Series AMER120-CAZ

up to 5A | AC-DC / DC-DC | LED Driver / Converter

FEATURES:

- Constant Current or Constant Voltage LED Driver or Converter
- Input range 90-305VAC/47-440Hz
- High Efficiency up to 91%
- 115VAC Operating temperature -50 to 85°C
- 230VAC Operating temperature -55 to 85°C
- Dimming via analog / 0-10V dimming ②
- Over Temperature Protection
- Over Current Protection
- Waterproof Case rated IP68
- Power Factor Correction
- Short Circuit Protection

Models
Single output

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

① Exceeding the maximum output power will permanently damage the converter

② 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.

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		900		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 ③	20MHz Bandwidth	100		mV p-p
Hold-up time		80		ms
Current adjustment range		100-0		%
Minimum Load Voltage	See the models table			

③ 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/P-O/P voltage	3sec		3750	VAC
Tested I/P-FG voltage	3sec		1880	VAC
Tested O/P-FG voltage	3sec		500	VAC
Isolation Resistance	500VDC	>1000		MΩ
Isolation Capacitance			1000	pF

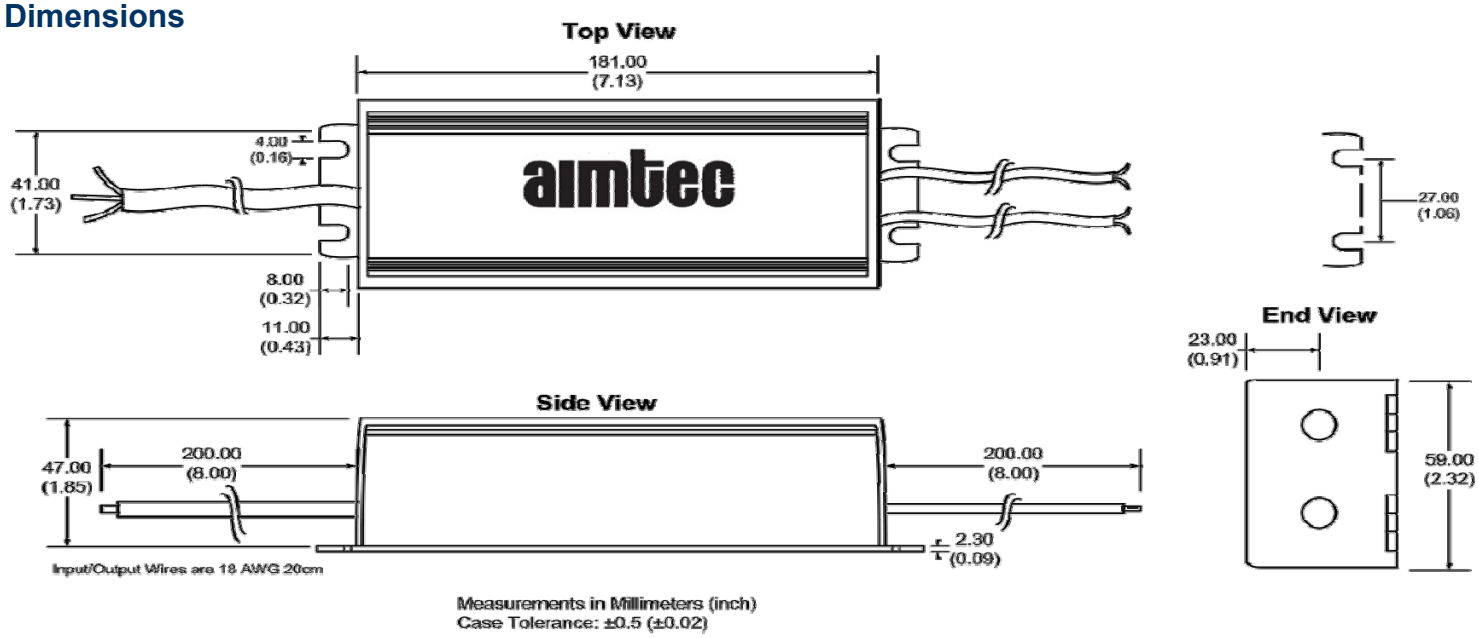
General Specifications

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	With derating over 55°C(115VAC)	-50 to +85		°C
	With derating over 55°C(230VAC)	-55 to +85		°C
Maximum case temperature			100	°C
Storage temperature		-55 to +95		°C
Temperature coefficient		±0.02		% / °C
Cooling	Free air convection			
Humidity			95	% RH
Case material	Aluminum			
Potting	Epoxy (IP68 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)			

