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

Maxeta™ iFA Series DC/DC Power Modules

24V Input, 28V Output, 504W and 602W Full Bricks

The Maxeta™ series power modules are ideally suited for wireless applications to power RF amplifiers. With a typical 89% full load efficiency (90% at 80% load), a power density of 108W per cubic inch and a total power and current output capability of 602W and 21.5A respectively, the Maxeta™ series offers the highest efficiency, power density and usable power for low input voltage applications in a standard full brick package currently available. A very wide output voltage trim range, -40% to +10%, remote sensing, and isolated remote on/off control are standard features enhancing versatility. The Maxeta™ series modules are also suited for other telecommunication applications.

Features

- Industry Standard Full Brick
- Power density: > 108W / inch^3
- High efficiency: up to 92%
- Nominal input efficiency: 89% at full load
- Nominal input efficiency: 90% at 80% load
- Up to 602W of output power in high ambient
- Meets basic insulation requirements
- Voltage foldback constant current limit
- Single wire current sharing (possible)
- Start-up into pre-biased output bus
- Isolated remote ON/OFF control
- Wide output voltage adjustment range
- Auto-recovery protection:
  - Input under and over voltage
  - Short circuit
  - Thermal limit
- Latched output over-voltage protection
- High reliable open frame SMT construction
- Base-plate for improved heat transfer
- Constant switching frequency
- Safety agency: UL60950, VDE, EN60950
- EMI: CISPR Class A/B with external filters
- Multiple patents
- Optional 0.110” pin length
- Optional thru-hole PEM studs mounting
- Power good indication (possible)
- Auxiliary (10V) logic power (possible)

Base Product Code	Input Voltage	Output Voltage	Output Current	Efficiency
iFA24021A280V	19-36V	28V	21.5A	89%
iFA24018A280V	19-36V	28V	18A	90%

Typical Performance

Input Characteristics		
Operating input range	19-36 V	
Transient input voltage	50 V	100mS max
Turn-on voltage	17.9 V	
Turn-off voltage	16.1 V	
Start-up time	50 mS	On/Off to 90% Vout
Maximum input current:	36A	Input 0-75V, Io,max
Output Characteristics		
Output voltage tolerance	+/- 3% max	Over line, load, and temp to end of life
Efficiency:	89%	Nominal input, full load, Tc=25C
Line regulation:	20 mV	Over rated input
Load regulation:	10 mV	Over rated load
Output voltage adjustment	60% - 110%	Po ≤ Po,max
Output ripple:	60 mVp-p	20MHz bandwidth
Dynamic response Transient voltage Recovery time	 200 mV 120 µS	Load step 25% of Io,max slew rate =0.1A/us
Ripple frequency:	310 kHz	Fixed
Protection		
Current limit inception	115% of Io,rated	Vo=90% of Vo,nom
Short circuit	1.4 A	Auto recovery hiccup
Output over-voltage	121% of Vo,nom	Latching
Thermal shutdown	125C	Auto recovery with hysteresis
Environmental		
Operating temperature (Tc)	-40°C to 115°C	Measurement point in full datasheet

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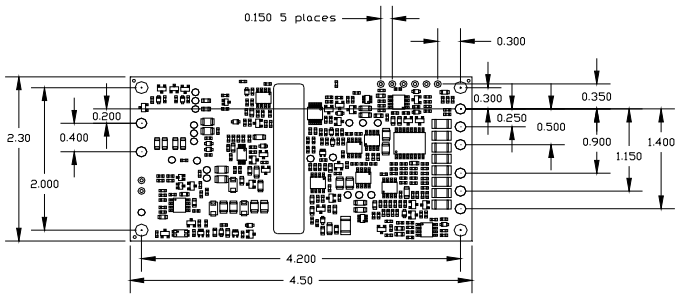
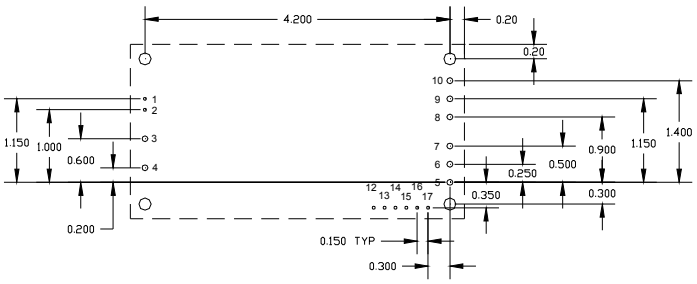
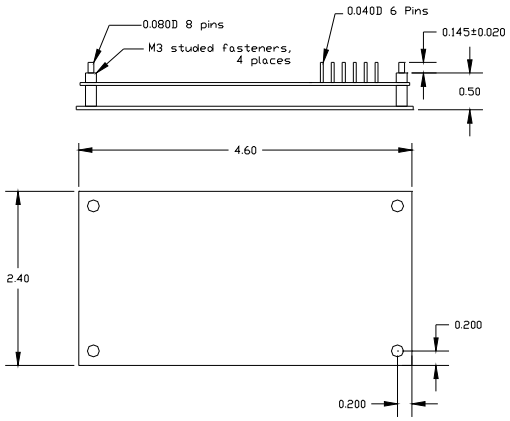




Recommended hole pattern



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	24	021	A	280	V	-	0	00
TDK Innoveta	Full Brick	Standard Maxeta ™	19 - 36V	021 – 21.5	Amps	280 – 28V	Single			00 – Standard >00 – See option table

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
26	No	0.200”	Thru-hole (Special code)

TDK Innoveta Inc.
3320 Matrix Drive, Suite 100
Richardson, Texas 75082

Phone (877) 498-0099 Toll Free
(469) 916-4747
Fax (877) 498-0143 Toll Free
(214) 239-3101
support@tdkinnoveta.com
http://www.tdkinnoveta.com/

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