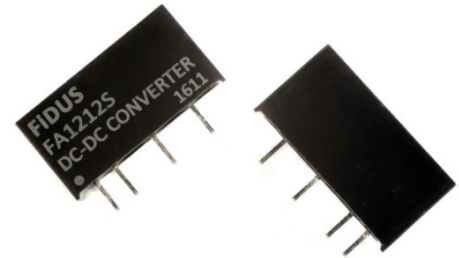


## 1 Watts

- Single and Dual output
- SIP and DIP package
- Industry standard pin out
- Up to 6KV Isolation
- High stock on popular models
- -40 to +85°C Operation
- 5 year warranty



The FA series of low cost DC/DC converters come in both single and dual outputs in either a SIP 7 pin or DIP 14 pin package. Inputs are available in 5, 12, & 24V versions and outputs from 3.3 to 24V single and dual. The units operate from -40 to +85°C. High volumes are held in stock for the popular models. All models have a FiDUS 5 year warranty.

**Dimensions:**

**SIP:** 0.76 x 0.24 x 0.39" (19.5 x 6.0 x 10.00mm)

**DIP:** 0.80 x 0.40 x 0.27" (20.32 x 10.16 x 6.88mm)

### Models & Ratings - Single output

Model Number <sup>(2)(3)</sup>	Input	Output voltage	Output Current	Efficiency
FA0503S	5V	3.3V	303mA	78%
FA0505S <sup>(1)</sup>		5V	200mA	81%
FA0509S		9V	111mA	82%
FA0512S		12V	83mA	79%
FA0515S		15V	67mA	86%
FA0524S		24V	42mA	82%
FA1203S	12V	3.3V	303mA	75%
FA1205S		5V	200mA	79%
FA1209S <sup>(1)</sup>		9V	111mA	80%
FA1212S <sup>(1)</sup>		12V	83mA	79%
FA1215S <sup>(1)</sup>		15V	67mA	82%
FA1224S		24V	42mA	76%
FA2403S	24V	3.3V	303mA	74%
FA2405S <sup>(1)</sup>		5V	200mA	77%
FA2409S		9V	111mA	76%
FA2412S		12V	83mA	78%
FA2415S		15V	67mA	80%
FA2424S		24V	42mA	80%

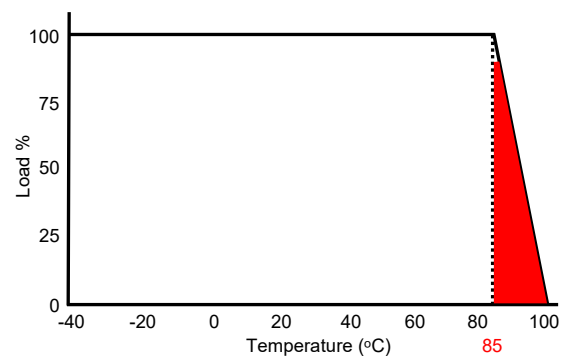
### Models & Ratings - Dual output

Model Number <sup>(2)(3)</sup>	Input	Output voltage	Output Current <sup>(4)</sup>	Efficiency
FA0503SD	5V	±3.3V	±152mA	67%
FA0505SD		±5V	±100mA	74%
FA0509SD		±9V	±56mA	81%
FA0512SD <sup>(1)</sup>		±12V	±42mA	80%
FA0515SD		±15V	±33mA	82%
FA0524SD		±24V	±21mA	81%
FA1203SD	12V	±3.3V	±152mA	68%
FA1205SD		±5V	±100mA	74%
FA1209SD		±9V	±56mA	78%
FA1212SD		±12V	±42mA	82%
FA1215SD		±15V	±33mA	82%
FA1224SD		±24V	±21mA	75%
FA2403SD	24V	±3.3V	±152mA	67%
FA2405SD		±5V	±100mA	74%
FA2409SD		±9V	±56mA	78%
FA2412SD <sup>(1)</sup>		±12V	±42mA	80%
FA2415SD		±15V	±33mA	80%
FA2424SD		±24V	±21mA	82%

### Notes

1. High stock items
2. For DIP package change 'S' for 'D'.
3. Add 'H' to model number for 3000VDC isolation. H6 for 6KV
4. Dual outputs power-trade
5. Under no load conditions the unit may not meet all specifications
6. 3.3 and 15V input models available on request. Please contact Sales.
7. Do not operate continuously in the red area of the derating curve

