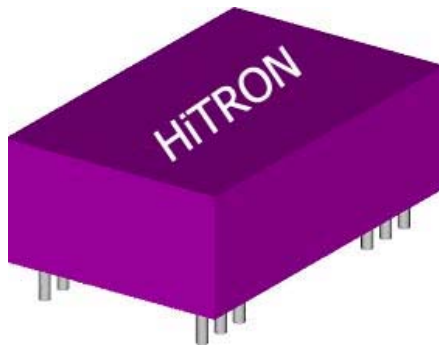


PCB-MOUNT DC-DC CONVERTER ENCAPSULATED MODULES DIP PACKAGE 2W-3W REGULATED SINGLE & DUAL OUTPUT DHDR020 & DHDR030 SERIES



FEATURES:

- DUAL IN LINE PACKAGE
- HIGH EFFICIENCY
- LOW NOISE
- NO EXTERNAL COMPONENTS REQUIRED
- 3000VDC ISOLATION
- LOW COST
- 100% BURNED IN
- UL-94V0 PACKAGE MATERIAL
- RoHS COMPLANT

SPECIFICATION

INPUT SPECIFICATION

Input Range: +/-10% max.

Input Current: Various with input range and load.
See Ratings Chart.

Input Filter: Pi Network

Isolation Voltage: 3000VDC min.

Isolation Resistance: 10^9 ohm min.

Isolation Capacitance: 80pF max.

EMI: Meet Conducted and Radiated EN550022 Class A.

OUTPUT SPECIFICATION

Output Voltage: See Ratings Chart.

Output Current: See Ratings Chart.

Voltage Setpoint Accuracy: $\pm 3.0\%$ max.

Line Regulation: $\pm 0.5\%$ max.

Load Regulation: $\pm 0.5\%$ max.

Minimum Load: 10% of Full load.

Noise & Ripple: 100mVp-p max.

Short Circuit Protection: Current Limit Protection.

Short Circuit Restart: Automatic.

GENERAL SPECIFICATION

Efficiency: 60% min. See Ratings Chart.

Switching Frequency: 50KHz min

Transient Response: 200uS max. at 25% step load change.

Case: Non-Conductive Plastic case.

Operating Temperature: -25°C to $+71^{\circ}\text{C}$.

Case Temperature: $+95^{\circ}\text{C}$ max.

Storage Temperature: -55°C to $+125^{\circ}\text{C}$.

Cooling: Free-Air convection.

Humidity: 95% max.

MTBF: $>850,000$ hours. MIL-HDBK-217F @ 25°C .

NOTE: (1) All measurements are at nominal line, full load, and $+25^{\circ}\text{C}$ unless otherwise specified.

(2) Ripple & Noise: Measured with 1uF ceramic capacitor connected to the output pins.

(3) Load Regulation is for output load current change from 10% to 100%.

(4) 3000VDC for 10 seconds.

(5) Due to requests in market and advances in technology, specifications subject to change without notice.

INPUT/OUTPUT & VOLTAGE/ CURRENT RATINGS CHART

2009/07/22

SINGLE OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT VO1(Vdc)	OUTPUT VO1(mA)	EFF(%)	Isolation (Vdc)
		N. L. (mA)	F.L.				
DHDR020-05A-S050400	4.5-5.5	80	645	5	400	62	3000
DHDR020-05A-S120165	4.5-5.5	80	634	12	165	63	3000
DHDR020-05A-S150133	4.5-5.5	80	634	15	133	63	3000
DHDR020-12A-S050400	10.8-13.2	40	264	5	400	63	3000
DHDR020-12A-S120165	10.8-13.2	40	256	12	165	65	3000
DHDR030-12A-S150200	10.8-13.2	45	378	15	200	66	3000
DHDR020-24A-S050400	21.6-26.4	20	132	5	400	63	3000
DHDR020-24A-S120165	21.6-26.4	20	128	12	165	65	3000
DHDR030-24A-S150200	21.6-26.4	25	192	15	200	65	3000
DHDR020-48A-S050400	43.2-52.8	10	66	5	400	63	3000
DHDR020-48A-S120165	43.2-52.8	10	65	12	165	64	3000
DHDR030-48A-S150200	43.2-52.8	12	97	15	200	64	3000

