

Product Brief: Dualeta™ iQA Series – Dual Quarter Brick



Dualeta™ iQA Series DC/DC Power Modules 48V Input, 15A Output Dual Output Quarter Brick

The Dualeta™ Family is a **75W** family of highly versatile, **independently regulated, dual output quarter brick** power modules with output voltage tracking. Its output current loading scheme is fully flexible: **0 to 15A** can be drawn from either output with no minimum load requirements. An **ultra wide range independent output trim** allows the realization of dual output voltage combinations between 1.5 and 5.5V. The superior versatility of the Dualeta™ family substantially reduces the quantity of distinct part numbers in the end user part portfolio, lowering cost of ownership.

Features

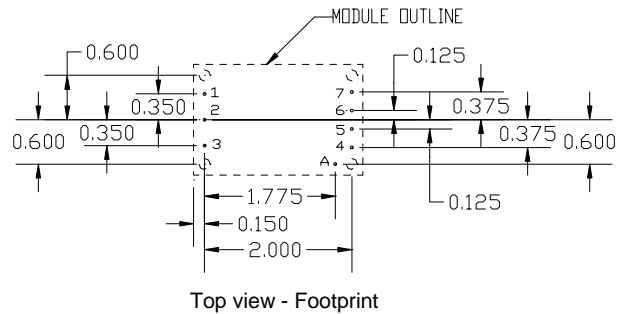
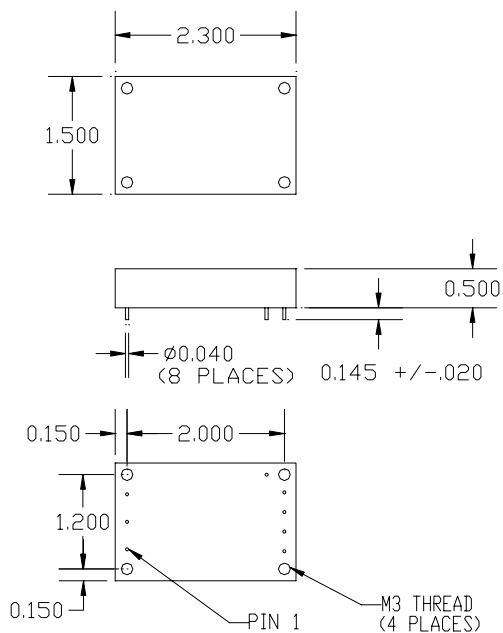
- **Standard Dual Quarter Brick format**
- **A single module which can support all your dual voltage requirements between 1.5V and 5.5V**
- **Two output trim options:**
 - **Standard Dual Trim** – wide range independent adjustment of either output, using two trim pins
 - **Optional Single Tracking Trim** – adjust both outputs together by 10% according to industry standard resistor tables
- **Independently regulated, tight tolerance outputs**
- **Flexible loading: 0-15A from either output, 15A total load**
- **High efficiency – up to 89%**
- **Industry-leading output power: 75W**
- **Basic insulation – 1500 Vdc**
- **Full, auto-recovery protection:**
 - Input under and over voltage
 - Output over voltage
 - Current limit
 - Short circuit
 - Thermal limit
- **Monotonic, tracking start-up**
- **Starts with pre-biased outputs**
- **High reliability open frame, surface mount construction**
- **Baseplate for improved thermal management**
- **Optional 0.110" pin length**
- **Safety agency approvals pending**
- **Multiple patents pending**

Base Product Code	Input Voltage	Output Voltage	Total Output Current	Efficiency
iQA48015A050M	36-75V	5.0/3.3V	15A	87%
iQA48015A033M	36-75V	3.3/2.5V	15A	85%

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	60 mS	On/Off to 90% Vout	
Maximum input current	3.0A	Input 0-75V, I _{o,max}	
Output Characteristics			
Output voltage tolerance	+/- 3% max	Over line, load, and temp to end of life	
Efficiency	see product table	7.5A on each output	
Line regulation	2 mV	Over rated input	
Load regulation	5 mV	Over rated load	
Output voltage adjustment			Vo2 < (Vo1 - 0.3)
Dual trim option	1.5V to 5.5V	Either output	
Tracking trim option	90%-110%	%Vo _{nom}	
Output ripple	40 mVp-p	20MHz bandwidth	
Dynamic response	Load step 25% of I _{o,max} slew rate =0.1A/us		
Transient voltage	100 mV		
Recovery time	100 uS		
Ripple frequency	280 kHz	Fixed	
Protection			
Current limit inception	120% of I _{o,rated}		
Short circuit	Continuous protection	Auto-recovery hiccup	
Output over voltage	125% of V _{out,nom}	Auto-recovery hiccup	
Thermal shutdown	115C	Auto-recovery hiccup	
Environmental			
Operating temperature	-40C to 110C	Measurement point in full datasheet	

Product Brief: Dualeta™ iQA Series – Dual Quarter Brick



PIN	FUNCTION	PIN	FUNCTION
1	Vin (+)	5	Output RTN
2	On/Off (-)	6	Vo1 Trim (Optional: Single tracking trim pin)
3	Vin (-)	7	Vo1 (+)
4	Vo2 (+)	A	Vo2 Trim (Optional: Omit for single trim pin option)

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	A	48	015	A	050	M	- 0	00
Innoveta Technologies™	Quarter Brick	Dualeta™	36-75V	15	Amps	050 – 5.0V 033 – 3.3V	Multiple		00 – Standard

Feature Set	On/Off Logic	Pin Length	Trim
00	Positive	0.145"	Dual independent pins
01	Negative	0.145"	Dual independent pins
02	Positive	0.145"	Single tracking pin
03	Negative	0.145"	Single tracking pin
04	Positive	0.110"	Dual independent pins
05	Negative	0.110"	Dual independent pins
06	Positive	0.110"	Single tracking pin
07	Negative	0.110"	Single tracking pin