



RF CATALOG

RF POWER PRODUCTS COMMUNICATIONS INFRASTRUCTURE

**ENABLING A 5G CAPABLE WORLD WITH
INNOVATIVE GaN ON SiC SOLUTIONS**

THE WOLFSPEED RF DIFFERENCE

For the past 30 years — first as a division of Cree and now as Wolfspeed — we have only focused on one thing: perfecting wide bandgap semiconductor technology. No one has more experience or expertise in the development and commercialization of Silicon Carbide (SiC) and Gallium Nitride (GaN). As the largest American producer of GaN on SiC RF wafer processing technology, Wolfspeed's solutions enable enhanced innovation, performance and efficiency in

the design of communications infrastructure systems supporting all global standards and frequency bands.

Wolfspeed is the industry leader in GaN on SiC research and development. Consistently investing to expand our product portfolio, accelerating the company's progress in developing innovations for the next generation of networks.

WOLFSPEED'S GaN SOLUTIONS

enable engineers to design the next generation cellular radio systems that are best-in-class in efficiency, RF performance, size, weight and reliability. Our product solutions offer the lowest Failure-in-Time (FIT) rate in the industry.

Unleashing the Power of Possibilities.™

THE WOLFSPEED ADVANTAGE

ENABLING HIGH PERFORMANCE RF POWER SYSTEMS

TECHNOLOGY LEADERSHIP

Deep domain expertise in SiC, GaN on SiC, LDMOS and cellular applications
Fully vertically integrated — from substrate, wafer fab to packaged RF transistors

EXTENSIVE PORTFOLIO

GaN on SiC & LDMOS based products in open cavity and plastic packages
Industry Leading Reliability and GaN HEMT FIT rate

WORLD CLASS PRODUCTION

State-of-the-art, high volume, fully automated production facilities



EXPERIENCE

>200 Billion Field Hours
>2 GW Shipped
1,000 Patents Issued Worldwide

BROAD PORTFOLIO

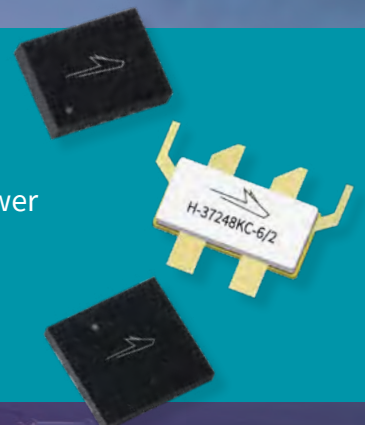
700 MHz to 4 GHz
20 W to 80 W Tx System Solutions
Designed for Doherty Amplifiers

PERFORMANCE LEADER

Optimized for DPD
Wide Bandwidth
High Linearized Efficiency

DON'T WASTE TIME WAITING

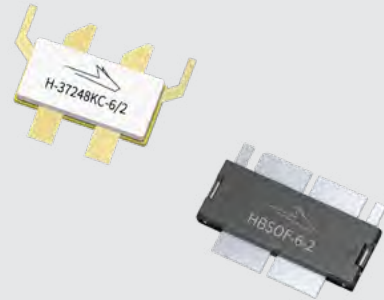
Wolfspeed is enabling the 5G revolution. Our portfolio of 3.5 GHz GaN RF Power solutions empowers systems to offer hundreds of megabits per second of throughput; while also enhancing reliability and reducing latency.



RF POWER TRANSISTORS (700 MHz to 4100 MHz)

ENABLING INNOVATION WITH A SMALL FOOTPRINT

We offer a broad portfolio of RF power transistors for use in the design of cellular base station amplifiers. Engineered to support all cellular standards and frequency bands, our products are enabling the next generation of 5G cellular solutions with state-of-the-art GaN on SiC and LDMOS transistors. Key features include high-power Doherty designs, ease of use with DPD systems, open-cavity and plastic package options and reference designs.



