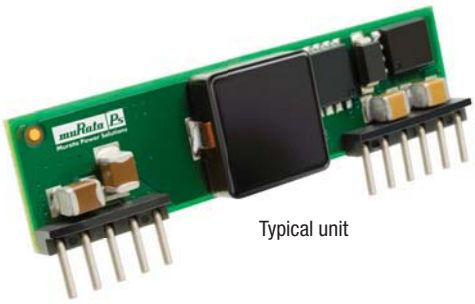
Murata Power Solutions

Okami™ OKX T/10 & T/16-W5 Series

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



Typical unit

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.

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

Contents of full data sheet

Connection Diagram

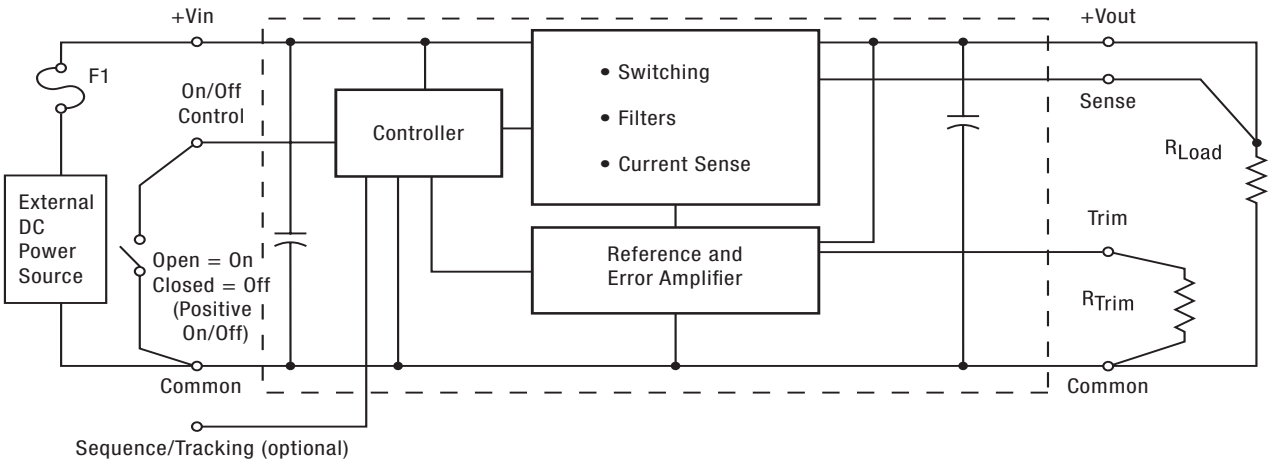


Figure 1. OKX2-T/10, -T/16

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

RoHS COMPLIANT 2002/95/EC

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

c UL us

DOSA Distributed-power Open Standards Alliance

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Performance Specifications and Ordering Guide

ORDERING GUIDE

Model Number ②	Output						Input				Efficiency		On/Off Polarity	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)

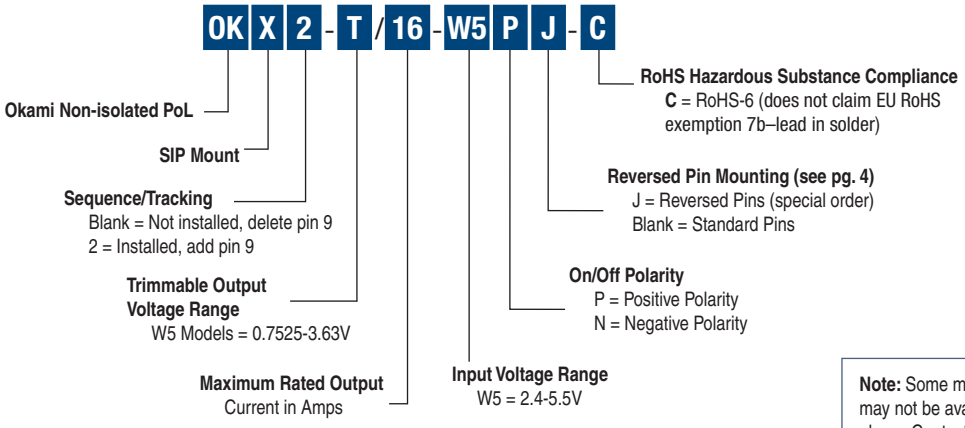
① The input voltage range must be 0.5V greater than the output voltage.

