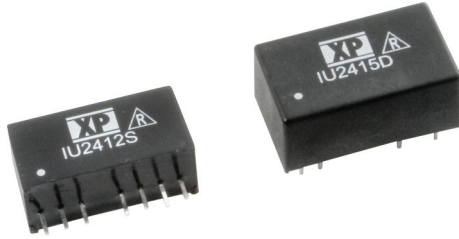


# 2 Watts IU Series



- Regulated Single & Dual Output
- Wide 2:1 Input Range
- SIP or DIP Package
- 1000 VDC Isolation (Optional 3000 VDC)
- Continuous Short Circuit Protection
- 3 Year Warranty

## Specification

### Input

- Input Voltage Range • See table
- Input Reflected Ripple Current • 35 mA pk-pk through 12  $\mu$ H inductor, 5-20 MHz
- Input Filter • Capacitor

### Output

- Output Voltage • See table
- Minimum Load • None<sup>(6)</sup>
- Line Regulation •  $\pm 0.5\%$
- Load Regulation •  $\pm 1\%$  for a 25-100% load change<sup>(7)</sup>
- Setpoint Accuracy •  $\pm 2\%$
- Cross Regulation •  $\pm 5\%$  on dual output models
- Ripple & Noise • 80 mV pk-pk max, 20 MHz bandwidth<sup>(6)</sup>
- Short Circuit Protection • Continuous with auto recovery (foldback)
- Max Capacitive Load • See table
- Remote On/Off • Optional on SIP package model<sup>(4)</sup>
- Temperature Coefficient • 0.02%/C

### General

- Efficiency • See table
- Isolation Voltage • 1000 VDC, Optional 3000 VDC<sup>(2)</sup>
- Isolation Resistance •  $10^9 \Omega$
- Isolation Capacitance • 60 pF
- Switching Frequency • 100-650 kHz
- MTBF •  $> 1.61$  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

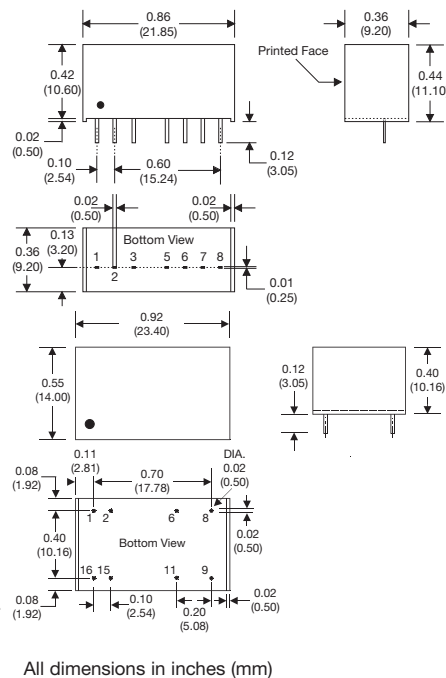
- Safety Approvals • UL62368-1

### Notes

- For dual inline package replace 'S' in model number with 'D'.
- For optional 3 kV isolation add suffix '-H' to the model number.
- For dual output delete suffix 'A' & split output current equally between rails.
- For optional Remote On/Off on SIP models, add suffix '-R' to model number. Applying 5V via 1 k  $\Omega$  current limiting resistor and diode turns output off.
- Output capacitor of 100  $\mu$ F required to meet quoted ripple & noise.
- Minimum load of 25% required to meet load regulation & ripple & noise specifications.
- Operation at no load will not damage device but may not meet all specifications.
- Pin pitch tolerance:  $\pm 0.014$  ( $\pm 0.35$ ), Case tolerance:  $\pm 0.02$  ( $\pm 0.5$ )
- Weight: SIP 0.009 lbs (4.0 g), DIP 0.013 lbs (6.0 g)

