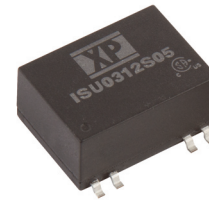


### 3 Watt

- Regulated Single & Dual Output
- Wide 4:1 Input Range
- Compact SMD Package
- 1500 VDC Isolation
- Operating Temperature -40 °C to +95 °C
- ITE Safety Approvals
- Remote On/Off
- Tape & Reel Package Available
- Optional Water Washable Versions
- 3 Year Warranty



#### Dimensions:

##### ISU03:

0.75 x 0.67 x 0.34" (19.0 x 17.0 x 8.7 mm)

### Models & Ratings

| Input voltage | Output voltage | Output current | Input current <sup>(1,2)</sup> |           | Maximum capacitive load <sup>(3)</sup> | Efficiency | Model number <sup>(4)</sup> |
|---------------|----------------|----------------|--------------------------------|-----------|----------------------------------------|------------|-----------------------------|
|               |                |                | No load                        | Full load |                                        |            |                             |
| 4.5-12V       | 5 V            | 600 mA         | 40 mA                          | 740 mA    | 1680 µF                                | 81%        | ISU0305S05                  |
|               | 12 V           | 250 mA         |                                | 730 mA    | 820 µF                                 | 82%        | ISU0305S12                  |
|               | 15 V           | 200 mA         |                                | 730 mA    | 680 µF                                 | 82%        | ISU0305S15                  |
|               | 24 V           | 125 mA         |                                | 730 mA    | 390 µF                                 | 82%        | ISU0305S24                  |
|               | ±12 V          | ±125 mA        |                                | 730 mA    | ±470 µF                                | 82%        | ISU0305D12                  |
|               | ±15 V          | ±100 mA        |                                | 740 mA    | ±330 µF                                | 81%        | ISU0305D15                  |
|               |                |                |                                |           |                                        |            |                             |
| 9-36V         | 5 V            | 600 mA         | 20 mA                          | 156 mA    | 1680 µF                                | 80%        | ISU0324S05                  |
|               | 12 V           | 250 mA         |                                | 150 mA    | 820 µF                                 | 82%        | ISU0324S12                  |
|               | 15 V           | 200 mA         |                                | 150 mA    | 680 µF                                 | 82%        | ISU0324S15                  |
|               | 24 V           | 125 mA         |                                | 150 mA    | 390 µF                                 | 82%        | ISU0324S24                  |
|               | ±12 V          | ±125 mA        |                                | 150 mA    | ±470 µF                                | 82%        | ISU0324D12                  |
|               | ±15 V          | ±100 mA        |                                | 154 mA    | ±330 µF                                | 81%        | ISU0324D15                  |
|               |                |                |                                |           |                                        |            |                             |
| 18-75V        | 5 V            | 600 mA         | 13 mA                          | 78 mA     | 1680 µF                                | 80%        | ISU0348S05                  |
|               | 12 V           | 250 mA         |                                | 75 mA     | 820 µF                                 | 83%        | ISU0348S12                  |
|               | 15 V           | 200 mA         |                                | 76 mA     | 680 µF                                 | 82%        | ISU0348S15                  |
|               | 24 V           | 125 mA         |                                | 76 mA     | 390 µF                                 | 82%        | ISU0348S24                  |
|               | ±12 V          | ±125 mA        |                                | 76 mA     | ±470 µF                                | 82%        | ISU0348D12                  |
|               | ±15 V          | ±100 mA        |                                | 77 mA     | ±330 µF                                | 81%        | ISU0348D15                  |
|               |                |                |                                |           |                                        |            |                             |

### Notes

1. Input currents measured at nominal input voltage.

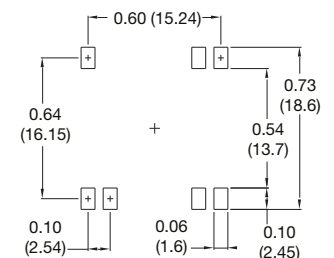
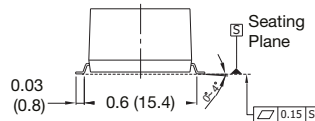
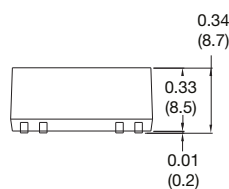
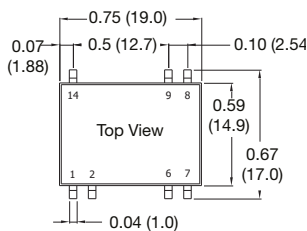
2. Input current is typically 2.5 mA at nominal input voltage when output is remotely turned off.

