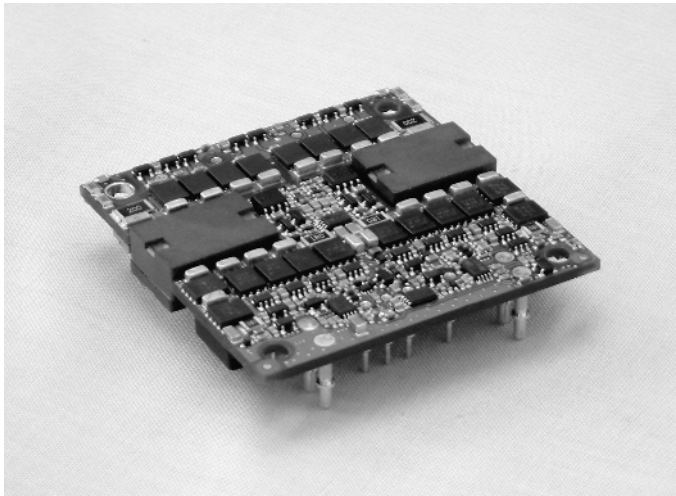


Half Brick DC/DC Converters

70 Amps KHH070 Series

XPiQ inc.

Intelligent Design Quality Product



High Current Up To 70 A Output

Industry Standard Footprint

High Efficiency - Up to 90%

Low Voltage Outputs to 1.2 V

International Safety Approvals

Specification

Input

- Input Voltage Range • 36-75 VDC
- Input Current • 2.13 A to 5.35 A, See Table
- No Load Input Current • 250 mA at no load
- Input Reflected Ripple Current • 100 mA pk-pk
- Remote ON/OFF • Shorted to -Vin (Logic Low) = ON
Open (Logic high) = OFF
Positive logic is available (see note 3)
- Input Reverse Voltage Protection • External components required (See Note 5)
- Input Transient • Units capable of withstanding 100 V for 100 ms
- Undervoltage Lockout • Above 32 to 34.5 V = ON
below 29.9 to 32.3 V = OFF

Output

- Output Voltage • 1.2 VDC to 5.0 VDC
- Voltage Adjustment • $\pm 10\%$
- Minimum Load • No minimum load required
- Line Regulation • ± 10 mV or 0.5%, whichever is greater
- Load Regulation • ± 10 mV or 0.5%, whichever is greater
- Setpoint Accuracy • ± 50 mV
- Ripple & Noise • 100 mV pk-pk max
- Transient Response • 170 mV deviation,
100 μ s recovery time for a 25% load change at 1.0 A/ μ s slew rate
- Temperature Coefficient • 0.01%/ $^{\circ}$ C
- Remote Sense • Compensates for up to 10% of Vout drop
- Overvoltage Protection • 120-135%, recycle input to reset

Overcurrent Protection

Short Circuit Protection

Overtemperature Protection

Current Share

- 74 to 94 A typical (56 to 66 A for 5 V model)
- Protected to short circuit conditions
- Thermal shutdown at 110 $^{\circ}$ C, measured on board, auto restart
- Optional, add suffix '-IS' to model number

General

Efficiency

Isolation

Size

Package Style

Weight

MTBF

- 90% for 3.3 V - See Table
- 1500 VDC Input to Output
- 2.40" x 2.42" x 0.411" (0.50" with baseplate)
- Open frame, baseplate option
- 90g approx for open frame
- 2,000,000 hours calculated to Bellcore

Environmental

Operating Temperature

(with 400 LFM)

Storage Temperature

Humidity

- -40 $^{\circ}$ C to +85 $^{\circ}$ C ambient - See Derating Curve
Full power to +50 $^{\circ}$ C
- -55 $^{\circ}$ C to +125 $^{\circ}$ C
- 5-95% RH non-condensing

EMC & Safety

Safety Approvals

EMI/EMC

- UL 60950, IEC 60950, CSA 950 per cUL, CE Marked for LVD
- FCC level B Part 15 with external filtering - Contact Technical Sales for details

