

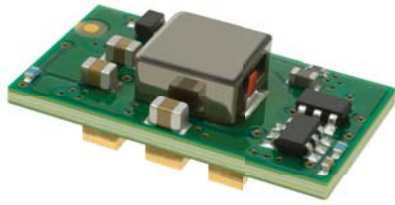
PRODUCT OVERVIEW

The OKY-T/3 and -T/5 series are miniature non-isolated Point-of-Load (POL) switch mode 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, 3 Amps (T/3 models) or 5 Amps (T/5 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. 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.



Typical unit

FEATURES

- Non-isolated SMT POL DC/DC power module
- 2.4-5.5Vdc input voltage range
- Programmable output voltage from 0.7525-3.63Vdc
- 3 Amp (T/3) or 5 Amp (T/5) output current models
- Drives 1000 μ F ceramic capacitive loads
- High power conversion efficiency at 96%
- Outstanding thermal derating performance
- Over temperature and over current protection
- On/Off control
- UL/EN/IEC 60950-1 safety
- Industry-standard (DOSA) surface-mount package
- RoHS-6 hazardous substance compliance

Contents

	Page
Description, Connection Diagram, Photograph	1
Ordering Guide, Model Numbering, Product Label	2
Mechanical Specifications, Input/Output Pinout	3
Detailed Electrical Specifications	4
Output Voltage Adjustment, Soldering Guidelines	5
Technical Notes	6
OKY-T/3-W5 Performance Data and Oscillograms	9
OKY-T/5-W5 Performance Data and Oscillograms	13
Tape and Reel Information	19

Connection Diagram

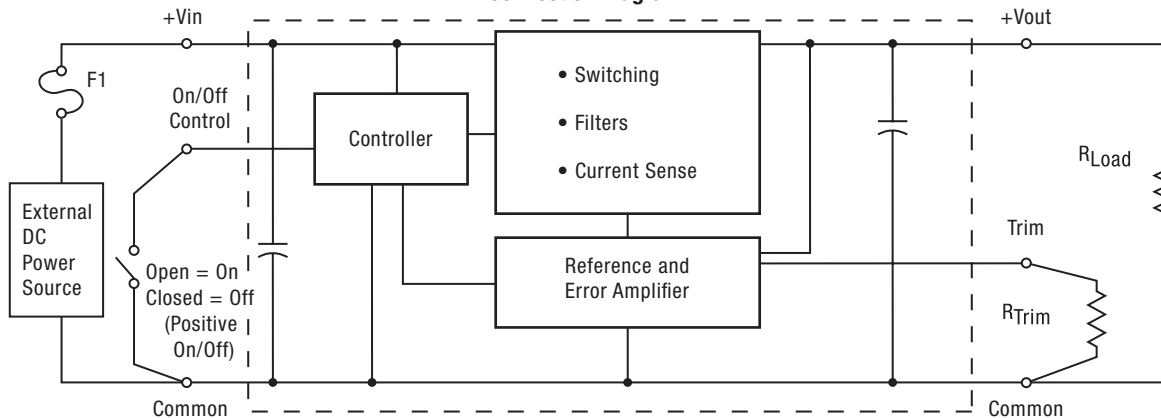


Figure 1. OKY-T/3, -T/5

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



Performance Specifications Summary and Ordering Guide

ORDERING GUIDE														
Root Model ②	Output						Input				Efficiency		Package	
	V _{OUT} (Volts)	I _{OUT} (Amps max)	Power (Watts)	R/N (mVp-p)⑤	Regulation (Max.)③		V _{IN} Nom. (Volts)	Range (Volts) ④	I _{IN} , no load (mA)	I _{IN} , full load (Amps)	Min.	Typ.	Case C72 ①	Pinout
				Max.	Line	Load								
OKY-T/3-W5N-C	0.7525-3.63	3	9.9	20	±0.2%	±1.5%	5	2.4-5.5	45	2.1	92%	94.4%	0.47 x 0.82 x 0.28 (11.9 x 20.8 x 7.0)	P78
OKY-T/3-W5P-C	0.7525-3.63	3	9.9	20	±0.2%	±1.5%	5	2.4-5.5	45	2.1	92%	94.4%	0.47 x 0.82 x 0.28 (11.9 x 20.8 x 7.0)	P78
OKY-T/5-W5N-C	0.7525-3.63	5	16.5	20	±0.2%	±1%	5	2.4-5.5	35	3.5	92%	96%	0.47 x 0.82 x 0.28 (11.9 x 20.8 x 7.0)	P78
OKY-T/5-W5P-C	0.7525-3.63	5	16.5	20	±0.2%	±1%	5	2.4-5.5	35	3.5	92%	96%	0.47 x 0.82 x 0.28 (11.9 x 20.8 x 7.0)	P78

① Dimensions are in inches (mm).