3. Maximum capacitive load is per output.

4. For optional water washable version, add suffix '-P' e.g. ISU0324S12-P.

5. For tape & reel package option add suffix "-TR". Reel size 200 pcs.

### Mechanical Details



## Input

| Characteristic      | Minimum                                                                          | Typical | Maximum | Units       | Notes & Conditions |
|---------------------|----------------------------------------------------------------------------------|---------|---------|-------------|--------------------|
| Input Voltage Range | 4.5                                                                              |         | 12      | VDC         | 5 V nominal        |
|                     | 9.0                                                                              |         | 36      |             | 24 V nominal       |
|                     | 18.0                                                                             |         | 75      |             | 48 V nominal       |
| Input Filter        | Internal Pi type filter                                                          |         |         |             |                    |
| Input Surge         |                                                                                  |         | 15      | VDC for 1 s | 5 V nominal        |
|                     |                                                                                  |         | 50      |             | 24 V models        |
|                     |                                                                                  |         | 100     |             | 48 V models        |
| Remote On/Off       | ON: open circuit<br>OFF: 2-4mA via 1kΩ resistor into pin 2 with respect to pin 1 |         |         |             |                    |

## Output

| Characteristic           | Minimum | Typical | Maximum | Units       | Notes & Conditions                                                                            |
|--------------------------|---------|---------|---------|-------------|-----------------------------------------------------------------------------------------------|
| Output Voltage           | 5       |         | 30      | VDC         | See Models and Ratings table                                                                  |
| Initial Set Accuracy     |         |         | ±1.0    | %           |                                                                                               |
| Output Voltage Balance   |         |         | ±2.0    | %           | For dual output with balanced loads                                                           |
| Minimum Load             |         |         |         |             | No minimum load required                                                                      |
| Line Regulation          |         |         | ±0.5    | %           |                                                                                               |
| Load Regulation          |         |         | ±1.0    | %           |                                                                                               |
| Cross Regulation         |         |         | ±5.0    | %           | On dual output models when one load is varied between 25% and 100% and other is fixed at 100% |
| Transient Response       |         | 3       | 5       | % deviation | Recovery within 1% in less than 250 μs for a 25% load change.                                 |
| Ripple & Noise           |         |         | 50      | mV pk-pk    | 20 MHz bandwidth. Measured using 0.47 μF ceramic capacitor.                                   |
| Short Circuit Protection |         |         |         |             | Continuous, with auto recovery                                                                |
| Maximum Capacitive Load  |         |         |         |             | See Models and Ratings table                                                                  |
| Temperature Coefficient  |         |         | 0.02    | %/°C        |                                                                                               |

## General

| Characteristic             | Minimum         | Typical    | Maximum | Units             | Notes & Conditions           |
|----------------------------|-----------------|------------|---------|-------------------|------------------------------|
| Efficiency                 |                 | 82         |         | %                 | See Models and Ratings table |
| Isolation: Input to Output | 1500/1800       |            |         | VDC               | 60 s/1 s                     |
| Isolation Resistance       | 10 <sup>9</sup> |            |         | Ω                 | At 500 VDC                   |
| Isolation Capacitance      |                 | 500        |         | pF                |                              |
| Switching Frequency        |                 | 100        |         | kHz               |                              |
| Power Density              |                 |            | 17.5    | W/in <sup>3</sup> |                              |
| Mean Time Between Failure  |                 | 5          |         | MHrs              | MIL-HDBK-217F, +25 °C GB     |
| Weight                     |                 | 0.01 (4.5) |         | lb (g)            |                              |
| Moisture Sensitivity Level | Level 2         |            |         |                   | IPC/JEDEC J-STD-020D.1       |

