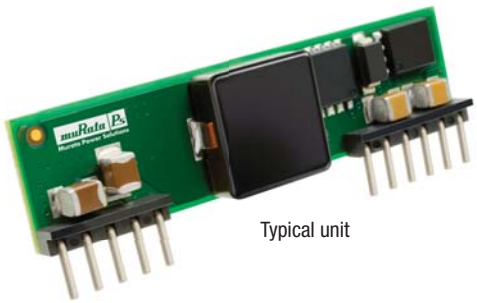
Murata Power Solutions

# Okami™ OKX T/10 & T/16-W5 Series

## Adjustable DOSA 10/16-Amp SIP DC/DC Converters



Typical unit

## FEATURES

- Non-isolated SIP POL DC/DC power module
- 2.4-5.5Vdc input voltage range
- Programmable output voltage from 0.7525-3.63Vdc
- 10 Amp (T/10) or 16 Amp (T/16) output current models
- Drives 1000 µF ceramic capacitive loads
- High power conversion efficiency 95% at 3.3 Vout
- Outstanding thermal derating performance
- Over temperature and over current protection
- On/Off control, Sense and optional Sequence/ Tracking input
- UL/EN/IEC 60950-1 safety
- Industry-standard (DOSA) SIP format
- RoHS-6 hazardous substance compliance

## PRODUCT OVERVIEW

The OKX-T/10 and -T/16 series are miniature SIP non-isolated Point-of-Load (POL) DC/DC power converters for embedded applications. The module is fully compatible with Distributed-power Open Standards Alliance (DOSA) industry-standard specifications (www.dosapower.com). Applications include powering CPU's, datacom/telecom systems, programmable logic and mixed voltage systems.

The wide input range is 2.4 to 5.5 Volts DC. Two maximum output currents are offered, 10 Amps (T/10 models) or 16 Amps (T/16 models). Based on fixed-frequency synchronous buck converter switching topology, the high power conversion efficient Point of Load (POL) module features programmable output voltage and On/Off control. An optional Sequence/Tracking input allows controlled ramp-up and ramp-down outputs. The Sense input provides load compensation. These converters also include under voltage lock out (UVLO), output short circuit protection, over-current and over temperature protections.

These units are designed to meet all standard UL/EN/IEC 60950-1 safety certifications and RoHS-6 hazardous substance compliance.

**Connection Diagram**

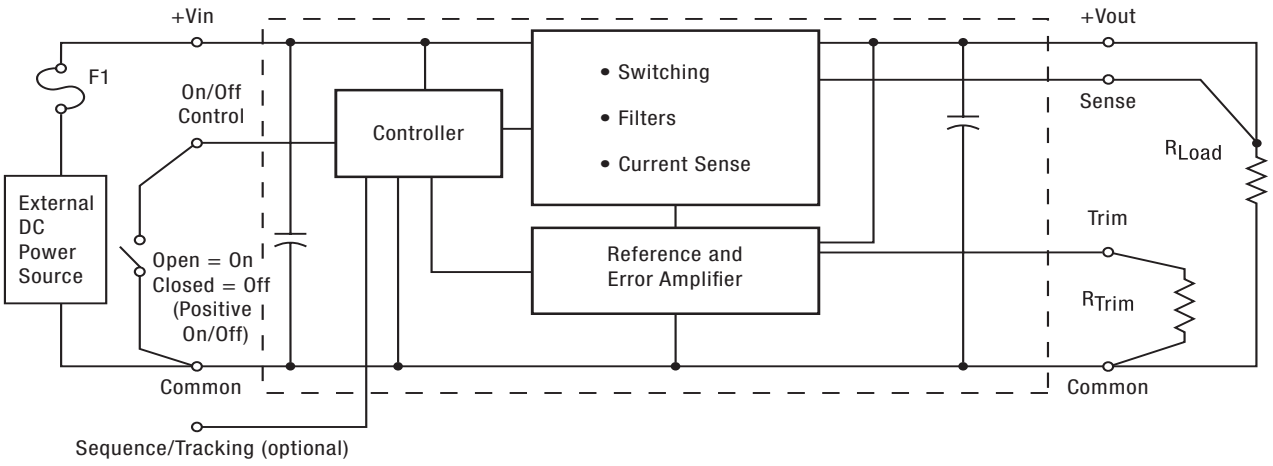



**Figure 1. OKX2-T/10, -T/16**

Note: Murata Power Solutions strongly recommends an external input fuse, F1. See specifications.

