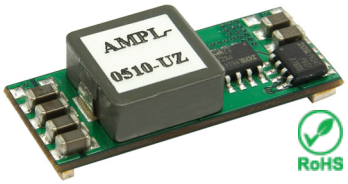
Series AMPL-UZ 10A

Up to 50 Watt | DC-DC Converter



FEATURES:

- POL delivering 10A output current
- Programmable output voltage
- Remote output sense
- Remote On/Off Control Function
- Output Over current protection
- Over temperature protection
- Operating temperature -40 to 85ºC
- Industry standard SMD footprint

Models

Single output

Model	Nom. Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Efficiency (%)
AMPL-0510-UZ	5	0.75, 1, 1.2, 1.5, 1.8, 2, 2.5, 3.3	10	97
AMPL-1210-UZ	12	0.75, 1, 1.2, 1.5, 1.8, 2, 2.5, 3.3, 5	10	96

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5 12	3~5.5 10~14		V

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Set point Voltage accuracy		±2		%
Trim range	Full Resistive load	0.75~3.63		V
Remote sense compensation		0.5		V
Short Circuit protection	R<10Ω	Continuous		
Short Circuit restart		Auto recovery		
Line voltage regulation	Full Resistive load	±0.5		% of Vin
Load voltage regulation	NL-FL	±0.5		%
Turn-on delay time	Full Resistive load	2		ms
Rise time	(0.1~0.9) of Vout	1.5		ms
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	50		m Vp-p
Load transient voltage		160		mV
Setting time	Vout < 10% Peak Deviation	50		µs
Maximum capacitive load	Min ESR >10mΩ		5000	µF

General Specifications

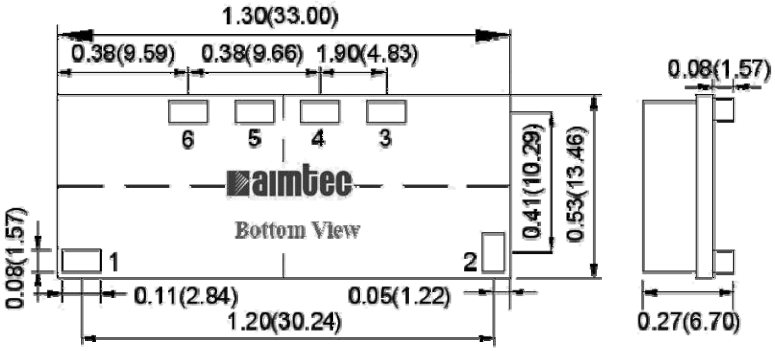
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	300		KHz
Operating temperature	-40 to +85			°C
Storage temperature	-55 to +125			°C
Cooling	Free air convection			
Humidity		10 ~ 90		%
Weight			7	g
Dimensions (L x W x H)	1.30 x 0.53 x 0.27 inches		33.00 x 13.46 x 6.70mm	
MTBF	> 5,000,000hrs, Bellcore TR332, 25 °C			

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.