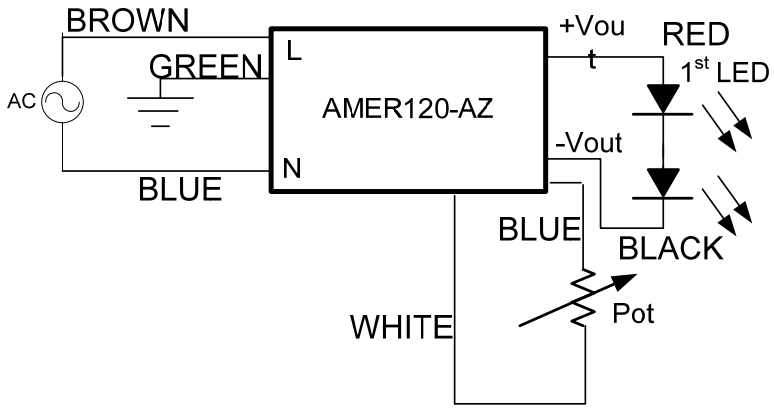
Safety Specifications

Parameters	
Agency approvals	CE
Standards	EN55022, class B, EN60529(IP68), EN61347-1, EN61347-2-13
	NOTE : also designed to meet cULus, UL8750, UL60950-1

Dimensions

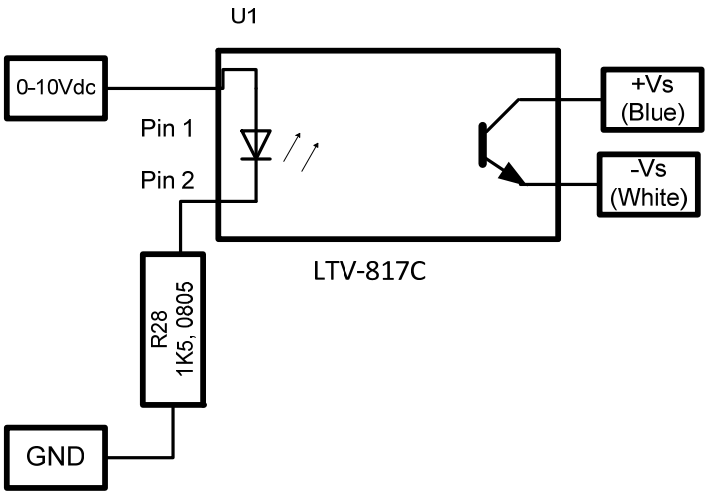


Analog (resistive) Dimming Application Circuit

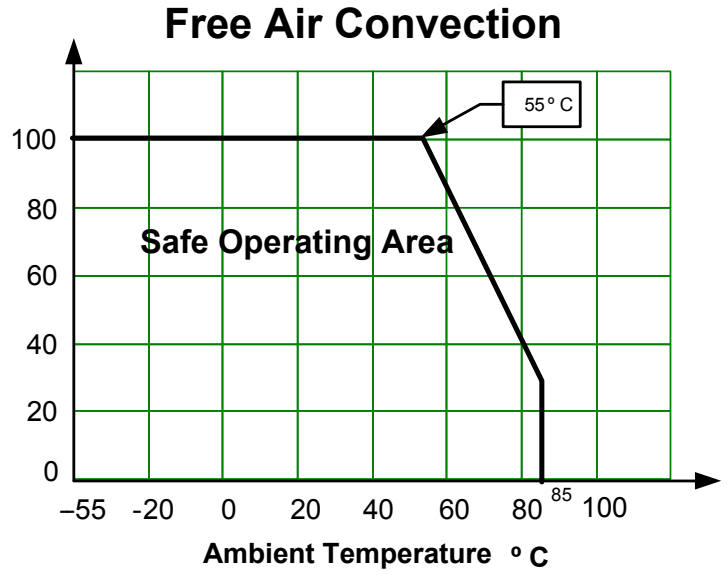


Model Number	Maximum Pot Value (kΩ)
AMER120-50250CAZ	18.22
AMER120-36340CAZ	22.10
AMER120-24500CAZ	34.31