OUTPUT VOLTAGE & CURRENT RATINGS

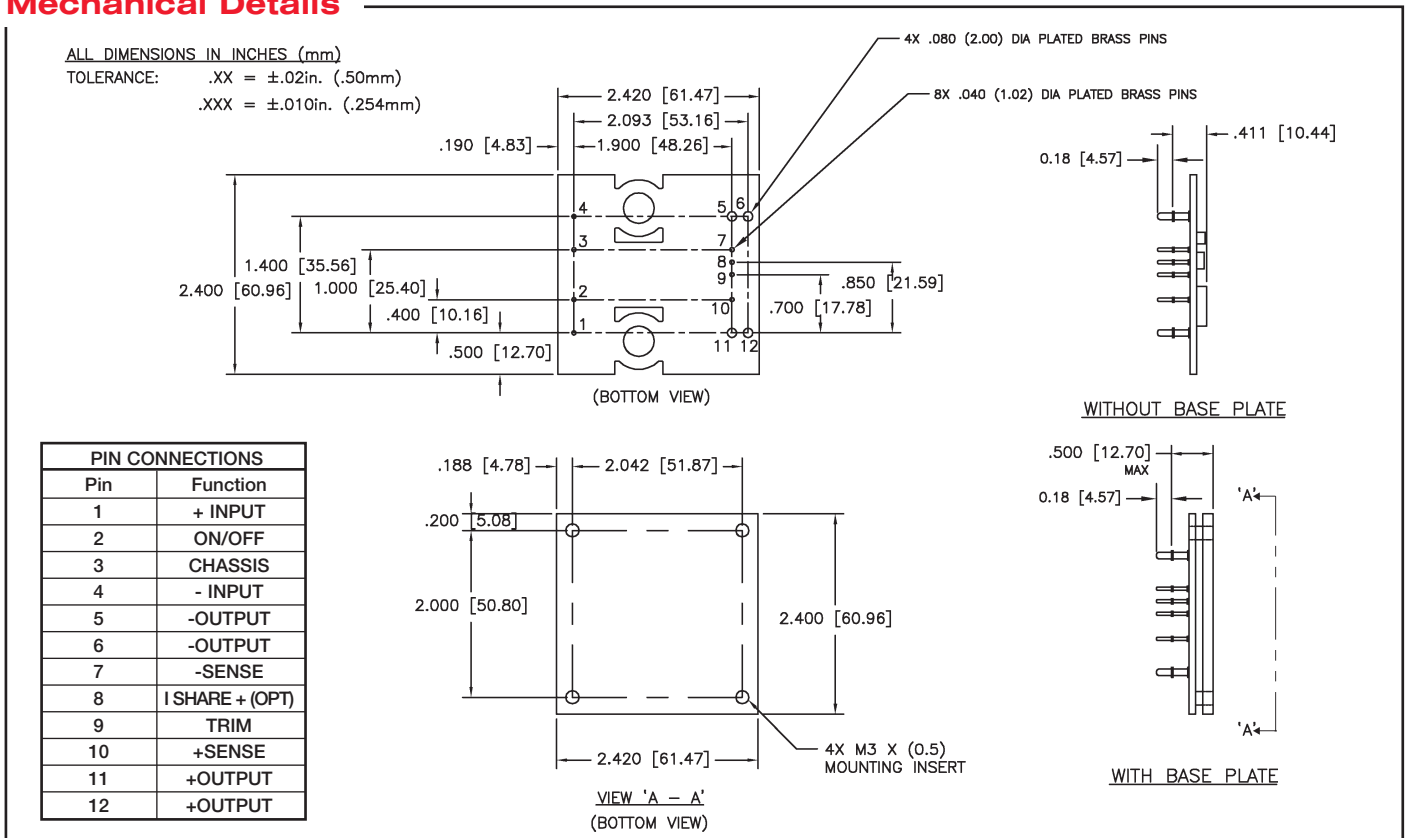
KHH070

Output Power	Output Voltage	Output Current Maximum	Input Current ⁽⁶⁾	Efficiency	Model Number ⁽³⁾
84 W	1.2 V	70 A	2.13 A	81%	KHH07048S1V2
105 W	1.5 V	70 A	2.57 A	84%	KHH07048S1V5
126 W	1.8 V	70 A	3.02 A	86%	KHH07048S1V8
175 W	2.5 V	70 A	4.10 A	88%	KHH07048S2V5
231 W	3.3 V	70 A	5.35 A	90%	KHH07048S3V3
225 W	5.0 V	45 A	5.27 A	89%	KHH07048S5V0

Notes

1. Standard product is open frame with negative logic.
2. Baseplate versions are built to order.
3. Please add one of the following suffix codes to the model number when ordering: 'AL' = Open Frame/Negative logic, 'AH' = Open Frame/Positive logic, 'BL' = Baseplate/Negative logic, 'BH' = Baseplate/Positive logic.
4. Current share is optional and built to order. Add suffix '-IS' to model number, example KHH07048S3V3AL-IS.
5. For input reverse voltage protection, use a parallel diode across the input terminals preceded by a 10 A fuse.
6. For details on external filtering, contact technical sales.

Mechanical Details



Derating Curves

