

POWER GENERAL

HD3-15 SERIES

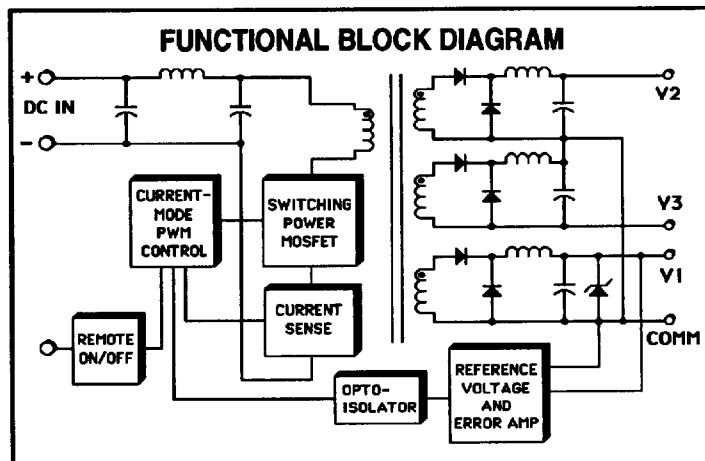
15W TRIPLE OUTPUT DC-DC CONVERTERS —WIDE INPUT RANGES, ULTRA-HIGH RELIABILITY—

FEATURES

- Four Wide Input Voltage Ranges
- Two Output Voltage Combinations
- Meets UL1950
- Meets CSA22.2-234/950
- Meets VDE0805/EN60950/IEC950
- Pi Input Filter
- Over-Voltage/Short-Circuit Protection
- Remote Shutdown
- 2-Year Warranty
- **Minimum 300,000 Hours MTBF**

APPLICATIONS

- Distributed Power Systems
- Telecommunications Equipment
- Portable/Battery-Operated Gear



All HD3-15 models are packaged in a compact 2.0 x 2.0 x 0.4-inch copper case with six-sided shielding and are encapsulated with a flame-retardant material.

GENERAL SPECIFICATIONS

DC INPUT VOLTAGE (NOMINAL).....	12V, 24V or 48V.
INRUSH CURRENT	.25A, peak, 25 μ s.
EMI SUPPRESSION.....	Pi input filter.
REVERSE VOLTAGE PROTECTION.....	Internal shunt diode.
REFLECTED RIPPLE CURRENT	.50 mA _{pp} , maximum.
DC OUTPUT	See voltage/current rating chart.
CONTINUOUS OUTPUT POWER.....	15 watts, maximum.
OVER-VOLTAGE PROTECTION	Primary output only, ~6.8V.
SHORT-CIRCUIT PROTECTION.....	Indefinite.
EFFICIENCY	See voltage/current rating chart.
LINE/LOAD REGULATION.....	See voltage/current rating chart.
ISOLATION VOLTAGE.....	1500 VDC, input to output, for one minute.
TRANSIENT RESPONSE.....	500 μ s recovery from half-load to full load step change to within 1 percent of regulation band with 5 percent maximum deviation.
NOISE AND RIPPLE.....	Primary output, 50 mV _{pp} ; auxiliary outputs, 75 mV _{pp} .
OPERATING FREQUENCY.....	150 kHz.

ENVIRONMENTAL OPERATING CHARACTERISTICS

TEMPERATURE RANGE.....	-25°C to +85°C; derate 3 percent/°C from +70°C to +85°C.
TEMPERATURE COEFFICIENT.....	±0.02 percent/°C.
COOLING	Free-air convection.
RELATIVE HUMIDITY	0 to 95 percent, non-condensing.
ALTITUDE	0 to 10,000 feet.

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STORAGE CHARACTERISTICS

TEMPERATURE RANGE.....-55°C to +100°C.

RELATIVE HUMIDITY0 to 95 percent, non-condensing.

RELIABILITY

MEAN TIME BETWEEN FAILURES.....>300,000 hours, per "Parts Stress" method in MIL-HDBK 217E (ground benign, 25°C).

