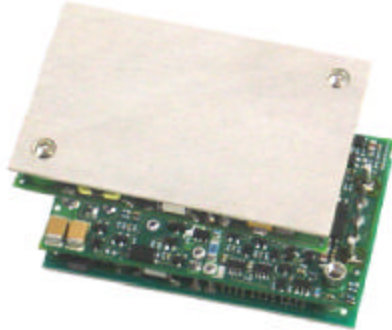


Advance Product Brief: Supereta™ Series – Single Output High Current Quarter Brick



Supereta™ iQM Series DC/DC Power Modules 48V Input, 1.5V/70A Output Quarter Brick

The Supereta™ iQM Series offers an industry standard quarter brick high current power module with true useable output power. Its 82% full load efficiency (85% at 75% of full load) 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 70A of output current
- Power density – 63.5W / in³
- Efficiency – up to 88%
- Full load efficiency – 82%
- Output power – up to 105W in high ambient temperature, low airflow environments with minimal derating
- Metal board based design with high usable power
- 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

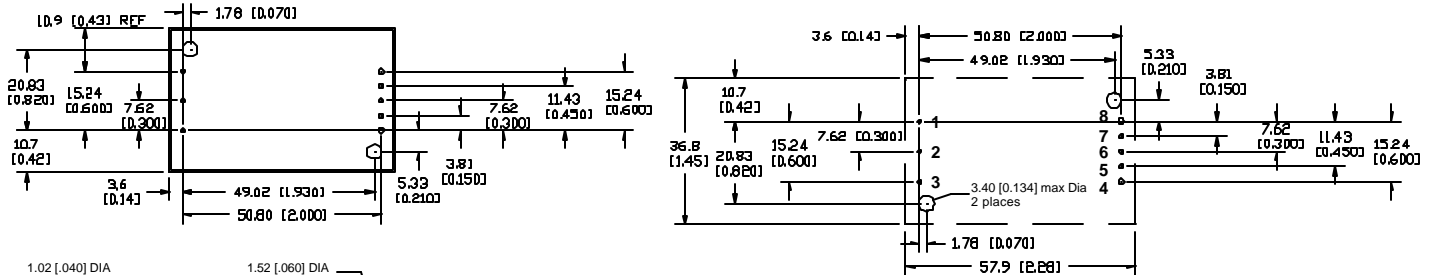
TDK Innoveta Base Product Code	Input Voltage	Output Voltage	Output Current	Efficiency 75% Load	Efficiency 100%Load
iQM48070A015V	36-75V	1.5V	70A	85%	82%

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	25 mS	On/Off to 90% Vout
Maximum input current	4.5 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	see product table	I _{o,max}
Line regulation	1 mV	Over rated input
Load regulation	1 mV	Over rated load
Output voltage adjustment	80%-110%	%V _{o,nom}
Output ripple	60 mVp-p	20MHz bandwidth
Dynamic response		Load step 25% of I _{o,max}
Transient voltage	100 mV	
Recovery time	300 μS	slew rate =0.1A/us
Ripple frequency	280 kHz	Fixed
Protection		
Output over-current	110% of I _{o,rated}	Auto-recovery hiccup
Short circuit	Continuous protection	Auto-recovery hiccup
Output over-voltage	122% of V _{out,nom}	Latching
Thermal shutdown	126C	Auto recovery with hysteresis
Environmental		
Operating temperature	-40C to 120C	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].



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	070	A	015	V	- 0	00
TDK Innoveta	Quarter-Brick	Supereta	36-75V	070 – 70A	Amps	015 – 1.5V	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"

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