

Typical unit

## FEATURES

- 600 KHz operation
- 4.5-14 Vdc input voltage range
- Programmable output voltage from 0.591-6.0 VDC
- Drives up to 200  $\mu$ F ceramic capacitive loads
- High power conversion efficiency at 92%
- Outstanding thermal derating performance
- Over temperature and over current protection
- On/Off control
- SIP, 0.41 x 0.65 x 0.3 inches (10.4 x 16.5 x 7.62 mm).
- Meets UL/EN/IEC 60950-1 safety certification
- RoHS-6 hazardous substance compliance

## PRODUCT OVERVIEW

The OKR-T/10 series are SIP non-isolated Point-of-Load (PoL) DC/DC power converters measuring only 0.41 x 0.65 x 0.3 inches (10.4 x 16.5 x 7.62 mm). The wide input range is 4.5 to 14 Volts DC. Based on 600 KHz synchronous buck topology, the high power conversion efficient Point of Load (PoL) module features programmable output voltage and On/Off control, under voltage lock out (UVLO), overcurrent and over temperature protections. These units meet all standard UL/EN/ IEC 60950-1 safety certifications and RoHS-6 hazardous substance compliance.

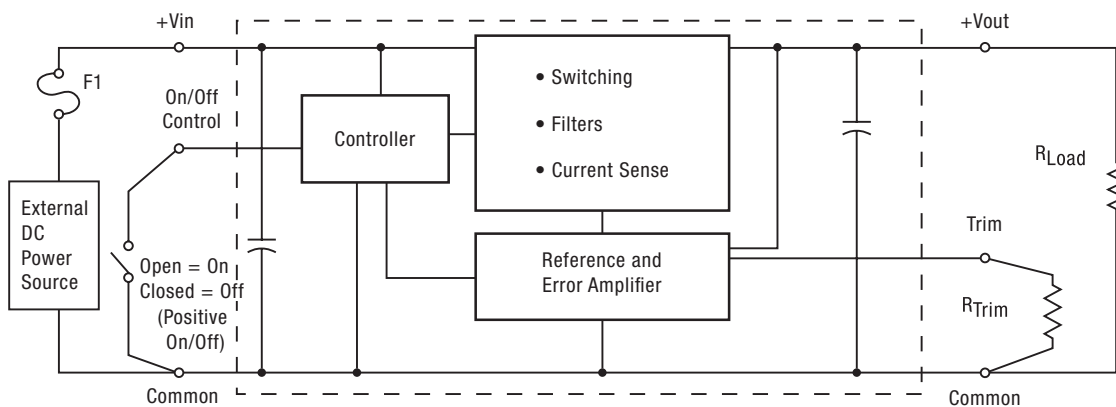


Figure 1. Simplified Block Diagram

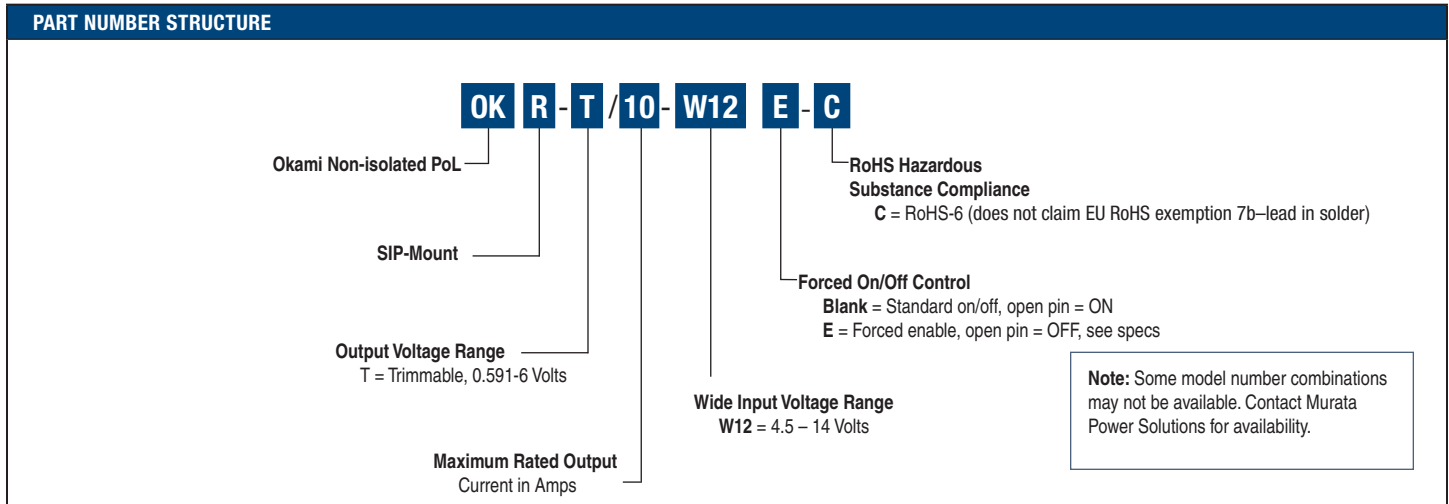


**Performance Specifications Summary and Ordering Guide**

ORDERING GUIDE														
Root Model	Output						Input				Efficiency		Package	
	V <sub>OUT</sub> (Volts)	I <sub>OUT</sub> (Amps max)	Power (Watts)	R/N (mVp-p)	Regulation (Max.)		V <sub>IN</sub> Nom. (Volts)	Range (Volts)	I <sub>IN</sub> , no load (mA)	I <sub>IN</sub> , full load (Amps)	Min.	Typ.	Case	Pinout
				Max.	Line	Load								
OKR-T/10-W12-C	0.591-6	10	50	30	±0.3%	±0.75%	12	4.5-14	80	4.53	90.5%	92%	C90	P73

- ① For V<sub>out</sub> ≥ 3.3V, V<sub>in</sub> should be ≥ (V<sub>out</sub> ÷ 0.85) + 0.5V.
- ② Ripple and Noise is shown at V<sub>out</sub>=1V. See specs for details.
- ③ All specifications are at nominal line voltage, V<sub>out</sub>= 5V 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.



**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:

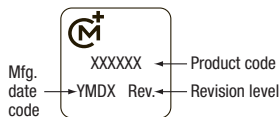


Figure 2. Label Artwork Layout

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
OKR-T/10-W12-C	R01110
OKR-T/10-W12E-C	R01110E

The manufacturing date code is four characters:

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