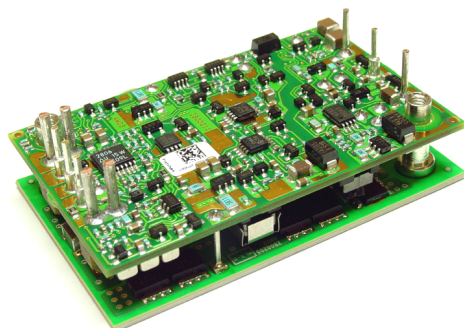


Product Brief: Powereta™ – Single Output High Current Double-P Quarter Brick



Powereta™ iQP Series Double-P Quarter Bricks 48V Input, 3.3V/70A and 2.5V/80A Output

The Powereta™ iQP Series offers an industry standard extra output pins (Double-P) quarter brick high current power module with true useable output power. Its 89% to 91.5% full load efficiency and superior thermal performance make the Powereta™ Series of power modules ideally suited for tight space and 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, -20 to +10%, and remote sensing are standard features enhancing versatility.

Features

- **RoHS Compliant**
- Standard Double-P Quarter Brick Pinout
- Size: 2.28" × 1.45" × 0.5"
- Up to 80A of output current
- Power density: up to 140W / in³
- Maximum efficiency – up to 93.5%
- Full load efficiency: 89% to 91.5%
- Output power – up to 231W in high ambient temperature, low airflow environments with minimal derating
- Wide output voltage trim range
- Industry standard output voltage trim
- Basic insulation – 1500Vdc
- Choice of remote on/off configuration
- Remote sense
- Constant switching frequency
- Latched output over-voltage protection
- Auto-recovery full protections:
 - Input under and over voltage
 - Output over-current
 - Output short circuit
 - Thermal limit
- UL 60950 (US and Canada), VDE 0805, CB scheme (IEC950) Safety markings and CE Mark (EN60950)
- Optional 0.110", 0.145", 0.180" pin length
- Optional non-latching OVP protection
- EMI: CISPR 22 A or B with external filter
- Multiple patents pending
- ISO9000 certified manufacturing facilities

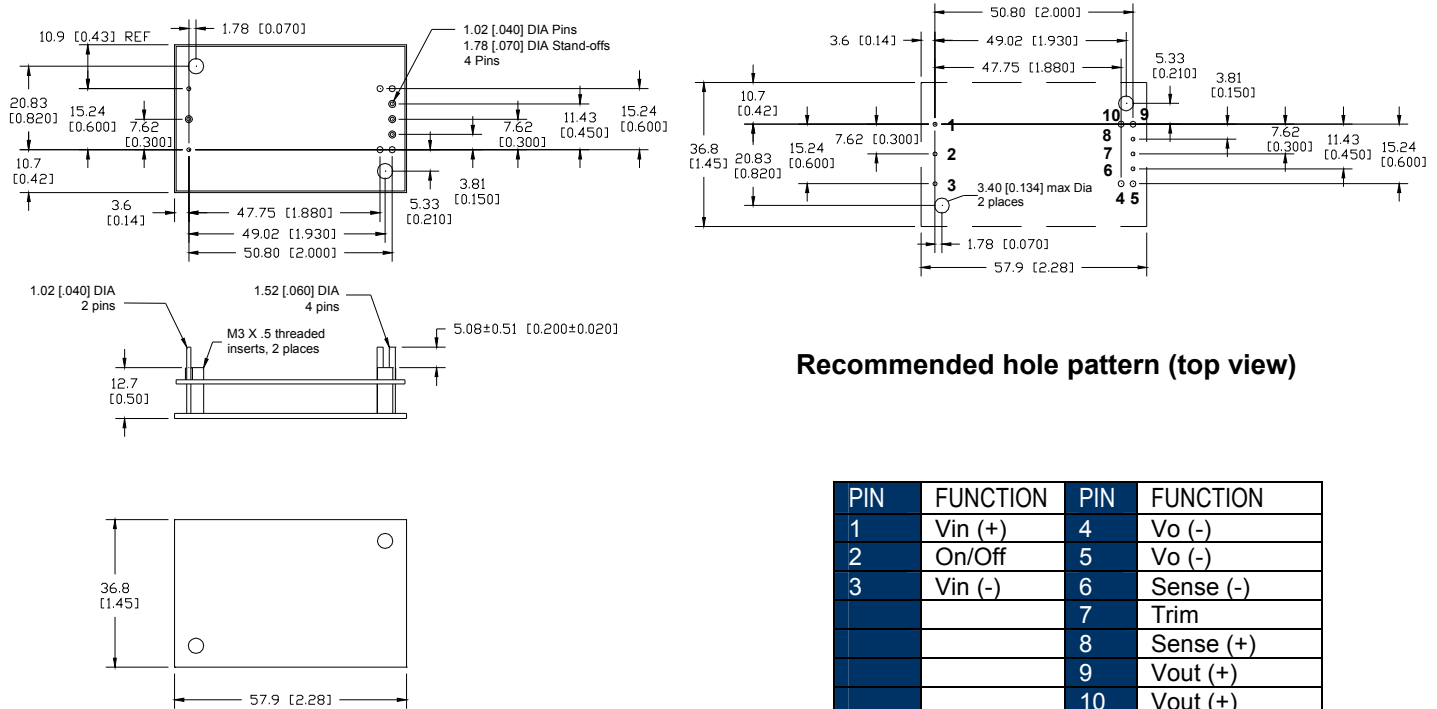
| TDK Innoveta Base Product Code | Input Voltage | Output Voltage | Output Current | Efficiency 70%Load | Efficiency 100%Load |
|--------------------------------|---------------|----------------|----------------|--------------------|---------------------|
| iQP48070A033V | 36-75V | 3.3V | 70A | 92.5% | 91.5% |
| iQP48080A025V | 36-75V | 2.5V | 80A | 90.5% | 89% |