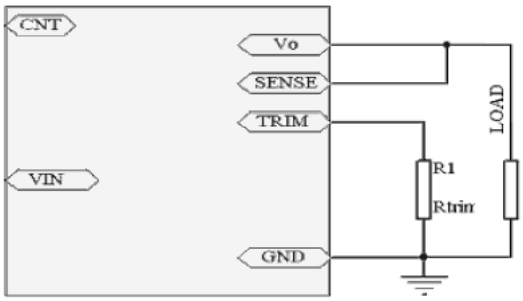
Pin Out Specifications

Pin	Single
1	+V Input
2	On/Off Control
3	Sense
4	Trim
5	+V out
6	GND

Dimensions



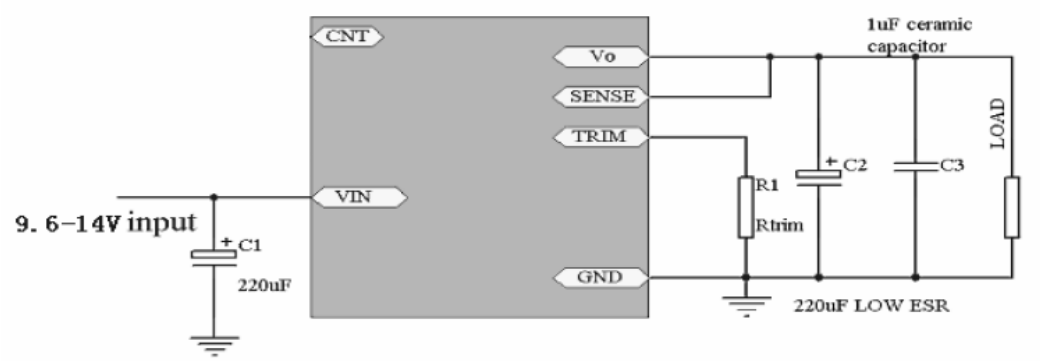
Voltage Adjustment



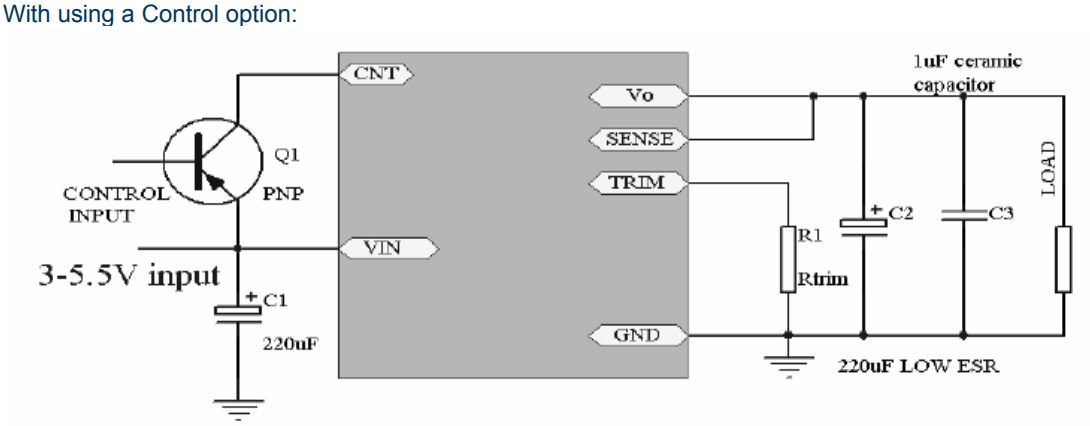
Vout (VDC)	R trim value in KΩ for 3~5.5V Vin (VDC)	R trim value in KΩ for 10~14V Vin (VDC)
0.75	Open	Open
1.0	80.6	41.2
1.2	42.2	22.6
1.5	23.2	13
1.8	15	9.09
2.0	11.8	7.32
2.5	6.98	4.99
3.3	3.16	3.09
5.0	2.21	1.47

Typical Application:

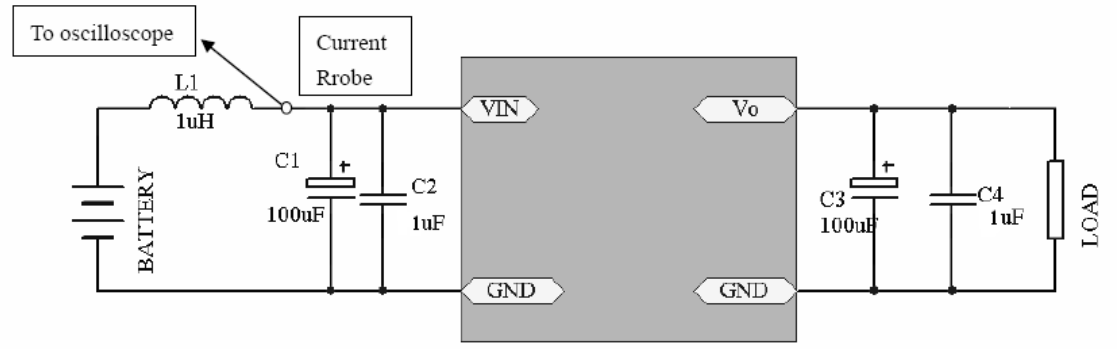
With not using a Control function:



With using a Control option:



