



# SUPERWORLD ELECTRONICS

## SW3R WSM Series – 3W Wide Input Single & Dual SMD DC-DC Converter



RoHS Compliant



### FEATURES

- Industry std 24-pin SMD package
- Wide Input Ranges 18-36 & 36-75 Vdc
- Single & Dual 1500Vdc Isolated Outputs
- Operating Temp Range -40°C to 100°C
- High Efficiencies to 85%
- Continuous Short Circuit Protection
- Undervoltage Lock-out
- Metal Casing
- 2 Year Warranty
- Internal Input and Output Filtering

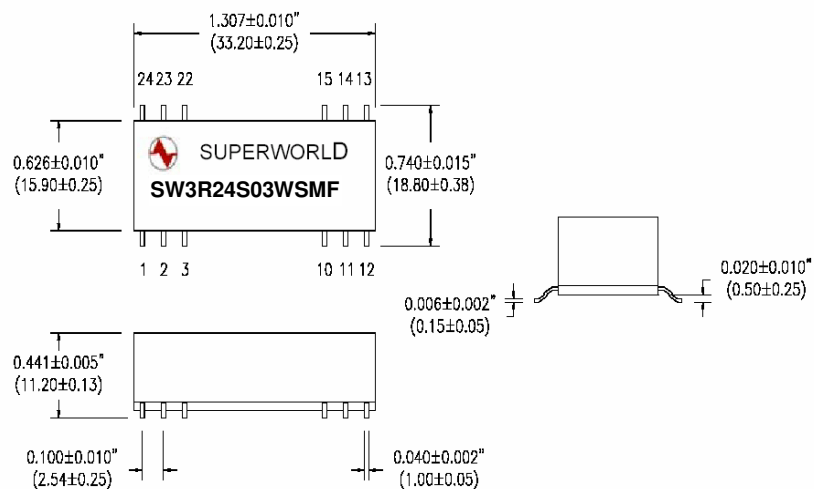
| SW3R WSM PRODUCT RANGE |           |            |           |             |          |
|------------------------|-----------|------------|-----------|-------------|----------|
| Model                  | Vin (Vdc) | Vout (Vdc) | Iout (mA) | Iin (rated) | Eff. (%) |
| SW3R24S03WSMF          | 18-36     | 3.3        | 909       | 165         | 76       |
| SW3R24S05WSMF          | 18-36     | 5          | 600       | 150         | 80       |
| SW3R24S09WSMF          | 18-36     | 9          | 333       | 150         | 82       |
| SW3R24S12WSMF          | 18-36     | 12         | 250       | 150         | 83       |
| SW3R24S15WSMF          | 18-36     | 15         | 200       | 135         | 85       |
| SW3R24D03WSMF          | 18-36     | ± 3.3      | ± 454     | 83          | 74       |
| SW3R24D05WSMF          | 18-36     | ± 5        | ± 300     | 75          | 78       |
| SW3R24D09WSMF          | 18-36     | ± 9        | ± 167     | 75          | 80       |
| SW3R24D12WSMF          | 18-36     | ± 12       | ± 125     | 75          | 82       |
| SW3R24D15WSMF          | 18-36     | ± 15       | ± 100     | 68          | 84       |
| SW3R48S03WSMF          | 36-75     | 3.3        | 909       | 165         | 76       |
| SW3R48S05WSMF          | 36-75     | 5          | 600       | 150         | 80       |
| SW3R48S09WSMF          | 36-75     | 9          | 333       | 150         | 82       |
| SW3R48S12WSMF          | 36-75     | 12         | 250       | 150         | 83       |
| SW3R48S15WSMF          | 36-75     | 15         | 200       | 135         | 85       |
| SW3R48D03WSMF          | 36-75     | ± 3.3      | ± 454     | 83          | 74       |
| SW3R48D05WSMF          | 36-75     | ± 5        | ± 300     | 75          | 78       |
| SW3R48D09WSMF          | 36-75     | ± 9        | ± 167     | 75          | 80       |
| SW3R48D12WSMF          | 36-75     | ± 12       | ± 125     | 75          | 82       |
| SW3R48D15WSMF          | 36-75     | ± 15       | ± 100     | 68          | 84       |

### DESCRIPTION

The SW3R WSM Series is a 1500Vdc isolated range of single and dual output 3W DC-DC converters, designed with a 2:1 input voltage range and ideal for use in a whole variety of telecoms, industrial and distributed power applications. In an industry standard surface mount packages (33 x 16 x 11 mm), the SW3R WSM is fully encapsulated in a non-flammable plastic case (meeting UL 94V-0) and is designed to meet EN60950 and UL1950 safety standards. Continuous SC protection and UVLO are some of the many SW3R WSM features.

