

1 Watt

ISF Series



- Single & Dual Output
- SMD Package
- Industry Standard Pinouts
- 1000 VDC Isolation, 3000 VDC Optional
- MTBF >3.5 MHrs
- -40 °C to +85 °C Operation
- 3 Year Warranty

Specification

Input

- Input Voltage Range • Nominal $\pm 10\%$
 Input Reverse Voltage Protection • None

Output

- Output Voltage • See table
 Minimum Load • $10\%^{(6)}$
 Line Regulation • $1.2\%/1\% \Delta V_{in}$
 Load Regulation • 7.5% max for a 10-100% load change
 Setpoint Accuracy • 100-110% of nominal at 10% load
 Ripple & Noise • Single output: 100 mV pk-pk,
 Dual output: 75 mV pk-pk,
 20 MHz bandwidth

Temperature Coefficient • $0.03\%/^{\circ}\text{C}$

General

- Efficiency • See table
 Isolation Voltage • 1000 VDC standard, 3000 VDC optional
 Isolation Resistance • $10^9 \Omega$
 Switching Frequency • 5/12 V input: 100 kHz, 24 V input: 500 kHz
 typical at nominal input, full load
 MTBF • >3.5 MHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

- Operating Temperature • -40 °C to +85 °C, full load
 Storage Temperature • -55 °C to +125 °C
 Case Temperature • 105 °C max
 Cooling • Convection-cooled
 Lead Temperature • 260 °C, 0.06 in (1.5 mm) from case, 10 s

Connections

No. O/P	Isolation	Pinout	Package	+Vin	-Vin	-Vout	0 V	+Vout	N/C
1	1 kV	Standard	B1	2	1	N/A	4	5	3,6,7,8
1	1 kV	Optional '-X'	B2	2	1	N/A	4	5	8
1	3 kV	Optional '-H'	C1	2	1	N/A	5	8	3,6,7,10,11,12
2	1 kV	Standard	A1	2	1	5	4	7	3,6,8,9,10
2	1 kV	Optional '-X'	A2	2	1	5	4	7	10
2	3 kV	Optional '-H'	C1	2	1	6	5	8	3,7,10,11,12

Notes

1. All dimensions in inches (mm)
2. Tolerance: ± 0.010 (± 0.25)
3. Weight: 0.004 lbs (1.7 g)
4. Pin tolerance: ± 0.004 (± 0.10 mm)

Input Voltage	Output Voltage	Output Current	Efficiency (typ)	Model Number ^(4,5)
3.3 VDC	3.3 V	300 mA	73%	ISF0303A ⁽²⁾ †^
	5.0 V	200 mA	74%	ISF0305A ⁽²⁾ †^
5 VDC	3.3 V	300 mA	72%	ISF0503A ⁽²⁾ †^
	5.0 V	200 mA	77%	ISF0505A ^(1,2,3) †^
	9.0 V	110 mA	76%	ISF0509A ^(1,2,3) †^
	12.0 V	84 mA	79%	ISF0512A ^(1,2,3) †^
	15.0 V	67 mA	78%	ISF0515A ^(1,2,3) †^
12 VDC	5.0 V	200 mA	69%	ISF1205A ^(1,2,3) †^
	9.0 V	110 mA	73%	ISF1209A ^(1,2,3) †^
	12.0 V	84 mA	73%	ISF1212A ^(1,2,3) †^
	15.0 V	67 mA	74%	ISF1215A ^(1,2,3) †^
24 VDC	3.3 V	300 mA	69%	ISF2403A†^
	5.0 V	200 mA	70%	ISF2405A ⁽¹⁾ †^
	9.0 V	110 mA	72%	ISF2409A ⁽¹⁾ †^
	12.0 V	84 mA	75%	ISF2412A ⁽¹⁾ †^
	15.0 V	67 mA	76%	ISF2415A ⁽¹⁾ †^
	24.0 V	42 mA	77%	ISF2424A†^

Notes

1. For dual output models, delete suffix 'A' at the end of the part number and split current equally between two outputs.
2. For single output 3000 VDC isolation, add '-H' to the end of the part number.
3. For dual output 3000 VDC isolation, replace 'A' with '-H' in the part number.
4. For package type see connections table.
5. Single & dual output 1 kV models can have optional pinout, add suffix '-X' to part number
6. Operation at no load will not damage device but may not meet all specifications.

† Available from Farnell & element14. See pages 284-290.

^ Available from Newark. See pages 291-296.

Mechanical Details