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.

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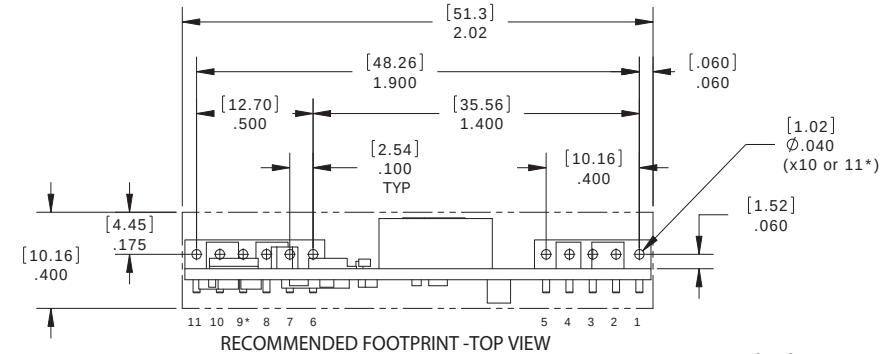
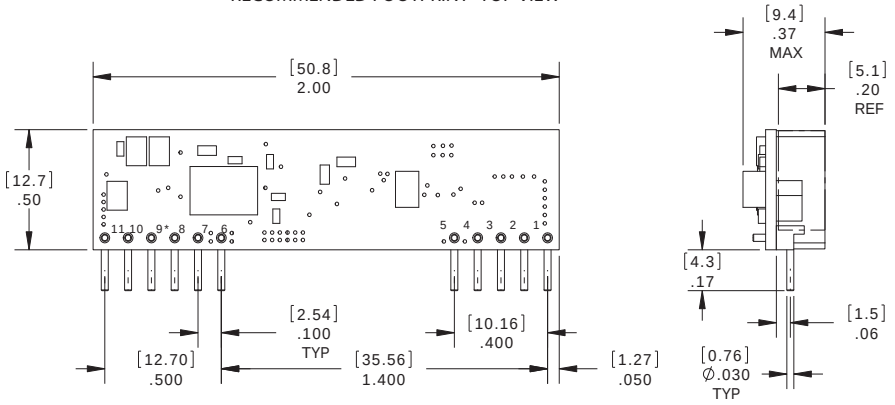
MECHANICAL SPECIFICATIONS, STANDARD MODELS



RECOMMENDED FOOTPRINT -TOP VIEW



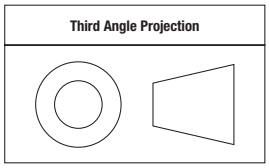
MATERIAL:
PINS: COPPER ALLOY

FINISH: (ALL PINS)
PINS: TIN

I/O CONNECTIONS			
Pin	**Function**	**Pin**	**Function**
1	+ Output	6	Common
2	+ Output	7	+ Input
3	+Sense In	8	+ Input
4	+ Output	9*	*Sequence/Tracking
5	Common	10	Trim
		11	On/Off Control

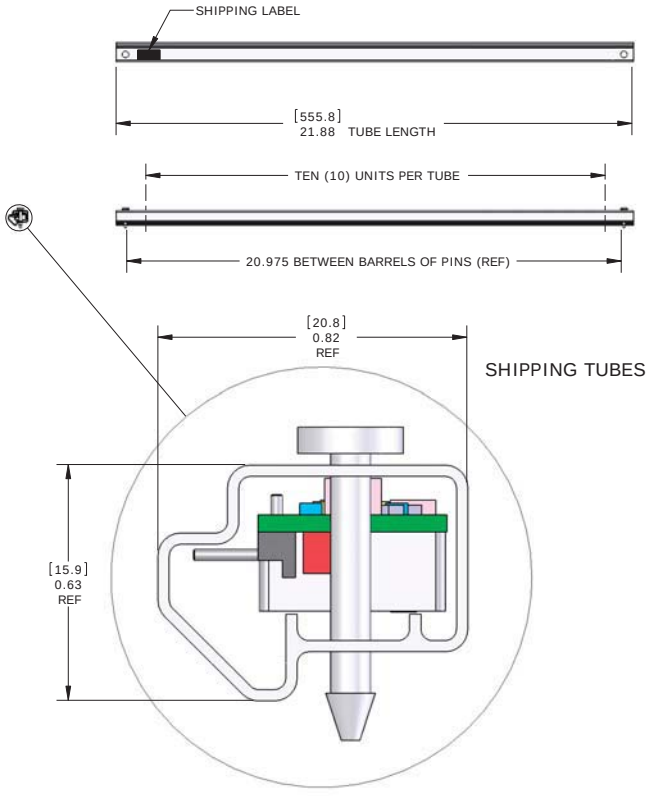
*Sequence/Tracking is optional. If not installed, Pin 9 is omitted.

