

## Features

- ★ Small Footprint
- ★ In-Out Isolation Voltage 1000 VDC
- ★ 10 PIN SIP Package
- ★ Temperature Range:-40℃ to +85℃
- ★ UL94V-0 Inflaming retarding package
- ★ MTBF>1million hours(25℃)

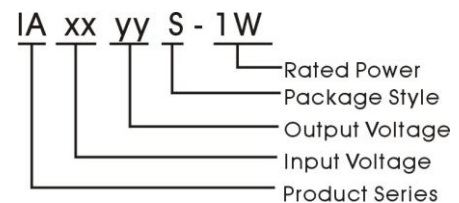


## Applications

The IA\_S-1W Series are specially designed for applications where a group of polar power supplies are isolated from the input power supply in a distributed power supply system on a circuit board.

These products apply to where:

- 1) 1000 VDC input and output isolation;
- 2) Input voltage variation  $\leq \pm 5\%$ ;
- 3) Regulated and low ripple noise is not required.



## Model Detail List Specification

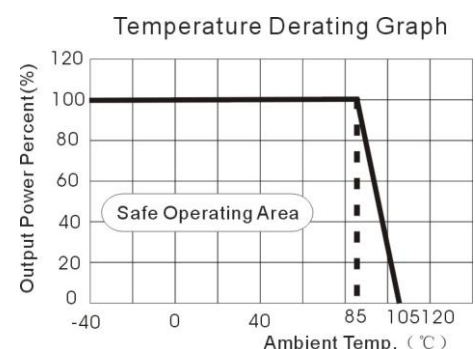
Model Number	Input Voltage	Output Voltage	Output Current (mA)		Input Current(mA)		Efficiency	Max. Capacitive Load(μF)
			Min.	Max.	Max.	No.		
IA0505S-1W	4.75~5.25VDC	±5.0V	±10	±100mA	142	26	70%	100uF
IA0509S-1W		±9.0V	±6	±56mA	140		72%	
IA0512S-1W		±12.0V	±5	±42mA	140		72%	
IA0515S-1W		±15.0V	±4	±33mA	133		74%	
IA1205S-1W	11.4~12.6VDC	±5.0V	±10	±100mA	59	22	70%	
IA1209S-1W		±9.0V	±6	±56mA	58		72%	
IA1212S-1W		±12.0V	±5	±42mA	56		75%	
IA1215S-1W		±15.0V	±4	±33mA	52		79%	
IA2405S-1W	22.8~25.2VDC	±5.0V	±10	±100mA	30	18	68%	
IA2409S-1W		±9.0V	±6	±56mA	29		72%	
IA2412S-1W		±12.0V	±5	±42mA	28		74%	
IA2415S-1W		±15.0V	±4	±33mA	26		78%	

### Input Over-voltage Protection Circuit

The simplest device for input over-voltage protection is a linear voltage regulator with overheat protection that is connected to the input end in series.

When the environment temperature is higher than 85℃, the product output power should be less than 60% of the rated power. No parallel connection or plug and play. Use dual output simultaneously, for bid opening output pin (0V) to use as single output.

### Temperature Derating Graph



## Output Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Output Power		0.1		1	W
Line Voltage Regulation	For Vin change of $\pm 1\%$			$\pm 1.2$	%
Load regulation	10% to 100% load	5V output	0.01	0.5	
		12V output	0.01	0.03	
		15V output	0.01	0.03	
		24V output	0.01	0.03	
Ripple	20MHz	Output voltage $\leq 12V$	10		mVp-p
Noise	Bandwidth	others	20		
Temperature Drift	100% full load			$\pm 0.03$	$\%/^{\circ}C$
Input Filter		C Filter			

## Environmental Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Storage Humidity	Non condensing			95	%
Temp. rise at full load			25		°C
Operating Temperature		-40		+85	
Storage Temperature	Power derating (above 85°C)	-55		+125	
Soldering Temperature	1.5mm from case for 10 seconds			300	
Cooling		Free air convection			

