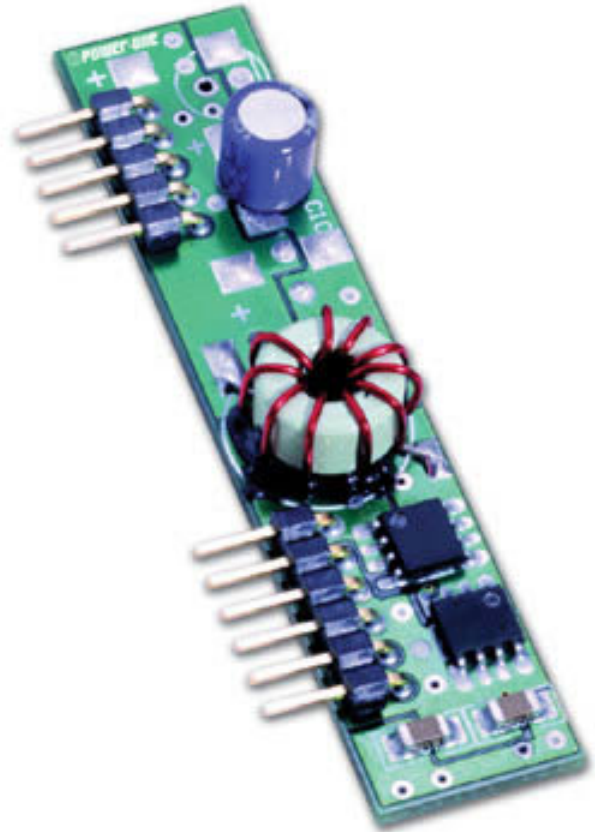


## ▶ 3A, 7A and 12A switching regulators

### Power-One SIS series

- ▶ Thru-hole mount configuration
- ▶ Single outputs, 3A, 7A and 12A versions
- ▶ Efficiency in excess of 93%
- ▶ Output over-current protection
- ▶ Remote On/Off for system sequencing
- ▶ Output voltage trim



### ▶ SPECIFICATIONS

#### INPUT

|                               |                                                               |
|-------------------------------|---------------------------------------------------------------|
| Input voltage:                | See product selector table                                    |
| Turn-on input voltage:        | 4.3Vdc for 5Vdc nominal input 10.4Vdc for 12Vdc nominal input |
| Under voltage lockout:        | 4.19Vdc for 5Vdc nominal input 8.2Vdc for 12Vdc nominal input |
| Turn-on time:                 | 15ms maximum into 100% resistive load                         |
| Inrush current:               | 0.04A <sup>2</sup> s                                          |
| External capacitor, required: | 4.7μF for 3A versions 100μF for 7A and 12A versions           |

#### OUTPUT

|                           |                                                                          |
|---------------------------|--------------------------------------------------------------------------|
| Output setpoint accuracy: | ±1.5% V <sub>out</sub>                                                   |
| Line regulation:          | 1% V <sub>out</sub>                                                      |
| Load regulation:          | 0.5% V <sub>out</sub>                                                    |
| Total output regulation:  | 3% V <sub>out</sub> , all load, input voltage and temperature conditions |

|                              |                                                                                                          |
|------------------------------|----------------------------------------------------------------------------------------------------------|
| Dynamic regulation:          | 50-25-50 lout load change Peak deviation: $\pm 50\text{mV}$ pk-pk Settling time: $30\mu\text{s}$ nominal |
| Admissible load capacitance: | 1000 $\mu\text{F}$ : 3A versions 2000 $\mu\text{F}$ : 7A and 12A versions                                |
| Output current limit:        | 115 to 150% of lout                                                                                      |
| Switching frequency:         | 300kHz nominal, V series 200kHz nominal, X series                                                        |
| Temperature coefficient:     | 0.01%/°C                                                                                                 |
| Trim range:                  | 90 to 110% Vout                                                                                          |
| External capacitor required: | 4.7 $\mu\text{F}$ , 3A versions 100 $\mu\text{F}$ , 7A versions 220 $\mu\text{F}$ , 12A versions         |
| On/Off control voltage:      | 5.5Vdc referenced to ground                                                                              |

## ENVIRONMENTAL AND MECHANICAL

|                              |                                                                                                                                                                                                            |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating temperature range: | -40* to +55°C<br>* A ceramic input capacitor for operation down to -40°C of the following value is needed 4.7 $\mu\text{F}$ : 3A versions 100 $\mu\text{F}$ : 7A versions 220 $\mu\text{F}$ : 12A versions |
| Storage temperature range:   | -40 to +125°C                                                                                                                                                                                              |
| Shock 3-axis:                | 50g minimum, half-sine wave                                                                                                                                                                                |
| Sinusoidal vibration:        | 1, GR-63-Core, section 5.A.2                                                                                                                                                                               |
| MTBF:                        | 5.4 million hours, per Bell core TR-NWT-000332                                                                                                                                                             |
| Size:                        | 63.5 x 14.0 x 10.4mm vertical mounting 63.5 x 15.0 x 14.0mm horizontal mounting                                                                                                                            |
| Connections:                 | Pin outs<br>All models                                                                                                                                                                                     |

|          |          |         |          |        |        |
|----------|----------|---------|----------|--------|--------|
| 1        | 2        | 3       | 4        | 5      | 6      |
| Vout +ve | Vout +ve | +sense  | Vout +ve | common | common |
| 7        | 8        | 9       | 10       | 11     |        |
| Vin +ve  | Vin +ve  | Vin +ve | trim     | on/off |        |

