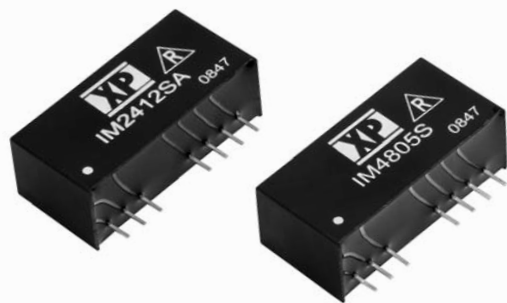


# 2 Watts

## IM Series



- Regulated Single & Dual Output
- Wide 4:1 Input Range
- SIP Package
- 1500 VDC Isolation
- Remote On/Off
- Continuous Short Circuit Protection
- 3 Year Warranty

### Specification

#### Input

- Input Voltage Range • See table
- Input Reflected Ripple Current • 20 mA pk-pk through 12  $\mu$ H inductor  
5 Hz to 20 MHz
- Input Filter • Capacitor
- Input Surge • 24 V models: 50 VDC for 100 ms  
48 V models: 100 VDC for 100 ms

#### Output

- Output Voltage Range • See table
- Minimum Load • None<sup>(1)</sup>
- Line Regulation •  $\pm 0.5\%$  max
- Load Regulation •  $\pm 0.5\%$  max from 10-100% load  
(see note 1)
- Setpoint Accuracy •  $\pm 1\%$  max
- Ripple & Noise • 50 mV pk-pk max, 20 MHz bandwidth
- Short Circuit Protection • Continuous with auto recovery (foldback)
- Cross Regulation •  $\pm 5\%$  on dual output models  
(see note 2)
- Remote On/Off • Applying 2.7 to 15 VDC to pin 3 will turn output off
- Temperature Coefficient •  $0.02\%/^{\circ}\text{C}$

#### General

- Efficiency • See table
- Isolation Voltage • 1500 VDC
- Isolation Resistance •  $10^9 \Omega$
- Isolation Capacitance • 500 pF max
- Switching Frequency • 250 kHz typical
- MTBF • >1.2 Mhrs to MIL-HDBK-217F at 25  $^{\circ}\text{C}$ , GB

#### Environmental

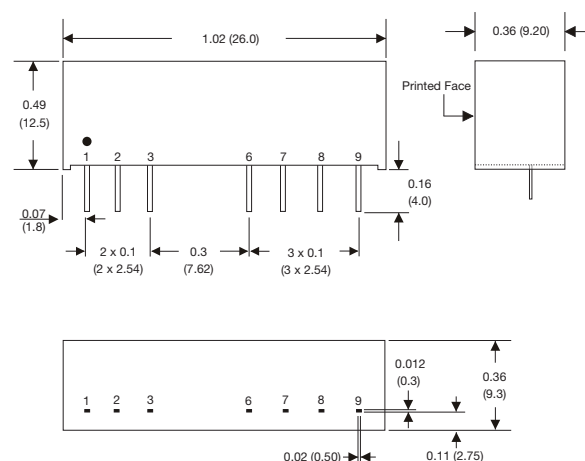
- Operating Temperature •  $-40^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ , derate from 100% load at  $75^{\circ}\text{C}$  to 0% load at  $100^{\circ}\text{C}$
- Storage Temperature •  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Case Temperature •  $100^{\circ}\text{C}$  max
- Cooling • Convection-cooled

#### Notes

1. Operation at no load will not damage the converter but ripple & noise may be higher.
2. When one output is set to 100% load and the other varies between 25%-100% load.
3. Input current measured at nominal input voltage
4. Pin pitch tolerance:  $\pm 0.014$  ( $\pm 0.35$ ), Case tolerance:  $\pm 0.02$  ( $\pm 0.5$ )
5. Weight: 0.014 lbs (6.5 g)

| Input Voltage | Output Voltage | Output Current | No Load Input Current <sup>(3)</sup> | Max Capacitive Load | Efficiency | Model Number |
|---------------|----------------|----------------|--------------------------------------|---------------------|------------|--------------|
| 9.0-36.0 V    | 3.3 V          | 500 mA         | 10 mA                                | 2200 $\mu$ F        | 75%        | IM2403SA     |
|               | 5.0 V          | 400 mA         | 10 mA                                | 1000 $\mu$ F        | 81%        | IM2405SA     |
|               | 12.0 V         | 165 mA         | 10 mA                                | 165 $\mu$ F         | 84%        | IM2412SA     |
|               | 15.0 V         | 135 mA         | 10 mA                                | 100 $\mu$ F         | 85%        | IM2415SA     |
|               | $\pm 5.0$ V    | $\pm 200$ mA   | 10 mA                                | $\pm 470$ $\mu$ F   | 81%        | IM2405S      |
|               | $\pm 12.0$ V   | $\pm 85$ mA    | 10 mA                                | $\pm 100$ $\mu$ F   | 83%        | IM2412S      |
| 18.0-75.0 V   | $\pm 15.0$ V   | $\pm 65$ mA    | 10 mA                                | $\pm 47$ $\mu$ F    | 82%        | IM2415S      |
|               | 3.3 V          | 500 mA         | 5 mA                                 | 2200 $\mu$ F        | 75%        | IM4803SA     |
|               | 5.0 V          | 400 mA         | 5 mA                                 | 1000 $\mu$ F        | 80%        | IM4805SA     |
|               | 12.0 V         | 165 mA         | 5 mA                                 | 165 $\mu$ F         | 84%        | IM4812SA     |
|               | 15.0 V         | 135 mA         | 5 mA                                 | 100 $\mu$ F         | 84%        | IM4815SA     |
|               | $\pm 5.0$ V    | $\pm 200$ mA   | 5 mA                                 | $\pm 470$ $\mu$ F   | 80%        | IM4805S      |
|               | $\pm 12.0$ V   | $\pm 85$ mA    | 5 mA                                 | $\pm 100$ $\mu$ F   | 81%        | IM4812S      |
|               | $\pm 15.0$ V   | $\pm 65$ mA    | 5 mA                                 | $\pm 47$ $\mu$ F    | 84%        | IM4815S      |

### Mechanical Details



| PIN CONNECTIONS |               |               |     |           |           |
|-----------------|---------------|---------------|-----|-----------|-----------|
| Pin             | Single        | Dual          | Pin | Single    | Dual      |
| 1               | -V Input      | -V Input      | 7   | N.C.      | Common    |
| 2               | +V Input      | +V Input      | 8   | N.C.      | N.C.      |
| 3               | Remote On/Off | Remote On/Off | 9   | -V Output | -V Output |
| 6               | +V Output     | +V Output     |     |           |           |