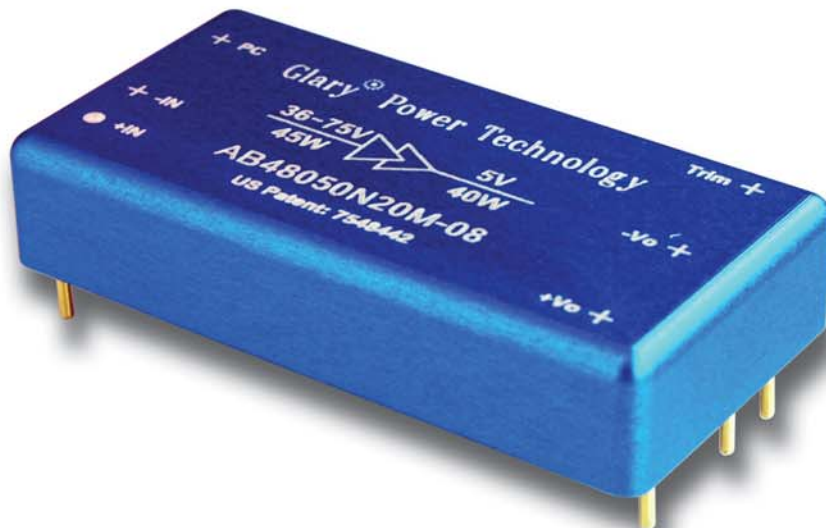


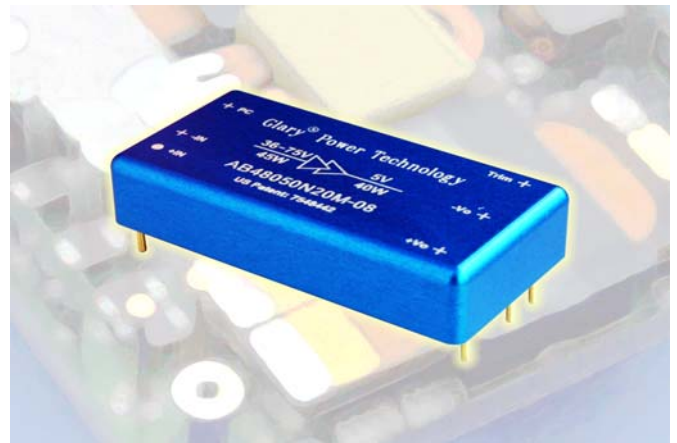


The Rise of Technology Convergence



Efficiency >90%	50W/in³	Full Metal Package	EN55022 Class B	7.6Mhrs MTBF
Remote ON OFF	INPUT 2:1	OVP	OTP	OCP

The high efficiency *Aurora* Converter family provides up to 40W/10A output with industry standard 2" x 1" metal package, which is designed with the efficiently patented "Coupled-Inductor SR" topology. The low profile module design with silicone potted metal package eliminates the hot spots and further secures better thermal performance.



Part Number *	Maximum Input	Maximum Output	Efficiency
AB48120abcd-ef	36V~75V 39W	12.0V/3A 36W	92%
AB48050abcd-ef	36V~75V 45W	5.0V/8A 40W	90%
AB48033abcd-ef	36V~75V 37W	3.3V/10A 33W	90%
AB48025abcd-ef	36V~75V 29W	2.5V/10A 25W	88%

Part Number *	Maximum Input	Maximum Output	Efficiency
AB24120abcd-ef	18V~36V 39W	12.0V/3A 36W	92%
AB24050abcd-ef	18V~36V 45W	5.0V/8A 40W	90%
AB24033abcd-ef	18V~36V 37W	3.3V/10A 33W	90%
AB24025abcd-ef	18V~36V 29W	2.5V/10A 25W	88%

* Options for **AB series** are listed as follows:

- | | | |
|--|--|-----------------------|
| a (Enable Logic): | P : Positive | N : Negative |
| b (Pin Dimension): | 0 : 0.15" | 1 : 0.20" |
| c (Standoff Height): | 0 : 0.00"(Standard) | 1 : 0.02" |
| d (Packaging/Module Thickness): | E : Enclosed standard type/0.40" | D : Customized |
| ef (Output): | 00 to 10 for output current rating | |



Example: **AB48050P10E-08** is a *Aurora* Converter in 2" x 1" case offering 48V input to 5.0V/8A output with positive control logic, 0.20" pin length, 0.00" of standoff height in a standard enclosed type package.