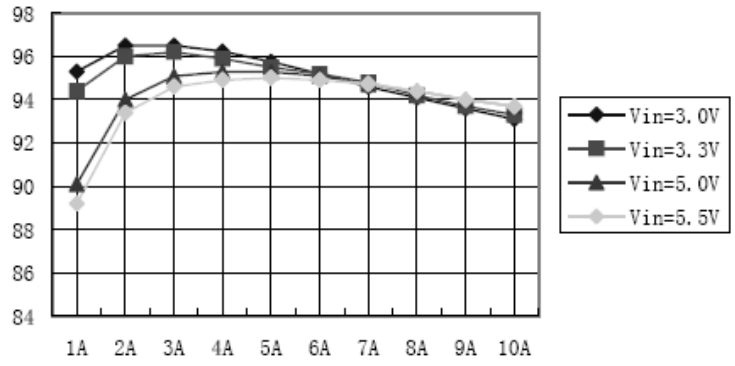
Output ripple and Noise Measurement – test set up:



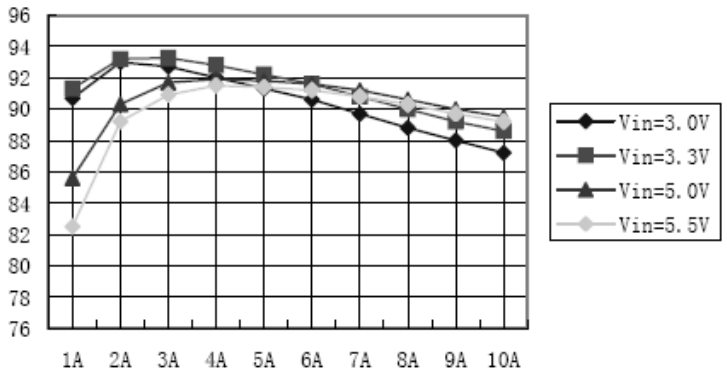
Note: This test set up configuration for measuring the output voltage ripple and the reflected input ripple current is using C1 and C3 tantalum capacitors with ESR<150mΩ and C2 and C4 ceramic capacitors.

Efficiency curves versus load current, at 3 ~ 5.5V input for each output voltage setting (25˚C):

Vout 0.75V:

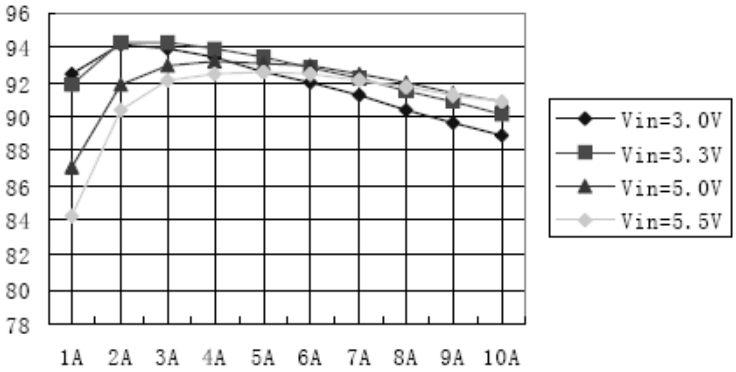


Vout 1V:

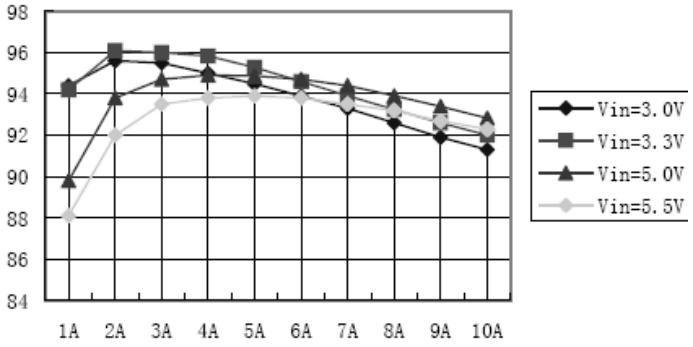


Efficiency curves versus load current, at 3 ~ 5.5V input for each output voltage setting (25˚C): (continued):