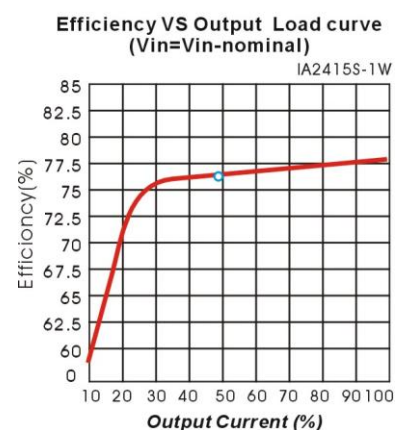
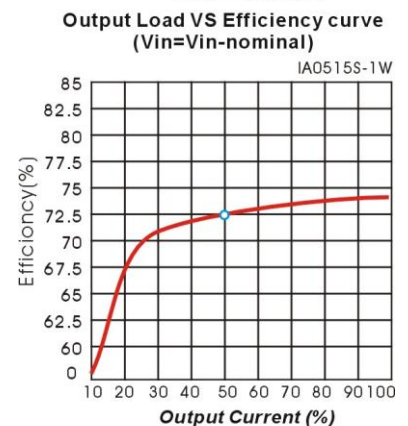
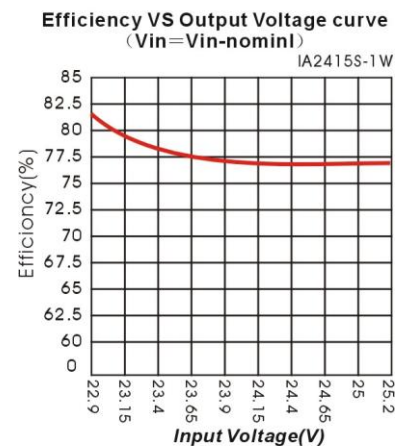
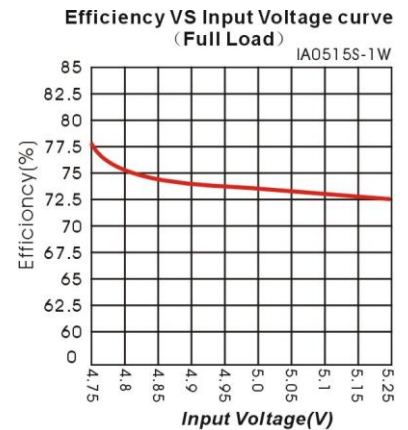
## Common Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Tested for 1 minute and leakage current less than 1 mA	1000			VDC
Switching Frequency	Full load, nominal input		100		KHz
MTBF	MIL-HDBK-217F@25 $^{\circ}C$	1000			K hours
Isolation Resistance	Test at 500VDC	1000			M $\Omega$
Isolation Capacitance			350		PF
Weight			3.5		g

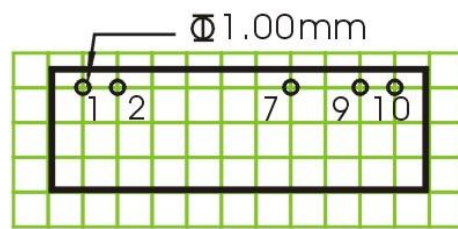
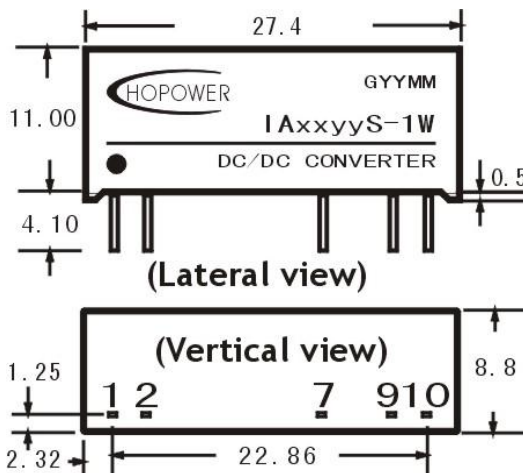
## Input Specifications

Item	Test Conditions	Min.	Typ.	Max.	Unit
Input Max. voltage	5 VDC Input (4.75~5.25V)			6	VDC
	12 VDC Input (11.4~12.6V)			13	
	24 VDC Input (22.8~25.2V)			26	
Input surge voltage (1 sec. Max. )	5 VDC Input (4.75~5.25V)			9	
	12 VDC Input (11.4~12.6V)			18	
	24 VDC Input (22.8~25.2V)			30	

## Product typical Curve



## Mechanical Dimensions & Recommended Footprint



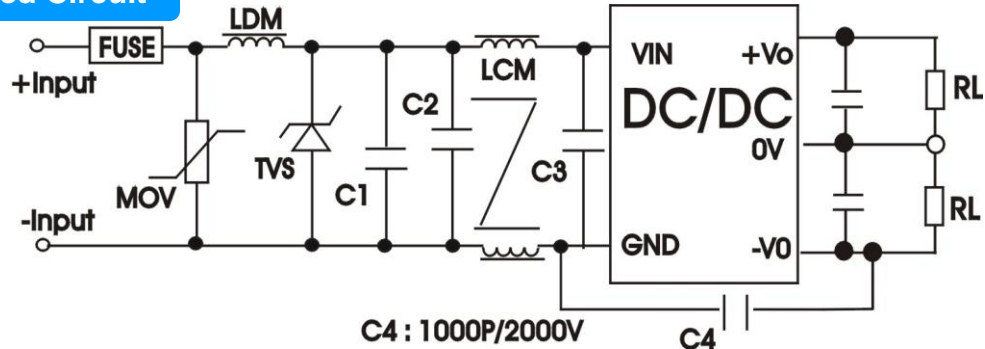
Note: Grid 2.54\*2.54mm.

Unit: mm

General tolerances : 0.20mm

Package	V <sub>in</sub>	GND	-V <sub>o</sub>	0V	+V <sub>o</sub>
IAS	1	2	9	10	7

## EMC Recommended Circuit



## EMC Module Application Circuit

