

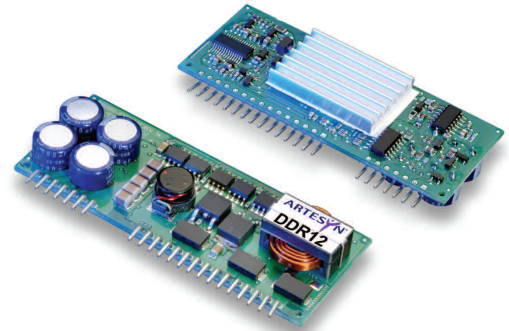
DDR12 Series

Dual output

NEW Product



- High current dual-output power module for DDR memory
- Single compact module provides 25 A @ 2.5 V for V_{ddq} supply and 8 A @ 1.25 V for V_{tt} termination
- Tracking dual output voltages (1.25 V @ 8 A, 2.5 V @ 25 A)
- Output voltage remote sense (only on V_{ddq})
- Sink capability for logic terminations
- Power good output signal
- Overvoltage protection
- Overcurrent protection
- Remote ON/OFF
- Available RoHS compliant



The dual output DDR12-25D08-AJ is specially designed to meet the power needs of double data rate memory DIMMS and associated memory control logic. The V_{tt} output tracks the V_{ddq} output, while the V_{tt} output can sink current as required by logic terminations. This converter offers typical efficiencies greater than 84% when operated at 50% load or greater. This model features a wide input range as well as trimmable output voltages. Remote sense on V_{ddq} and remote ON/OFF facilities are included as standard, and the converter is protected against over-current and over-voltage conditions.



All specifications are typical at nominal input, full load at 25 °C unless otherwise stated

SPECIFICATIONS

OUTPUT SPECIFICATIONS - V_{ddq}

Voltage adjustability		2.32-2.75 Vdc
Output setpoint accuracy	Using 1% trim resistors	±2.5%
Line regulation	Low line to high line	±0.1%
Load regulation	Minimum load to full load	+0%/-1.0%
Cross regulation		±0.4%
Temperature Co-efficient		0.2 mV/°C
Ripple and noise	5 Hz to 20 MHz	50 mV pk-pk (See Note 1)
Transient response	4 A/100 μ s	±3.0% deviation (See Note 2)
Overshoot	Nominal output at turn-on	2.0% max.
Undershoot		150 mV max.

OUTPUT SPECIFICATIONS - V_{tt}

Tracking Accuracy	Measured at Converter Pins (= $V_{ddq}/2 - V_{tt}$)	12 mV
Ripple and noise	5 Hz to 20 MHz	30 mV pk-pk (See Note 1)
Transient response	8 A/1 μ s	±3.0% deviation (See Note 2)

INPUT SPECIFICATIONS

Input voltage range	Nominal 12 V	10.8-13.2 Vdc
Input current	Minimum load Remote OFF	400 mA 20 mA
Input current (max.)	(See Note 3)	9 A max. @ I_o max. and $V_{in} = 10.8$ Vdc

INPUT SPECIFICATIONS - Contd.

Input reflected ripple	(See Note 4)	100 mA (pk-pk)
Remote ON/OFF		
Logic compatibility		Open collector ref to -input
ON		>2.0 Vdc
OFF		<0.8 Vdc
Start-up time	Power up	<20 ms
(See Note 5)	Remote ON/OFF	<20 ms

EMC CHARACTERISTICS

Electrostatic discharge	EN61000-4-2, IEC801-2
Conducted immunity	EN61000-4-2

GENERAL SPECIFICATIONS

Efficiency	$V_{ddq} = 2.5$ V $V_{tt} = 1.25$ V	84% @ full load
Switching frequency	V_{ddq} V_{tt}	300 kHz typ. 300 kHz typ.
Approvals and standards	(See Note 7)	IEC60950/EN60950 UL/cUL 1950/60950
Material flammability		UL94V-0
Weight		34 g (1.3 oz)
MTBF	Telcordia SR-332	TBD hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient, temperature Non-operating	0 °C to +80 °C -40 °C to +125 °C
---------------------	---	-------------------------------------

DDR12 Series

Dual output

DC-DC CONVERTERS Tracking Dual Output

2

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX)	EFFICIENCY (TYP.)	LOAD REGULATION	MODEL NUMBER ^(10,11)
69 W	10.8-13.2 Vdc	3.6 Vdc	2.32-2.75 Vdc	1.5 A	25 A	84%	±1.0%	DDR12-25D08-AJ
11 W		1.8 Vdc	1.16-1.375 Vdc	0 A	8 A		See Tracking Spec.	