② These are partial model numbers. Please refer to the part number structure for complete ordering part numbers.

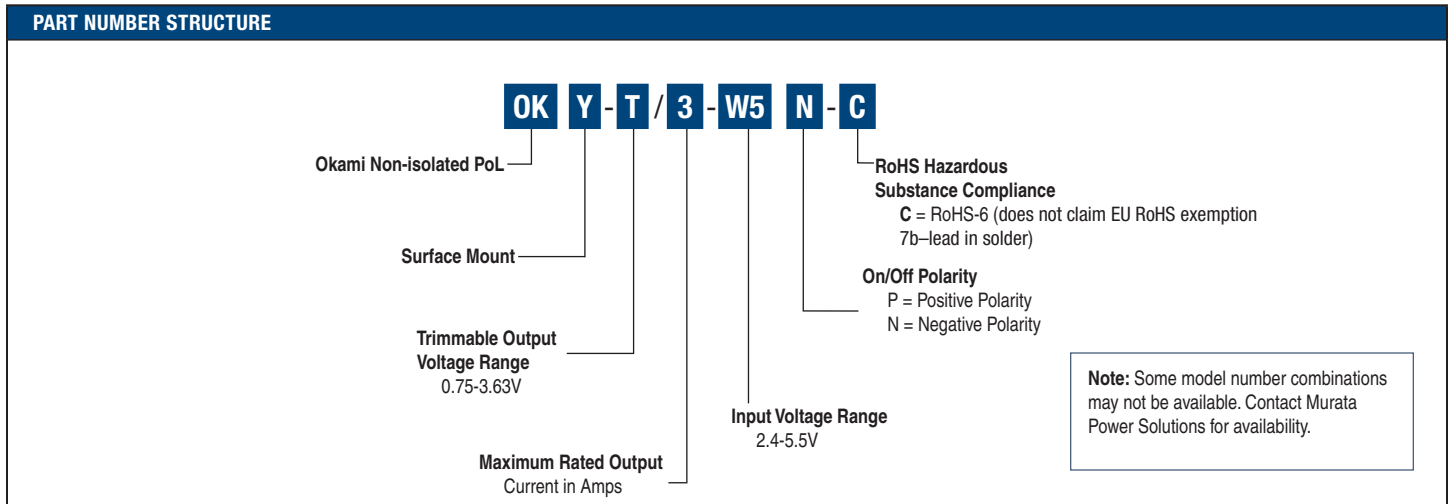
③ All specifications are at nominal line voltage, V_{OUT}=nominal (3.3V) and full load, +25 °C, unless otherwise noted.

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.

④ V_{IN} must be 0.5V or higher than V_{OUT}.

⑤ Ripple and Noise is shown at V_{OUT}=1V.



Product Label

Because of the small size of these products, the product label contains a character-reduced code to indicate the model number and manufacturing date code. Not all items on the label are always used. Please note that the label differs from the product photograph on page 1. Here is the layout of the label:

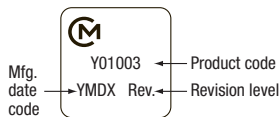


Figure 2. Label Artwork Layout

The label contains three rows of information:

- First row – Murata Power Solutions logo
- Second row – Model number product code (see table)
- Third row – Manufacturing date code and revision level

Model Number	Product Code
OKY-T/3-W5N-C	Y00003
OKY-T/3-W5P-C	Y01003
OKY-T/5-W5N-C	Y00005
OKY-T/5-W5P-C	Y01005

The manufacturing date code is four characters:

- First character – Last digit of manufacturing year, example 2009
- Second character – Month code (1 through 9 and 0 through D)
- Third character – Day code (1 through 9 = 1 to 9, 10 = 0 and 11 through 31 = A through Z)
- Fourth character – Manufacturing information