0-10V Dimming Application Circuit

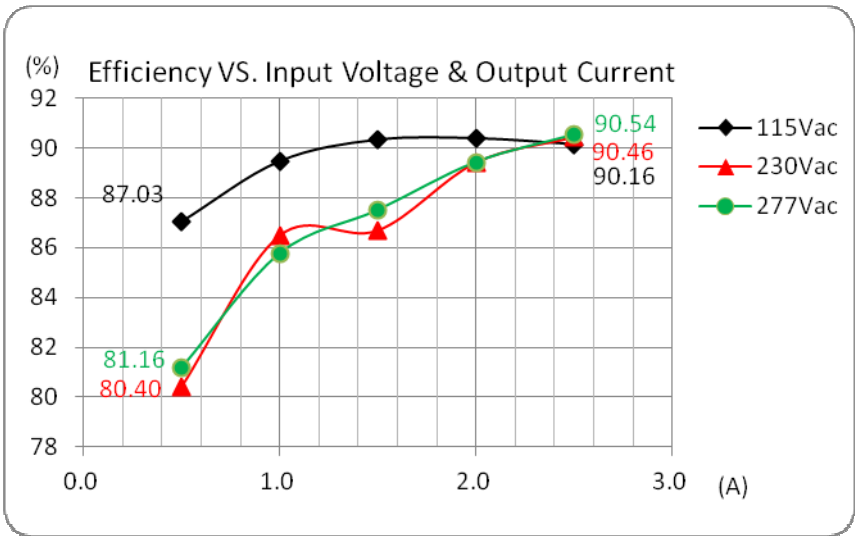


Derating

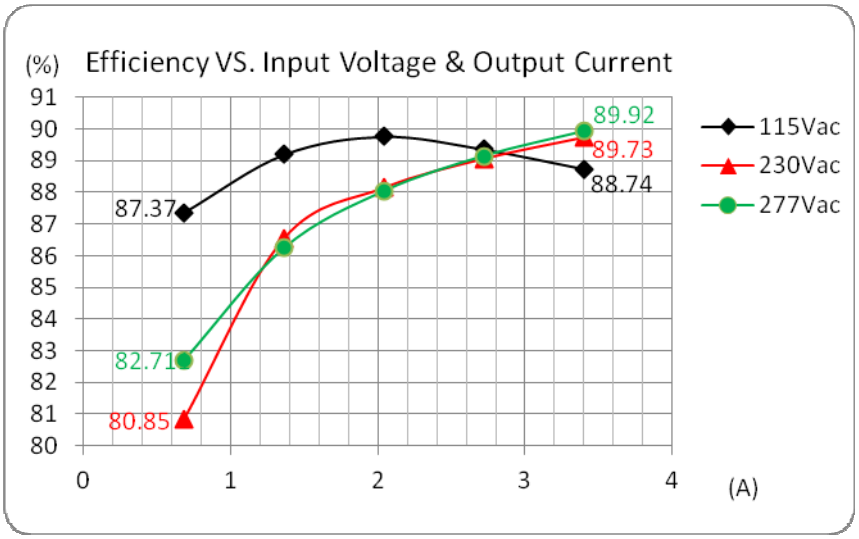


Efficiency vs. Input Voltage and Output Current (CC Load)

