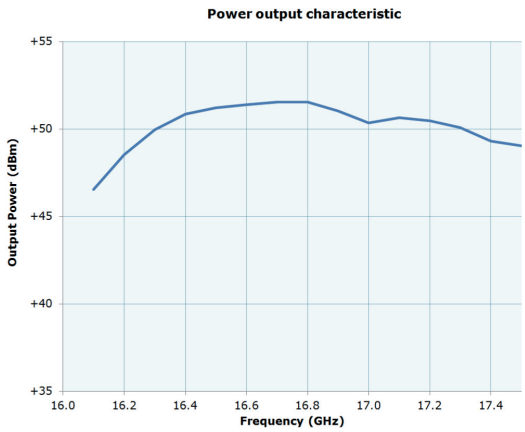
DM-K120-01
Ku-Band GaN Pulsed Power Amplifier Module

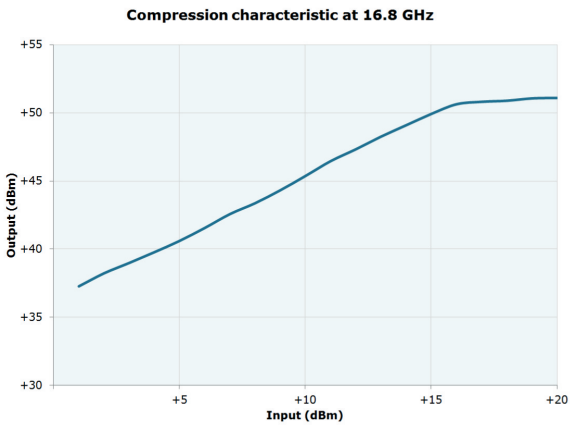
- Ultra-compact
- Peak pulsed output power of 120W
- Drain-pulsed, ultra-fast rise/fall time
- Internal temperature monitor
- Can be tailored to suit other nearby X and Ku-band frequencies
- Layout can be tailored to suit system and interfaces
- Alternative to TWT amplifiers

These ultra-compact high power solid-state power amplifiers are ideal for use in demanding defence, aerospace and communications applications.

Using GaN devices, they offer state-of-the-art pulsed power performance coupled with a power-to-volume ratio believed to be among the highest in the industry for such products. The designs are flexible in layout and architecture, and are fully customisable to meet individual specifications for electrical, mechanical and environmental parameters. Amplifiers with pulsed power outputs in excess of 1kW, and with multi-octave bandwidths, are also under development.

Typical measured performance





Typical performance (at 25°C unless otherwise specified)

Parameter	Value	Unit	Conditions
Centre frequency[1]	16.6	GHz	
Peak output power (P_{sat})[2]	120	W	
2dB bandwidth	800	MHz	
1dB bandwidth	500	MHz	
Power variation with case temperature	±1.0	dB	-30°C to +70°C
Nominal RF input power	+20 ± 1	dBm	
Small-signal gain	35	dB	
Input return loss	10	dB	
Power added efficiency	27	%	
Duty cycle (max)[3]	25	%	
Pulse width (max)[3]	100	µs	
PRF (max)[3]	500	kHz	
Pulse rise/fall time (max)	60	ns	
Pulse amplitude droop[4]	0.4	dB	10% duty cycle, 10µs pulse width
Warm-up time	100	ns	
Power supply	+40V, 4A +8V, 2A		25% duty cygle
Size[5]	125 x 41 x 25	mm	Excluding heat-sink and connectors
Weight (approx)	350	g	Excluding heat-sink
Interface DC power	Screw terminals		
Interface RF input/output	SMA (M/F)		
Operating temperature[6]	-30 to +70	°C	Internally monitored
Amplifier/pulse control	LVCMOS		Amplifier on/off, duty cycle select, PRF select
Control interface	16 way header		

[1] Can be supplied at other frequencies in X-band and Ku-band

[2] Heat sinking is required

[3] Performance can be better, dependent on PSU and heat-sinking

[4] Dependent on PRF, duty cycle and heat-sinking

[6] Other form factors available

[5] Higher operating temperature optionally available

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