<u>ABSOLUTE MAXIMUM RATINGS</u>		
Temperature	Operation	-40°C to +110°C
	Storage	-55°C to +125°C
Input Voltage Range	Operation:	
	24V Models	-0.5V to +40Vdc
	48V Models	-0.5V to +80Vdc
	Transient (100mS):	
	24V Models	50V Maximum
	48V Models	100V Maximum
Isolation Voltage	Input to Output	2.0KV Minimum
	Input to Case	1.0KV Minimum
	Output to Case	0.5KV Minimum
Remote Control Voltage		-0.5V to +12Vdc

<u>INPUT SPECIFICATIONS</u>		
Operation Voltage Range	24V Models	+18V to +36Vdc
	48V Models	+36V to +75Vdc
Reflected Ripple Current	L _{EXT} = 10uH	20mA Max
Power ON Voltage Ranges	24V Models	+16.5V to +17.9Vdc
	48V Models	+34.5V to +35.8Vdc
Power OFF Voltage Ranges	24V Models	+16.0V to +17.4Vdc
	48V Models	+33.5V to +34.8Vdc
Off State Input Current	V _{NOM}	3mA Max
Latch-State Input Current	V _{NOM}	8mA Max
Input Capacitance	24V Models	10uF Max
	48V Models	2.2uF Max

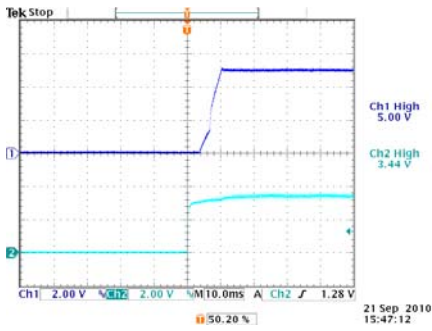
<u>GENERAL SPECIFICATION</u>		
Conversion Efficiency	Typical	See table
Switching Frequency	Typical	400KHz
MTBF	Bellcore	7.6×10 ⁶ hrs @GB/25°C.
	TR-332 issue 6	(AB48050P10E-08)
OTP	Internal	115°C (Tc)
Weight		35g

<u>OUTPUT SPECIFICATIONS</u>		
Voltage Accuracy	Typical	±1%
Line Regulation	Full Input Range	±0.2%
Load Regulation	10%~100%	±0.2%
Temperature Drift	-40°C ~100°C	±0.03%/°C
Output Tolerance Band	All Conditions	±4%
Ripple & Noise (20MHz)	Peak-Peak (RMS)	3% (1%) V _o
Over Voltage Protection	V _{NOM} , 10% Load	115~130 %V _o
Output Current Limits	V _{NOM}	105%~125%
Voltage Trim	V _{NOM} , 10% Load	±10%
Input Ripple Rejection (<1KHz)	V _{NOM} , Full Load	-50dB
Step Load (2.5A/uS)	75%~100% Load	300mV/500uS
Start-Up Delay Time	V _{NOM} , Full Load	20mS/250mS

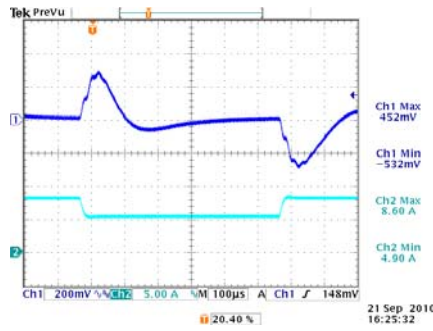
<u>CONTROL FUNCTIONS</u>		
Remote Control	Logic High	+3.0V to +6.5V
	Logic Low	0V to +1.0V
Input Current of Remote Control Pin		-0.5mA ~ +1.5mA

Important Note: General specifications and the performances referring to standard series only, no special customer specification display here except requested items.

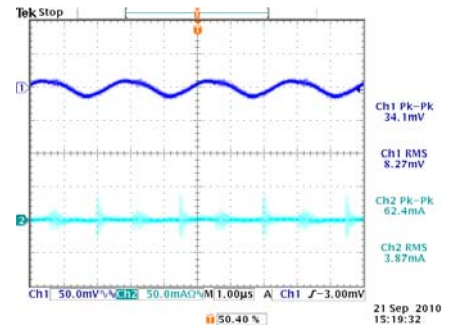
Aurora Converter Family



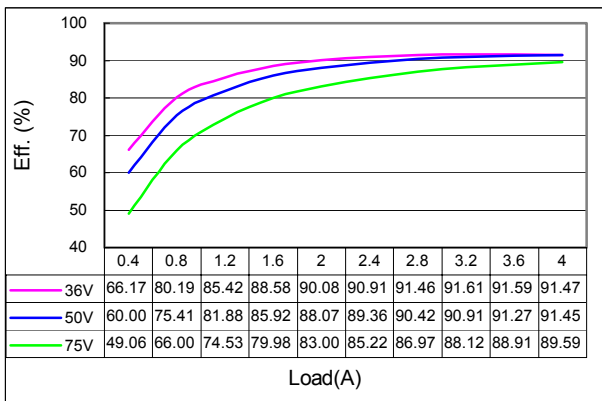
Start-Up Waveform
(V_{IN} : 50V, Load: 8A)