Electrical Characteristics

Model Number	DC Input Voltage			Nom. Input Current (A)	Output Voltage		Output Current		Output Voltage Tolerance	Line Reg. (LL-HL)	Load Reg. (NL-FL)	Error Band	Efficiency
	Min. (V)	Nom. (V)	Max. (V)		Output	(V)	Min. (A)	Max. (A)					
HD3-15-1A	9.0	12	18	1.67	V1	5.0	0.50	1.50	±1.0%	±0.3%	±0.5%	±1.0%	75%
					V2	+12	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
					V3	-12	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
HD3-15-1B	18	24	36	0.78	V1	5.0	0.50	1.50	±1.0%	±0.3%	±0.5%	±1.0%	80%
					V2	+12	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
					V3	-12	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
HD3-15-1C	36	48	75	0.38	V1	5.0	0.50	1.50	±1.0%	±0.3%	±0.5%	±1.0%	82%
					V2	+12	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
					V3	-12	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
HD3-15-1D	20	48	60	0.39	V1	5.0	0.50	1.50	±1.0%	±0.3%	±0.5%	±1.0%	80%
					V2	+12	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
					V3	-12	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
HD3-15-2A	9.0	12	18	1.67	V1	5.0	0.50	1.50	±1.0%	±0.3%	±0.5%	±1.0%	75%
					V2	+15	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
					V3	-15	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
HD3-15-2B	18	24	36	0.78	V1	5.0	0.50	1.50	±1.0%	±0.3%	±0.5%	±1.0%	80%
					V2	+15	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
					V3	-15	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
HD3-15-2C	36	48	75	0.38	V1	5.0	0.50	1.50	±1.0%	±0.3%	±0.5%	±1.0%	82%
					V2	+15	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
					V3	-15	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
HD3-15-2D	20	48	60	0.39	V1	5.0	0.50	1.50	±1.0%	±0.3%	±0.5%	±1.0%	80%
					V2	+15	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	
					V3	-15	0.05	0.31	±3.0%	±0.5%	±3.0%	±5.0%	

Notes:

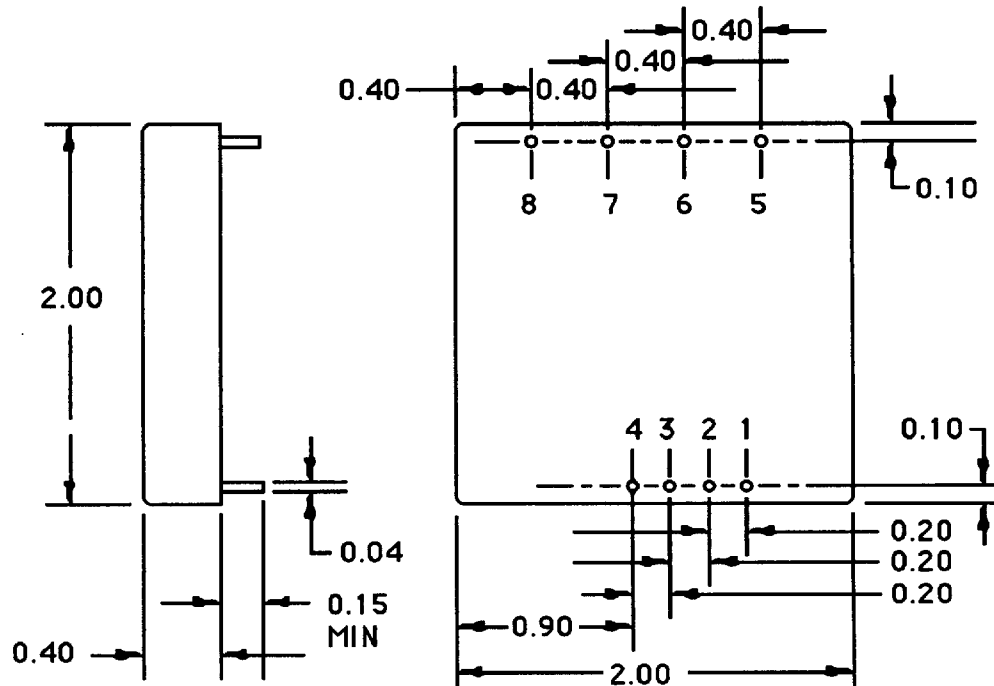
1. External input line fuse is recommended: for 12V input, use 3A /125V fuse; for 24V input, use 1.5A /125V fuse; for 48V input, use 0.75A /125V fuse.
2. Sum of primary and auxiliary output must not exceed 15W maximum power output rating of the supply.
3. All measurements are at nominal input voltage, nominal load and +25°C, unless otherwise specified.
4. Line regulation is measured at nominal load over the full input voltage range.
5. Auxiliary output load regulation is measured with the primary output at +5.0V/1.0A as auxiliary output is changed from minimum to nominal value.
6. Error band is defined as static output regulation at +25°C, the sum of initial set point accuracy, line voltage within specified limits, and load currents within specified limits.

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REMOTE ON/OFF CONTROL

LOGIC COMPATIBILITYOpen-collector TTL or CMOS.
ON CONTROL INPUT VOLTAGE.....Open circuit.
OFF CONTROL INPUT VOLTAGE.....<0.8V.
CONTROL COMMON.....Reference to MINUS power supply input

MECHANICAL OUTLINE AND PIN CONFIGURATION



PIN-OUT

Pin	Function
1	REMOTE ON/OFF
2	NC
3	- INPUT
4	+ INPUT
5	- OUTPUT (AUX)
6	COMMON
7	+5V OUTPUT
8	+ OUTPUT (AUX)

Notes:

1. Dimensions shown are in inches.
2. Tolerance = 0.00 ±0.01.
0.000 ±0.005.

Specifications are subject to change without notice.

PG/JDAC