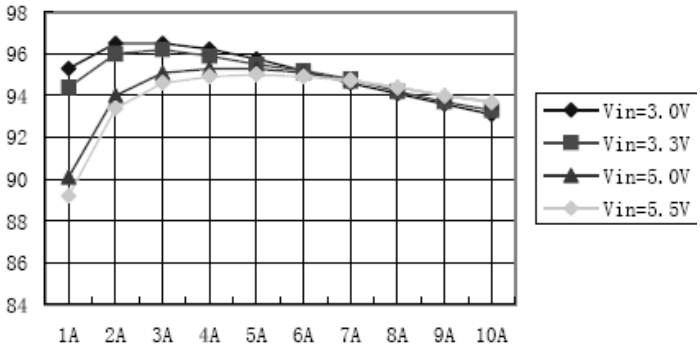
Vout 1.2V



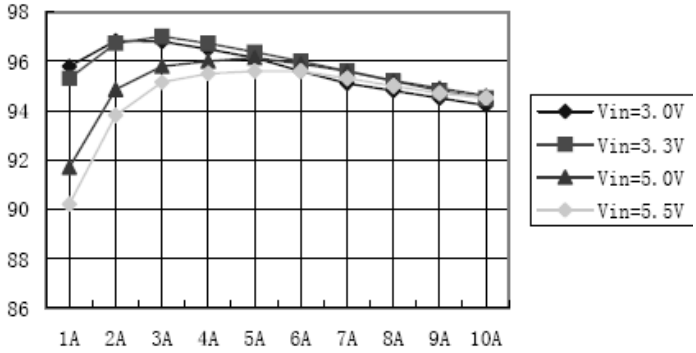
Vout 1.5V



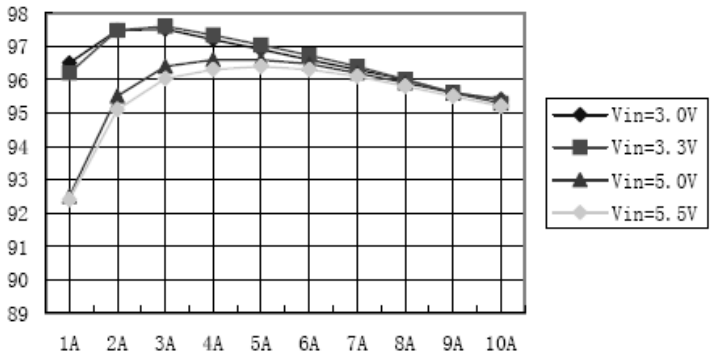
Vout 1.8V



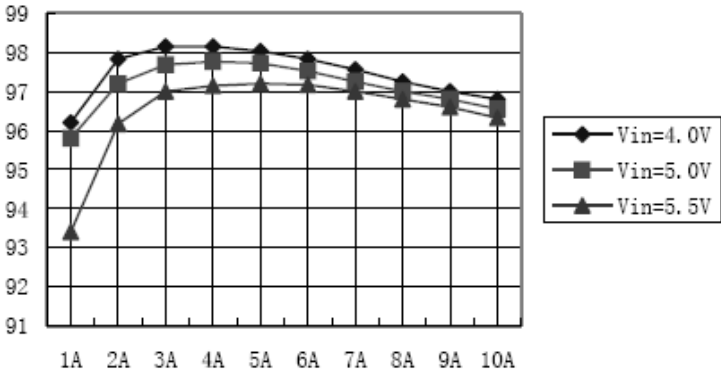
Vout 2V



Vout 2.5V

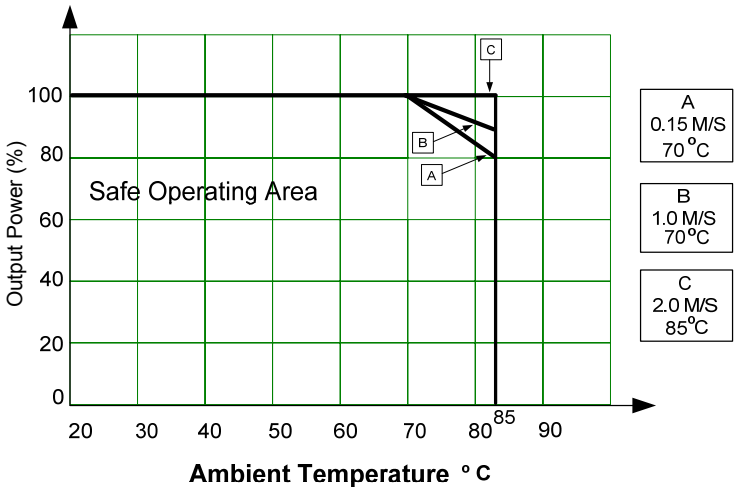


Vout 3.3V

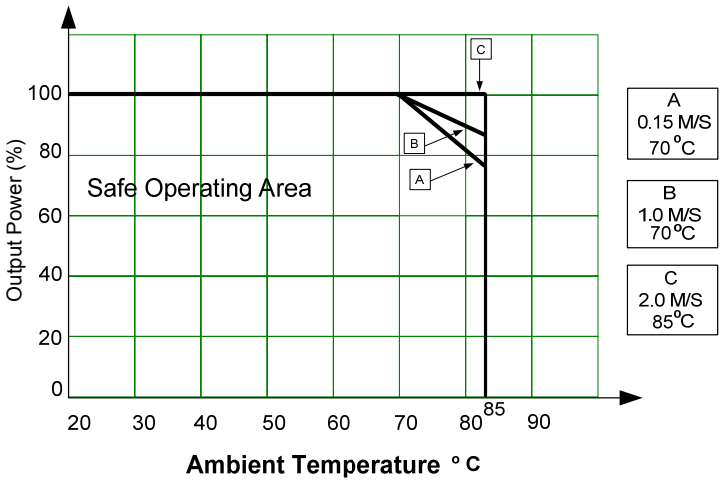


Derating curve at 3 ~ 5.5V input:

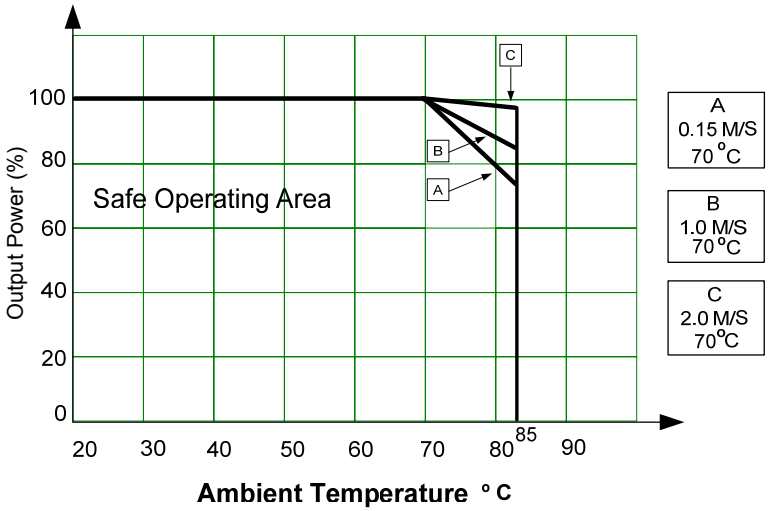
Vout 0.75, 1, 1.2, 1.5V:



