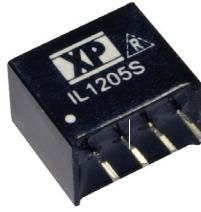




**THE DATASHEET OF  
IL0509S**



# 2 Watts IL Series



- Single Output
- SIP Package
- 1.0kV DC Isolation
- Optional 3.0kV DC Isolation
- MTBF >1.2 MHrs
- -40°C to +85°C Operation
- 3 Year Warranty

## Specification

### Input

- Input Voltage Range • Nominal  $\pm 10\%$
- Input Reflected Ripple Current • 20mA pk-pk through 12 $\mu$ H inductor, 5Hz to 20MHz
- Input Reverse Voltage Protection • None
- Input Filter • Capacitor

### Output

- Output Voltage Range • See table
- Minimum Load • None<sup>(2)</sup>
- Line Regulation • 1.2%/1%  $\Delta V_{in}$
- Load Regulation •  $\pm 10\%$ , 20-100% load change (3.3 V models:  $\pm 20\%$ )
- Setpoint Accuracy •  $\pm 3\%$
- Ripple & Noise • 150 mV pk-pk max, 20 MHz bandwidth
- Temperature Coefficient • 0.02%/°C
- Maximum Capacitive Load • 470  $\mu$ F

### General

- Efficiency • See table
- Isolation Voltage • 1000VDC minimum (3000VDC -H option)
- Isolation Resistance •  $10^9 \Omega$
- Isolation Capacitance • 60 pF typical
- Switching Frequency • Variable, 70 KHz typical
- MTBF • >1.21 MHrs to MIL-HDBK-217F at 25°C, GB
- Case Material • Non conductive black plastic (UL94V-0 rated)
- Potting Material • Epoxy (UL94V-0 rated)
- Pin Material • C5191R-H Solder-coated
- Solder Process • 260°C max. 1.5mm from case 10s max.

### Environmental

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

### Safety

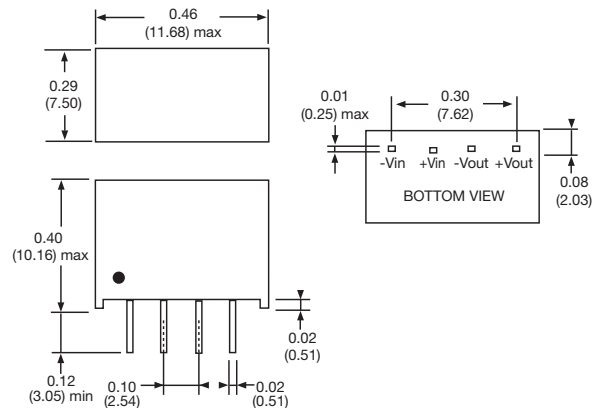
- Safety Agency • CE & UKCA meets all applicable directives & legislation.

Input Voltage	No Load Input Current	Output Voltage	Output Current	Efficiency	Model Number <sup>(1)</sup>
5 VDC	35 mA	3.3 V	400 mA	71%	IL0503S
	35 mA	5.0 V	400 mA	77%	IL0505S
	35 mA	9.0 V	222 mA	80%	IL0509S
	35 mA	12.0 V	168 mA	82%	IL0512S
	35 mA	15.0 V	132 mA	82%	IL0515S
12 VDC	35 mA	24.0 V	84 mA	82%	IL0524S
	20 mA	3.3 V	400 mA	72%	IL1203S
	20 mA	5.0 V	400 mA	78%	IL1205S
	20 mA	9.0 V	222 mA	82%	IL1209S
	20 mA	12.0 V	168 mA	84%	IL1212S
24 VDC	20 mA	15.0 V	132 mA	84%	IL1215S
	25 mA	24.0 V	84 mA	82%	IL1224S
	10 mA	3.3 V	400 mA	74%	IL2403S
	10 mA	5.0 V	400 mA	80%	IL2405S
	10 mA	9.0 V	222 mA	84%	IL2409S
	10 mA	12.0 V	168 mA	84%	IL2412S
24 VDC	10 mA	15.0 V	132 mA	84%	IL2415S
	10 mA	24.0 V	84 mA	84%	IL2424S

### Notes



1. Add suffix 'H' to model for 3000VDC isolation.
2. Operation at no load will not damage unit but it may not meet all specifications.
3. All dimensions in inches (mm).
4. Pin pitch tolerance:  $\pm 0.014$  ( $\pm 0.35$ ), Case tolerance:  $\pm 0.02$  ( $\pm 0.5$ )
5. Weight: 0.004 lbs (1.8 g)

### Mechanical Details









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