ASX04A 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 SMD Package

Features:

- 2: 1 Wide Input Range Voltage
- Efficiency up to 85%
- 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(Option)
- Industrial Standard Pin-out
- 3 year warranty

Electrical Characteristics:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Vin	Input Voltage for ASB04		9	12	18	VDC
	Input Voltage for ASC04		18	24	36	VDC
	Input Voltage for ASD04		36	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℃		±0.5	±1.0	%
Eff	Efficiency	Io=Full load, Vin=Typ., at 25℃	79	81	85	%
REG-i	Line Regulation	Io=Full load, Vin=Vmax to Vmin, at 25℃		±0.2	±0.3	%
REG-o	Load Regulation	Io=20% to 100%, Vin=Typ., at 25℃		±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			500	pF
TC	Temperature Coefficient	All Output		±0.01	±0.02	%/℃
Br	Balance Regulation	Io=Full load, Vin=Typ., Dual Output		±0.5	±2.0	%
Trp	Time of Transient Response	Vin=Typ., 25% load step change		150	300	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			-600	μA
Se	System Enable	V-Remote	2.5		Vin-H	V
		I-Remote			-500	μA
		Floating Remote ON/OFF Pin				

Note : Control Voltage Reference to Negative Input

4W DC to DC Converter

Environmental:

Sym.	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Toper	Operating Temperature Range		-40		75	℃
Tcase	Maximum Case Temperature		-40		90	℃
Tstg	Storage Temperature		-40		125	℃
Hr	Relative Humidity		0		95	%
MTBF	Operating Temperature at 25℃,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.		
ASB04A-101	9~18VDC (Nominal:12V)	3.3VDC	45mA	900mA	79%	3300μF
ASB04A-102		5VDC	33mA	660mA	81%	3300μF
ASB04A-105		12VDC	17mA	335mA	83%	3300μF
ASB04A-106		15VDC	14mA	270mA	83%	3300μF
ASB04A-202		±5VDC	±17mA	±330mA	81%	1000μF
ASB04A-205		±12VDC	±9mA	±168mA	83%	1000μF
ASB04A-206		±15VDC	±7mA	±135mA	83%	1000μF
ASC04A-101	18~36VDC (Nominal:24V)	3.3VDC	45mA	900mA	80%	3300μF
ASC04A-102		5VDC	33mA	660mA	81%	3300μF
ASC04A-105		12VDC	17mA	335mA	85%	3300μF
ASC04A-106		15VDC	14mA	270mA	85%	3300μF
ASC04A-202		±5VDC	±17mA	±330mA	81%	1000μF
ASC04A-205		±12VDC	±9mA	±168mA	85%	1000μF
ASC04A-206		±15VDC	±7mA	±135mA	85%	1000μF
ASD04A-101	36~75VDC (Nominal:48V)	3.3VDC	45mA	900mA	80%	3300μF
ASD04A-102		5VDC	33mA	660mA	81%	3300μF
ASD04A-105		12VDC	17mA	335mA	85%	3300μF
ASD04A-106		15VDC	14mA	270mA	85%	3300μF
ASD04A-202		±5VDC	±17mA	±330mA	81%	1000μF
ASD04A-205		±12VDC	±9mA	±168mA	85%	1000μF
ASD04A-206		±15VDC	±7mA	±135mA	85%	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℃.

(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.

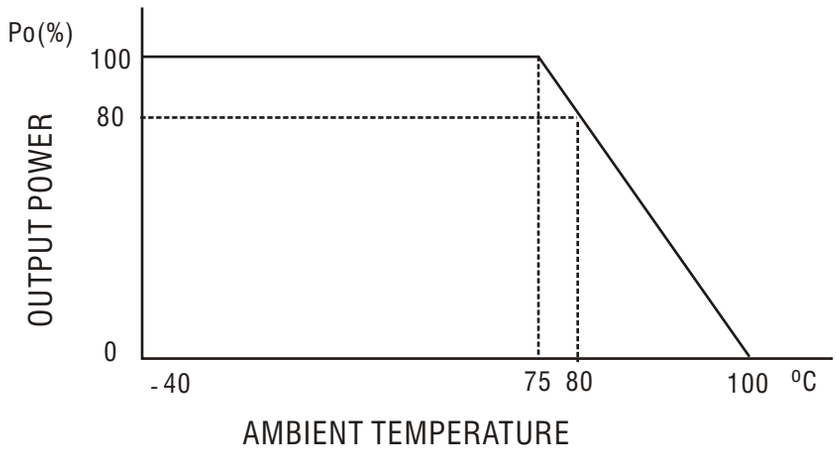
(6)“Vin-L” means “Vin-Min.”, “Vin-N” means “Vin-Typ.”, “Vin-H” means “Vin-Max.”

(7) “Reflected Ripple” “Reflected Ripple of Input Current”.

