

Supereta™ iQM Series DC/DC Power Modules 48V Input, 12V Output, 204W Quarter Brick



The Supereta™ iQM Series offers an **industry standard quarter brick** high current power module with true useable output power. The iQM series power modules are ideally suited for high-density distributed power architectures where the demands of voltage and substantial load mandate the creation of a robust local intermediate 12Vdc distribution bus. Its **90.5% efficiency** and superior thermal performance make the Supereta™ 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

- **Standard Quarter Brick Footprint**
- **Up to 17A of output current**
- **Power density – 123W / in³**
- **Efficiency – up to 92.5%**
- **Full load efficiency – 90.5%**
- **Output power – up to 204W in high ambient temperature, low airflow environments with minimal derating**
- **Wide output voltage trim range**
- **Basic insulation – 1500Vdc**
- Choice of remote on/off configuration
- Industry standard output voltage trim
- 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", 0.180", 0.200" pin length
- Optional non-latching OVP protection
- EMI: CISPR 22 A or B with external filter
- Multiple patents pending
- ISO9000 certified manufacturing facilities

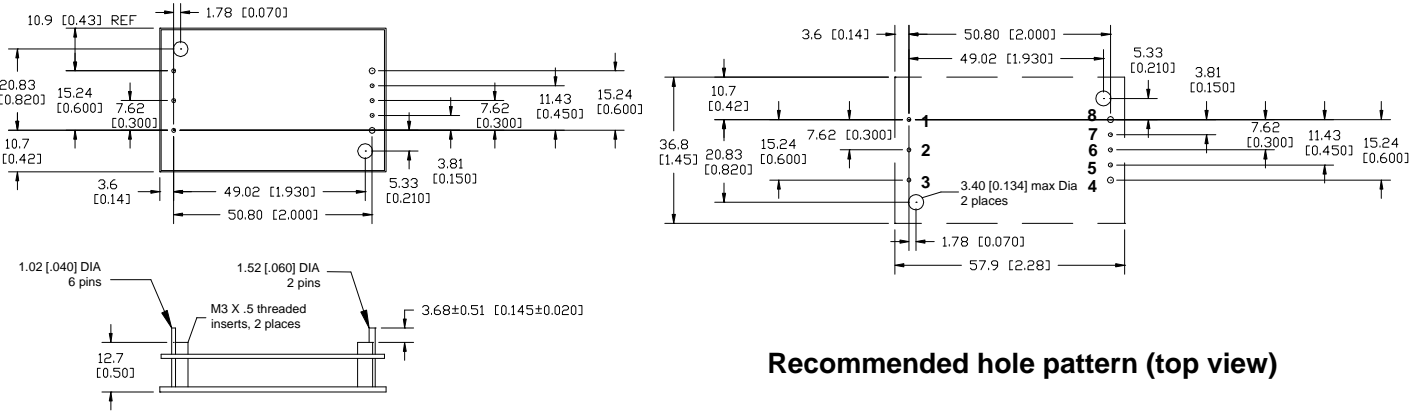
TDK Innoveta Base Product Code	Input Voltage	Output Voltage	Output Current	Efficiency 75% Load	Efficiency 100%Load
iQM48017A120V	36-75V	12V	17A	91.0%	90.5%

Typical Performance

Input Characteristics		
Operating input range	36-75V	
Transient input voltage	100V	100mS max
Turn-on voltage	34.5V	
Turn-off voltage	32.2V	
Start-up time	50 mS	On/Off to 90% Vout
Maximum input current	7 A	Input 0-75V, Io,max
Output Characteristics		
Output voltage tolerance	+/- 3.3% max	Over line, load, and temp to end of life
Efficiency	see product table	Io,max
Line regulation	3 mV	Over rated input
Load regulation	3 mV	Over rated load
Output voltage adjustment	80%-110%	%Vo,nom
Output ripple	60 mVp-p	20MHz bandwidth
Dynamic response	Load step 25% of Io,max	
Transient voltage	300 mV	
Recovery time	800 μS	slew rate =0.1A/us
Ripple frequency	310 kHz	Fixed
Protection		
Output over-current	110% of Io,rated	Auto-recovery hiccup
Short circuit	Continuous protection	Auto-recovery hiccup
Output over-voltage	120% of Vout,nom	Latching
Thermal shutdown	126C	Auto recovery with hysteresis
Environmental		
Operating temperature	-40C to 117C	See full datasheet

Advance Product Brief: Supereta™ Series – Single Output High Current Quarter Brick

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



Recommended hole pattern (top view)

PIN	FUNCTION	PIN	FUNCTION
1	Vin (+)	4	Vo (-)
2	On/Off	5	Sense (-)
3	Vin (-)	6	Trim
		7	Sense (+)
		8	Vout (+)

Ordering Information

Product Identifier	Package Size	Platform	Input Voltage	Output Current/Power	Output Units	Main Output Voltage	# of Outputs	Safety Class	Feature Set
i	Q	M	48	017	A	120	V	- 0	00
TDK Innoveta	Quarter-Brick	Supereta	36-75V	017 – 17A	Amps	120 – 12V	Single		00 – 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"

TDK Innoveta Inc.

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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