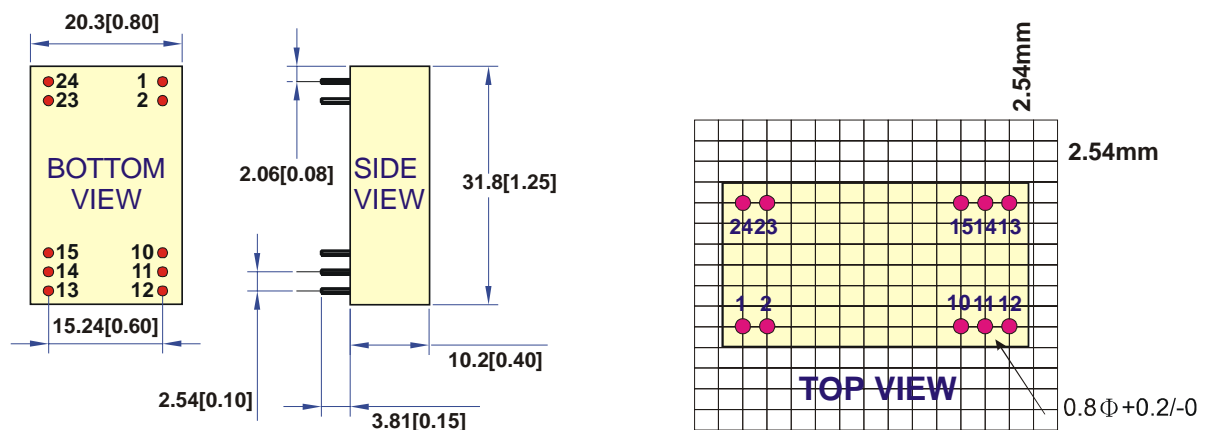
DUAL OUTPUT

MODEL NO.	INPUT Vdc	INPUT CURRENT		OUTPUT (Vdc)		OUTPUT (mA)		EFF(%)	Isolation (Vdc)
		N. L. (mA)	F.L.	+VO1	-VO2	+VO1	-VO2		
DHDR020-05A-D120I	4.5-5.5	80	634	+12	-12	+83	-83	63	3000
DHDR020-05A-D150K	4.5-5.5	80	634	+15	-15	+66	-66	63	3000
DHDR020-12A-D120I	10.8-13.2	40	256	+12	-12	+83	-83	65	3000
DHDR030-12A-D150K	10.8-13.2	45	378	+15	-15	+100	-100	66	3000
DHDR020-24A-D120I	21.6-26.4	20	128	+12	-12	+83	-83	65	3000
DHDR030-24A-D150K	21.6-26.4	25	192	+15	-15	+100	-100	65	3000
DHDR020-48A-D120I	43.2-52.8	10	65	+12	-12	+83	-83	64	3000
DHDR030-48A-D150K	43.2-52.8	12	97	+15	-15	+100	-100	64	3000

NOTE: (1) Input current at nominal input voltage.
 (2) Efficiency at nominal input voltage, full load

MECHANICAL DIMENSIONS: MM [INCHES]

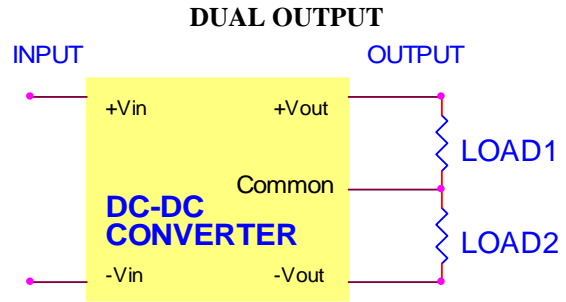
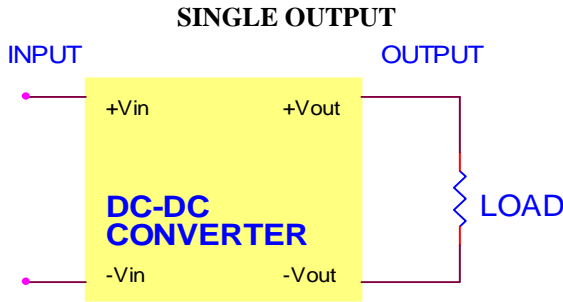
WEIGHT: 12.0g-14.4g



