

ACX01B SERIES

1W DC to DC Converter

Description:

This series of DC to DC Converter module provide 1 Watts of continues output power. They are suited for use in Data communication, Telecommunication or other Industry equipment.

Features:

- +/- 10% Wide Input Range Voltage
- Efficiency up to 70%
- Regulated Output
- Single or Dual Output
- Size : 7.1W x 19.5L x 10.2Hmm (For ACX01B-1XX)
9.8W x 19.5L x 12.5Hmm (For ACX01B-2XX)
- 1000VDC Isolation
- Potting Material : Epoxy(Flammability to UL94V-0)
- Case Material : Non-Conductive Black Plastic(Flammability to UL94V-0)
- Industrial Standard Pin-out
- 3 year warranty



7Pin SIP Package

Electrical Characteristics:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Vin	Input Voltage for ACA01B		4.5	5	5.5	VDC
	Input Voltage for ACB01B		10.8	12	13.2	VDC
	Input Voltage for ACC01B		21.6	24	26.4	VDC
Fs	Switching Frequency			60		kHz
Po	Output Power Range		0		1	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		±1.0	±2.0	%
Eff	Efficiency	Io=Full load, Vin=Typ., at 25°C	62	66	70	%
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	1000			V
Ris	Isolation Resistance	Input to Output	1000			MΩ
Cis	Isolation Capacitance	Input to Output			150	pF
TC	Temperature Coefficient	All Output		±0.01	±0.02	%/°C
Scp	Short Circuit Protection	Momentary			0.5	Sec.
Br	Balance Regulation	Io=Full load, Vin=Typ., Dual Output		±0.1	±3.0	%

Environmental:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Toper	Operating Temperature Range	Without derating	-40		85	°C
Tcase	Maximum Case Temperature		-40		90	°C
Tstg	Storage Temperature		-40		125	°C
Hr	Relative Humidity		0		95	%
MTBF	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F		2M			Hrs
Cool	The Cooling Condition is Free					
Filter	Internal Capacitor					

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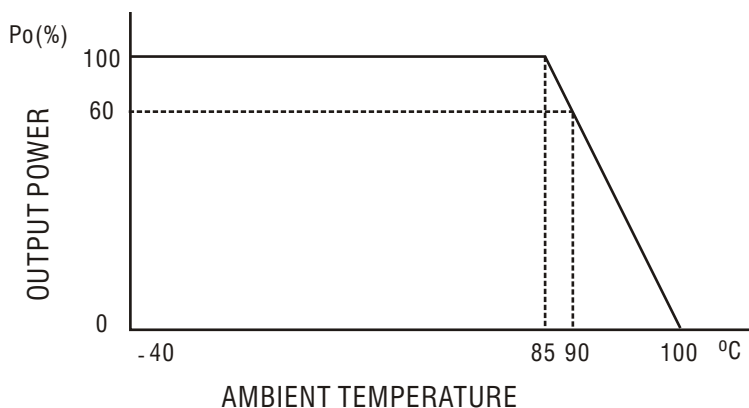
Selection Chart :

Model Number	Input Voltage	Output Voltage	Output Current		Efficiency (Typ.)	Cap.Load ⁽⁷⁾
			Min.	Max.		
ACA01B-101	4.5~5.5VDC (Nominal:5V)	3.3VDC	5.0mA	260mA	62%	220μF
ACA01B-102		5VDC	4.0mA	200mA	69%	220μF
ACA01B-104		9VDC	2.0mA	110mA	65%	220μF
ACA01B-105		12VDC	1.5mA	84mA	67%	220μF
ACA01B-106		15VDC	1.0mA	67mA	68%	220μF
ACA01B-202		±5VDC	±2.0mA	±100mA	66%	100μF
ACA01B-205		±12VDC	±0.8mA	±42mA	66%	100μF
ACA01B-206		±15VDC	±0.7mA	±33mA	66%	100μF
ACB01B-101		10.8~13.2VDC (Nominal:12V)	3.3VDC	5.0mA	260mA	64%
ACB01B-102	5VDC		4.0mA	200mA	69%	220μF
ACB01B-104	9VDC		2.0mA	110mA	64%	220μF
ACB01B-105	12VDC		1.5mA	84mA	69%	220μF
ACB01B-106	15VDC		1.0mA	67mA	70%	220μF
ACB01B-202	±5VDC		±2.0mA	±100mA	67%	100μF
ACB01B-205	±12VDC		±0.8mA	±42mA	67%	100μF
ACB01B-206	±15VDC		±0.7mA	±33mA	67%	100μF
ACC01B-101	21.6~26.4VDC (Nominal:24V)		3.3VDC	5.0mA	260mA	62%
ACC01B-102		5VDC	4.0mA	200mA	67%	220μF
ACC01B-104		9VDC	2.0mA	110mA	64%	220μF
ACC01B-105		12VDC	1.5mA	84mA	64%	220μF
ACC01B-106		15VDC	1.0mA	67mA	67%	220μF
ACC01B-202		±5VDC	±2.0mA	±100mA	65%	100μF
ACC01B-205		±12VDC	±0.8mA	±42mA	65%	100μF
ACC01B-206		±15VDC	±0.7mA	±33mA	65%	100μF

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) Total Capacitive Loads of output should be lower than this value.

