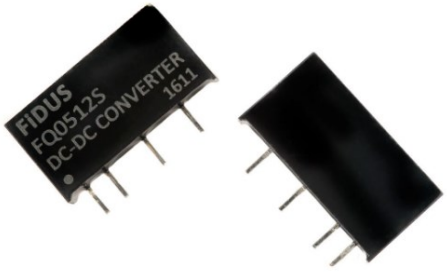
FQ Series

FiDUS
power in motion...

0.75 Watts

- Single & Dual output
- SIP & DIP packages
- Industry standard pin out
- Up to 6KV Isolation
- -40 to +85ºC Operation
- High stock on popular models
- 3 Year warranty



The FQ 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 +85ºC. High volumes are held in stock for the popular models. All models have a FiDUS 3 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[2][3]	Input	Output voltage	Output Current	Efficiency
FQ0503S	5V	3.3V	227mA	73%
FQ0505S[1]		5V	150mA	75%
FQ0509S		9V	83mA	75%
FQ0512S[1]		12V	63mA	76%
FQ0515S		15V	50mA	76%
FQ0524S		24V	31mA	77%
FQ1203S	12V	3.3V	227mA	73%
FQ1205S		5V	150mA	74%
FQ1209S		9V	83mA	75%
FQ1212S		12V	63mA	77%
FQ1215S		15V	50mA	78%
FQ1224S		24V	31mA	78%
FQ2403S	24V	3.3V	227mA	74%
FQ2405S		5V	150mA	75%
FQ2409S		9V	83mA	75%
FQ2412S		12V	63mA	78%
FQ2415S		15V	50mA	78%
FQ2424S		24V	31mA	80%

Models & Ratings - Dual output

Model Number[2][3]	Input	Output voltage	Output Current[4]	Efficiency
FQ0503SD	5V	±3.3V	±114mA	65%
FQ0505SD		±5V	±75mA	71%
FQ0509SD		±9V	±42mA	74%
FQ0512SD		±12V	±31mA	76%
FQ0515SD		±15V	±25mA	76%
FQ0524SD		±24V	±16mA	79%
FQ1203SD	12V	±3.3V	±114mA	65%
FQ1205SD		±5V	±75mA	73%
FQ1209SD		±9V	±42mA	74%
FQ1212SD		±12V	±31mA	78%
FQ1215SD		±15V	±25mA	80%
FQ1224SD		±24V	±16mA	78%
FQ2403SD	24V	±3.3V	±114mA	67%
FQ2405SD		±5V	±75mA	74%
FQ2409SD		±9V	±42mA	76%
FQ2412SD		±12V	±31mA	78%
FQ2415SD		±15V	±25mA	78%
FQ2424SD		±24V	±16mA	78%

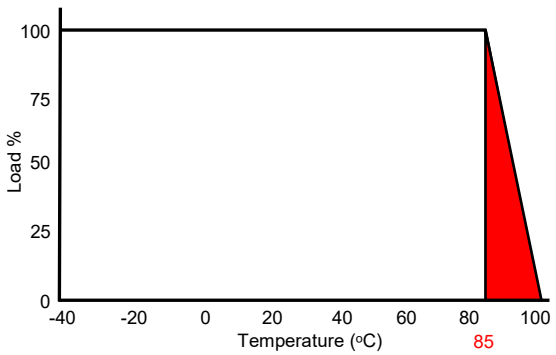
Notes

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. Do not operate continuously in the red area of 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 30/230mA. 12V Models 20/126mA. 24V Models 10/46mA.
Input surge (100mS max)	5V Models 7V DC Max. 12V Models 15VDC Max. 24V Models 28VDC Max.
Input reverse voltage protection	None

Derating curve



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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	100uF

General

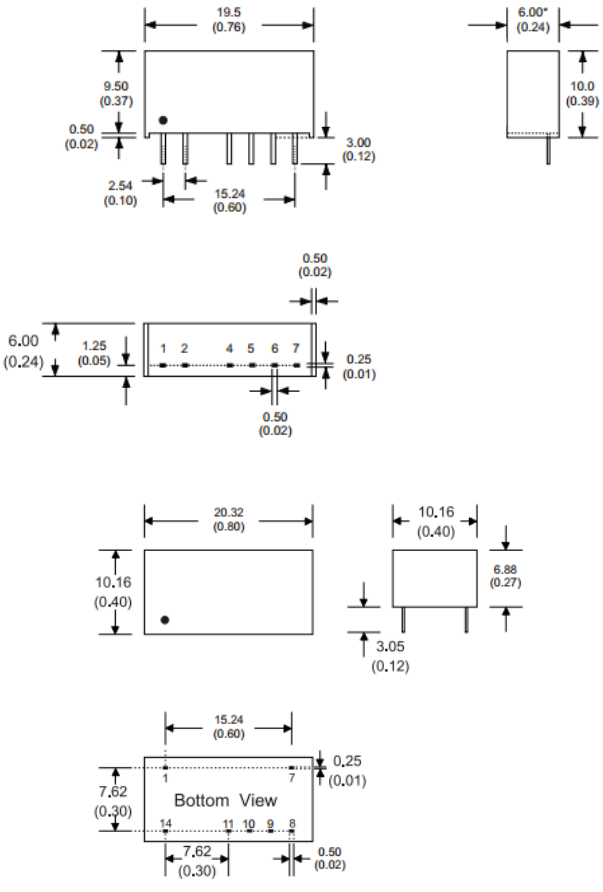
Parameter	Rating
Efficiency	See model ratings table
Isolation voltage	1000VDC. Optional to 6000VDC
Isolation resistance	1000M Ohm
Isolation capacitance	60pF typical
Switching frequency	Variable. 80KHz typical
MTBF	>1.21 MHrs
Soldering temperature	260°C

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

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

1. All dimensions shown in millimetres (inches)
2. Pin diameter 0.5 ±0.05 (0.02 ±0.002)
3. Case tolerance ±0.5 (±0.002)
4. The thickness of the 48V input model is 7.20(0.28)