| Input Voltage | No Load Input Current | Output Voltage <sup>(3)</sup> | Output Current | Max. Capacitive Load | Efficiency | Model Number (1-5) |
|---------------|-----------------------|-------------------------------|----------------|----------------------|------------|--------------------|
| 4.5-9.0 V     | 15 mA                 | 3.3V                          | 500 mA         | 3300 $\mu$ F         | 67%        | IU0503SA           |
|               | 15 mA                 | 5.0V                          | 400 mA         | 3300 $\mu$ F         | 70%        | IU0505SA           |
|               | 30 mA                 | 9.0V                          | 222 mA         | 470 $\mu$ F          | 72%        | IU0509SA           |
|               | 30 mA                 | 12.0V                         | 167 mA         | 470 $\mu$ F          | 72%        | IU0512SA           |
|               | 30 mA                 | 15.0V                         | 133 mA         | 470 $\mu$ F          | 73%        | IU0515SA           |
|               | 60 mA                 | 24.0V                         | 83 mA          | 220 $\mu$ F          | 75%        | IU0524SA           |
| 9.0-18.0 V    | 15 mA                 | 3.3V                          | 500 mA         | 3300 $\mu$ F         | 67%        | IU1203SA           |
|               | 15 mA                 | 5.0V                          | 400 mA         | 3300 $\mu$ F         | 77%        | IU1205SA           |
|               | 15 mA                 | 9.0V                          | 222 mA         | 470 $\mu$ F          | 78%        | IU1209SA           |
|               | 15 mA                 | 12.0V                         | 167 mA         | 470 $\mu$ F          | 80%        | IU1212SA           |
|               | 15 mA                 | 15.0V                         | 133 mA         | 470 $\mu$ F          | 78%        | IU1215SA           |
|               | 15 mA                 | 24.0V                         | 83 mA          | 220 $\mu$ F          | 80%        | IU1224SA           |
| 18.0-36.0 V   | 8 mA                  | 3.3V                          | 500 mA         | 3300 $\mu$ F         | 70%        | IU2403SA           |
|               | 8 mA                  | 5.0V                          | 400 mA         | 3300 $\mu$ F         | 77%        | IU2405SA           |
|               | 8 mA                  | 9.0V                          | 222 mA         | 470 $\mu$ F          | 80%        | IU2409SA           |
|               | 8 mA                  | 12.0V                         | 167 mA         | 470 $\mu$ F          | 80%        | IU2412SA           |
|               | 8 mA                  | 15.0V                         | 133 mA         | 470 $\mu$ F          | 80%        | IU2415SA           |
|               | 8 mA                  | 24.0V                         | 83 mA          | 220 $\mu$ F          | 80%        | IU2424SA           |
| 36.0-72.0 V   | 6 mA                  | 3.3V                          | 500 mA         | 3300 $\mu$ F         | 71%        | IU4803SA           |
|               | 6 mA                  | 5.0V                          | 400 mA         | 3300 $\mu$ F         | 74%        | IU4805SA           |
|               | 6 mA                  | 9.0V                          | 222 mA         | 470 $\mu$ F          | 78%        | IU4809SA           |
|               | 6 mA                  | 12.0V                         | 167 mA         | 470 $\mu$ F          | 78%        | IU4812SA           |
|               | 6 mA                  | 15.0V                         | 133 mA         | 470 $\mu$ F          | 78%        | IU4815SA           |
|               | 6 mA                  | 24.0V                         | 83 mA          | 220 $\mu$ F          | 80%        | IU4824SA           |

## Mechanical Details



| PIN CONNECTIONS |             |            |
|-----------------|-------------|------------|
| Pin             | Single      | Dual       |
| 1               | -V Input    | -V Input   |
| 2               | +V Input    | +V Input   |
| 3               | Opt. ROF*   | Opt. ROF** |
| 5               | N.P. / N.C. | N.C.       |
| 6               | +V Output   | +V Output  |
| 7               | -V Output   | -V Output  |
| 8               | NC          | Common     |

\* When optional ROF is present pin 5 is No Connection.  
When not present pin 3 & 5 are No Pin.

\*\* When optional ROF is present pin 5 is No Connection.  
When not present pin 3 & 5 are No Connection.

| PIN CONNECTIONS |           |           |
|-----------------|-----------|-----------|
| Pin             | Single    | Dual      |
| 1               | -V Input  | -V Input  |
| 2               | -V Input  | -V Input  |
| 6               | NC        | Common    |
| 8               | NC        | -V Output |
| 9               | +V Output | +V Output |
| 11              | -V Output | Common    |
| 15              | +V Input  | +V Input  |
| 16              | +V Input  | +V Input  |