Notes

- Measured as per recommended set-up. $C_{in} = 270 \mu\text{F}$ (20 mΩ ESR max, $C_{out} = 3 \times 560 \mu\text{F}$ (5 mΩ ESR max).
- $V_{in} = 12 \text{ Vdc}$, $T_c = 25 \text{ }^\circ\text{C}$, bounded by min/max load specification with recommended system caps.
- External input fusing is recommended.
- Measured with external filter.
- Start-up into resistive load.
- Meets levels A and B conducted emissions with external components.
- This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- Large value ceramic capacitor located close to the input pins is recommended (TDK p/N C4532X7R1E106M).
- Use of additional high quality ceramic output capacitors is recommended in the end system.
- TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.

PROTECTION

Short-circuit	V_{ddq} V_{tt}	Latching Latching
Overvoltage	V_{ddq} V_{tt}	Latching Latching
Overcurrent	V_{ddq} V_{tt}	Latching Fold-back

RECOMMENDED SYSTEM CAPACITANCE

Input capacitance	(See Note 8)	10 μF /3 mΩ ESR max.
Output capacitance (See Note 9)	V_{ddq} V_{tt}	1680 μF /5 mΩ ESR max. 1680 μF /5 mΩ ESR max.

PIN CONNECTIONS			
PIN NO.	FUNCTION	PIN NO.	FUNCTION
J1-1	Power Good	J2-5	Ground
J1-2	Output Enable	J2-6	Ground
J1-3	Ground	J2-7	Ground
J1-4	Ground	J2-8	Ground
J1-5	12 V Input	J2-9	V_{ddq} Sense -
J1-6	12 V Input	J2-10	V_{ddq} Sense +
J1-7	12 V Input	J2-11	V_{ddq}
J2-1	V_{tt} Ref	J2-12	V_{ddq}
J2-2	V_{tt}	J2-13	V_{ddq}
J2-3	V_{tt}	J2-14	V_{ddq}
J2-4	Ground	J2-15	V_{ddq}

CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.

International Safety Standard Approvals



UL/cUL CAN/CSA 22.2
UL 60950 File No. E139421



TÜV Product Service (EN60950) Certificate No. B 02 12 19870 206
CB report and certificate to IEC60950

DDR12 Series

Dual output

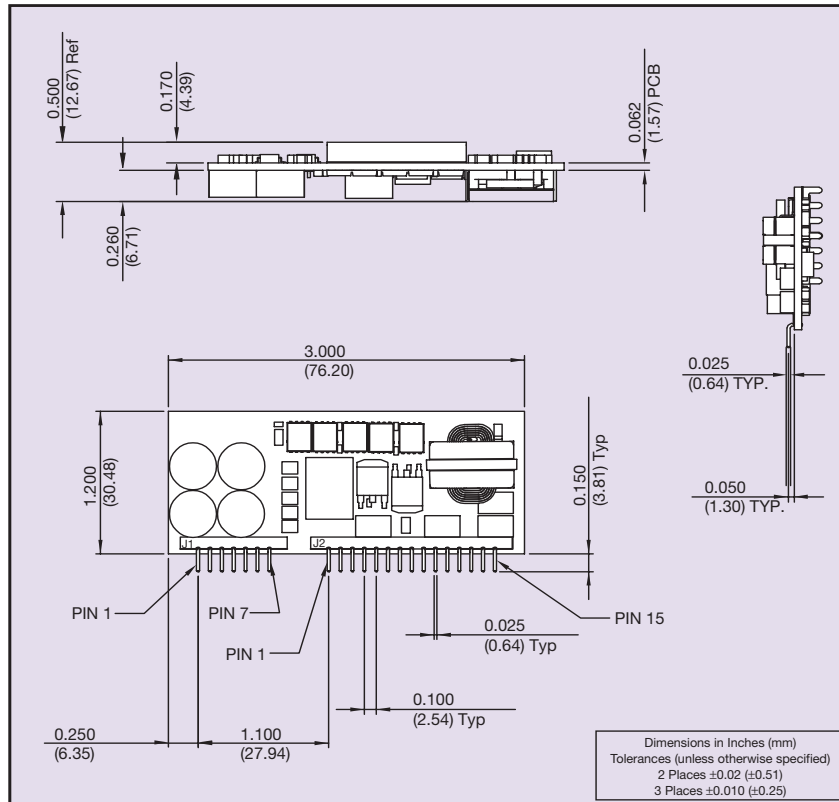
DC-DC CONVERTERS

Tracking Dual Output

3

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product



Datasheet © Artesyn Technologies® 2005

The information and specifications contained in this datasheet are believed to be correct at time of publication. However, Artesyn Technologies accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice. No rights under any patent accompany the sale of any such product(s) or information contained herein.

Please consult our website for the following items: ✓ Application Note ✓ Longform Data Sheet

www.artesyn.com