Vout 1.8, 2V

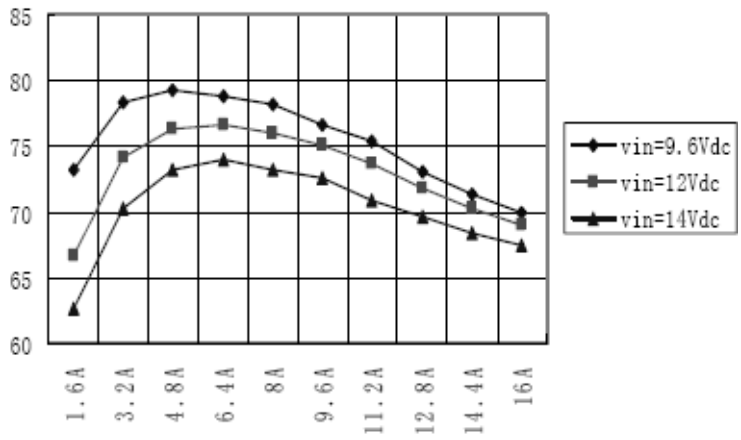


Vout 2.5, 3.3V

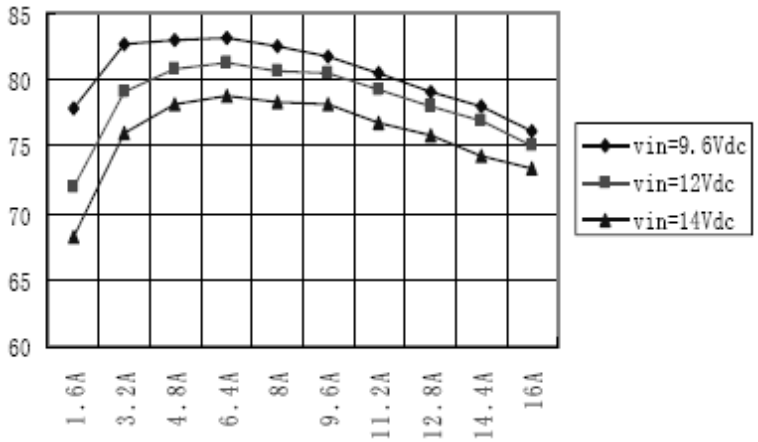


Efficiency curves versus load current, at 10 ~ 14V input for each output voltage setting (25˚C):

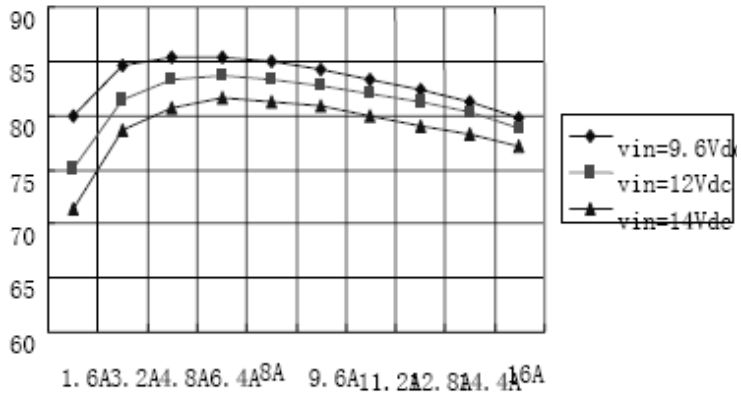
Vout 0.75V:



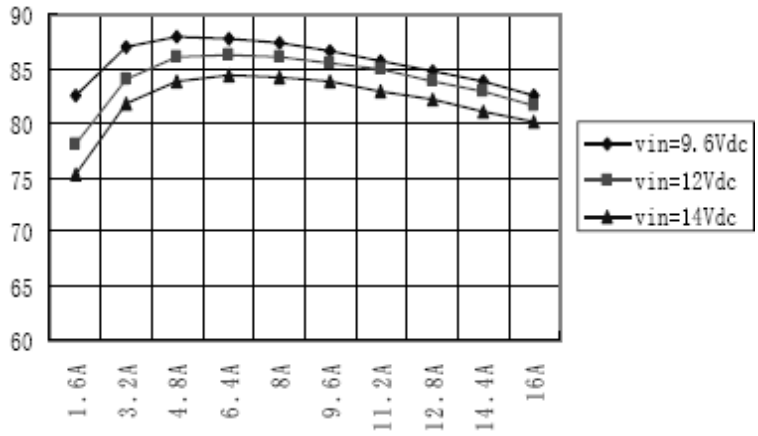
Vout 1V:



Vout 1.2V

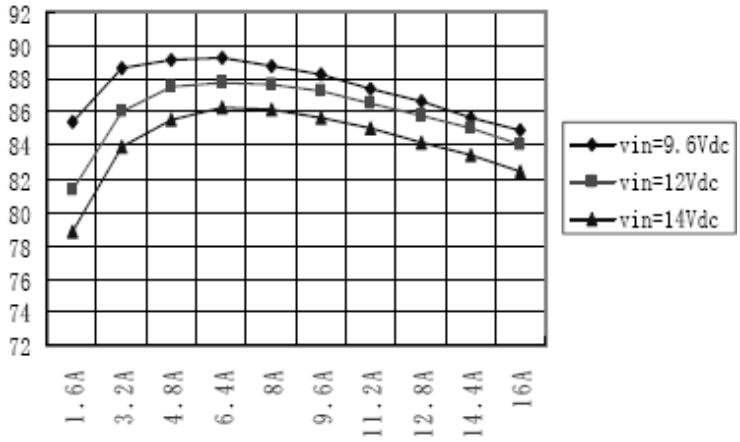


Vout 1.5V

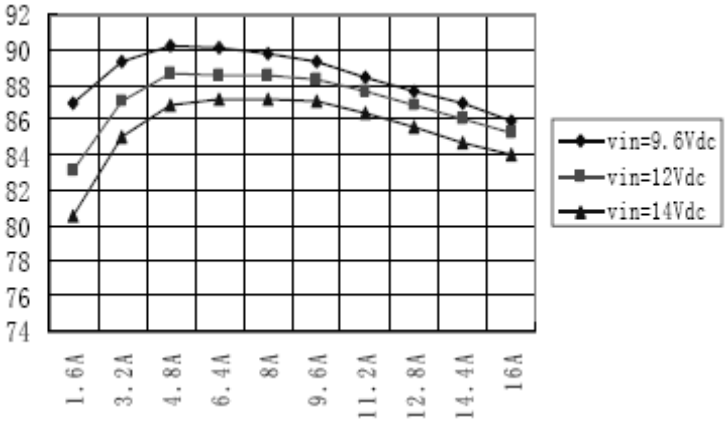


Efficiency curves versus load current, at 10 ~ 14V input for each output voltage setting (25˚C) (continued):