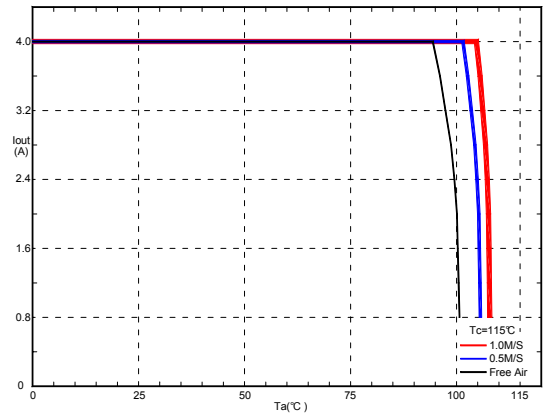
Transient Response
(V_{IN} : 50V, Load: 8A/6A@2.5A/µs)



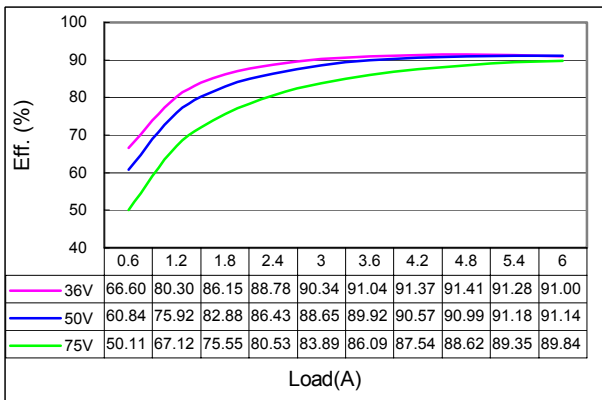
Output Ripple/Noise and Input Ripple Current
(V_{IN} : 50V, Load: 8A, L_{IN} =10µH)



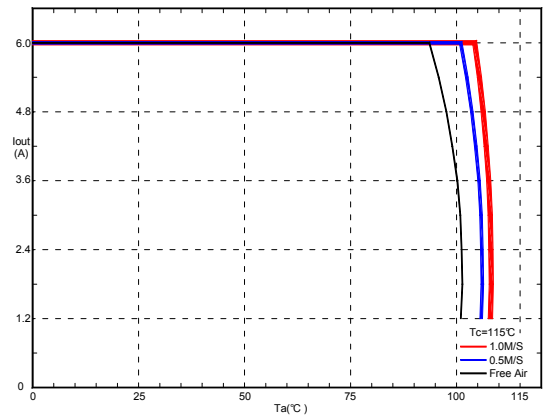
Efficiency Plot of AB48050N20M-04



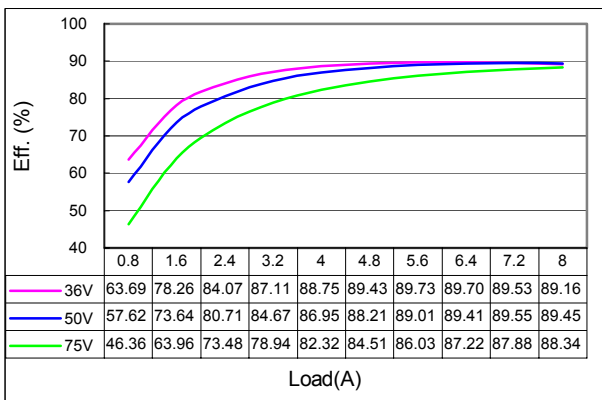
Derating Curve of AB48050N20M-04 with Different Airflows