### MECHANICAL SPECIFICATION

| Pin | Singles | Dual   |
|-----|---------|--------|
| 1   | -Vin    | -Vin   |
| 2   | -Vin    | -Vin   |
| 3   | NC      | NC     |
| 10  | -Vout   | Common |
| 11  | NC      | NC     |
| 12  | -Vou    | -Vout  |
| 13  | +Vout   | +Vout  |
| 14  | NC      | NC     |
| 15  | -Vout   | Common |
| 22  | NC      | NC     |
| 23  | +Vin    | +Vin   |
| 24  | +Vin    | +Vin   |



| SW3R WSM INPUT SPECIFICATIONS   |            |      |         |      |       |
|---------------------------------|------------|------|---------|------|-------|
| PARAMETER                       | CONDITIONS | MIN  | TYPICAL | MAX  | UNITS |
| Input Current (No Load)         | All models |      | 20      |      | mA    |
| Voltage Range                   | SW3R24     | 18   | 24      | 36   | Vdc   |
|                                 | SW3R48     | 36   | 48      | 75   |       |
| Transient Input Voltage (1msec) | SW3R24     |      |         | 50   | Vdc   |
|                                 | SW3R48     |      |         | 100  |       |
| Undervoltage Lockout (SW3R24)   | On         | 16   |         | 17.5 | Vdc   |
|                                 | Off        |      |         |      |       |
| Undervoltage Lockout (SW3R48)   | On         | 32.5 |         | 34.5 |       |
|                                 | Off        |      |         |      |       |
| Reflected Ripple Current        |            |      | 35      |      | mAp-p |

| SW3R WSM OUTPUT SPECIFICATIONS |                          |         |         |     |        |
|--------------------------------|--------------------------|---------|---------|-----|--------|
| PARAMETER                      | CONDITIONS               | MIN     | TYPICAL | MAX | UNITS  |
| Rated Power                    | All models               |         |         | 3.0 | W      |
| Voltage Setpoint Accuracy      |                          |         |         | ± 5 | %      |
| Line Regulation                | 1% change in Vin         |         | ± 0.5   | ± 2 | %      |
| Load Regulation                | (10% load to rated load) |         | ± 1     | ± 3 | %      |
| Ripple & Noise                 | BW = DC to 20MHz         |         |         | 1%  | p-p    |
| Current Limit                  | 120% x Iout              |         |         | 3.6 | W      |
| Output Overvoltage Clamp       |                          |         |         | 120 | % Vout |
| Temperature Coefficient        |                          | ± 0.008 |         |     | %/°C   |
| Short Circuit Protection       |                          |         |         | 1   | second |

| SW3R WSM GENERAL CHARACTERISTICS |                        |      |         |     |       |
|----------------------------------|------------------------|------|---------|-----|-------|
| PARAMETER                        | CONDITIONS             | MIN  | TYPICAL | MAX | UNITS |
| Temperature                      | Temperature (Ambient)  | -25  |         | 70  | °C    |
|                                  | Temperature (Case)     | -40  |         | 100 | °C    |
|                                  | Storage                | -40  |         | 100 | °C    |
| Isolation                        | Isolation Test Voltage | 1500 |         |     | Vdc   |
|                                  | Resistance             | 10   |         |     | GΩ    |
|                                  | Capacitance            |      | 20      |     | pF    |
|                                  | Leakage Current        |      | 20      |     | μArms |
| Switching Frequency              |                        |      | 150     |     | kHz   |
| MTTF (Ta = 25 °C)                | MIL-HDBK-217E          |      | 450000  |     | hrs   |
| Weight                           |                        |      |         | 20  | g     |

Refer to Medium Power Application Note 1 for additional Performance Curves & Data

### Superworld Electronics (S) Pte Ltd

16 New Industrial Road #06-01 to 08 Hudson TechnoCentre Singapore 536204

Tel : (65) 6298 2866

Fax : (65) 6298 8900

Email : [sales@superworld.com.sg](mailto:sales@superworld.com.sg)