IQ series

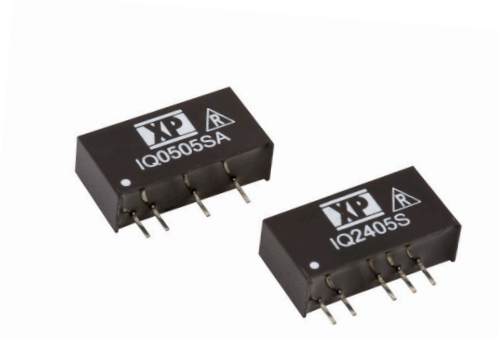
XP Power

1W

DC-DC converters

The IQ series is housed in a SIP7 plastic case for PCB mounting. Featuring a ±10% input voltage range for 5, 12, 15 24 & 48VDC nominal inputs, offering single outputs of 5, 9, 12 or 15VDC, dual outputs ±5, ±9, ±12 & ±15VDC.

The 1W IQ provides 1kVDC isolation between input and output as standard, with 3kVDC isolation available as an option. The operating temperature range is from -40°C to +85°C with no derating.



Features

- Semi-regulated single & dual outputs
- ±10% input range
- Single outputs 5.0 to 15VDC
- Dual outputs ±5.0 to ±15VDC
- SIP7 package
- 1.0kVDC isolation, 3.0kVDC option
- -40°C to +85°C operating temperature
- 3 year warranty

Applications

Robotics
Instrumentation
Technology
Industrial
Process control

Dimensions

See mechanical details

More resources

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Models & ratings

Model number[3]	Input voltage	Output voltage	Output current	No load input current[1]	Max capacitive load	Load regulation	Efficiency
IQ0505SA	5.0VDC	5.0VDC	200mA	20mA	200µF	6.0%	83%
IQ0509SA		9.0VDC	111mA	20mA	200µF	5.5%	86%
IQ0512SA		12.0VDC	83mA	20mA	100µF	5.5%	87%
IQ0515SA		15.0VDC	67mA	20mA	100µF	5.0%	87%

Continued on page 2

Notes:

1. Operation at no load will not damage unit but it may not meet all specifications.
2. For optional 3000 VDC isolation, add suffix '-H' to the model number.
3. For dual output delete suffix 'A' and split output current equally between rails.

Models & ratings

Model number[3]	Input voltage	Output voltage	Output current	No load input current[1]	Max capacitive load	Load regulation	Efficiency
IQ1205SA	12.0VDC	5.0VDC	200mA	15mA	200µF	4.0%	84%
IQ1209SA		9.0VDC	111mA	15mA	200µF	3.5%	86%
IQ1212SA		12.0VDC	83mA	15mA	100µF	3.5%	88%
IQ1215SA		15.0VDC	67mA	15mA	100µF	3.0%	88%
IQ1505SA	15.0VDC	5.0VDC	200mA	10mA	200µF	4.0%	84%
IQ1509SA		9.0VDC	111mA	10mA	200µF	3.5%	86%
IQ1512SA		12.0VDC	83mA	10mA	100µF	3.5%	87%
IQ1515SA		15.0VDC	67mA	10mA	100µF	3.0%	89%
IQ2405SA	24.0VDC	5.0VDC	200mA	7mA	200µF	4.0%	81%
IQ2409SA		9.0VDC	111mA	7mA	200µF	3.5%	84%
IQ2412SA		12.0VDC	83mA	7mA	100µF	3.5%	85%
IQ2415SA		15.0VDC	67mA	7mA	100µF	2.5%	86%
IQ4805SA	48.0VDC	5.0VDC	200mA	5mA	200µF	4.0%	78%
IQ4809SA		9.0VDC	111mA	5mA	200µF	3.5%	80%
IQ4812SA		12.0VDC	83mA	5mA	100µF	3.0%	81%
IQ4815SA		15.0VDC	67mA	5mA	100µF	3.0%	81%

Notes:

1. Operation at no load will not damage unit but it may not meet all specifications.
2. For optional 3000 VDC isolation, add suffix '-H' to the model number.
3. For dual output delete suffix 'A' and split output current equally between rails.

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range		±10		%	Nominal
Input reflected ripple current		20		mA pk-pk	5 & 12VDC, 5Hz to 20MHz
		30			15VDC, 5Hz to 20MHz
		40			24VDC, 5Hz to 20MHz
		50			48VDC, 5Hz to 20MHz
Input reverse voltage protection	None				

Output

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Output voltage	See models & ratings table				
Minimum load	0			%	Operation at no load will not damage unit but it may not meet all specifications.
Line regulation		1.2/1		%	Δ Vin
Load regulation	See models & ratings table				
Setpoint accuracy		±3		%	
Ripple & noise		50		mV pk-pk	20MHz bandwidth
Temperature coefficient		0.02		%/°C	
Maximum capacitive load	See models & ratings table				

General

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Efficiency	See models & ratings table				
Isolation voltage	1000			VDC	Add suffix '-H' to model number for 3000VDC isolation.
Isolation resistance		10^9		Ω	
Isolation capacitance		60		pF	
Switching frequency	55		85	kHz	Variable
Mean time between failure		>1.1		Mhrs	MIL-HDBK-217F, +25°C GB

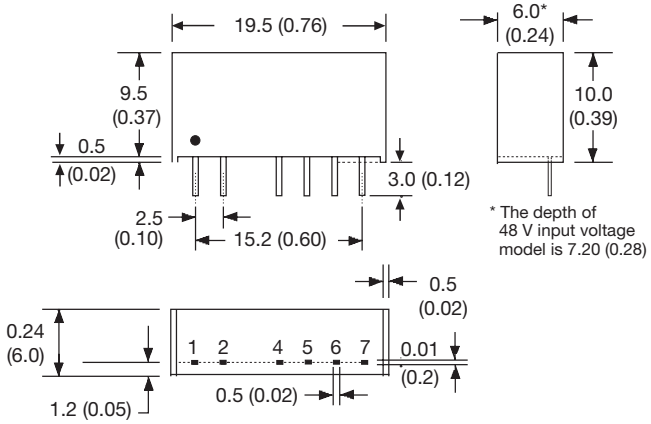
Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Operating temperature	-40		+85	°C	
Storage temperature	-40		+125	°C	
Case temperature			+100	°C	
Cooling	Convection cooled				

Safety approvals

Certification	Standard	Notes & conditions
CE	Meets all applicable directives	
UKCA	Meets all applicable legislation	

Mechanical details



Pin connection				
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	Common	-Vout	-Vout
6	+Vout	+Vout	N.P	Common
7	N.P	N.P	+Vout	+Vout

Notes:

1. All dimensions in mm (inches).
2. Pin pitch tolerance: ±0.35 (±0.014)
3. Case tolerance: ±0.5 (±0.02)
4. Weight: 2.8g (0.06lbs)