### ▶ 3A product selector

| Type      | Input      | Output      | %  | Product Code | Price  |
|-----------|------------|-------------|----|--------------|--------|
| SIS03VE   | 4.5-5.5Vdc | 3.3Vdc @ 3A | 93 | 96037880     | £16.26 |
| SIS03VD   | 4.5-5.5Vdc | 2.5Vdc @ 3A | 91 | 96037881     | £16.26 |
| SIS03V2.1 | 4.5-5.5Vdc | 2.1Vdc @ 3A | 90 | 96037882     | £16.26 |
| SIS03VB   | 4.5-5.5Vdc | 1.8Vdc @ 3A | 88 | 96037883     | £16.26 |
| SIS03VA   | 4.5-5.5Vdc | 1.5Vdc @ 3A | 86 | 96037884     | £16.26 |

|           |               |             |    |          |        |
|-----------|---------------|-------------|----|----------|--------|
| SIS03VY   | 4.5-5.5Vdc    | 1.2Vdc @ 3A | 84 | 96037885 | £16.26 |
| SIS03XE   | 10.8-13.21Vdc | 3.3Vdc @ 3A | 91 | 96037886 | £16.26 |
| SIS03XD   | 10.8-13.21Vdc | 2.5Vdc @ 3A | 90 | 96037887 | £16.26 |
| SIS03X2.1 | 10.8-13.21Vdc | 2.1Vdc @ 3A | 88 | 96037888 | £16.26 |
| SIS03XB   | 10.8-13.21Vdc | 1.8Vdc @ 3A | 86 | 96037889 | £16.26 |
| SIS03XA   | 10.8-13.21Vdc | 1.5Vdc @ 3A | 84 | 96037890 | £16.26 |

