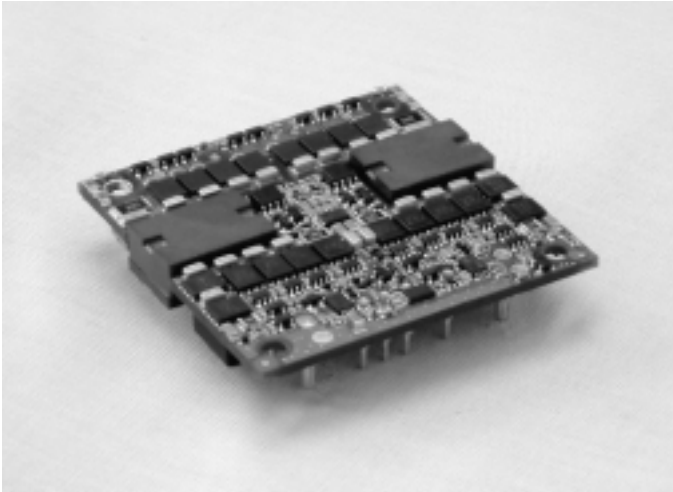


# Half Brick DC/DC Converters

## 70 Amps KSH070 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 •  $\pm 10$  mV or 0.5%, whichever is greater
- Load Regulation •  $\pm 10$  mV or 0.5%, whichever is greater
- Setpoint Accuracy •  $\pm 50$  mV
- Ripple & Noise • 100 mV pk-pk max
- Transient Response • 170 mV deviation,  
100  $\mu$ s recovery time for a 25% load change at 1.0 A/ $\mu$ s slew rate
- Temperature Coefficient • 0.01%/°C
- Remote Sense • Compensates for up to 10% of Vout drop
- Overvoltage Protection • 120-135%, recycle input to reset

- Overcurrent Protection • 74 to 94 A typical (56 to 66 A for 5 V model)
- Short Circuit Protection • Protected to short circuit conditions
- Overtemperature Protection • Thermal shutdown at 110°C, measured on board, auto restart

### General

- Efficiency • 90% for 3.3 V - See Table
- Isolation • 1500 VDC Input to Output
- Size • 2.405" x 2.285" x 0.411" (0.50" with baseplate)
- Package Style • Open frame, baseplate option
- Weight • 90g approx for open frame
- MTBF • 2,000,000 hours calculated to Bellcore

### Environmental

- Operating Temperature (with 400 LFM) • -40° C to +85° C ambient - See Derating Curve  
Full power to +50° C
- Storage Temperature • -55° C to +125° C
- Humidity • 5-95% RH non-condensing

### EMC & Safety

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

## OUTPUT VOLTAGE & CURRENT RATINGS

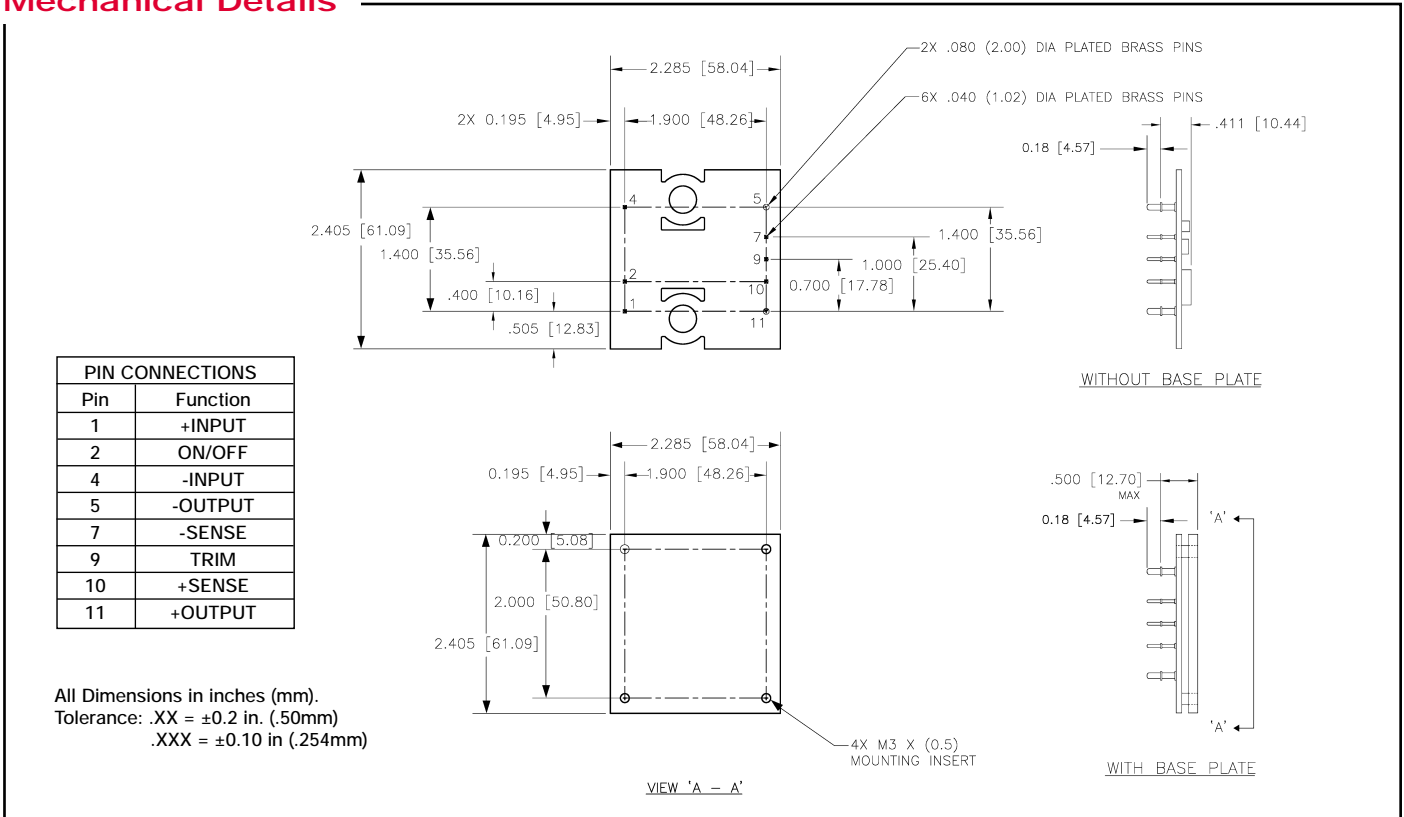
KSH070

Output Power	Output Voltage	Output Current Maximum	Input Current <sup>(6)</sup>	Efficiency	Model Number <sup>(3)</sup>
84 W	1.2 V	70 A	2.13 A	81%	KSH07048S1V2
105 W	1.5 V	70 A	2.57 A	84%	KSH07048S1V5
126 W	1.8 V	70 A	3.02 A	86%	KSH07048S1V8
175 W	2.5 V	70 A	4.10 A	88%	KSH07048S2V5
231 W	3.3 V	70 A	5.35 A	90%	KSH07048S3V3
225 W	5.0 V	45 A	5.27 A	89%	KSH07048S5V0

### Notes

- Standard product is open frame with negative logic.
- Baseplate versions are built to order.
- 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.
- For input reverse voltage protection, use a parallel diode across the input terminals preceded by a 10 A fuse.
- For details on external filtering, contact technical sales.

### Mechanical Details



### Derating Curves

