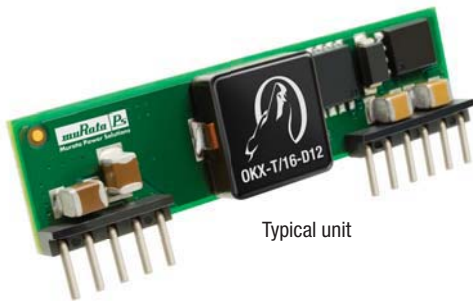




# Okami™ OKX T/10 & T/16-D12 Series

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



### 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](http://www.dosapower.com)). Applications include powering CPU's, datacom/telecom systems, distributed bus architectures (DBA), programmable logic and mixed voltage systems.

The wide input range is 8.3 to 14 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/Track 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 and FCC EMI/RFI emissions certifications and RoHS-6 hazardous substance compliance.

### FEATURES

- Non-isolated SIP POL DC/DC power module
- 8.3-14Vdc input voltage range
- Programmable output voltage from 0.7525-5.5Vdc
- 10 Amp (T/10) or 16 Amp (T/16) output current models
- Drives 1000 µF ceramic capacitive loads
- High power conversion efficiency 94.5% at 3.3 Vout
- Outstanding thermal derating performance
- Over temperature and over current protection
- On/Off control, Sense and optional Sequence/Track input
- UL/EN/IEC 60950-1 safety
- Industry-standard (DOSA) SIP format
- RoHS-6 hazardous substance compliance

#### Contents of full data sheet

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### Connection Diagram

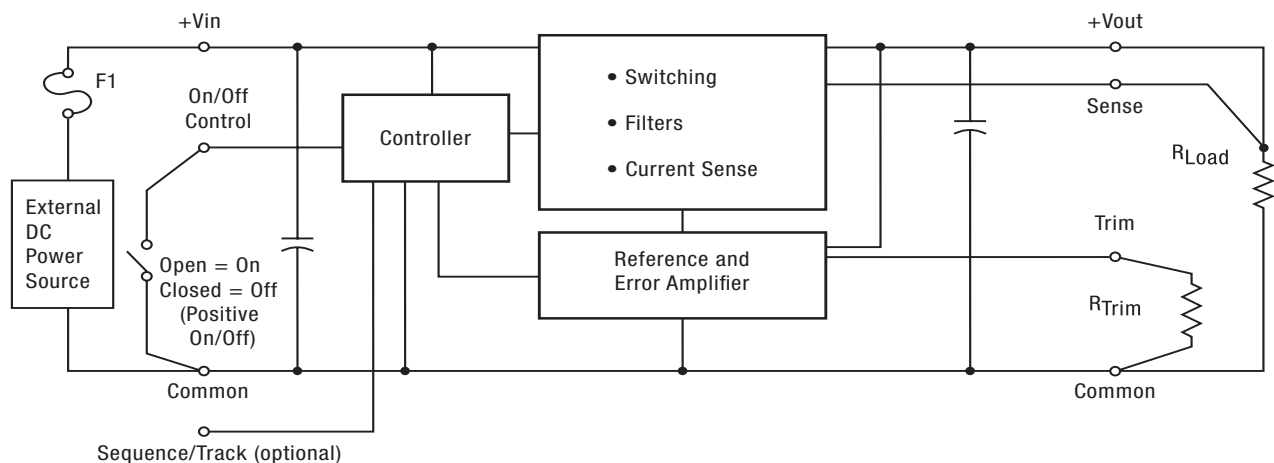


Figure 1. OKX2-T/10, -T/16

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



[www.murata-ps.com](http://www.murata-ps.com)

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**Performance Specifications and Ordering Guide**