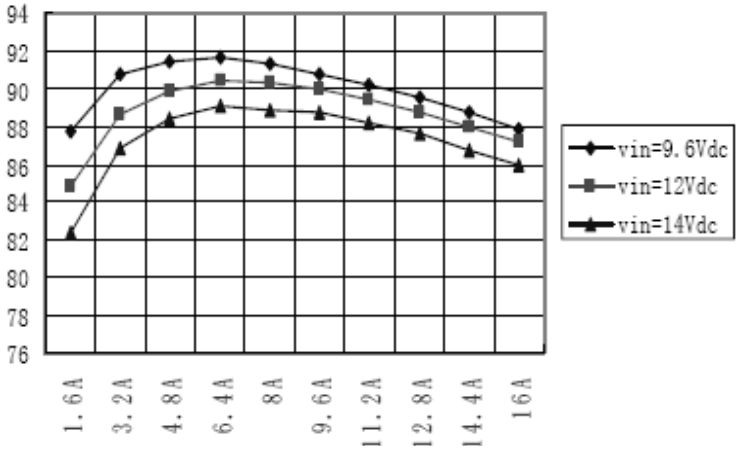
Vout 1.8V



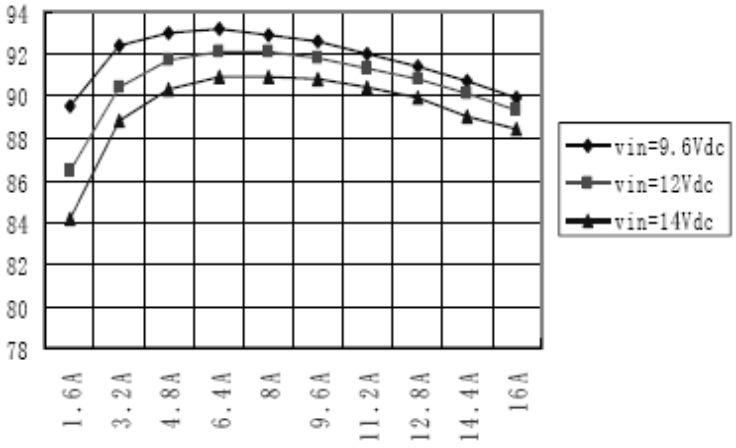
Vout 2V



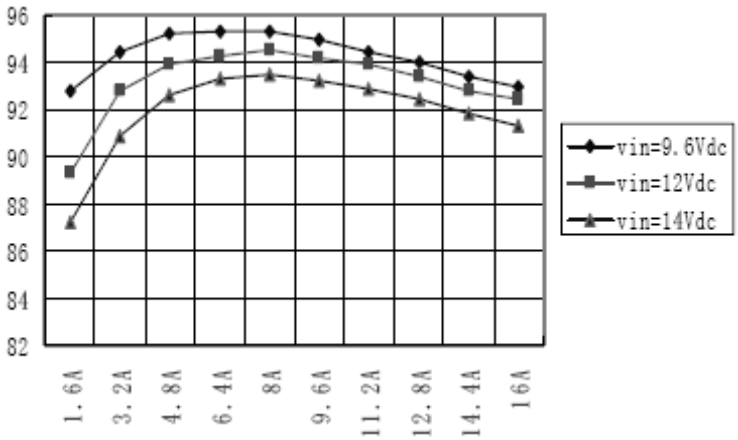
Vout 2.5V



Vout 3.3V

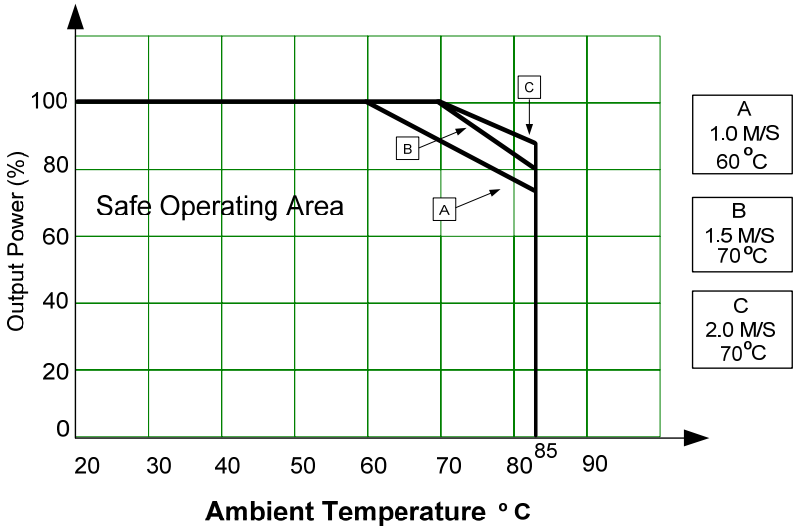


Vout 5V

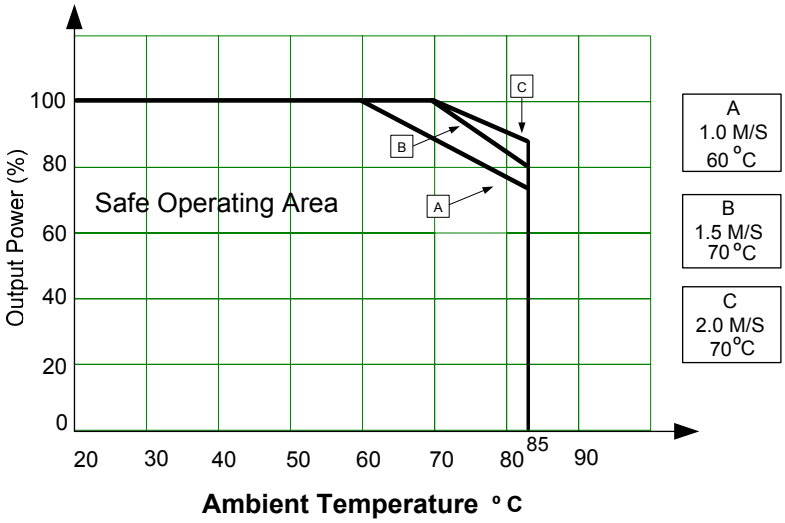