Dimensions are in inches (mm shown for ref. only).

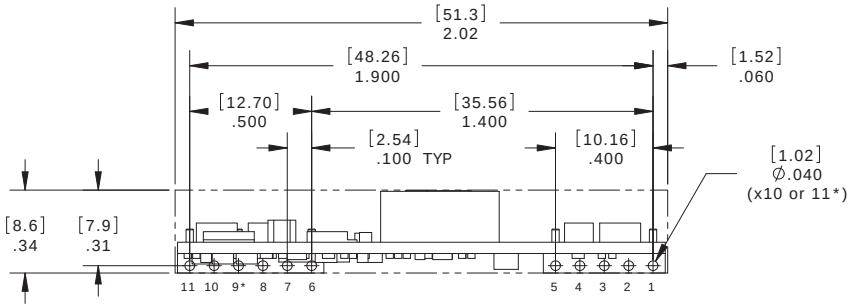


Tolerances (unless otherwise specified):
.XX ± 0.02 (0.5)
.XXX ± 0.010 (0.25)
Angles ± 1˚

Components are shown for reference only.



MECHANICAL SPECIFICATIONS, CONTINUED: "J" PACKAGE OPTION (REVERSED HEADERS)



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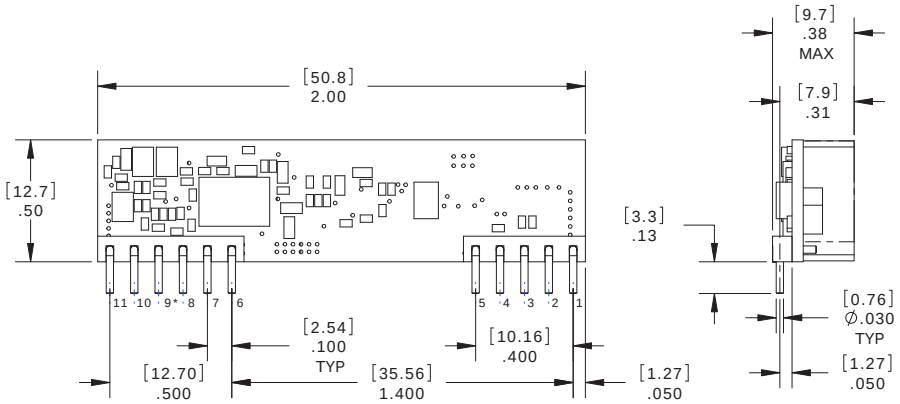
4	+ Output	9*	*Sequence/Tracking
5	Common	10	Trim
		11	On/Off Control

*Sequence/Tracking is standard for OKX2. On OKX models, Pin 9 is omitted.



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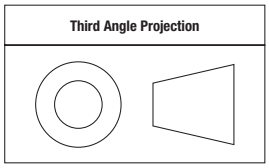

Tolerances (unless otherwise specified):
.XX ± 0.02 (0.5)
.XXX ± 0.010 (0.25)
Angles ± 1°

Components are shown for reference only.

MATERIAL:
PINS: COPPER ALLOY

FINISH: (ALL PINS)
PINS: TIN

Murata Power Solutions, Inc.
11 Cabot Boulevard, Mansfield, MA 02048-1151 U.S.A.
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