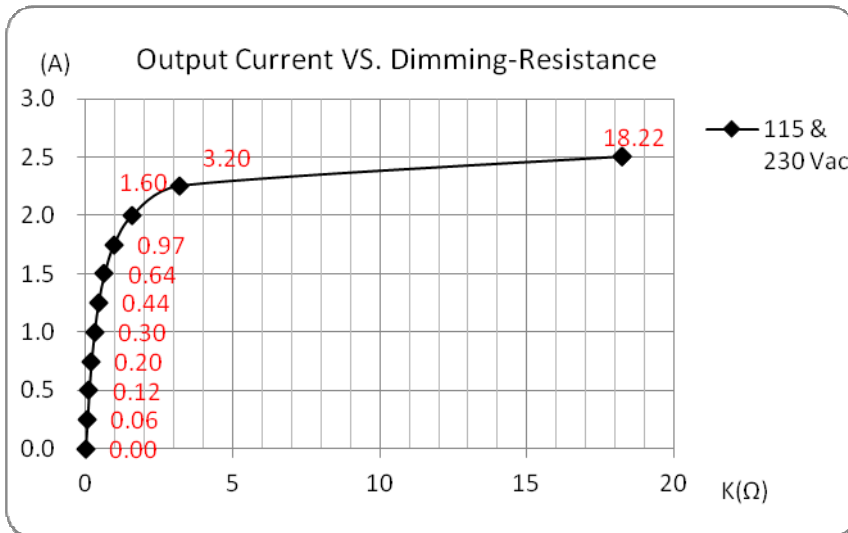
**Constant Current Mode vs. Constant Voltage Mode  
Continued**

AMER120-24500AZ



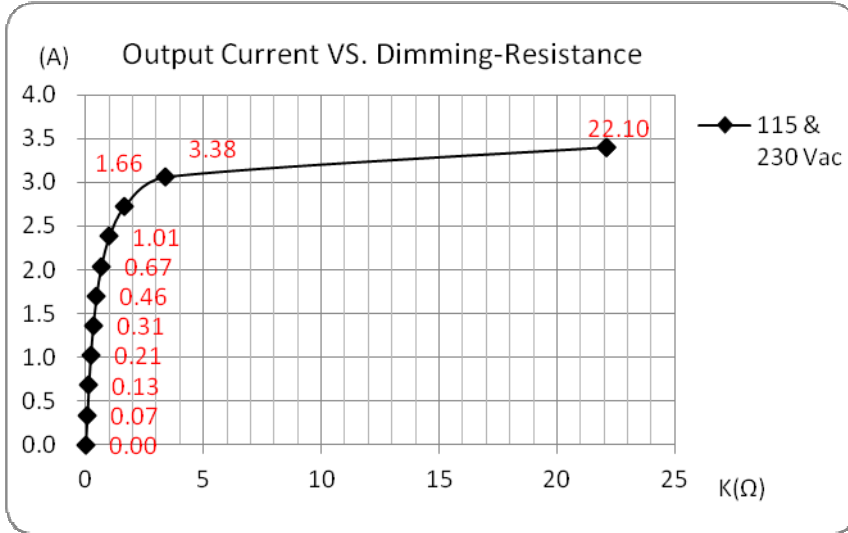
**Output Current vs. Radj**

AMER120-50250AZ

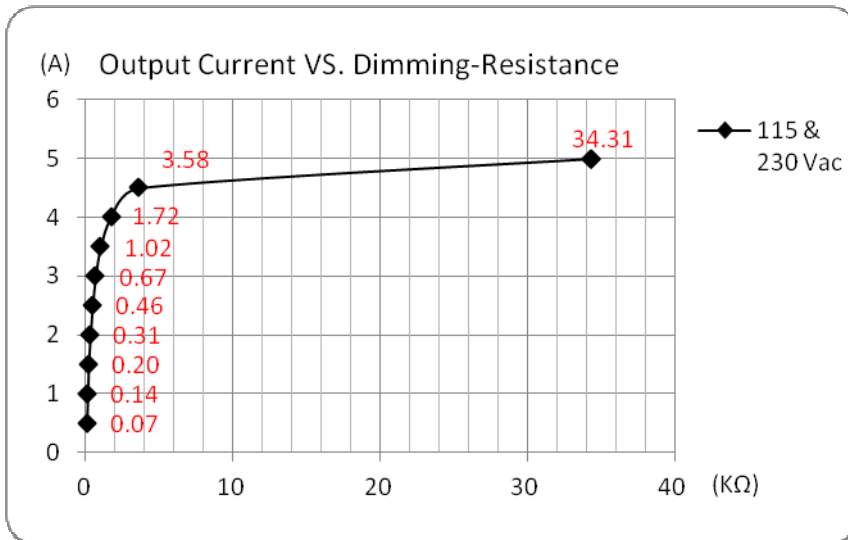


**Output Current vs. Radj  
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AMER120-36340AZ



AMER120-24500AZ



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