Derating curve at 10 ~ 14V input:

Vout 0.75, 1, 1.2, 1.5V:

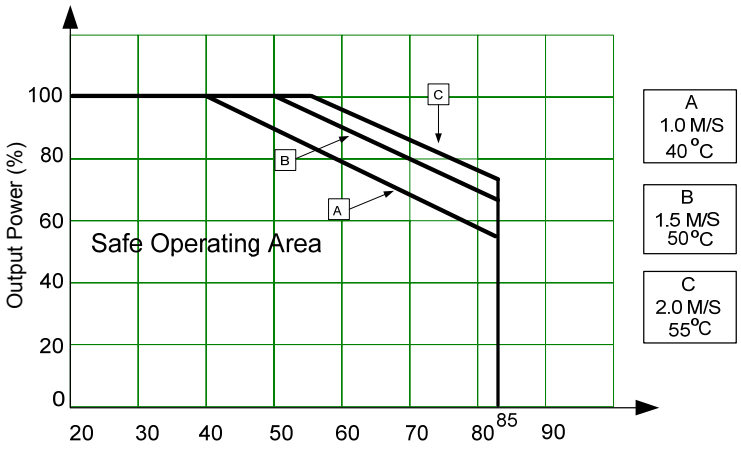


Vout 1.8, 2, 2.5V



Derating curve at 10 ~ 14V input (continued):

Vout 3.3, 5V



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