Typical Performance

| Input Characteristics | | |
|---------------------------------------|------------------------------|--|
| Operating input range | 36-75V | |
| Transient input voltage | 100V | 100mS max |
| Turn-on voltage | 34.4V | |
| Turn-off voltage | 32.3V | |
| Maximum input current | 8 A | Input 0-75V, I _{o,max} |
| Output Characteristics | | |
| Output voltage tolerance | +/- 3.3% max | Over line, load, and temp to end of life |
| Efficiency | 89% to 91.5% | I _{o,max} |
| Line regulation | 1 mV | Over rated input |
| Load regulation | 1 mV | Over rated load |
| Start-up time | 25 ms | On/Off to 90% V _o |
| Output voltage adjustment | 80%-110% | %V _{o,nom} |
| Output ripple | 25 - 40 mVp-p | 20MHz bandwidth |
| Dynamic response | | Load step 25% of I _{o,max} |
| Transient voltage | 150 – 200 mV | I _{o,max} |
| Recovery time | 500 - 650 μS | slew rate =0.1A/us |
| Ripple frequency | 270 kHz | Fixed |
| Protection | | |
| Output over-current | 110% of I _{o,rated} | Auto-recovery hiccup |
| Short circuit | Continuous protection | Auto-recovery hiccup |
| Output over-voltage | 121% of V _{out,nom} | Latching |
| Thermal shutdown | 126C | Auto recovery with hysteresis |
| Environmental | | |
| Operating temperature, T _c | -40C to 119C | See full datasheet |

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Dimensions are in mm [in]. Unless otherwise specified tolerances are: $x.x \pm 0.5$ [0.02], $x.xx \pm 0.25$ [0.010].



Ordering Information

| Product Identifier | Package Size | Platform | Input Voltage | Output Current | Output Units | Output Voltage | # of Outputs | Safety Class | Feature Set |
|--------------------|---------------|----------|---------------|------------------------|--------------|--------------------------|--------------|--------------|---------------|
| i | Q | P | 48 | 70 | A | 033 | V | - | 0 |
| TDK Innoveta | Quarter-Brick | Double-P | 36-75V | 070 – 70A 080 – 80A | Amps | 033 – 3.3V 025 – 2.5V | Single | | 05 – Standard |

| Feature Set | On/Off Logic | OVP | Pin Length |
|-------------|--------------|-----------|------------|
| 00 | Positive | Latch | 0.145" |
| 01 | Negative | Latch | 0.145" |
| 02 | Positive | Latch | 0.110" |
| 03 | Negative | Latch | 0.110" |
| 04 | Positive | Latch | 0.200" |
| 05 | Negative | Latch | 0.200" |
| 06 | Positive | Non-Latch | 0.145" |
| 07 | Negative | Non-Latch | 0.145" |
| 08 | Positive | Latch | 0.180" |
| 09 | Negative | Latch | 0.180" |

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