

Product Brief: Veta™ iHA Series – Half Brick

Veta™ iHA Series DC/DC Power Modules 48V Input, 5V/40A Output Half Brick



Its **91% efficiency** and superior thermal performance make the Veta™ Family of power modules ideally suited for power-hungry applications in demanding thermal environments. This rugged building block is designed to serve as the core of your high reliability system. A wide output voltage **trim range, -46 to +10%**, and remote sensing are standard features enhancing versatility. For a full-featured version of the Veta™ Half Brick, including active current sharing, see the iHD product brief.

Features

- Standard Half Brick footprint
- High efficiency, typical 91%
- Wide output trim voltage
- True 40A product at 5V output
- Industry-leading output power: 200W
- Monotonic start-up
- Starts with a pre-biased output
- Basic insulation – 1500 Vdc
- Auto-recovery protection:
 - Input under and over voltage
 - Current limit
 - Short circuit
 - Thermal limit
- Latched output over voltage
- Optional auto-recovery output over voltage
- High reliability open frame, surface-mount construction
- Baseplate for improved thermal management
- Constant switching frequency
- Optional 0.110" pin length
- Safety agency approvals pending
- Multiple patents pending

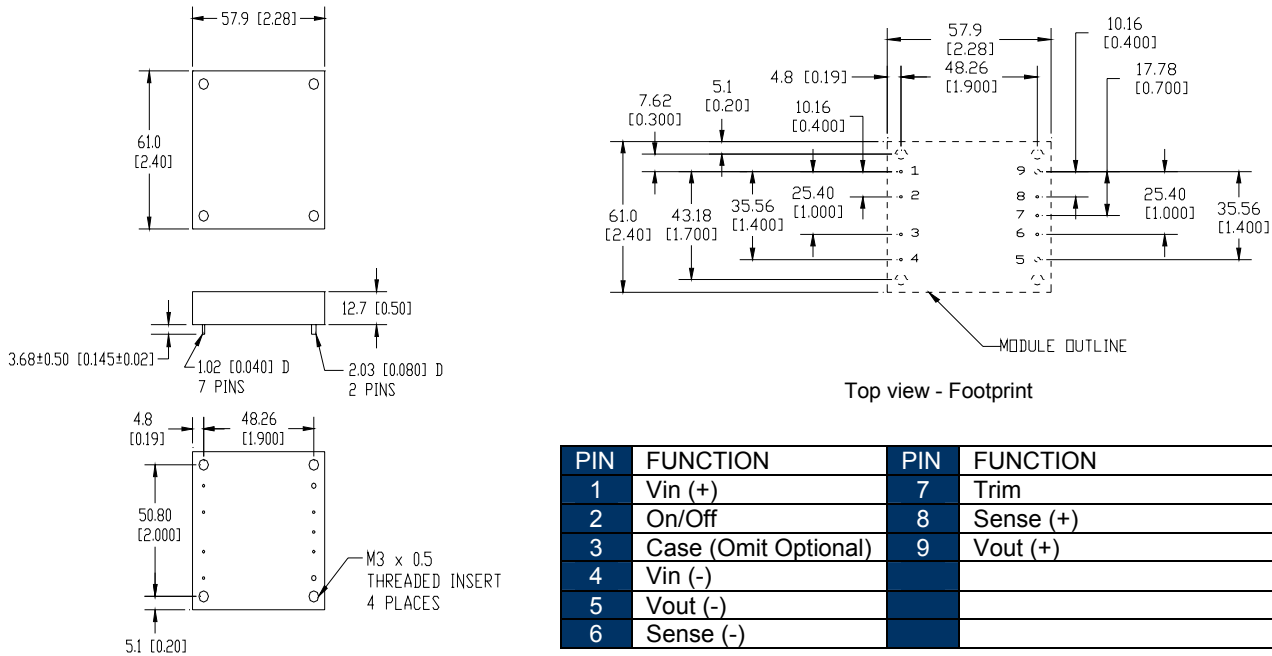
| Base Product Code | Input Voltage | Output Voltage | Output Current | Efficiency |
|-------------------|---------------|----------------|----------------|------------|
| iHA48040A050V | 36-75V | 5V | 40A | 91% |

Typical Performance

| Input Characteristics | | |
|---------------------------|-------------------------|--|
| Operating input range | 36-75V | |
| Transient input voltage | 100V | 100mS max |
| Turn-on voltage | 34V | |
| Turn-off voltage | 32V | |
| Start-up time | 80 mS | On/Off to 90% Vout |
| Maximum input current | 6.8A | Input 0-75V, Io,max |
| Output Characteristics | | |
| Output voltage tolerance | +/- 3% max | Over line, load, and temp to end of life |
| Efficiency | see product table | Full load |
| Line regulation | 2 mV | Over rated input |
| Load regulation | 6 mV | Over rated load |
| Output voltage adjustment | 54%-110% | %Vout,nom |
| Output ripple | 150 mVp-p | 20MHz bandwidth |
| Dynamic response | Load step 25% of Io,max | |
| Transient voltage | 300 mV | slew rate =0.1A/us |
| Recovery time | 350 uS | |
| Ripple frequency | 300 kHz | Fixed |
| Protection | | |
| Current limit inception | 120% of Io,rated | |
| Short circuit | Continuous protection | Auto-recovery (AR) hiccup |
| Output over voltage | 136% of Vout,nom | Latch (AR-optional) |
| Thermal shutdown | 120C | Auto recovery hiccup |
| Environmental | | |
| Operating temperature | -40C to 120C | Measurement point in full datasheet |



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| PIN | FUNCTION | PIN | FUNCTION |
|-----|----------------------|-----|-----------|
| 1 | Vin (+) | 7 | Trim |
| 2 | On/Off | 8 | Sense (+) |
| 3 | Case (Omit Optional) | 9 | Vout (+) |
| 4 | Vin (-) | | |
| 5 | Vout (-) | | |
| 6 | Sense (-) | | |

Ordering Information

| Product Identifier | Package Size | Platform | Input Voltage | Output Current/Power | Output Units | Main Output Voltage | # of Outputs | Safety Class | Feature Set |
|--------------------|--------------|----------|---------------|----------------------|--------------|---------------------|--------------|--------------|---------------|
| i | H | A | 48 | 040 | A | 050 | V | - 0 | 00 |
| TDK Innoveta | Half Brick | Veta™ | 36-75V | 040 – 40 | Amps | 050 – 5.0V | Single | | 00 – Standard |

| Feature Set | On/Off Logic | Omit pin3 | Output OVP | Pin Length |
|-------------|--------------|-----------|---------------|------------|
| 00 | Positive | No | Latching | 0.145" |
| 01 | Negative | No | Latching | 0.145" |
| 02 | Positive | Yes | Auto-Recovery | 0.145" |
| 03 | Negative | Yes | Auto-Recovery | 0.145" |
| 04 | Positive | No | Latching | 0.110" |
| 05 | Negative | No | Latching | 0.110" |
| 06 | Positive | Yes | Auto-Recovery | 0.110" |
| 07 | Negative | Yes | Auto-Recovery | 0.110" |



3320 Matrix Drive
Suite 100
Richardson, Texas 75082

Phone (877) 498-0099 Toll Free
(469) 916-4747

Fax (877) 498-0143 Toll Free
(214) 239-3101

support@tdkinnoveta.com
<http://www.tdkinnoveta.com/>

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