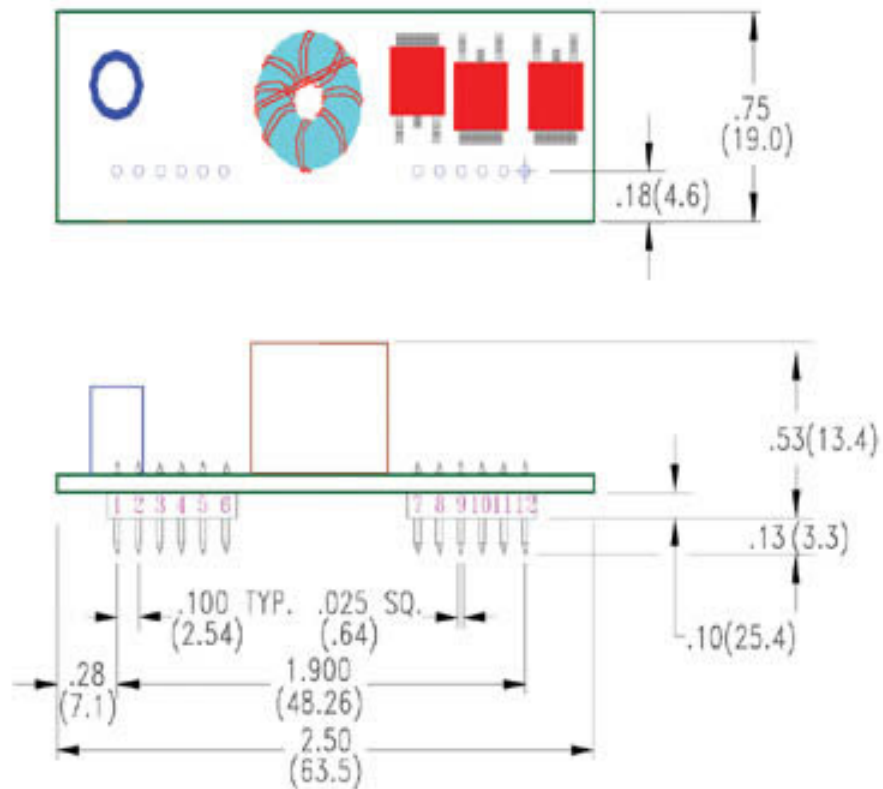
### ▶ 7A product selector

| Type      | Input         | Output      | %  | Product Code | Price  |
|-----------|---------------|-------------|----|--------------|--------|
| SIS07VE   | 4.5-5.5Vdc    | 3.3Vdc @ 7A | 91 | 96037891     | £18.97 |
| SIS07VD   | 4.5-5.5Vdc    | 2.5Vdc @ 7A | 90 | 96037892     | £18.97 |
| SIS07V2.1 | 4.5-5.5Vdc    | 2.1Vdc @ 7A | 89 | 96037893     | £18.97 |
| SIS07VB   | 4.5-5.5Vdc    | 1.8Vdc @ 7A | 87 | 96037894     | £18.97 |
| SIS07VA   | 4.5-5.5Vdc    | 1.5Vdc @ 7A | 85 | 96037895     | £18.97 |
| SIS07VY   | 4.5-5.5Vdc    | 1.2Vdc @ 7A | 83 | 96037896     | £18.97 |
| SIS07XE   | 10.8-13.21Vdc | 3.3Vdc @ 7A | 90 | 96037897     | £18.97 |
| SIS07XD   | 10.8-13.21Vdc | 2.5Vdc @ 7A | 88 | 96037898     | £18.97 |
| SIS07X2.1 | 10.8-13.21Vdc | 2.1Vdc @ 7A | 86 | 96037899     | £18.97 |
| SIS07XB   | 10.8-13.21Vdc | 1.5Vdc @ 7A | 83 | 96037900     | £18.97 |
| SIS07XA   | 10.8-13.21Vdc | 1.2Vdc @ 7A | 80 | 96037901     | £18.97 |

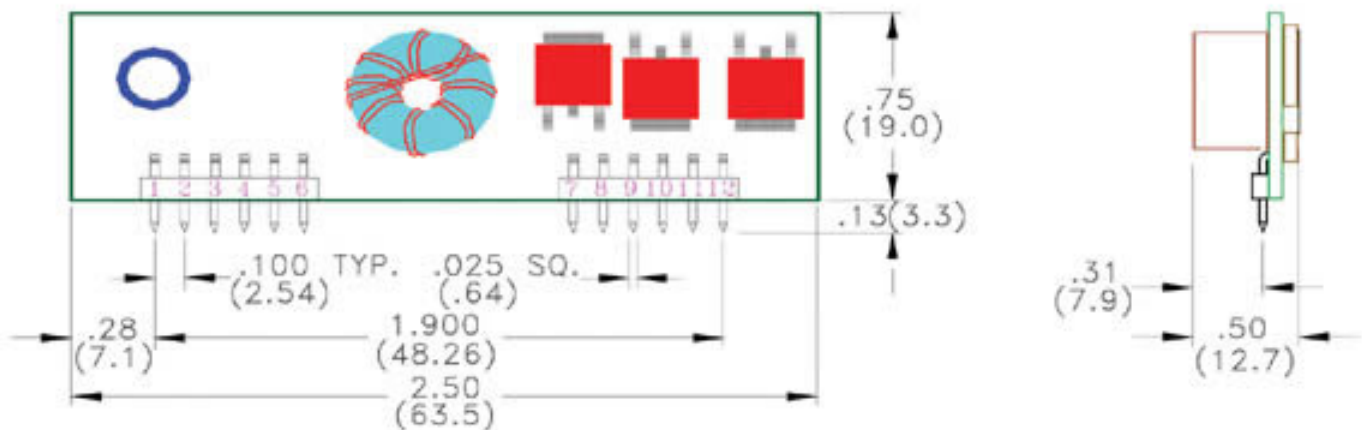
### ▶ 12A product selector

| Type      | Input        | Output       | %  | Product Code | Price  |
|-----------|--------------|--------------|----|--------------|--------|
| SIS12VE   | 4.5-5.5Vdc   | 3.3Vdc @ 12A | 91 | 96037902     | £21.68 |
| SIS12VD   | 4.5-5.5Vdc   | 2.5Vdc @ 12A | 88 | 96037903     | £21.68 |
| SIS12V2.1 | 4.5-5.5Vdc   | 2.1Vdc @ 12A | 86 | 96037904     | £21.68 |
| SIS12VB   | 4.5-5.5Vdc   | 1.8Vdc @ 12A | 84 | 96037905     | £21.68 |
| SIS12VA   | 4.5-5.5Vdc   | 1.5Vdc @ 12A | 80 | 96037906     | £21.68 |
| SIS12VY   | 4.5-5.5Vdc   | 1.2Vdc @ 12A | 77 | 96037907     | £21.68 |
| SIS12XE   | 10.8-13.2Vdc | 3.3Vdc @ 12A | 88 | 96037908     | £21.68 |
| SIS12XD   | 10.8-13.2Vdc | 2.5Vdc @ 12A | 86 | 96037909     | £21.68 |
| SIS12X2.1 | 10.8-13.2Vdc | 2.1Vdc @ 12A | 84 | 96037910     | £21.68 |
| SIS12XB   | 10.8-13.2Vdc | 1.8Vdc @ 12A | 81 | 96037911     | £21.68 |
| SIS12XA   | 10.8-13.2Vdc | 1.5Vdc @ 12A | 78 | 96037912     | £21.68 |

# Mechanical Drawing *Dimensions shown in inches (millimeters)*



(a). Horizontal Mount Option



(b). Vertical Mount Standard



## DATA SHEET

● Sales 01273 570 220 ● Help Lines 01273 608 331 ● Fax 01273 570 215

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