AMER120-50250CAZ

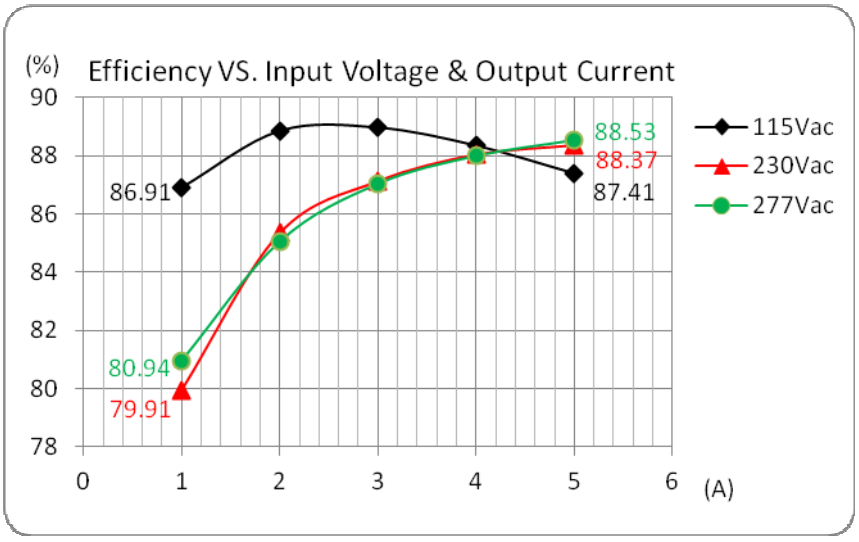


AMER120-36340CAZ



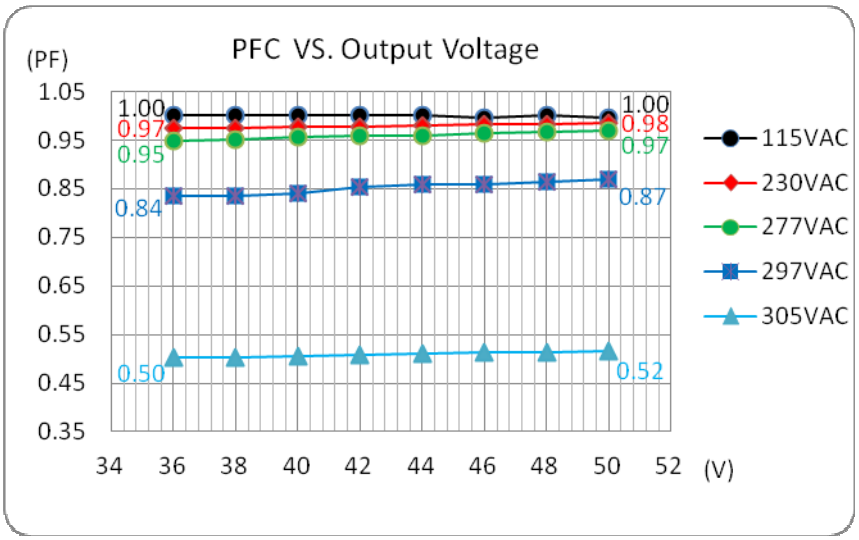
Efficiency vs. Input Voltage and Output Current (CC Load) Continued

AMER120-24500CAZ



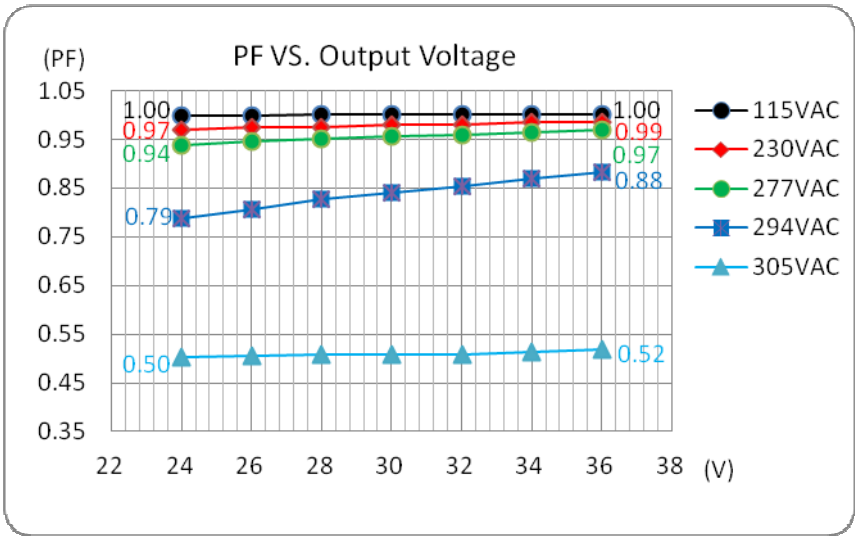
PFC Value vs. Output Load Current (CC Load)