## Environmental

| Characteristic                  | Minimum        | Typical | Maximum | Units | Notes & Conditions           |
|---------------------------------|----------------|---------|---------|-------|------------------------------|
| Operating Temperature           | -40            |         | +95     | °C    | See Derating Curve.          |
| Storage Temperature             | -55            |         | +125    | °C    |                              |
| Case Temperature                |                |         | +95     | °C    |                              |
| Humidity                        |                |         | 95      | %RH   | Non-condensing               |
| Cooling                         |                |         |         |       | Natural convection           |
| Case Flammability               | UL 94V-0 Rated |         |         |       | Non conductive black plastic |
| Lead-Free Reflow Solder Process |                |         |         |       | IPC/JEDEC J-STD-020D.1       |

### Safety Approvals

| Safety Agency | Safety Standard                  | Notes & Conditions     |
|---------------|----------------------------------|------------------------|
| CE            | LVD                              | Evaluated to EN62368-1 |
| UL            | UL/cUL62368-1                    | ITE                    |
| CE            | Meets all applicable directives  |                        |
| UKCA          | Meets all applicable legislation |                        |

### EMC: Emissions

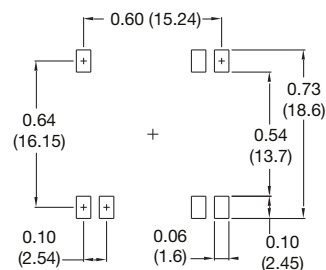
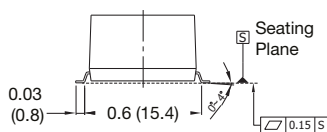
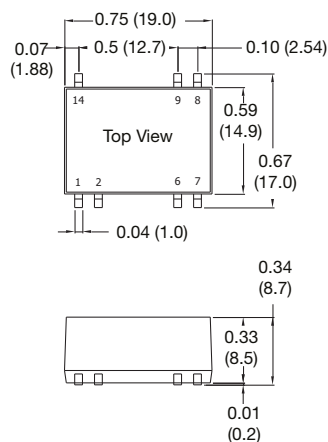
| Phenomenon | Standard | Test Level | Notes & Conditions |
|------------|----------|------------|--------------------|
| Conducted  | EN55032  | Class A    |                    |

### EMC: Immunity

| Phenomenon | Standard    | Test Level                         | Criteria | Notes & Conditions                                                       |
|------------|-------------|------------------------------------|----------|--------------------------------------------------------------------------|
| ESD        | EN61000-4-2 | ±8 kV air discharge, ±6 kV contact | A        |                                                                          |
| Radiated   | EN61000-4-3 | 10 V/m                             | A        |                                                                          |
| EFT/Burst  | EN61000-4-4 | ±2 kV                              | A        | With external input capacitor, suggested part is CHEMI-CON KY 220µF/100V |
| Surge      | EN61000-4-5 | ±1 kV                              | A        | With external input capacitor, suggested part is CHEMI-CON KY 220µF/100V |
| Conducted  | EN61000-4-6 | 10 V rms                           | A        |                                                                          |

### Mechanical Details

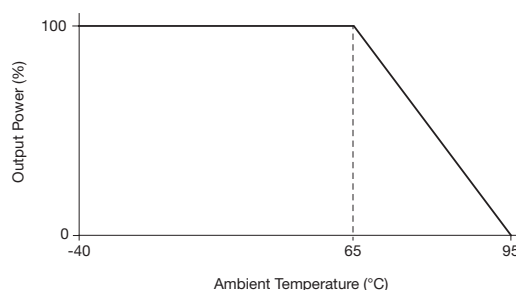
#### Connecting Pin Pattern



| Pin Connections |               |               |
|-----------------|---------------|---------------|
| Pin             | Single        | Dual          |
| 1               | -Vin          | -Vin          |
| 2               | Remote On/Off | Remote On/Off |
| 6               | No Connection | Common        |
| 7               | No Connection | -Vout         |
| 8               | +Vout         | +Vout         |
| 9               | -Vout         | Common        |
| 14              | +Vin          | +Vin          |

### Application Notes

#### Derating Curve



#### Notes

- All dimensions are in inches (mm)
- Weight: 0.01 lbs (4.5 g) approx.

- Tolerance: X.XX±0.01 (X.X±0.25)  
X.XXX±0.005 (X.XX±0.13)
- Pin Tolerance: ±0.002 (±0.05)