

3 Watts

IR Series



- Single & Dual Output
- SIP Package
- 1000 VDC Isolation
- Optional 3000 VDC Isolation
- -40 °C to +85 °C Operation
- Semi-regulated
- 3 Year Warranty

Specification

Input

- Input Voltage Range • Nominal $\pm 10\%$
- Input Reflected Ripple Current • 20 mA pk-pk, 5 Hz to 20 MHz
- Input Reverse Voltage Protection • None

Output

- Output Voltage • See table
- Minimum Load • None⁽¹⁾
- Line Regulation • 1.2%/1% ΔV_{in}
- Load Regulation • See table
- Setpoint Accuracy • +2%, -4%
- Ripple & Noise • 50 mV pk-pk max, 20 MHz bandwidth⁽²⁾
- Temperature Coefficient • 0.02%/°C
- Maximum Capacitive Load • See table

General

- Efficiency • See table
- Isolation Voltage • 1000 VDC minimum, 3000 VDC option⁽³⁾
- Isolation Resistance • $10^9 \Omega$
- Isolation Capacitance • 60 pF typical
- Switching Frequency • Variable, 60 kHz - 85 kHz
- MTBF • >1.1 Mhrs to MIL-HDBK-217F at 25 °C, GB

Environmental

- Operating Temperature • -40 °C to +85 °C
- Storage Temperature • -40 °C to +125 °C
- Case Temperature • 100 °C max
- Cooling • Convection-cooled

Safety

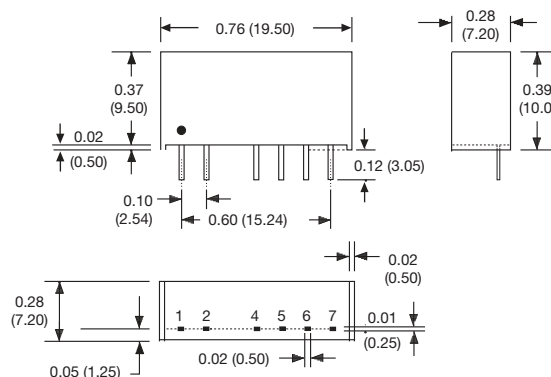
- Safety Approvals • CE & UKCA meets all applicable directives & legislation.

Notes

1. Operation at no load will not damage unit but it may not meet all specifications.
2. Output capacitor of 1 μF required to meet quoted ripple and noise.
3. For optional 3 kV isolation, add suffix '-H' to the model number.
4. All dimensions in inches (mm).
5. Pin pitch tolerance: ± 0.014 (± 0.35)
6. Case tolerance: ± 0.02 (± 0.5)
7. Weight: 0.006 lbs (2.8 g)

Input Voltage	No Load Input Current	Output Voltage	Output Current	Max Capacitive Load	Efficiency	Load Reg.	Model Number
5 VDC	80 mA	5.0 V	600 mA	220 μF	79%	8.0%	IR0505SA
	70 mA	9.0 V	333 mA	220 μF	84%	7.0%	IR0509SA
	70 mA	12.0 V	250 mA	100 μF	84%	6.0%	IR0512SA
	80 mA	15.0 V	200 mA	100 μF	84%	6.0%	IR0515SA
	80 mA	$\pm 5.0\text{V}$	$\pm 300\text{mA}$	$\pm 100\ \mu\text{F}$	82%	7.0%	IR0505S
	70 mA	$\pm 9.0\text{V}$	$\pm 167\text{mA}$	$\pm 100\ \mu\text{F}$	85%	6.0%	IR0509S
	70 mA	$\pm 12.0\text{V}$	$\pm 125\text{mA}$	$\pm 47\ \mu\text{F}$	85%	6.0%	IR0512S
	70 mA	$\pm 15.0\text{V}$	$\pm 100\text{mA}$	$\pm 47\ \mu\text{F}$	86%	5.0%	IR0515S
12 VDC	25 mA	5.0 V	600 mA	220 μF	84%	6.0%	IR1205SA
	25 mA	9.0 V	333 mA	220 μF	87%	4.0%	IR1209SA
	25 mA	12.0 V	250 mA	100 μF	88%	4.0%	IR1212SA
	20 mA	15.0 V	200 mA	100 μF	90%	3.0%	IR1215SA
	25 mA	$\pm 5.0\text{V}$	$\pm 300\text{mA}$	$\pm 100\ \mu\text{F}$	85%	5.0%	IR1205S
	25 mA	$\pm 9.0\text{V}$	$\pm 167\text{mA}$	$\pm 100\ \mu\text{F}$	88%	4.0%	IR1209S
	25 mA	$\pm 12.0\text{V}$	$\pm 125\text{mA}$	$\pm 47\ \mu\text{F}$	89%	3.0%	IR1212S
	20 mA	$\pm 15.0\text{V}$	$\pm 100\text{mA}$	$\pm 47\ \mu\text{F}$	90%	3.0%	IR1215S

Mechanical Details



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