

AMX04B SERIES

4W DC to DC Converter

Description:

This series of DC to DC Converter module provide 4 Watts of continues output power. They are suited for use in Data communication, Telecommunication and other Industry equipment.



24Pin DIP Package

Features:

- 4: 1 Wide Input Range Voltage
- Efficiency up to 86%
- Regulated Output
- Single or Dual Output
- Size : 20.3W x 31.8L x 10.2Hmm
- 1500VDC Isolation
- Potting Material : Epoxy(Flammability to UL94V-0)
- Case Material : Non-Conductive Black Plastic(Flammability to UL94V-0)
- EMI Meets to EN55022 Class A
- Remote On/Off Control(Optional)
- Industrial Standard Pin-out
- 3 year warranty

Electrical Characteristics:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Vin	Input Voltage for AMF04B		9	24	36	VDC
	Input Voltage for AMG04B		18	48	75	VDC
Fs	Switching Frequency			250		kHz
Po	Output Power Range		0		4	W
Vo	Output Voltage Range		See Rating Chart			V
Io	Output Current Range		See Rating Chart			A
Acc	Output Voltage Accuracy	Io=Full load, Vin=Typ., at 25°C		±0.5	±1.0	%
Eff	Efficiency	Io=Full load, Vin=Typ., at 25°C	80	81	86	%
REG-i	Line Regulation	Io=Full load, Vin=Vmax to Vmin, at 25°C		±0.2	±0.5	%
REG-o	Load Regulation	Io=20% to 100%, Vin=Typ., at 25°C		±0.5	±1.0	%
Vp-p	Ripple & Noise (Peak to Peak)	Each Output, 20MHz		50	75	mV
Vio	Isolation Voltage	Input to Output	1500			VDC
Ris	Isolation Resistance	Input to Output	1000			MΩ
Cis	Isolation Capacitance	Input to Output			550	pF
TC	Temperature Coefficient	All Output		±0.01	±0.02	%/°C
Br	Balance Regulation	Io=Full load, Vin=Typ., Dual Output		±1.0	±2.0	%
Trp	Time of Transient Response	Vin=Typ., 25% load step change		250	500	μS
Trd	Transient Response Deviation			±2.0	±6.0	%/Vo
Sdt	Start-Up Delay Time	Vin=Typ., Io=Full load		1000		Sec

External Functions Specifications:

Remote Control Function ---Enable High						
Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Sd	System Disable	V-Remote	-0.5		0.8	V
		I-Remote			-1000	μA
Se	System Enable	V-Remote	3.5		Vin-H	V
		I-Remote			-800	μA
		Floating Remote ON/OFF Pin				

Note : Control Voltage Reference to Negative Input

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Environmental:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Toper	Operating Temperature Range		-40		71	°C
Tcase	Maximum Case Temperature		-40		90	°C
Tstg	Storage Temperature		-55		125	°C
Hr	Relative Humidity		0		95	%
MTBF	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F		1M			Hrs
Scip	Short Circuit Input Power				2000	mW
Sic	Stand-by Input Current				2	mA
Cool	The Cooling Condition is Free					
Filter	Internal Capacitor					

Selection Chart :

Model Number	Input Voltage	Output Voltage	Output Current		Efficiency (Typ.)	Cap.Load ⁽⁸⁾
			Min.	Max.		
AMF04B-101	9~36VDC (Nominal:24V)	3.3VDC	90mA	900mA	80%	3300μF
AMF04B-102		5VDC	66mA	660mA	81%	3300μF
AMF04B-105		12VDC	33mA	335mA	86%	3300μF
AMF04B-106		15VDC	27mA	270mA	86%	3300μF
AMF04B-202		±5VDC	±33mA	±330mA	81%	1000μF
AMF04B-205		±12VDC	±17mA	±168mA	86%	1000μF
AMF04B-206		±15VDC	±14mA	±135mA	86%	1000μF
AMG04B-101		18~75VDC (Nominal:48V)	3.3VDC	90mA	900mA	80%
AMG04B-102	5VDC		66mA	660mA	81%	3300μF
AMG04B-105	12VDC		33mA	335mA	86%	3300μF
AMG04B-106	15VDC		27mA	270mA	86%	3300μF
AMG04B-202	±5VDC		±33mA	±330mA	82%	1000μF
AMG04B-205	±12VDC		±17mA	±168mA	86%	1000μF
AMG04B-206	±15VDC		±14mA	±135mA	86%	1000μF

