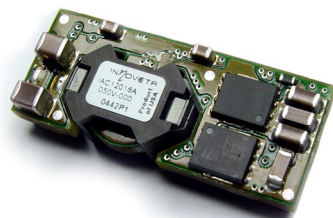




Product Brief: iAC Series – Non-isolated Surface Mount Power Module

iAC Series DC/DC Power Modules 6-14V Input, 16A Output Surface Mount Power Module



The iAC Series offers an 80W power module in the industry's standard surface-mount footprint. The iAC 12Vin series offers an ultra wide input voltage range of 6-14V. It is highly suitable for use in conjunction with 4:1 and 5:1 unregulated bus converters as well as with fully regulated 12Vout bus converters. The open-frame, compact design provides flexibility by performing local voltage conversion of a 12V bus. The low weight, surface mount design is well suited for almost any manufacturing environment.

Features

- **Size - 33mm x 13.5 mm x 8 mm**
(1.3 in. x 0.53 in. x 0.315 in.)
- **Surface mountable**
- **Maximum weight 12g (0.42 oz)**
- **Up to 80W of output power in high ambient temperature, low airflow environments with minimal power derating**
- **Positive logic on/off**
- **Output voltage sequencing**
- **Starts with pre-biased output**
- Output voltage adjustment
- Constant switching frequency
- Full, auto-recovery protection:
 - Input under voltage
 - Current limit
 - Short circuit
 - Thermal limit
- Applying for UL 60950 (US and Canada), VDE 0805, CB scheme

Optional Features

- On/Off (negative logic)
- No output voltage sequencing
- Industry Standard Narrow 9.6V-14V Input Voltage Range



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Base Product Code	Input Voltage	Output Voltage	Output Current	Efficiency
iAC12016A008V	6-14	0.8-5.0V	16A	94%

Typical Performance

Input Characteristics		
Operating input range	6-14V	Vout>3.63 (8.3-14)
Transient input voltage	15V	
Turn-on voltage	4.9V	Io=Io,max
Turn-off voltage	4.3V	Io=Io,max
Start-up time	8 mS	On/Off to 90% Vout
Maximum input current	18A	Input 0-14V, Io,max
Output Characteristics		
Output voltage tolerance 5.0V and below	+/- 3.5% max	Over line, load, and temp to end of life
Efficiency	94%	Vout=5V, Io,max
Line regulation	2 mV	Over rated input
Load regulation	8 mV	Over rated load
Output ripple	50 mVp-p	20MHz bandwidth
Ripple frequency	315 kHz	Fixed
Protection		
Current limit inception	170% of Io,rated	
Short circuit	2 % of Io,rated	Auto-recovery hiccup
Environmental		
Operating temperature	-40°C to 125°C	Measurement point in full datasheet

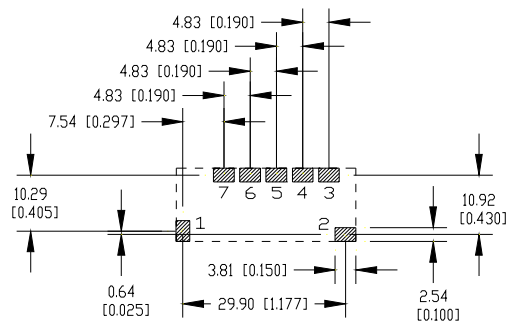
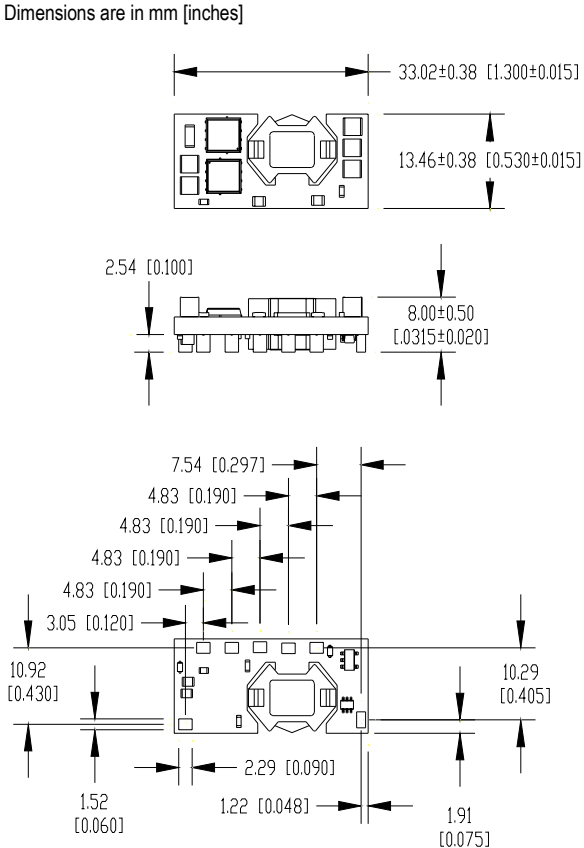
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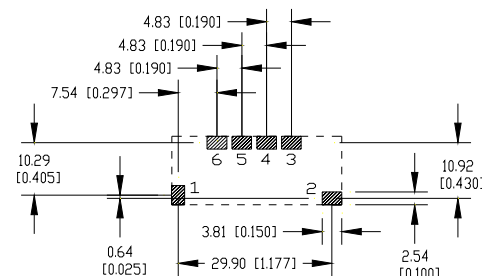
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Dimensions are in mm [inches]



-000, -001, -004, -005 Top view - Footprint

PIN	FUNCTION	PIN	FUNCTION
1	On/Off	5	Vout
2	Vin	6	Trim
3	Seq	7	Sense
4	Gnd		



-002, -003, -006, -007 Top view – Footprint

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

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	C	12	016	A	008	V	- 0	00
TDK Innoveta Inc.	33mm x 13.5 mm	C – Metamere surface mount	6-14V or 9.6-14V	016 – 16	Amps	008-0.8V to 5.0V	Single		00 – Standard

Option Table:

Feature Set	Positive Logic On/Off	Negative Logic On/Off	Sequencing	Wide (6-14V) Input Range	Industry Standard (9.6-14V) Input Range
00	x		x	x	
01		x	x	x	
02	x			x	
03		x		x	
04	x		x		x
05		x	x		x
06	x				x
07		x			x