1 Watt
IW Series

**Specification**

**Input**
- Input Voltage Range
- Input Reflected
- Ripple Current
- Input Reverse
- Voltage Protection
- Input Filter
- Input Surge

**Output**
- Output Voltage
- Minimum Load
- Line Regulation
- Load Regulation
- Setpoint Accuracy
- Ripple & Noise
- Short Circuit Protection
- Cross Regulation
- Remote On/Off
- Temperature Coefficient

**General**
- Efficiency
- Isolation Voltage
- Isolation Resistance
- Isolation Capacitance
- Switching Frequency
- MTBF

**Environmental**
- Operating Temperature
- Storage Temperature
- Case Temperature
- Cooling

**Safety**
- Safety Approvals

**Notes**
1. For dual inline package replace ‘S’ in model number with ‘D’.
2. For optional 3 kV isolation add suffix ‘-H’ to the model number.
3. For dual output delete suffix ‘A’ & split output current equally between rails.
4. For optional Remote On/Off on SIP models, add suffix ‘-ROF’ to model number.
5. All models have a minimum load of 15 mA.
6. Minimum load of 25% required to meet quoted specifications.
7. Operation at no load will not damage the converter but it may not meet all specifications.
8. Pin pitch tolerance: ±0.014 (±0.35), Case tolerance: ±0.02 (±0.5).
9. Weight: SIP 0.009 lbs (4.0 g), DIP 0.013 lbs (6.0 g)

**Mechanical Details**

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

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**Table**

<table>
<thead>
<tr>
<th>Input Voltage</th>
<th>No Load Input Current</th>
<th>Output Voltage</th>
<th>Output Current</th>
<th>Max. Capacitive Load</th>
<th>Efficiency</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5-9.0 V</td>
<td>15 mA</td>
<td>3.3 V</td>
<td>303 mA</td>
<td>3300 µF</td>
<td>67%</td>
<td>IW0503SA</td>
</tr>
<tr>
<td></td>
<td>15 mA</td>
<td>5.0 V</td>
<td>200 mA</td>
<td>3300 µF</td>
<td>67%</td>
<td>IW0505SA</td>
</tr>
<tr>
<td></td>
<td>40 mA</td>
<td>9.0 V</td>
<td>111 mA</td>
<td>470 µF</td>
<td>70%</td>
<td>IW0509SA</td>
</tr>
<tr>
<td></td>
<td>55 mA</td>
<td>12.0 V</td>
<td>83 mA</td>
<td>470 µF</td>
<td>70%</td>
<td>IW0512SA</td>
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<td></td>
<td>70 mA</td>
<td>15.0 V</td>
<td>67 mA</td>
<td>470 µF</td>
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**Table Continued**

<table>
<thead>
<tr>
<th>Input Voltage</th>
<th>No Load Input Current</th>
<th>Output Voltage</th>
<th>Output Current</th>
<th>Max. Capacitive Load</th>
<th>Efficiency</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.0-18.0 V</td>
<td>15 mA</td>
<td>3.3 V</td>
<td>303 mA</td>
<td>3300 µF</td>
<td>70%</td>
<td>IW1203SA</td>
</tr>
<tr>
<td></td>
<td>15 mA</td>
<td>5.0 V</td>
<td>200 mA</td>
<td>3300 µF</td>
<td>72%</td>
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<tr>
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<td>40 mA</td>
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<td>77%</td>
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<td>55 mA</td>
<td>12.0 V</td>
<td>83 mA</td>
<td>470 µF</td>
<td>77%</td>
<td>IW1212SA</td>
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<tr>
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<td>15 mA</td>
<td>15.0 V</td>
<td>67 mA</td>
<td>470 µF</td>
<td>77%</td>
<td>IW1215SA</td>
</tr>
<tr>
<td></td>
<td>15 mA</td>
<td>15.0 V</td>
<td>67 mA</td>
<td>470 µF</td>
<td>77%</td>
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<td></td>
<td>15 mA</td>
<td>24.0 V</td>
<td>42 mA</td>
<td>220 mA</td>
<td>73%</td>
<td>IW1224SA</td>
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**Table Continued**

