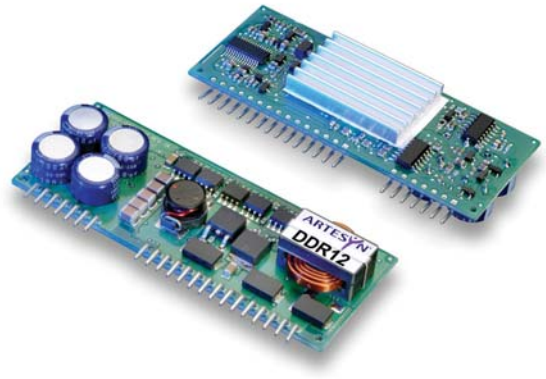
DDR12 Series

Dual output

ARTESYN TECHNOLOGIES

NEW Product

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



The dual output DDR12-25D08-A 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.

2 YEAR WARRANTY

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS - V_{ddq}

Voltage adjustability		2.32V to 2.75V
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		0.2mV/°C
Ripple and noise (See Note 1)	5Hz to 20MHz	50mV pk-pk
Transient response (See Note 2)	4A/100µs	±3.0% deviation
Overshoot	Nominal output at turn-on	2.0% max.
Undershoot		150mV max.

OUTPUT SPECIFICATIONS - V_{tt}

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

INPUT SPECIFICATIONS

Input voltage range	Nominal 12V	10.8 to 13.2VDC
Input current	Minimum load Remote OFF	400mA 20mA
Input current (max.)	(See Note 3)	9A max. @ Io max. and Vin = 10.8V

INPUT SPECIFICATIONS - Contd.

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

EMC CHARACTERISTICS

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

GENERAL SPECIFICATIONS

Efficiency	V_{ddq} = 2.5V V_{tt} = 1.25V	84% @ full load
Switching frequency (Fixed)	V_{ddq} V_{tt}	300kHz typ. 300kHz typ.
Approvals and standards	(See Note 7)	Designed to EN60950
Material flammability		UL94V-0
Weight		34g (1.3oz)
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

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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
69W	10.8-13.2VDC	3.6VDC	2.32-2.75V	1.5A	25A	84%	±1.0%	DDR12-25D08-A
11W		1.8VDC	1.16-1.375V	0A	8A		See Tracking Spec.	

Notes

1. Measured as per recommended set-up. Cin = 270µF (20mΩ ESR max, Cout = 3 x 560µF (5mΩ ESR max).
2. Vin = 12VDC, Tc = 25°C, bounded by min/max load specification with recommended system caps.
3. External input fusing is recommended.
4. Measured with external filter.
5. Start-up into resistive load.
6. Meets levels A and B conducted emissions with external components.
7. This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
8. Large value ceramic capacitor located close to the input pins is recommended (TDK p/N C4532X7R1E106M).
9. Use of additional high quality ceramic output capacitors is recommended in the end system.

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

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	12V Input	J2-9	V_{ddq} Sense -
J1-6	12V Input	J2-10	V_{ddq} Sense +
J1-7	12V 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}

PROTECTION		
Short-circuit protection	V_{ddq} V_{tt}	Latching Latching
Over-voltage protection	V_{ddq} V_{tt}	Latching Latching
Over-current protection	V_{ddq} V_{tt}	Latching Fold-back

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