PIN ASSIGNMENT

PIN NO	1 & 2	10 & 11	12	13	14	15	23 & 24
SINGLE	+Vin	NO PIN	-Vout	+Vout	NO PIN	NO PIN	-Vin
DUAL	+Vin	Common	NO PIN	-Vout	NO PIN	+Vout	-Vin

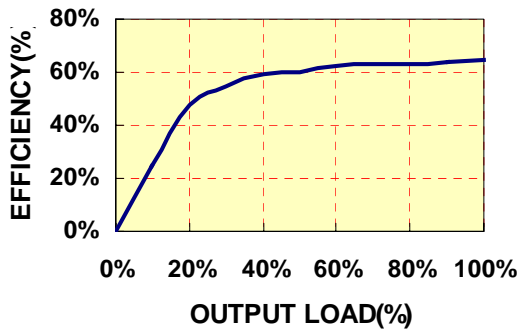
TYPICAL APPLICATIONS



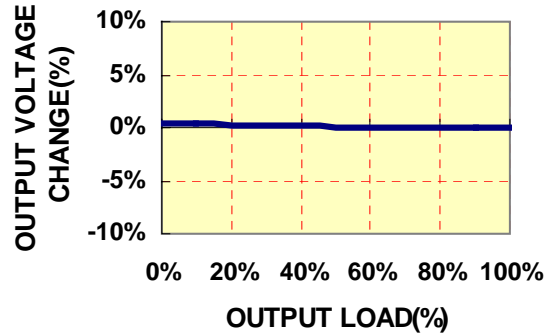
TYPICAL PERFORMANCE CURVES

Specifications typical at $T_a=25^\circ\text{C}$, nominal input voltage, rated output current unless otherwise specified.

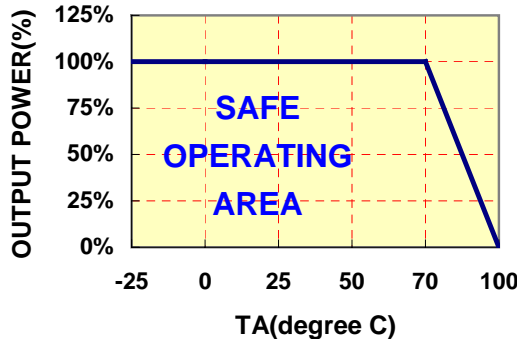
OUTPUT LOAD VS EFFICIENCY



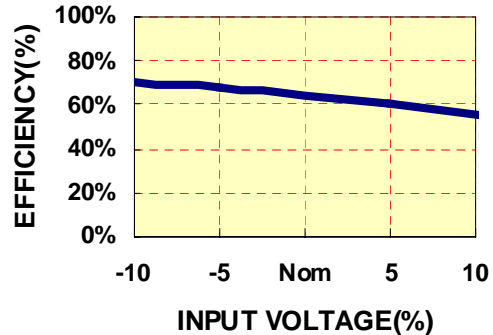
OUTPUT LOAD VS OUTPUT VOLTAGE



TEMPERATURE DERATING



INPUT VOLTAGE VS EFFICIENCY



INPUT FUSE SELECTION GUIDE

4.5-5.5V INPUT VOLTAGE(VDC)	10.8-13.2V INPUT VOLTAGE(VDC)	21.6-26.4V INPUT VOLTAGE(VDC)	43.2-52.8V INPUT VOLTAGE(VDC)
1000mA Slow-Blow Type	600mA Slow-Blow Type	300mA Slow-Blow Type	200mA Slow-Blow Type

NOTE: (1) Certain applications may require the installation of external fuse in front of the input.

(2) No external capacitance is required for operation. To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5 ohm from DC to 100KHz is required. External output capacitance is not required for operation, however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise. Additional output capacitance may be added for increased filtering, but should not exceed 220uF. We Can Offer EMC-Filter According To EN55011/22 Class B.

(3) Negative Outputs: A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.