<table>
<thead>
<tr>
<th>Input Voltage</th>
<th>No Load Input Current</th>
<th>Output Voltage</th>
<th>Output Current</th>
<th>Max. Capacitive Load</th>
<th>Efficiency</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.0-36.0 V</td>
<td>8 mA</td>
<td>3.3 V</td>
<td>303 mA</td>
<td>3300 µF</td>
<td>70%</td>
<td>IW2403SA</td>
</tr>
<tr>
<td></td>
<td>8 mA</td>
<td>5.0 V</td>
<td>200 mA</td>
<td>3300 µF</td>
<td>72%</td>
<td>IW2405SA</td>
</tr>
<tr>
<td></td>
<td>8 mA</td>
<td>9.0 V</td>
<td>111 mA</td>
<td>470 µF</td>
<td>75%</td>
<td>IW2412SA</td>
</tr>
<tr>
<td></td>
<td>8 mA</td>
<td>12.0 V</td>
<td>83 mA</td>
<td>470 µF</td>
<td>75%</td>
<td>IW2415SA</td>
</tr>
<tr>
<td></td>
<td>8 mA</td>
<td>15.0 V</td>
<td>67 mA</td>
<td>470 µF</td>
<td>75%</td>
<td>IW2424SA</td>
</tr>
</tbody>
</table>

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<tr>
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<th>Output Voltage</th>
<th>Output Current</th>
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<th>Efficiency</th>
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</tr>
</thead>
<tbody>
<tr>
<td>36.0-72.0 V</td>
<td>6 mA</td>
<td>3.3 V</td>
<td>303 mA</td>
<td>3300 µF</td>
<td>70%</td>
<td>IW4803SA</td>
</tr>
<tr>
<td></td>
<td>6 mA</td>
<td>5.0 V</td>
<td>200 mA</td>
<td>3300 µF</td>
<td>72%</td>
<td>IW4805SA</td>
</tr>
<tr>
<td></td>
<td>6 mA</td>
<td>9.0 V</td>
<td>111 mA</td>
<td>470 µF</td>
<td>75%</td>
<td>IW4812SA</td>
</tr>
<tr>
<td></td>
<td>6 mA</td>
<td>12.0 V</td>
<td>83 mA</td>
<td>470 µF</td>
<td>75%</td>
<td>IW4815SA</td>
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<th>Output Current</th>
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<th>Efficiency</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>72.0-100 V</td>
<td>6 mA</td>
<td>5.0 V</td>
<td>200 mA</td>
<td>3300 µF</td>
<td>72%</td>
<td>IW4824SA</td>
</tr>
</tbody>
</table>

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**Notes**
- UL62368-1, CE & UKCA meets all applicable directives & legislation.

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**Table**

**Notes**
- Applicable to dual inline package only.
- Capacitor 3300 µF required for ripple & noise.

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**Table**

**Notes**
- All dimensions in inches (mm).
- Input Surge: 3300 VDC (optional 3000 VDC)
- Input Filter: 5 V models: 12 VDC for 100 ms, 12 V models: 24 VDC for 100 ms, 24 V models: 40 VDC for 100 ms, 48 V models: 80 VDC for 100 ms.
- Load Regulation: ±1.0% max from 25-100% load.
- Ripple & Noise: 80 mV pk-pk max, 20 MHz bandwidth.
- Short Circuit Protection: Continuous with auto recovery (foldback).
- Cross Regulation: ±5% on dual output models.
- Remote On/Off: Optional on SIP package model.
- Temperature Coefficient: 0.02%/°C
- Operation at no load will not damage the converter but it may not meet all specifications.
- Applying 5 V via 1 k current limiting resistor and diode turns output off.
- Isolation Resistance: 1000 VDC (optional 3000 VDC)
- Isolation Capacitance: 60 pF (6)
- Switching Frequency: 100-650 kHz
- environmental: -40 °C to +100 °C, derate from 100% load at 85 °C to 0% load at 100 °C
- Storage Temperature: -40 °C to +125 °C
- Case Temperature: 100 °C max
- Cooling: Convection cooled

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**Notes**
- For dual inline package replace ‘SI’ in model number with ‘DI’.
- 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 ‘-ROF’ to model number.
- Applying 5 V via 1 k current limiting resistor and diode turns output off.
- Output capacitor of 100 µF required to meet quoted ripple & noise.
- Minimum load of 25% required to meet quoted specifications.
- Operation at no load will not damage the converter but it may not meet all specifications.
- Pin pitch tolerance: ±0.014 (±0.35), Case tolerance: ±0.02 (±0.5)
- Weight: SIP 0.009 lbs (4.0 g), DIP 0.013 lbs (6.0 g)