



UWR Models

Single Output, High-Density,
6 Amp/15 Watt DC/DC Converters



Typical units

FEATURES

- 1.2-2.5V_{OUT} models source 6 Amps
- 3.3V_{OUT} models source 4.25 Amps
- 5/12/15V_{OUT} models deliver full 15 Watts
- Synchronous-rectifier topologies
- Guaranteed efficiencies to 88%
- Choice of 3 input voltage ranges:
10-18V, 18-36V, 36-75V
- -40 to +60/70°C ambient w/o derating
- Fully isolated (1500Vdc); I/O protected
- Designed to meet UL1950/EN60950-1 certification
- CE mark (75V_{IN} models)
- Standard 1" x 2" packages and pinouts
- Optional V_{OUT} trim and on/off control
- Pin compatible with Lucent LC/LW Series

PRODUCT OVERVIEW

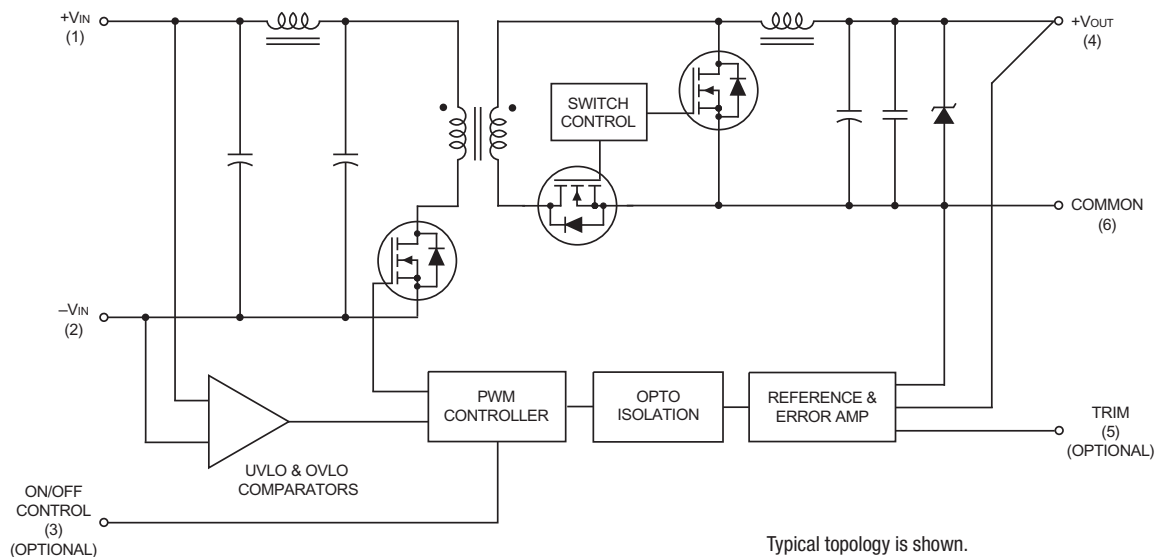
The new 1.2, 1.5V, 1.8V and 2.5V models in Murata Power Solutions' flagship 7-15 Watt A-Series can source a continuous 6 Amps. This is the most "low-voltage" current available from a standard 1" x 2" package, and these power converters exemplify Murata Power Solutions' relentless drive to bring you more power/current, from standard packages, without compromising reliability or resorting to thermal specmanship.

By combining a high-frequency, high-efficiency (to 88%), synchronous-rectifier topology with the newest components and time-tested, fully automated, SMT-on-pcb construction, these UWR Models are able to bring you 7-15W (@ up to 6A) in the standard 1" x 2" package from which most competitors can only get 5-10W (@ 3-4A). All UWR's deliver their full output power over ambient temperature ranges from -40°C to as high as +70°C (model and input voltage

dependent) without heat sinks or supplemental forced-air cooling. Devices derate to +100°C.

Output voltages are 1.2, 1.5, 1.8, 2, 2.5, 3.3, 5, 12 or 15 Volts. Input voltage ranges are 10-18V (D12 models), 18-36V (D24 models) or 36-75V (D48 models). All models feature input pi filters, input undervoltage and overvoltage lockout, input reverse-polarity protection, output overvoltage protection, output current limiting, and continuous short-circuit protection. On/off control and output-trim functions are optional (see Optional Functions). All models are designed to meet IEC950, UL1950 and EN60950-1 safety requirements. D48 models (36-75V inputs) are CE marked.

UWR 7-15W DC/DC's are packaged in low-cost, light-weight, diallyl phthalate (UL94V-0 rated) plastic packages with standoffs. EMC compliance is achieved via a low-noise design rather than through expensive metal shielding.



Typical topology is shown.

Figure 1. Simplified Schematic



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



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Performance Specifications and Ordering Guide ^①