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

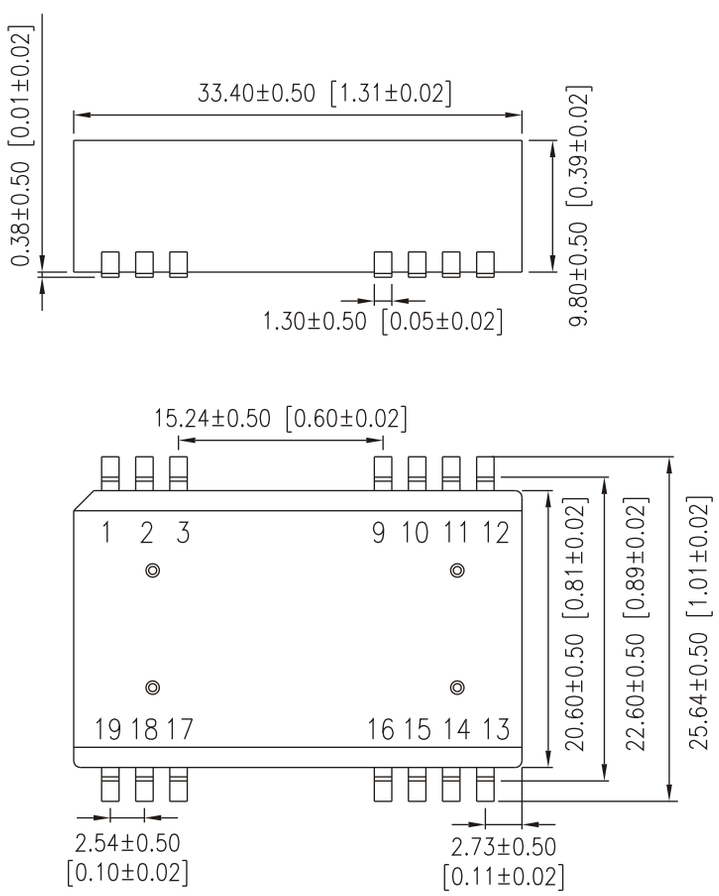
4W DC to DC Converter

Derating Curve :



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

Mechanical Specifications :



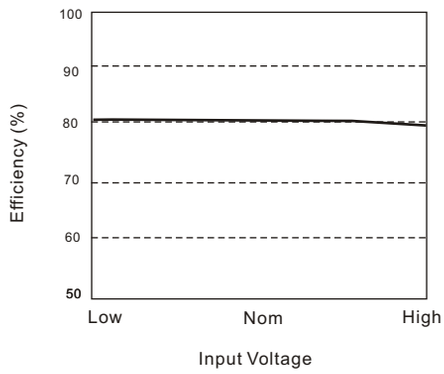
Pin Connections:

Pin	Single	Dual
1	No Pin	No Pin
2,3	-Vin	-Vin
9	NC	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Com
22	+Vin	+Vin
10,12 13,15,24	NC	NC

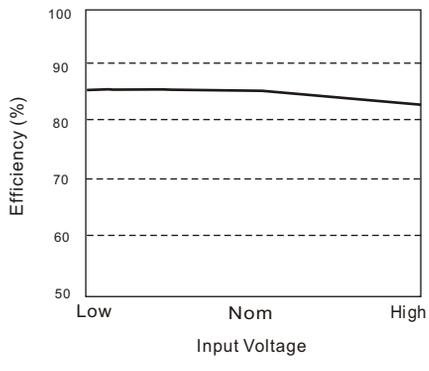
Note:
1. Dimensions are shown in mm.
2. Weight: 10gs .
3. NC: No Connect

4W DC to DC Converter

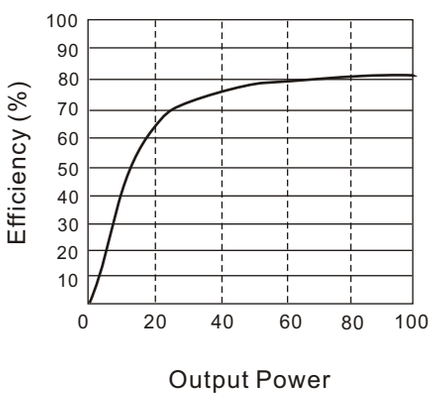
Efficiency-Curve :



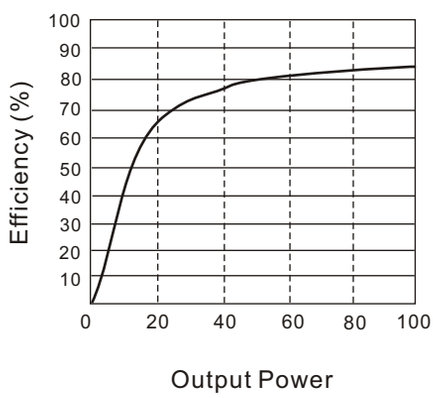
Input Voltage vs.Efficiency,Vo=3.3V,5V&±5V



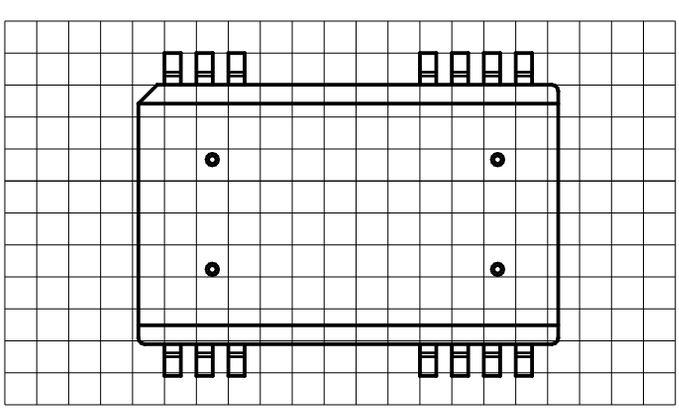
Input Voltage vs.Efficiency,Other Output Voltages



Output Power vs.Efficiency,Vo=3.3V,5V&±5V



Output Power vs.Efficiency,Other Output Voltages



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