AMER120-50250CAZ

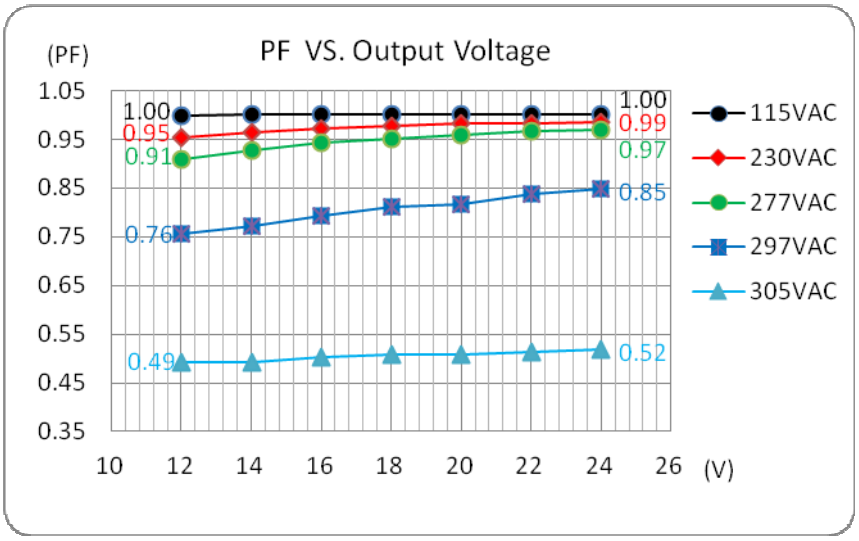


PFC Value vs. Output Load Current (CC Load) Continued

AMER120-36340CAZ

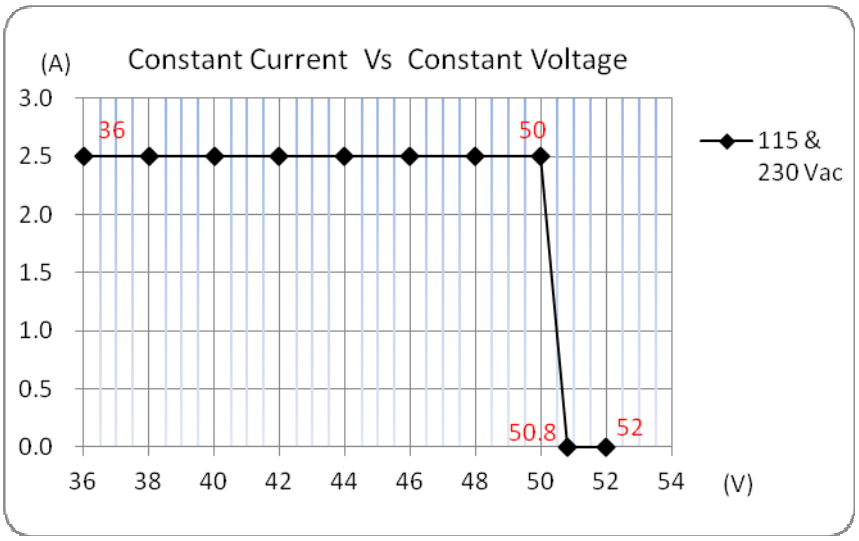


AMER120-24500CAZ

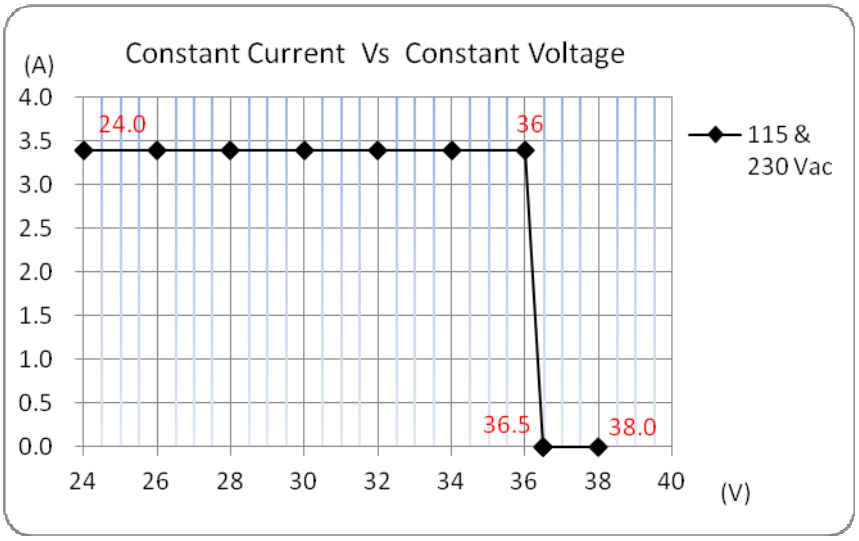