Derating Curve :



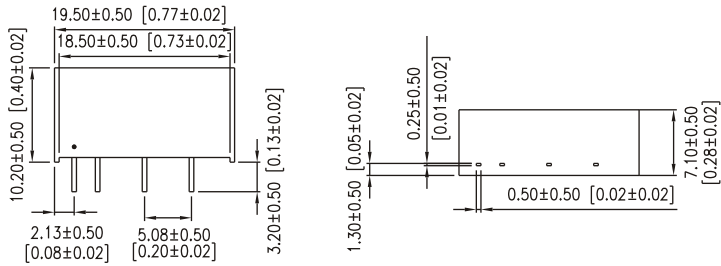
Note: At nominal input, Full load and cooling is natural convection.

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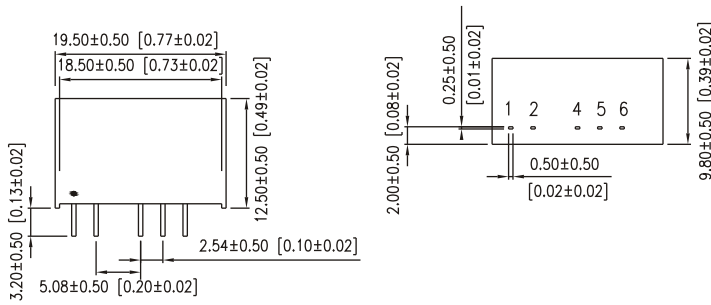
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Mechanical Specifications :

Single



Dual



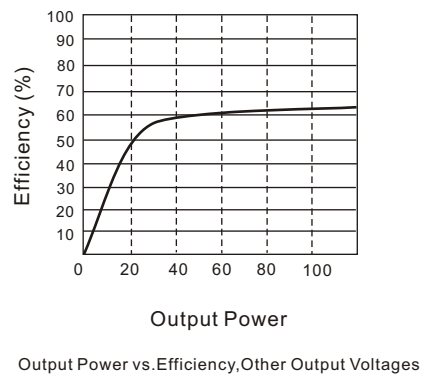
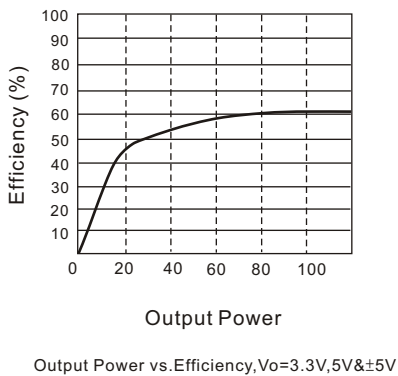
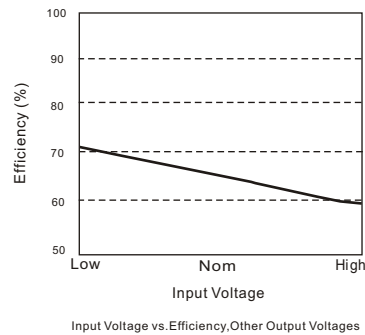
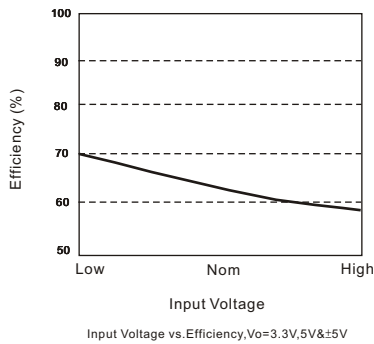
Pin Connections:

Pin	Single	Dual
1	+Vin	+Vin
2	- Vin	- Vin
4	-Vout	-Vout
5	No Pin	Common
6	+Vout	+Vout

Note:

1. Dimensions are shown in mm.
2. Weight: 3 / 5gs .

Efficiency-Curve :

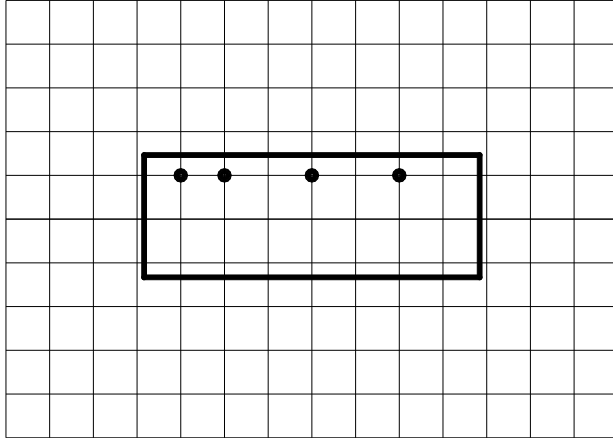


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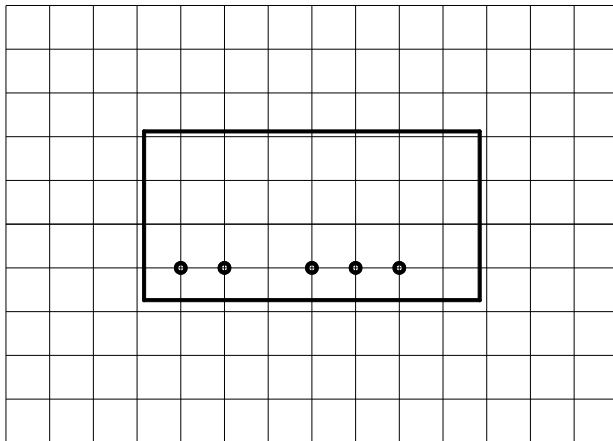
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Grid : 0.1 inch / 2.54 mm
Dot(Drill Hole): Φ 0.8 +0.2 / -0 mm

Single



Dual



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