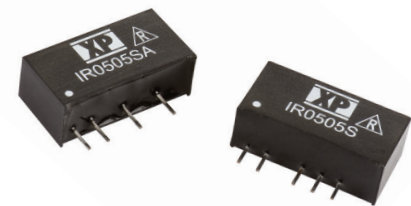


3W

DC-DC
converters

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

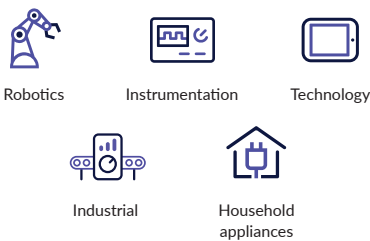
The 3W IR provides 1kVDC isolation between input and output as standard, with 3kVDC isolation available as an option. The operating temperature range is from -40°C to $+85^{\circ}\text{C}$ with no derating.



Features

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

Applications



Dimensions

19.5 x 7.2 x 10.0mm (0.76" x 0.28" x 0.39")

More resources

Click the link or scan the code



Models & ratings

Model number	Input voltage	No load input current	Output voltage	Output current	Efficiency	Load regulation	Maximum capacitive load
IR0505SA	5VDC	80mA	5.0VDC	600mA	79%	8.0%	220 μ F
IR0509SA		70mA	9.0VDC	333mA	84%	7.0%	220 μ F
IR0512SA		70mA	12.0VDC	250mA	84%	6.0%	100 μ F
IR0515SA		80mA	15.0VDC	200mA	84%	6.0%	100 μ F
IR0505S		80mA	± 5.0 VDC	± 300 mA	82%	7.0%	± 100 μ F
IR0509S		70mA	± 9.0 VDC	± 167 mA	85%	6.0%	± 100 μ F
IR0512S		70mA	± 12.0 VDC	± 125 mA	85%	6.0%	± 47 μ F
IR0515S		70mA	± 15.0 VDC	± 100 mA	86%	5.0%	± 47 μ F

Continued on page 2

Notes:

1. Operation at no load will not damage unit but it may not meet all specifications.

2. Output capacitor of 1 μ F required to meet quoted ripple and noise.

3. For optional 3kV isolation, add suffix '-H' to the model number.
4. All dimensions in mm (inches).

5. Pin pitch tolerance: ± 0.35 (± 0.014)

6. Case tolerance: ± 0.5 (± 0.02)

Models & ratings

Model number	Input voltage	No load input current	Output voltage	Output current	Efficiency	Load regulation	Maximum capacitive load
IR1205SA	12VDC	25 mA	5.0VDC	600mA	84%	6.0%	220μF
IR1209SA		25 mA	9.0VDC	333mA	87%	4.0%	220μF
IR1212SA		25 mA	12.0VDC	250mA	88%	4.0%	100μF
IR1215SA		20 mA	15.0VDC	200mA	90%	3.0%	100μF
IR1205S		25 mA	±5.0VDC	±300mA	85%	5.0%	±100μF
IR1209S		25 mA	±9.0VDC	±167mA	88%	4.0%	±100μF
IR1212S		25 mA	±12.0VDC	±125mA	89%	3.0%	±47μF
IR1215S		20 mA	±15.0VDC	±100mA	90%	3.0%	±47μF

Notes:

- Operation at no load will not damage unit but it may not meet all specifications.
- Output capacitor of 1μF required to meet quoted ripple and noise.
- For optional 3kV isolation, add suffix '-H' to the model number.
- All dimensions in mm (inches).
- Pin pitch tolerance: ±0.35 (±0.014)
- Case tolerance: ±0.5 (±0.02)

Input

Characteristic	Minimum	Typical	Maximum	Units	Notes & conditions
Input voltage range		±10		%	
Input reflected ripple current		20		mA pk-pk	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			%	No minimum load required
Line regulation		1.2/1.0		%	Δ Vin
Load regulation	See models & ratings table				
Setpoint accuracy		+2/-4		%	
Ripple & noise		50		mV pk-pk	20 MHz bandwidth. Output capacitor of 1μF required to meet quoted ripple and noise.
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	3000VDC option (for optional 3kVDC isolation, add suffix '-H' to the model number)
Isolation capacitance		60		pF	
Isolation resistance		10 ⁹		Ω	
Switching frequency		60-85		kHz	Variable
Mean time between failure		>1.1		Mhrs	MIL-HDBK-217F, +25°C GB

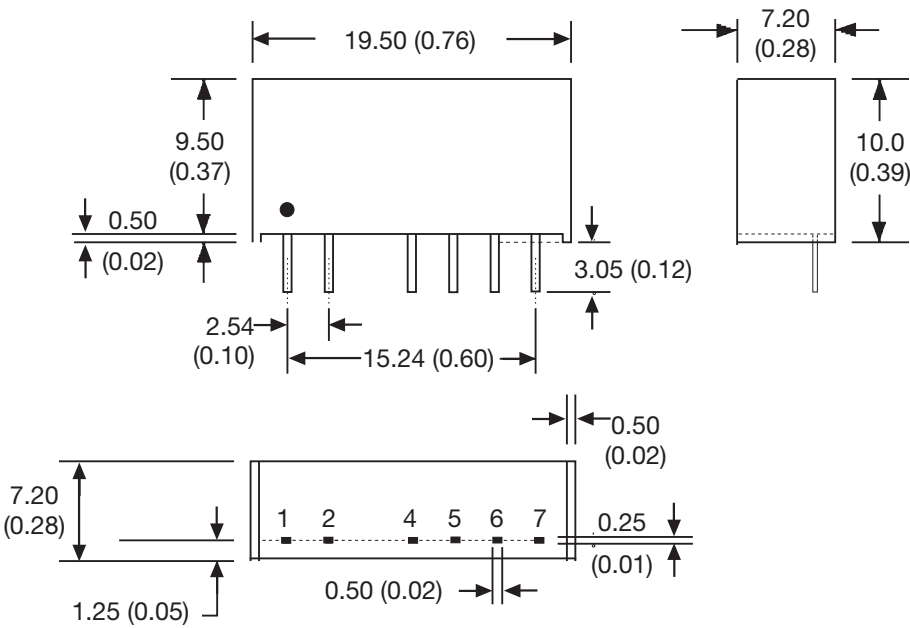
Environmental

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 connections		
Pin	Single	Dual
1	+V Input	+V Input
2	-V Input	-V Input
4	-V Output	-V Output
5	No pin	Common
6	+V Output	+V Output
7	No pin	No pin

Pin connections (-H)		
Pin	Single (-H)	Dual (-H)
1	+V Input	+V Input
2	-V Input	-V Input
4	No pin	No pin
5	-V Output	-V Output
6	No pin	Common
7	+V Output	+V Output

- Notes:
1. All dimensions in inches (mm)

2. Weight: 2.8g (0.02lbs)

3. Pin pitch tolerance: ± 0.35 (± 0.014)

4. Case tolerance: ± 0.5 (± 0.02)