

## 4.0 WATT UNREGULATED HIGH ISOLATION DC/DC CONVERTER

### HB04U



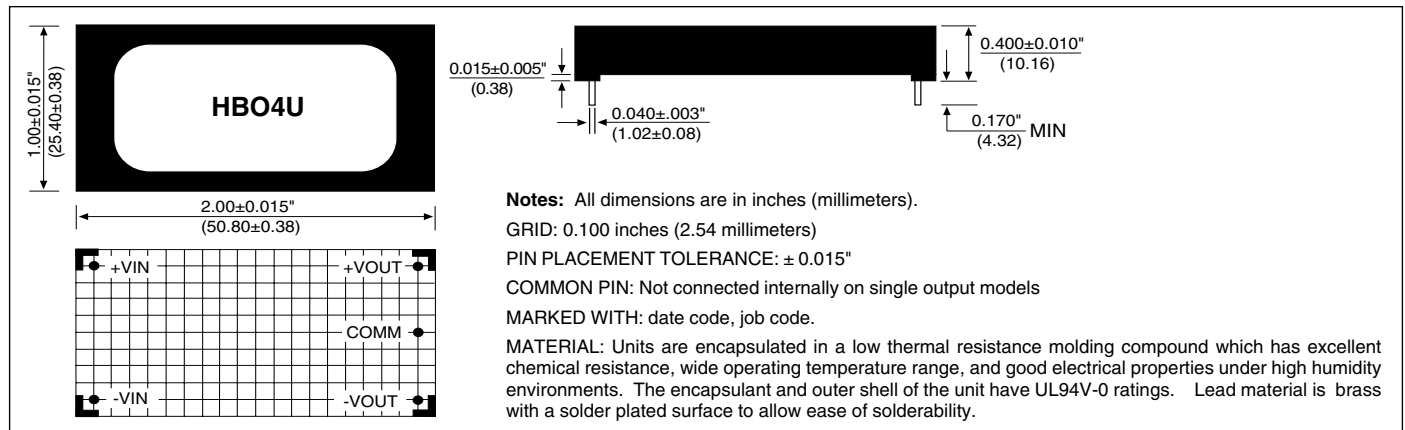
#### FEATURES

- HIGH ISOLATION - 3000V RATING
- 8000V ISOLATION TEST VOLTAGE
- BARRIER 100% PRODUCTION TESTED
- LOW BARRIER CAPACITANCE - 10PF
- LOW LEAKAGE CURRENT - 2μA MAX
- INTERNAL FILTERING

#### APPLICATIONS

- BIOMEDICAL DATA ACQUISITION
- INDUSTRIAL PROCESS CONTROL
- ANALYTICAL MEASUREMENTS
- GROUND LOOP ELIMINATION
- INTRINSIC SAFETY SYSTEMS

#### MECHANICAL



More product information and application notes are available  
on our website at [www.cdpowerelectronics.com](http://www.cdpowerelectronics.com)

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# ELECTRICAL SPECIFICATIONS

Specifications typical at T<sub>A</sub> = +25°C, nominal input voltage, rated output current unless otherwise noted.

MODEL	NOMINAL INPUT VOLTAGE (V <sub>DC</sub> )	RATED OUTPUT VOLTAGE (V <sub>DC</sub> )	RATED OUTPUT CURRENT (mA)	INPUT CURRENT		EFFICIENCY (%)
				NO LOAD (mA)	RATED LOAD (mA)	
HB04U05S05	5	5	800	60	1000	80
HB04U05S12	5	12	333	60	1000	80
HB04U05S15	5	15	267	60	1000	80
HB04U12S05	12	5	800	25	380	87
HB04U12S12	12	12	333	25	380	87
HB04U12S15	12	15	267	25	380	87
HB04U15S05	15	5	800	20	310	87
HB04U15S12	15	12	333	20	310	87
HB04U15S15	15	15	267	20	310	87
HB04U05D05	5	±5	±400	60	944	85
HB04U05D12	5	±12	±167	60	944	85
HB04U05D15	5	±15	±134	60	944	85
HB04U12D05	12	±5	±400	25	375	88
HB04U12D12	12	±12	±167	25	375	88
HB04U12D15	12	±15	±134	25	375	88
HB04U15D05	15	±5	±400	20	300	88
HB04U15D12	15	±12	±167	20	300	88
HB04U15D15	15	±15	±134	20	300	88

Note: Other input to output voltage options may be available. Please consult factory.

# COMMON SPECIFICATIONS

Specifications typical at T<sub>A</sub> = +25°C, nominal input voltage, rated output current unless otherwise noted.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b>INPUT</b>					
Voltage Range		4.5 10.8 13.5	5 12 15	5.5 13.2 16.5	V <sub>DC</sub>
Reflected Ripple Current			35		mAp-p
<b>ISOLATION</b>					
Rated Voltage		3000			V <sub>DC</sub>
Test Voltage	60 Hz, 10 Seconds	8000			V <sub>pk</sub>
Resistance			10		GΩ
Capacitance			10		pF
Leakage Current	V <sub>ISO</sub> = 240V <sub>AC</sub> , 60Hz		1.2	2	μA <sub>rms</sub>
<b>OUTPUT</b>					
Rated Power			4		W
Voltage Setpoint Accuracy			±3	±5	%
Temperature Coefficient			±0.02		%/°C
Ripple & Noise	BW = DC to 10MHz		100		mVp-p
BW = 10Hz to 2MHz			20		mV <sub>rms</sub>
Line Regulation	High Line to Low Line		±1.5		%/% V <sub>in</sub>
Load Regulation	See performance curves				
<b>GENERAL</b>					
Switching Frequency			100		kHz
Package Weight			22		g
MTTF per MIL-HDBK-217, Rev. E	Circuit Stress Method				
Ground Benign	T <sub>A</sub> = +25°C		200,000		Hr
<b>TEMPERATURE</b>					
Specification		-25		+70	°C
Operation		-40		+85	°C
Storage		-40		+110	°C