Root Model ⑦	Output						Input			Efficiency		Package (Case, Pinout)
	V _{OUT} (Volts)	I _{OUT} (mA)	R/N (mVp-p) ②		Regulation (Max.)		V _{IN} Nom. (Volts)	Range (Volts)	I _{IN} ④ (mA)			
			Typ.	Max.	Line	Load ③						
UWR-1.2/6000-D12A-C	1.2	6000	40	75	±0.2%	±0.5%	12	10-18	80/769	76%	78%	C14, P22
UWR-1.2/6000-D24A-C	1.2	6000	40	75	±0.05%	±0.5%	24	18-36	45/375	78%	80%	C14, P22
UWR-1.2/6000-D48A-C	1.2	6000	40	75	±0.2%	±0.5%	48	36-75	80/188	78%	80%	C14, P22
UWR-1.5/6000-D12A-C	1.5	6000	30	55	±0.1%	±0.5%	12	10-18	75/914	77.5%	79.5%	C14, P22
UWR-1.5/6000-D24A-C	1.5	6000	30	55	±0.1%	±0.5%	24	18-36	40/454	78%	80%	C14, P22
UWR-1.5/6000-D48A-C	1.5	6000	30	55	±0.1%	±0.5%	48	36-75	25/226	78.5%	80.5%	C14, P22
UWR-1.8/6000-D12A-C	1.8	6000	30	55	±0.1%	±0.5%	12	10-18	70/1084	81%	83%	C14, P22
UWR-1.8/6000-D24A-C	1.8	6000	30	55	±0.1%	±0.5%	24	18-36	35/539	82.5%	84.5%	C14, P22
UWR-1.8/6000-D48A-C	1.8	6000	30	55	±0.1%	±0.5%	48	36-75	25/268	83%	85%	C14, P22
UWR-2/6000-D12A-C	2	6000	30	55	±0.1%	±0.5%	12	10-18	80/1176	83%	85%	C14, P22
UWR-2/6000-D24A-C	2	6000	30	55	±0.1%	±0.5%	24	18-36	55/588	83%	85%	C14, P22
UWR-2/6000-D48A-C	2	6000	30	55	±0.1%	±0.5%	48	36-75	25/291	84%	86%	C14, P22
UWR-2.5/6000-D12A-C	2.5	6000	30	55	±0.1%	±0.5%	12	10-18	80/1489	83%	86%	C14, P22
UWR-2.5/6000-D24A-C	2.5	6000	30	50	±0.075%	±0.25%	24	18-36	45/727	84.75%	86%	C14, P22
UWR-2.5/6000-D48A-C	2.5	6000	30	55	±0.1%	±0.5%	48	36-75	25/367	84%	86%	C14, P22
UWR-3.3/4250-D12A-C	3.3	4250	85	100	±0.2%	±0.5%	12	10-18	80/1375	83%	86%	C14, P22
UWR-3.3/4250-D24A-C	3.3	4250	45	70	±0.05%	±0.15%	24	18-36	45/672	85%	87%	C14, P22
UWR-3.3/4250-D48A-C	3.3	4250	85	100	±0.2%	±0.5%	48	36-75	35/336	85%	87%	C14, P22
UWR-3.3/4500-D48ANT-C ⑤	3.3	4500	85	100	±0.2%	±0.5%	48	36-75	35/356	85%	87%	C14, P22
UWR-5/3000-D12A-C	5	3000	85	100	±0.2%	±0.3%	12	10-18	110/1471	83%	85%	C14, P22
UWR-5/3000-D24A-C	5	3000	85	100	±0.2%	±0.3%	24	18-36	55/710	85.5%	88%	C14, P22
UWR-5/3000-D48A-C	5	3000	85	100	±0.2%	±0.3%	48	36-75	35/355	85.5%	88%	C14, P22
UWR-5/3000-D48ANST-C ⑥	5	3000	85	100	±0.2%	±0.3%	48	36-75	35/355	85.5%	88%	C14, P22
UWR-12/1250-D12A-C	12	1250	85	100	±0.2%	±0.3%	12	10-18	45/1471	82.5%	85%	C14, P22
UWR-12/1250-D24A-C	12	1250	85	100	±0.2%	±0.3%	24	18-36	45/718	85%	87%	C14, P22
UWR-12/1250-D48A-C	12	1250	85	100	±0.2%	±0.3%	48	36-75	20/359	85%	87%	C14, P22
UWR-15/1000-D12A-C	15	1000	85	100	±0.2%	±0.3%	12	10-18	45/1471	82.5%	85%	C14, P22
UWR-15/1000-D24A-C	15	1000	85	100	±0.2%	±0.3%	24	18-36	45/718	85%	87%	C14, P22
UWR-15/1000-D48A-C	15	1000	85	100	±0.2%	±0.3%	48	36-75	20/359	85%	87%	C14, P22

- ① Typical at T_A = +25°C under nominal line voltage and full-load conditions, unless otherwise noted.
 ② Ripple/Noise (R/N) is tested/specified over a 20MHz bandwidth. All models are specified with two external 0.47µF multi-layer ceramic capacitors located 2-3 inches from the module being tested.
 ③ Load regulation is specified over 10%-100% load conditions. 1.5-5V models are stable and regulate under no-load conditions. 12/15V models have minimum loading requirements See Performance/Functional Specifications.

④ Nominal line voltage, no-load/full-load conditions.

⑤ See page 12.

⑥ Special trim version. See Trim Equations, page 5. Quantity order required.

⑦ Please refer to the [Part Number Structure](#) for additional options when ordering.

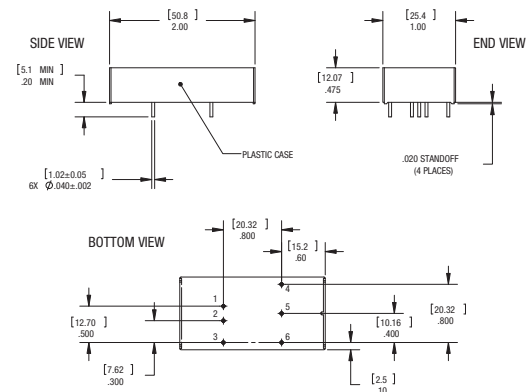
For Part Number Structure, please see [page 12](#).

I/O Connections			
Pin	Function P22	Pin	Function P22
1	+Input	4	+Output
2	-Input	5	Trim*
3	On/Off Control*	6	Common

*Pins 3 and 5 are optional.
See Optional Functions and Technical Notes for details.

Standard pin length is shown.
Please refer to the Part Number Structure for special order pin lengths.

MECHANICAL SPECIFICATIONS



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ISO 9001 and 14001 REGISTERED

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