ORDERING GUIDE															
Model Number ②	Output						Input				Efficiency		On/Off Polarity	Sequence/Track	Package C83, Pinout P83
	Vout (Volts)	Iout (Amps max)	Power (Watts)	R/N (mVp-p) Max. ④	Regulation (Max.)		Vin Nom. (Volts)	Range (Volts) ①	Iin, no load (mA)	Iin, full load (Amps)	Min.	Typ.			Case Dimensions are in inches (mm)
					Line	Load									
OKX-T/10-D12P-C	0.7525-5.5	10	50	40	±0.15%	±0.25%	12	8.3-14	80	4.41	93%	94.5%	Pos.	no	
OKX-T/10-D12N-C	0.7525-5.5	10	50	40	±0.15%	±0.25%	12	8.3-14	80	4.41	93%	94.5%	Neg.	no	2.0x0.5x0.37 (50.8x12.7x9.4)
OKX2-T/10-D12P-C	0.7525-5.5	10	50	40	±0.15%	±0.25%	12	8.3-14	80	4.41	93%	94.5%	Pos.	yes	2.0x0.5x0.37 (50.8x12.7x9.4)
OKX2-T/10-D12N-C	0.7525-5.5	10	50	40	±0.15%	±0.25%	12	8.3-14	80	4.41	93%	94.5%	Neg.	yes	2.0x0.5x0.37 (50.8x12.7x9.4)
OKX-T/16-D12P-C	0.7525-5.5	16	80	40	±0.15%	±0.25%	12	8.3-14	80	7.09	92.5%	94%	Pos.	no	2.0x0.5x0.37 (50.8x12.7x9.4)
OKX-T/16-D12N-C	0.7525-5.5	16	80	40	±0.15%	±0.25%	12	8.3-14	80	7.09	92.5%	94%	Neg.	no	2.0x0.5x0.37 (50.8x12.7x9.4)
OKX2-T/16-D12P-C	0.7525-5.5	16	80	40	±0.15%	±0.25%	12	8.3-14	80	7.09	92.5%	94%	Pos.	yes	2.0x0.5x0.37 (50.8x12.7x9.4)
OKX2-T/16-D12N-C	0.7525-5.5	16	80	40	±0.15%	±0.25%	12	8.3-14	80	7.09	92.5%	94%	Neg.	yes	2.0x0.5x0.37 (50.8x12.7x9.4)

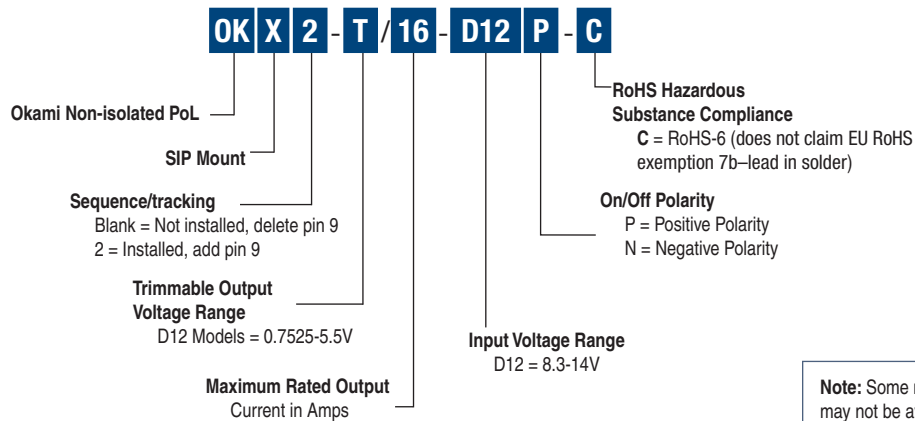
① The input voltage range must be 13.2 Volts max. for Vout >= 3.63 V.

② All specifications are at nominal line voltage, Vout=nominal (5V for D12 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.

