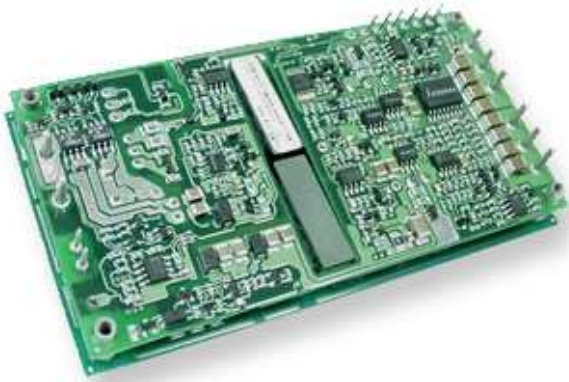


Product Brief: Maxeta™ iFA Series –Full Brick Power Modules



Maxeta™ iFA Series DC/DC Power Modules 48V Input, 12V / 50A Output, 600W Full Brick

The Maxeta™ Series power modules are ideally suited for extremely high-density distributed power architectures where the demands of voltage and substantial load mandate the creation of a robust local intermediate 12Vdc distribution bus. With typical 92% efficiency, a power density greater than 108W per cubic inch and a total power and current output capability of 600W and 50A respectively, Maxeta™ Series offers the highest efficiency, power density and usable output power in a full brick package currently available. A wide output voltage trim range, -40% to +10%, remote sensing, power good indication, isolated remote on/off control, and single wire active current sharing are standard features enhancing versatility.

Features

- Industry Standard 600W Full Brick
- Power density: > 108W / inch³
- High efficiency: up to 94.5%
- Full load efficiency: 92% at nominal input
- 75% load efficiency: 93% at nominal input
- Up to 600W of output power in high ambient temperature with air flow
- Metal board design with high usable power 29A at 65C, 200LFM (1m/s), no heat sink
- Meets basic insulation requirements
- Single wire forced current sharing
- Start-up into pre-biased output bus
- User selectable on/off (either positive or negative logic)
- Wide output voltage adjustment range
- Auto-recovery protection:
 - Input under and over voltage
 - Current limit
 - Short circuit
 - Thermal limit
- Latched output over-voltage protection
- Constant switching frequency
- Optional 0.110" pin length
- Optional thru-hole PEM mounting stud
- UL 60950 (US and Canada), VDE 0805, CB scheme (IEC950)
- CE Mark (EN60950)
- CISPR 22 Class A/B with external filters
- US 6,618,274. Other patents pending
- ISO Certified manufacturing facilities

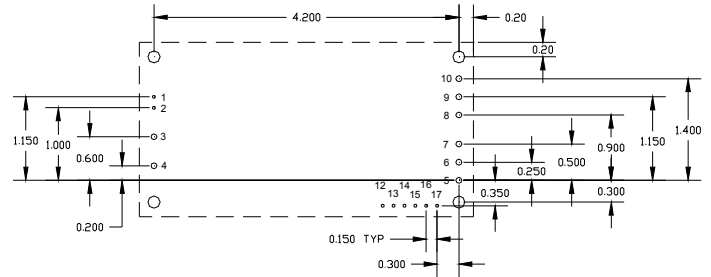
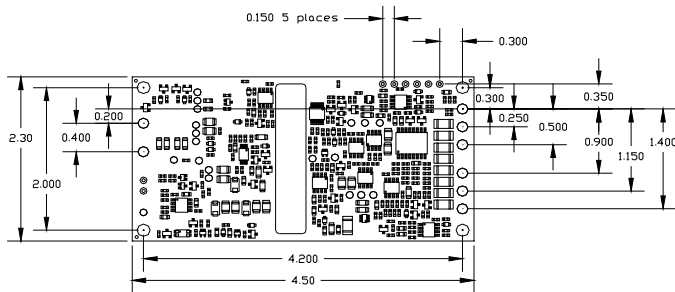
Base Product Code	Input Voltage	Output Voltage	Output Current	Efficiency
iFA48050A120V	36-75V	12.0V	50A	92%

Typical Performance

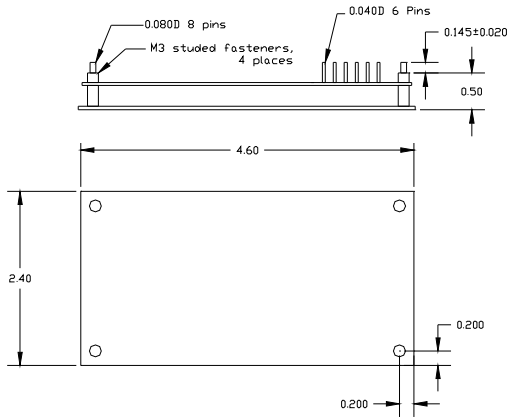
Input Characteristics		
Operating input range	36-75V	
Transient input voltage	100V	100mS max
Turn-on voltage	34.7V	
Turn-off voltage	32.4V	
Start-up time	58 mS	On/Off to 90% V _{out}
Maximum input current	18A	Input 0-75V, I _{o,max}
Output Characteristics		
Output voltage tolerance	+/- 3% max	Over line, load, and temp to end of life
Efficiency	92%	Nominal input, full load
Line regulation	10 mV	Over rated input
Load regulation	5 mV	Over rated load
Output voltage adjustment	60% - 110%	P _o ≤ P _{o,max}
Output ripple	120 mVp-p	20MHz bandwidth
Dynamic response		Load step 25% of I _{o,max} slew rate =0.1A/us
Transient voltage	550 mV	
Recovery time	500 uS	
Ripple frequency	320 kHz	Fixed
Protection		
Current limit inception	110% of I _{o,rated}	V _o =90% of V _{o,nom}
Short circuit	3 A	Auto recovery hiccup
Output over-voltage	123% of V _{o,nom}	Latching
Environmental		
Operating temperature	-40°C to 115°C	Measurement point in full datasheet



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Recommended hole pattern



PIN	FUNCTION	PIN	FUNCTION
1	ON/OFF (+)	10	Vout (+)
2	ON/OFF (-)	11	Not Present
3	Vin (+)	12	AUX Output
4	Vin (-)	13	Power Good
5	Vout (-)	14	Parallel Control
6	Vout (-)	15	Trim
7	Vout (-)	16	Sense (+)
8	Vout (+)	17	Sense (-)
9	Vout (+)	18	

Ordering Information

Product Identifier	Package Size	Platform	Input Voltage	Output Current/Power	Output Units	Main Output Voltage	# of Outputs	Safety Class	Feature Set
i	F	A	48	050	A	120	V	- 0	00
TDK Innoveta	Full Brick	Standard Maxeta™	36-75V	050 – 50	Amps	120 – 12V	Single		00 – Standard

Feature Set	OVP Out Replaces Power Good	Pin Length	PEM Stud Style
00	No	0.145"	Threaded
01	No	0.110"	Threaded
02	Yes	0.145"	Threaded
03	Yes	0.110"	Threaded
20	No	0.145"	Thru-hole

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