Constant Current Mode vs. Constant Voltage Mode

AMER120-50250CAZ

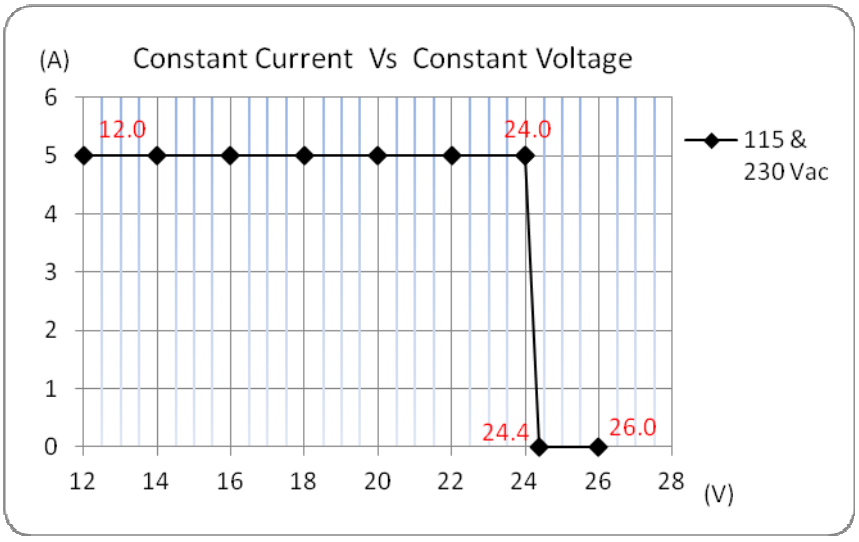


AMER120-36340CAZ



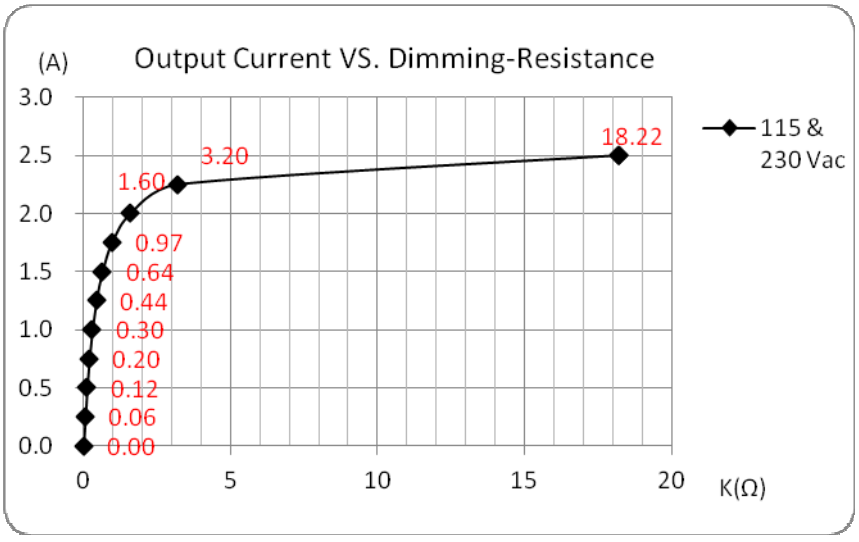
Constant Current Mode vs. Constant Voltage Mode Continued