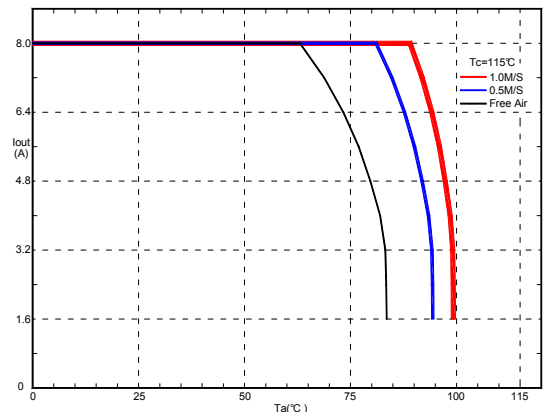
Efficiency Plot of AB48050N20M-06



Derating Curve of AB48050N20M-06 with Different Airflows



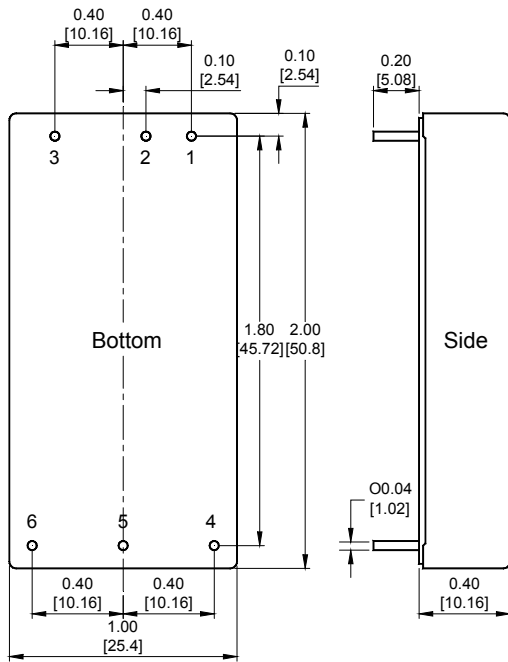
Efficiency Plot of AB48050N20M-08



Derating Curve of AB48050N20M-08 with Different Airflows

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Aurora Converter Family



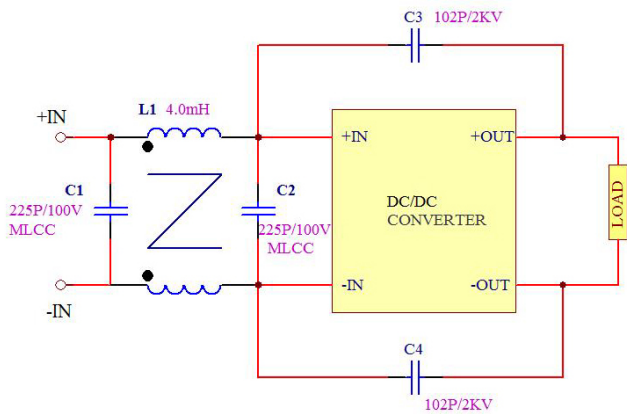
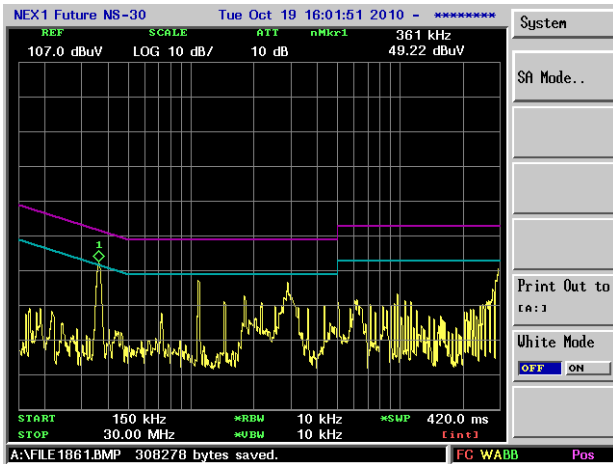
Designation	Function Description	Pin #
+Vi	Negative Input	1
-IN	Positive Input	2
Remote	ON/OFF control	3
+Vo	Positive Output	4
-Vo	Negative Output	5
TRIM	Output voltage adjust	6

Dimensions: Inches [mm]
Tolerances: .xx±0.02 (.x±0.5)
 .xxx±0.01 (.x±0.25)
Weight: 35g
Base plate: Non-conductive
Pin material: Copper alloy or Brass
Pin plating: Gold over Nickel

Physical Information and Pin Connections

Reference EMC Circuit:

The tested curve and referenced EMC circuit for AB48050N10E-08



- NOTE:**
1. It is recommended that the input is protected by fuses or other protection devices at the system board.
 2. ALL specifications are typical at nominal input, full load and 25°C unless otherwise noted.
 3. Specifications are subject to change without notice.
 4. Printed or downloaded datasheets are not subject to Glary document control.
 5. Product labels shown, including safety agency certificates, may vary based on the date of manufacture.
 6. Information provided in this documentation is for ordering purposes only.
 7. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications, which necessitate specific safety and regulatory standards other than the ones listed in this datasheet.

Important Note: General specifications and the performances referring to standard series only, no special customer specification display here except requested items.