### Derating curve



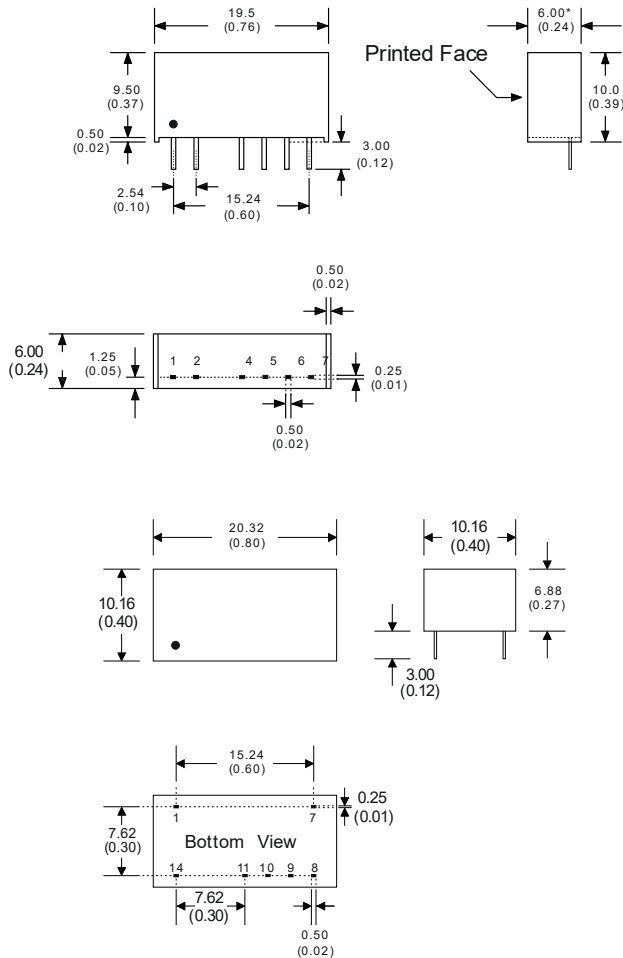
Input	
Parameter	Rating
Input voltage range	Nominal ±10%
Input reflected ripple current	20mA pk-pk through 12uH inductor
Input current no load/ full load	5V Models 22/299mA. 12V Models 20/123mA. 24V Models 8/62mA.
Input surge (100mS max)	5V Models 7V DC Max. 12V Models 15VDC Max. 24V Models 28VDC Max.
Input reverse voltage protection	None

Output	
Parameter	Rating
Output voltage	See model ratings table
Line regulation	1.2%/1% change in Vin
Load regulation	±10% (20 - 100% load change)
Set point accuracy	±3%
Minimum load	None
Ripple & noise	75mV pk-pk. 20MHz bandwidth
Maximum capacitive load	3.3/5V 3300uf, 9-15V 470uf, 24V 220uf

Environmental	
Parameter	Rating
Operating temperature	-40 - 85°C (See derating curve)
Storage temperature	-40 - 125°C
Case temperature	100°C
Cooling	Convection
Humidity	95% RH non-condensing

General	
Parameter	Rating
Efficiency	See model ratings table
Isolation voltage	1000VDC. Optional to 6000VDC
Isolation resistance	1000M Ohm
Isolation capacitance	60pF typical
Switching frequency	Variable. 80KHz typical
MTBF	>1.21 Mhrs
Soldering temperature	260°C

Physical	
Parameter	Rating
Case material	Non-conductive black plastic (UL94V-0)
Pin material	0.5mm Alloy42 solder coated
Potting material	Epoxy (UL94V-0)
Weight	SIP 2.3g, DIP 2.6g
Dimensions	SIP 0.76 x 0.24x 0.39", DIP 0.8x 0.4x 0.27"



SIP Pin Connections				
Pin	Single	Dual	Single (H)	Dual (H)
1	+Vin	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin	-Vin
4	-Vout	-Vout	N.P.	N.P.
5	N.P.	0V	-Vout	-Vout
6	+Vout	+Vout	N.P.	0V
7	N.P.	N.P.	+Vout	+Vout

DIP Pin Connections				
Pin	Single	Dual	Single (H)	Dual (H)
1	-Vin	-Vin	-Vin	-Vin
7	N.C.	N.C.	N.C.	N.C.
8	N.P.	0V	+Vout	+Vout
9	+Vout	+Vout	N.P.	0V
10	N.P.	N.P.	-Vout	-Vout
11	-Vout	-Vout	N.P.	N.P.
14	+Vin	+Vin	+Vin	+Vin

### Dimension notes

- All dimensions shown in millimetres (inches)
- Pin diameter 0.5 ±0.05 (0.02 ±0.002)

- Case tolerance ±0.5 (±0.002)
- The thickness of the 48V input model is 7.20(0.28)