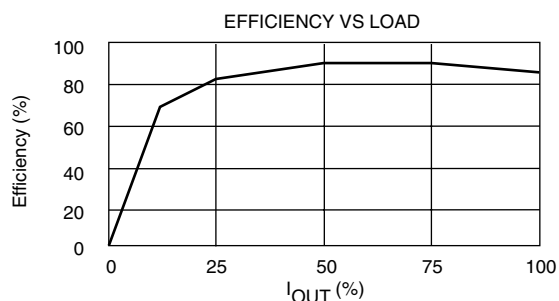
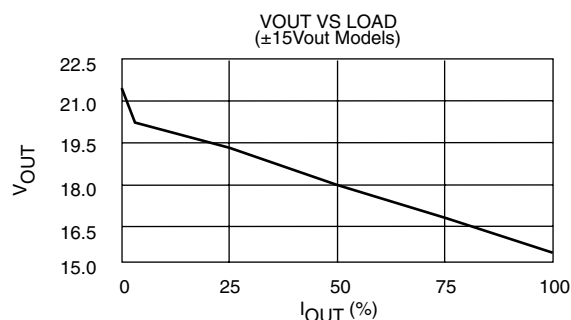
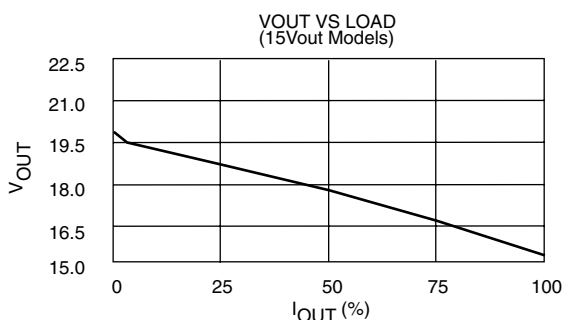
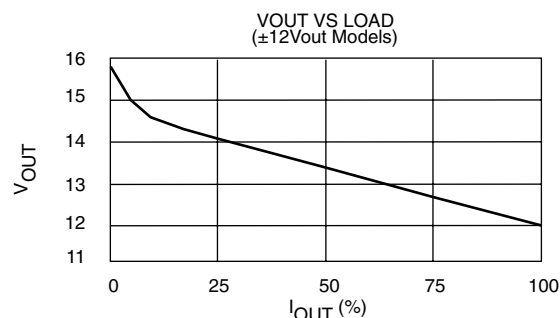
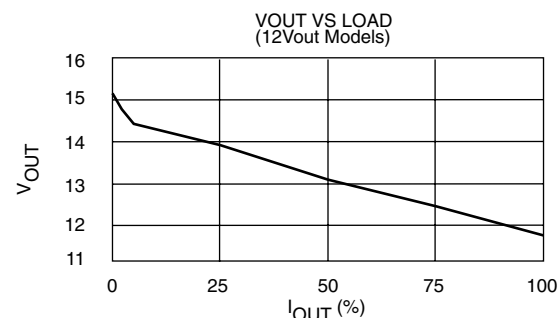
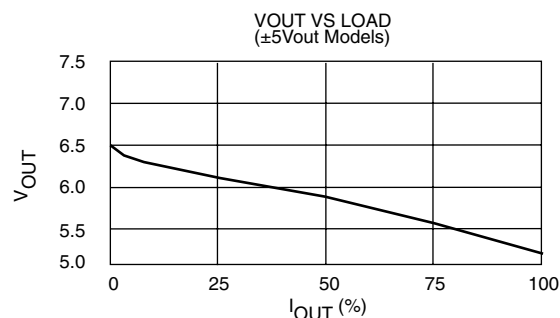
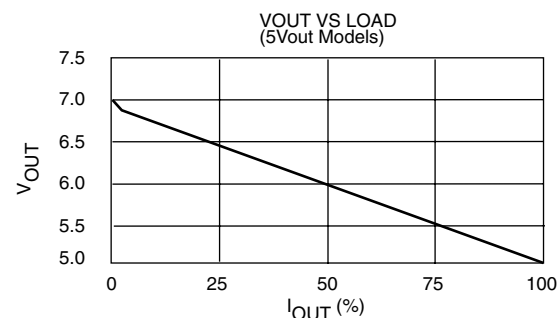
## ABSOLUTE MAXIMUM RATINGS

Internal Power Dissipation.....	1W
Short Circuit Duration.....	Momentary
Lead Temperature (soldering, 10 seconds max).....	+300°C

## ORDERING INFORMATION

Device Family	HB04U	xx	yy	zz	Q
HB04U Indicates DC/DC Converter					
Model Number					
Where:					
xx = Input Voltage					
yy = Number or Outputs (Single "S", Dual "D")					
zz = Output Voltage					
Package Option					

## TYPICAL PERFORMANCE CURVES



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