AMER120-24500CAZ



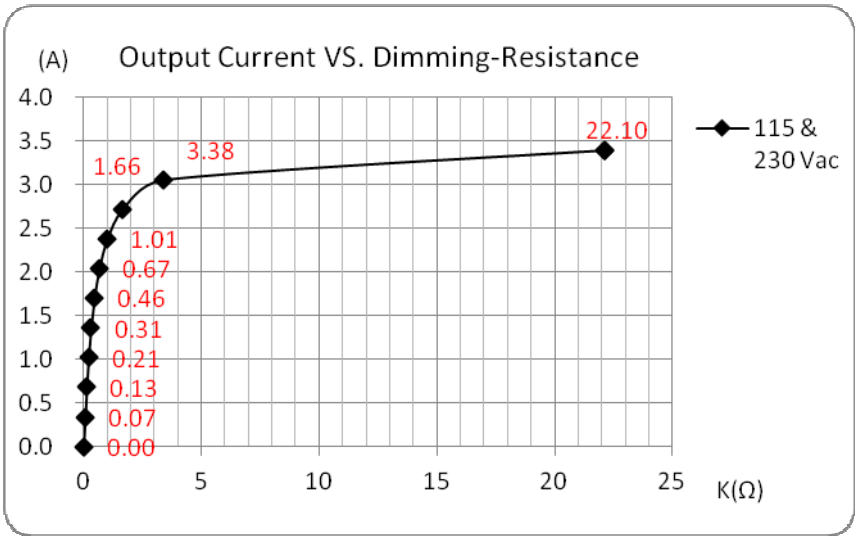
Output Current vs. Radj

AMER120-50250CAZ

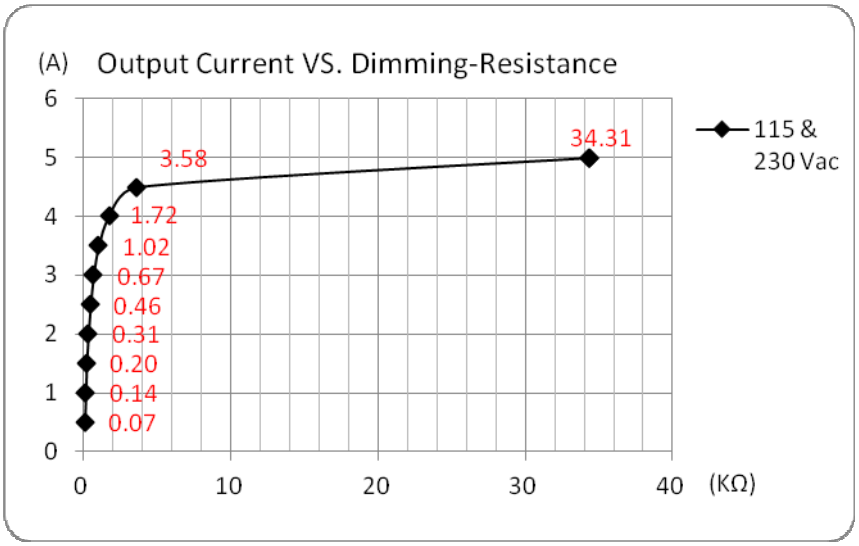


Output Current vs. Radj
Continued

AMER120-36340CAZ



AMER120-24500CAZ



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