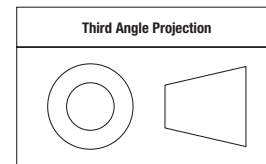
**MECHANICAL SPECIFICATIONS**

**I/O CONNECTIONS**

Pin	Function	Pin	Function
1	+ Output	6	Common
2	+ Output	7	+ Input
3	+Sense In	8	+ Input
4	+ Output	9*	*Vtrack Seq
5	Common	10	Trim
		11	On/Off Control

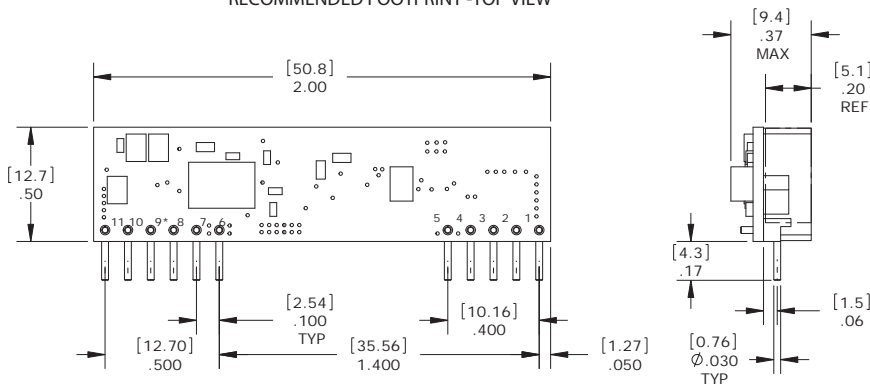
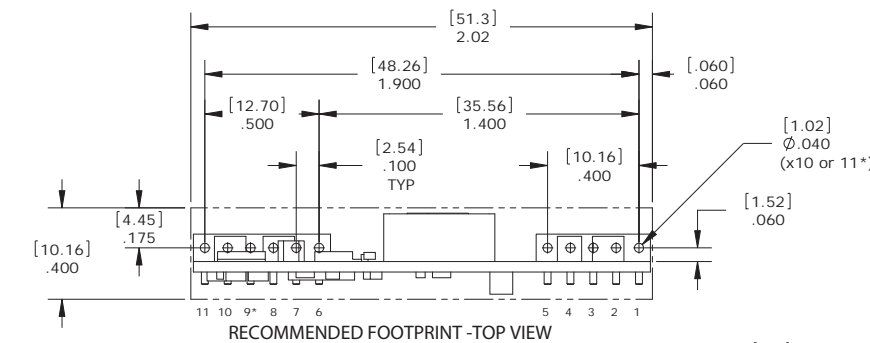
\*Vtrack Seq is optional. If not installed, Pin 9 is omitted.

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

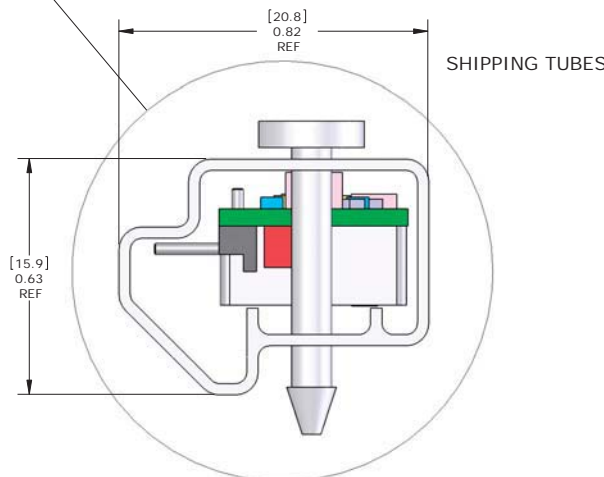
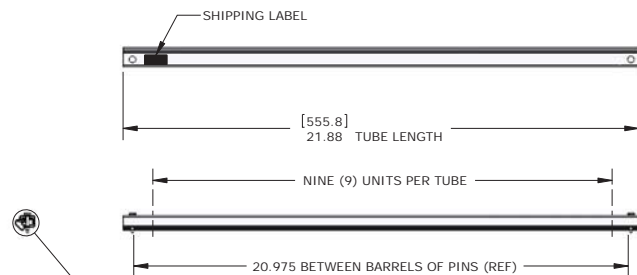


Tolerances (unless otherwise specified):  
 .XX ± 0.02 (0.5)  
 .XXX ± 0.010 (0.25)  
 Angles ± 1°

Components are shown for reference only.