RoHS COMPLIANT

For full details go to www.murata-ps.com/rohs

DOSA Distributed-power Open Standards Alliance

## PERFORMANCE SPECIFICATIONS SUMMARY AND ORDERING GUIDE

| Model Number ② | Output | | | | | | Input | | | | Efficiency | | On/Off Logic | Sequence/ Tracking | Package C86, Pinout P84 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VOUT (Volts) | IOUT (Amps max) | Power (Watts) | R/N (mVp-p) Max. ④ | Regulation (Max.) Line | Regulation (Max.) Load | Vin Nom. (Volts) | Range (Volts) ① | Iin, no load (mA) | Iin, full load (Amps) | Min. | Typ. | | | Case Dimensions are in inches (mm) |
| OKX-T/10-W5P-C | 0.7525-3.63 | 10 | 33 | 25 | ±0.2% | ±0.5% | 5 | 2.4-5.5 | 80 | 6.91 | 94.0% | 95.5% | Pos. | no | 2.0x0.5x0.37 (50.8x12.7x9.4) |
| OKX-T/10-W5N-C | 0.7525-3.63 | 10 | | | | | 5 | 2.4-5.5 | | | | | Neg. | no | 2.0x0.5x0.37 (50.8x12.7x9.4) |
| OKX2-T/10-W5P-C | 0.7525-3.63 | 10 | | | | | 5 | 2.4-5.5 | | | | | Pos. | yes | 2.0x0.5x0.37 (50.8x12.7x9.4) |
| OKX2-T/10-W5N-C | 0.7525-3.63 | 10 | | | | | 5 | 2.4-5.5 | | | | | Neg | yes | 2.0x0.5x0.37 (50.8x12.7x9.4) |
| OKX-T/16-W5P-C | 0.7525-3.63 | 16 | 52.8 | 30 | ±0.3% | | 5 | 2.4-5.5 | | 11.12 | 93.0% | 95.0% | Pos. | no | 2.0x0.5x0.37 (50.8x12.7x9.4) |
| OKX-T/16-W5N-C | 0.7525-3.63 | 16 | | | | | 5 | 2.4-5.5 | | | | | Neg. | no | 2.0x0.5x0.37 (50.8x12.7x9.4) |
| OKX2-T/16-W5P-C | 0.7525-3.63 | 16 | | | | | 5 | 2.4-5.5 | | | | | Pos. | yes | 2.0x0.5x0.37 (50.8x12.7x9.4) |
| OKX2-T/16-W5N-C | 0.7525-3.63 | 16 | | | | | 5 | 2.4-5.5 | | | | | Neg. | yes | 2.0x0.5x0.37 (50.8x12.7x9.4) |

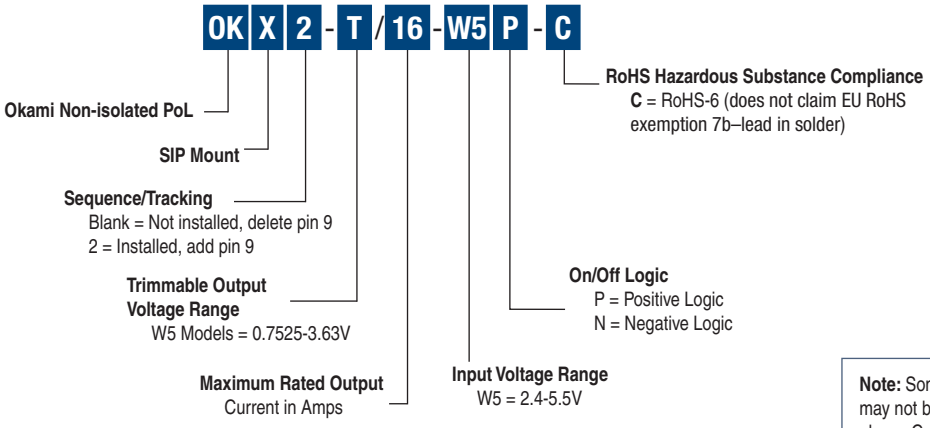
① The input voltage range must be 0.5V greater than the output voltage.

② All specifications are at nominal line voltage, Vout=nominal (3.3V for W5 models) and full load, +25 deg.C. unless otherwise noted.
Output capacitors are 1 µF ceramic and 10 µF electrolytic in parallel. Input cap is 22 µF. See detailed specifications. I/O caps are necessary for our test equipment and may not be needed for your application.

③ Use adequate ground plane and copper thickness adjacent to the converter.

④ Ripple and Noise (R/N) is shown at Vout=1V. See specs for details.

## PART NUMBER STRUCTURE




**Note:** Some model number combinations may not be available. See Ordering Guide above. Contact Murata Power Solutions for availability.