

Product Brief: Metamere iAA Series – Non-isolated Surface Mount Power Module

Metamere iAA Series DC/DC Power Modules 3 and 5V Inputs, 15A Output Surface Mount Power Module



The Metamere Series offers a 50W power module in the industry's standard surface-mount footprint. The Metamere series utilizes a low component count that results in a low cost while still providing high performance. The open-frame, compact design provides flexibility by performing local voltage conversion of either a 5V or 3.3V bus. The low weight, surface mount design is well suited for almost any manufacturing environment.

Features

- **Size - 33mm x 13.5 mm x 8.5 mm (1.3 in. x 0.53 in. x 0.335 in.)**
- **Surface mountable**
- **Maximum weight 12g (0.42 oz)**
- **Up to 50W of output power in high ambient temperature, low airflow environments with minimal power derating**
- **Positive logic on/off**
- **Starts with pre-biased output**
- Output voltage adjustment
- Constant switching frequency
- Full, auto-recovery protection:
 - Input under voltage
 - Short circuit
 - Thermal limit
- Applying for UL 60950 (US and Canada), VDE 0805, CB scheme (IEC950) Safety markings

Optional Features

- On/Off (negative logic)

Base Product Code	Input Voltage	Output Voltage	Output Current	Efficiency
IAA05015A033V	4.5-5.5	3.3V	15A	95%
IAA05015A025V	3.0-5.5	2.5V	15A	93%
IAA05015A008V	3.0-5.5	0.75V-3.63V	15A	94%

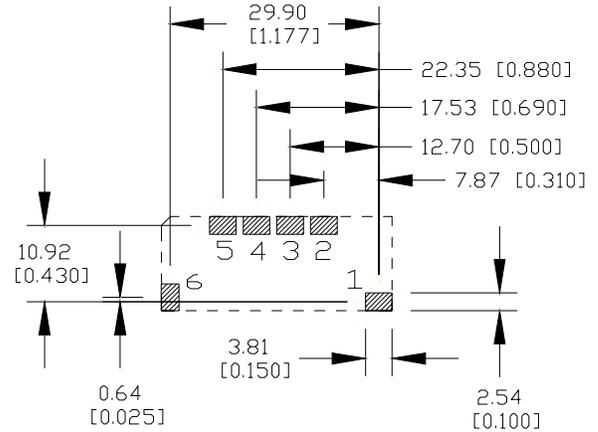
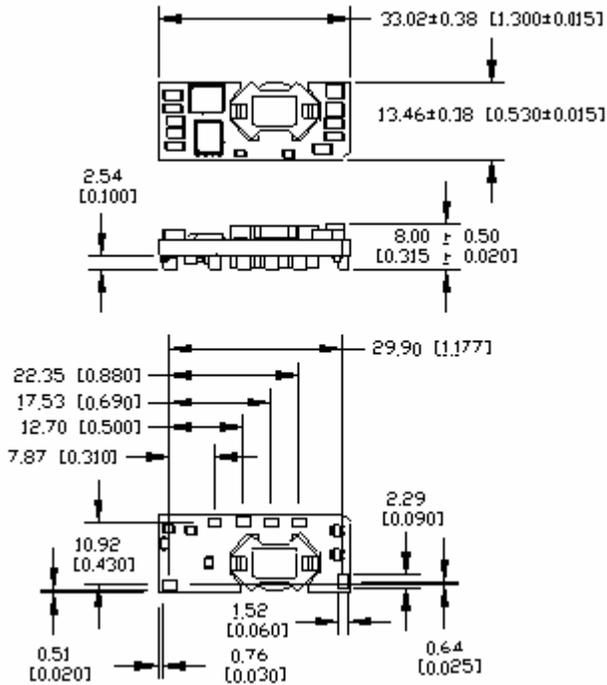
Typical Performance

Input Characteristics		
Operating input range	3-5.5V	Except 3.3V out (4.5-5.5)
Transient input voltage	6V	10mS max
Turn-on voltage	2.3V	
Turn-off voltage	2.1V	
Start-up time	15 mS	On/Off to 90% Vout
Maximum input current	16A	Input 0-5.5V, Io,max
Output Characteristics		
Output voltage tolerance	+/- 3.5% max	Over line, load, and temp to end of life
Efficiency	see product table	Io,max
Line regulation	2 mV	Over rated input
Load regulation	5 mV	Over rated load
Output voltage adjustment	90%-110%	%Vo,nom
Output ripple	40 mVp-p	20MHz bandwidth
Dynamic response		Load step 25% of Io,max
Transient voltage	175 mV	slew rate =2.5A/us
Recovery time	25 uS	
Ripple frequency	300 kHz	Fixed
Protection		
Current limit inception	230% of Io,rated	
Short circuit	33% of Io,rated	Auto-recovery hiccup
Environmental		
Operating temperature	-40C to 125C	Measurement point in full datasheet



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Dimensions are in mm [inches]



Top view - Footprint

PIN	FUNCTION	PIN	FUNCTION
1	Vin	4	Trim
2	Gnd	5	Sense
3	Vout	6	On/Off

Ordering Information

Product Identifier	Package Size	Platform	Input Voltage	Output Current/Power	Output Units	Main Output Voltage	# of Outputs	Safety Class	Feature Set
i	A	A	05	015	A	033	V	- 0	00
TDK Innoveta	33mm x 13.5 mm	Metamere SMT	3-5.5V	015 – 15	Amps	033 – 3.3V 025 – 2.5V 018 – 1.8V 015 – 1.5V 012 – 1.2V	Single		00 – Standard



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Feature Set	On/Off Logic
00	Positive
01	Negative

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