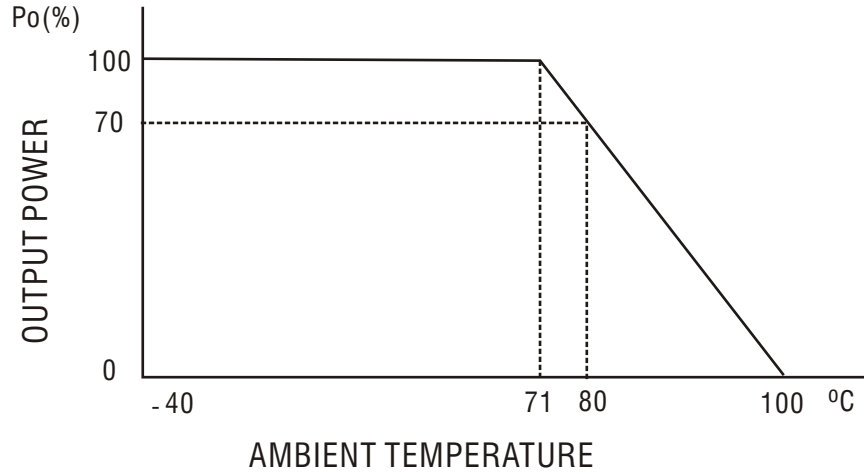
Note :

- (1) All specifications are measured at nominal input voltage, constant resistive load between Min. and Max. Output current, and probe bandwidth should be under 20MHz, Ta = +25°C.
- (2) When Load is lower than Min. output current or under no-load, it will not damage the devices; however, it may not meets all specifications.
- (3) Output Ripple & Noise Test please refers to Sinpro Electronics Co., Ltd. proposed test-method.
- (4) Load Regulation and Line Regulation calculating please refers to Sinpro Electronics Co., Ltd. proposed formula.
- (5) An external fuse is needed at the front end of DC/DC converters for protection and base on surge current and maximum input current when settle it in recommended.
- (6) "Vin-L" means "Vin-Min.", "Vin-N" means "Vin-Typ.", "Vin-H" means "Vin-Max."
- (7) "Reflected Ripple" "Reflected Ripple of Input Current".
- (8) Total Capacitive Loads of output should be lower than this value.

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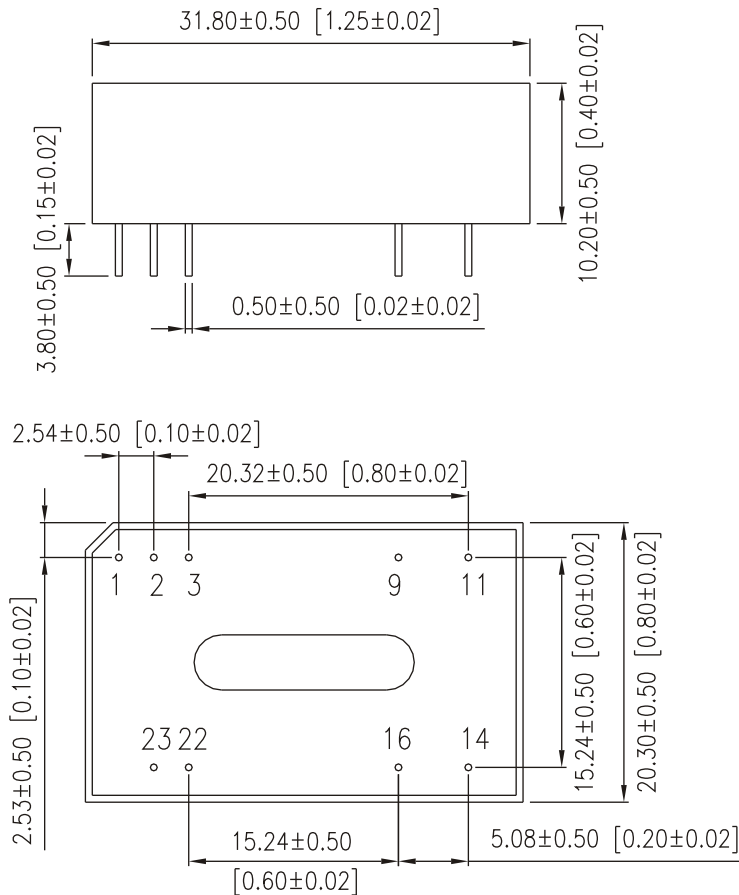
4W DC to DC Converter

Derating Curve :



Note: At nominal input, Full load and cooling is natural convection.

