flex Power Modules

DC/DC Converters for RF & Microwave Power Amplifier applications

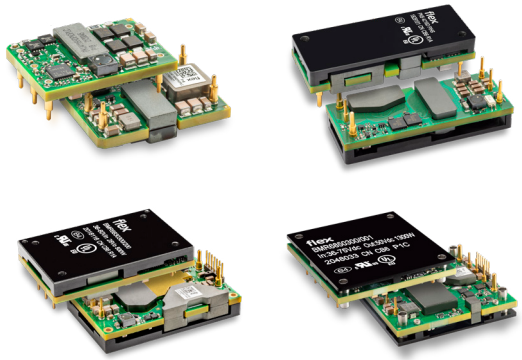
In its simplest form, a radio-frequency power amplifier (RFPA) converts a low-power radio frequency signal into a higher powered signal. These RFPAs drive transmitter antennas used in wireless and satellite communication systems for both commercial and defense industries, as well as radar and sonar equipment. With the increasing rollout of 5G applications worldwide, RFPAs need to evolve accordingly.

RFPAs for 5G applications require more power than 4G versions. However, it is important that efficiency is maintained, or even improved, to keep energy consumption manageable, affordable, and environmentally friendly. Any solution must also be compact to fit into base stations' available spaces and in other equipment, and light enough to be conveniently installed by the least number of engineers.

A noticeable trend in RFPA is the shift from LDMOS to Gallium Nitride (GaN) transistors, attributed to their inherently high voltage breakdown tolerance, high power density, large bandwidth, and higher efficiency.

As designers study power and efficiency in all relevant parts of their systems, one key area is the power supply subsystem, specifically the DC/DC conversion.

This is where we offer a wide portfolio of analog and digital DC/DC converters. Our RFPA products come in different form factors from sixteenth to half brick packages, delivering power levels from 100W to 1300W, at efficiency levels of up to 97%.



For Microwave applications, lower power solutions of 100W are available in sixteenth brick packages, delivering low power radio-specific output voltages of 5-7V and a wide range of 12V IBC solutions.

Latest RFPA & Microwave Power Modules

Sixteenth Brick

PKU-C – Wide output trim DC/DC (100W)

- 36-75V input and 10-33V output range
- Open frame for conducted cooling
- High efficiency of 93% at full load

PKU-D – Thermally optimized DC/DC (100-110W)

- 36-75V and 30-60V input and 12V output versions
- 36-60V input range and 55V output version
- Isolation 2250V
- Excellent thermal performance

Quarter Brick

PKM-D – Isolated DC/DC converter (up to 504W)

- 36-75V input range; output voltages 28V (14-35V) and 50V (25-55V)
- Fully regulated
- Single stage converter

BMR684 - Digital DC/DC (700W)

- 36-75V input range; output 28V (25-55V)
- Isolation 1500V
- Digital interface for PMBus & FPD

Eighth Brick

PKB-C – Wide output trim DC/DC converter (200W)

- 36-75 input range; 15-33V variable output voltage
- Open frame for conducted cooling
- High efficiency of 95% at half load

Half Brick

PKJ – Isolated converter (up to 700W)

- 36-75V input range; output voltages 28V (14-35V) and 50V (25-55V)
- High efficiency of 96.5% at full load
- Excellent thermal performance

BMR685 – Digital, isolated DC/DC (up to 1300W)

- 36-75V input range; output 50V (25-55V)
- Excellent thermal performance
- High efficiency of 96.8% at full load

Focus Products

PRODUCT NUMBER	V_{in}	V_{out}	P_{out}	EFFICIENCY	FORM FACTOR
PKU4116C	36-75V	10-33V	100W	93%	Sixteenth Brick
PKU4913D	36-75V	12V	100W	94%	Sixteenth Brick
PKU3913D	30-60V	12V	100W	93%	Sixteenth Brick
PKU4116HD	36-60V	55V	110W	92%	Sixteenth Brick
PKB4216C	36-75V	15-33V	200W	95%	Eighth Brick
PKB4216HD	36-60V	40-55V	250W	94%	Eighth Brick
PKM4516AD	36-75V	14-35V	500W	96%	Quarter Brick
PKM4516HD	36-75V	25-55V	500W	95%	Quarter Brick
PKJ4716A	36-75V	14-35V	700W	96%	Half Brick
PKJ4716H	36-75V	25-55V	700W	96%	Half Brick
DIGITAL SOLUTIONS					
BMR684	36-75V	25-55V	700W	96%	Quarter Brick
BMR685	36-75V	25-55V	1300W	97%	Half Brick

Visit flexpowermodules.com for more product variants and a wide range of non-isolated Point of Load converters.

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