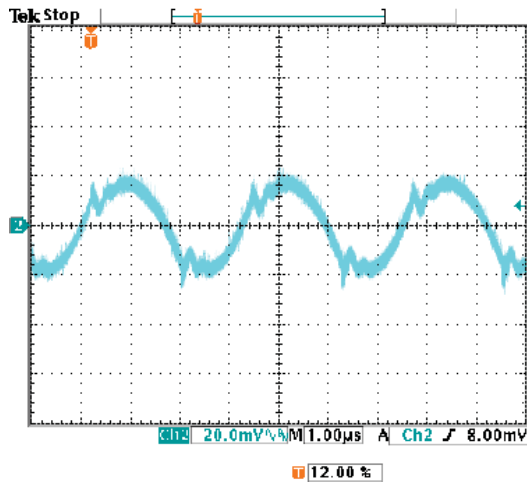


MATERIAL:  
 PINS: COPPER ALLOY  
 FINISH: (ALL PINS)  
 PINS: TIN

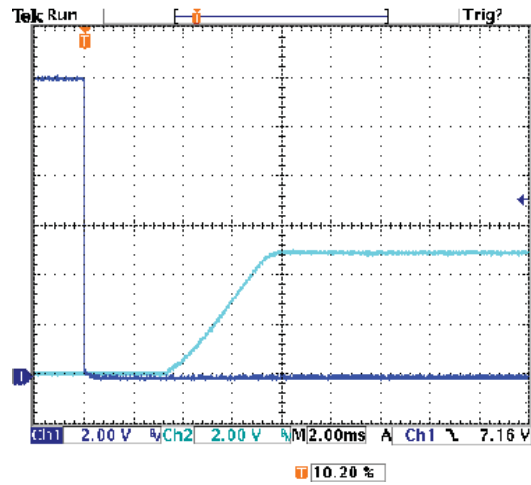


**PERFORMANCE DATA**

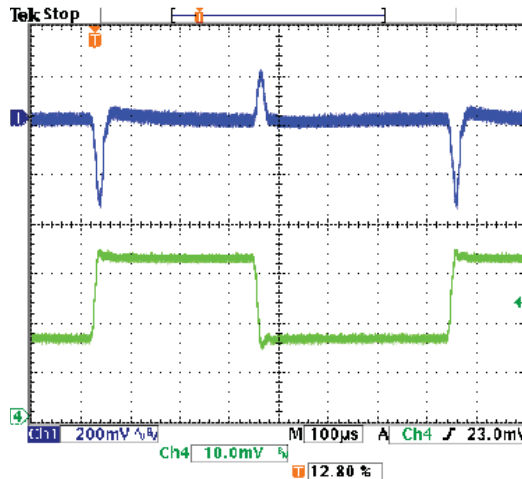
OKX2-T/16-D12 Output Ripple and Noise (Vin=12V, Vout=5V, Iout=16A, Cin=1000µF, Cload=1µF // 10µF, ScopeBW=100MHz)



OKX2-T/16-D12-C On/Off Enable Startup Delay (Vin=12V, Vout=5V, Iout=16A, Cin=1000µF, Cload=1µF // 10µF) Trace 1=Enable In, Trace 2=Vout



OKX2-T/16-D12 Step Load Transient Response (Vin=12V, Vout=5V, Cin=1000µF, Cload=0, Iout=8A to 16A to 8A) Trace1=Vout, 200 mV/div., Trace4=Iout, 5A/div.



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