Mechanical Specifications :



Pin Connections:

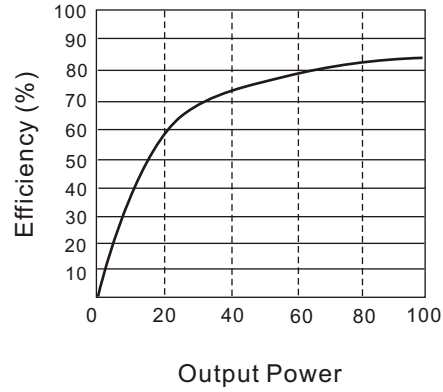
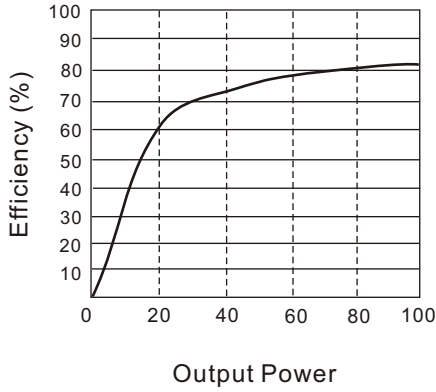
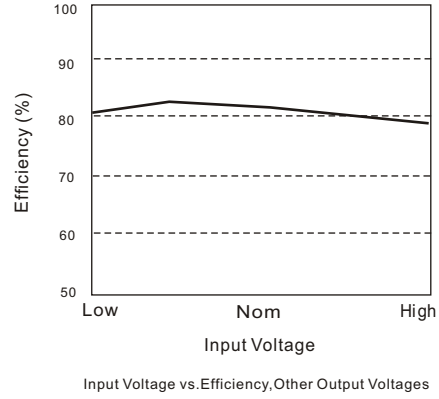
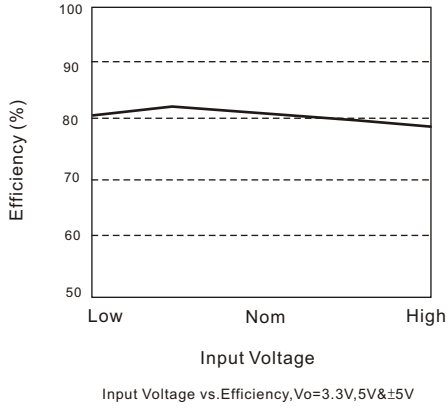
Pin	Single	Dual
1	No Pin	No Pin
2,3	-Vin	-Vin
9	No Pin	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Com
22	+Vin	+Vin

- Note:
1. Dimensions are shown in mm.
 2. Weight: 10gs .
 3. NC: No Connect

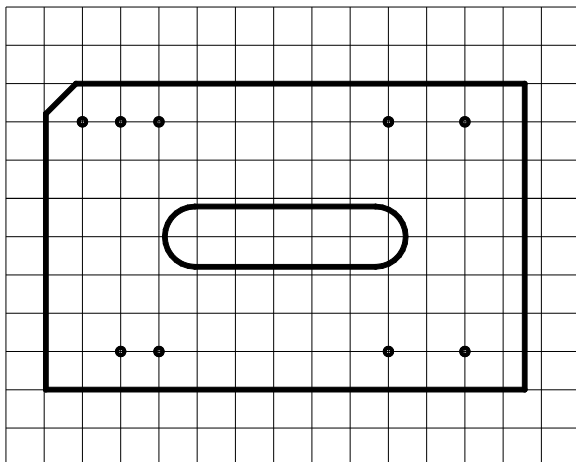
AMX04B SERIES

4W DC to DC Converter

Efficiency-Curve :



Grid : 0.1 inch / 2.54 mm
 Dot(Drill Hole): $\Phi 0.8 +0.2 / -0$ mm



Tolerance	Millimeters	Inches
	XX.X ± 0.25	XX.X ± 0.01
	XX.XX ± 0.13	XX.XX ± 0.005
Pin	± 0.1	± 0.004