

## 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 ±10%  
 Input Reverse Voltage Protection • None

#### Output

- Output Voltage • See table  
 Minimum Load • 10%<sup>(6)</sup>  
 Line Regulation • 1.2%/1% Δ Vin  
 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%/°C

#### General

- Efficiency • See table  
 Isolation Voltage • 1000 VDC standard, 3000 VDC optional  
 Isolation Resistance • 10<sup>9</sup> Ω  
 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 <sup>(4,5)</sup>
3.3 VDC	3.3 V	300 mA	73%	ISF0303A <sup>(1,2,3)</sup>
	5.0 V	200 mA	74%	ISF0305A <sup>(1,2,3)</sup>
5 VDC	3.3 V	300 mA	72%	ISF0503A <sup>(2)</sup>
	5.0 V	200 mA	77%	ISF0505A <sup>(1,2,3)</sup>
	9.0 V	110 mA	76%	ISF0509A <sup>(1,2,3)</sup>
	12.0 V	84 mA	79%	ISF0512A <sup>(1,2,3)</sup>
	15.0 V	67 mA	78%	ISF0515A <sup>(1,2,3)</sup>
12 VDC	5.0 V	200 mA	69%	ISF1205A <sup>(1,2,3)</sup>
	9.0 V	110 mA	73%	ISF1209A <sup>(1,2,3)</sup>
	12.0 V	84 mA	73%	ISF1212A <sup>(1,2,3)</sup>
	15.0 V	67 mA	74%	ISF1215A <sup>(1,2,3)</sup>
24 VDC	3.3 V	300 mA	69%	ISF2403A
	5.0 V	200 mA	70%	ISF2405A <sup>(1)</sup>
	9.0 V	110 mA	72%	ISF2409A <sup>(1)</sup>
	12.0 V	84 mA	75%	ISF2412A <sup>(1)</sup>
	15.0 V	67 mA	76%	ISF2415A <sup>(1)</sup>
	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.

#### Mechanical Details