	Part Number	Frequency [MHz]	Matching	P1dB Output Power (W)	Gain typ [dB]	Eff typ [%]	P _{OUT} avg [W]	Test Signal	Supply Voltage typ [V]	Technology	Package Type
700 MHz to 960 MHz	PTVA082407NF	746-821	I	240	22.5	35.5	80	WCDMA	48	LDMOS	HBSOF-4-1
	PTVA092407NF	869-960	I	240	22.0	39.0	80	WCDMA	48	LDMOS	HBSOF-4-1
	PTRA083818NF	733-805	I	275	18.0	56.0	81.3	WCDMA	48	LDMOS	HBSOF-6-2
	PTRA082808NF	790-820	I/O	280	15.9	44.9	56.2	WCDMA	48	LDMOS	HBSOF-6-2
	PTVA084007NF	755-805	I/O	370	23.0	39.0	80	WCDMA	48	LDMOS	HBSOF-4-2
	PTRA093818NF	925-960	I/O	415	17.0	52.0	81.3	WCDMA	48	LDMOS	HBSOF-6-2
	PTRA084808NF	734-821	I/O	480	18.0	55.0	87	WCDMA	48	LDMOS	HBSOF-6-2
	PTRA094808NF	859-960	I/O	480	17.5	52.5	87	WCDMA	48	LDMOS	HBSOF-6-2
	PTRA084858NF	730-960	I/O	615	19	50	87	WCDMA	48	LDMOS	HBSOF-6-3
	PTRA097008NB	920-960	I/O	630	19.0	49.0	90	WCDMA	48	LDMOS	HB2SOF-6-1
	PTRA087008NB	755-805	I/O	650	18.5	52	107	WCDMA	48	LDMOS	HB2SOF-6-1
	PTRA097058NB	730-960	I/O	800	18.4	48	112	WCDMA	48	LDMOS	HB2SOF-6-1
1800 MHz to 1900 MHz	PXAE183708NB	1805-1880	I/O	320	16.0	50.5	54	WCDMA	28	LDMOS	HB2SOF-8-1
	GTRA184602FC	1805-1880	I	460 @P3dB	15.5	60	80	WCDMA	48	GaN on SiC	H-37248C-4
	GTRB186002FC	1805-1880	-	500 @P3dB	15.7	54	81.2	WCDMA	48	GaN on SiC	H-37248C-4

	Part Number	Frequency [MHz]	Matching	P1dB Output Power (W)	Gain typ [dB]	Eff typ [%]	P _{OUT} avg [W]	Test Signal	Supply Voltage typ [V]	Technology	Package Type
1900 MHz to 2200 MHz	GTV A220701FA	1805-2170	I	70 @P3dB	22.0	27.0	6.3	LTE	50	GaN on SiC	H-37265J-2
	GTRB204402FC/1	1930-2020	-	350W @P3dB	16	59	56	WCDMA	48	GaN on SiC	H-37248C-4
	GTRB206002FC/1	1930-2020	-	500 @P3dB	14.8	53	81.2	WCDMA	48	GaN on SiC	H-37248C-4
	GTV A212701FA	2110-2200	I	270 @P3dB	19	38	56.2	WCDMA	48	GaN on SiC	H-87265J-2
	PXAE213708NB	2110-2200	I/O	400	16.0	52.0	54	WCDMA	28	LDMOS	HB2SOF-8-1
	GTRB224402FC	2110-2200	-	400@P3dB	15.5	55	57.5	WCDMA	48	GaN on SiC	H-37248C-4
	GTRB226002FC	2110-2200	-	450@ P3dB	15	60	80	WCDMA	48	GaN on SiC	H-37248C-4
	GTRA214602FC	2110-2170	I	490 @P3dB	14.4	59	80	WCDMA	48	GaN on SiC	H-37248C-4

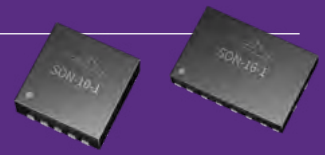
2500 MHz to 2700 MHz	GTRA260502M	2515-2675	I	45 @P3dB	16	57	7.94	WCDMA	48	GaN on SiC	DFN-6.5X7-1
	PXAE261908NF	2515-2675	I/O	240	13.5	47.5	32	WCDMA	28	LDMOS	HBSOF-6-3
	GTRB266908FC	2515-2675	-	500 @P3dB	15	52	102.3	WCDMA	48	GaN on SiC	H-37248KC-6/2
	GTV A261701FA	2620-2690	I	170 @P3dB	17.0	43.0	40	WCDMA	50	GaN on SiC	H-37265J-2
	GTV A261802FC	2620-2690	I	170 @P3dB	16.8	43	50	WCDMA	48	GaN on SiC	H-37248C-4
	PXAE263708NB	2620-2690	I/O	200	14.0	47.0	57	WCDMA	28	LDMOS	HB2SOF-8-1
	GTRA262802FC	2490-2690	I	250 @P3dB	14	54	38	WCDMA	48	GaN on SiC	H-37248C-4
	GTV A262701FA	2620-2690	I	270 @P3dB	17	42	60	WCDMA	48	GaN on SiC	H-87265J-2
	GTV A262711FA	2620-2690	I	300 @P3dB	18.0	38.5	70	WCDMA	48	GaN on SiC	H-87265J-2
	GTV A263202FC	2620-2690	I	340 @P3dB	17	40	80	WCDMA	48	GaN on SiC	H-37248-4
	GTRA263902FC	2495-2690	I	370 @P3dB	13.8	54	56.2	WCDMA	48	GaN on SiC	H-37248C-4
	GTRB264318FC	2500-2700	I/O	400 @P3dB	14	50	52.5	WCDMA	48	GaN on SiC	H-37248KC-6/2

3400 MHz to 4000 MHz	GTRA360502M	3400-3800	I	50	15	55	7	WCDMA	48	GaN on SiC	DFN-6.5X7-1
	GTRA362002FC	3400-3600	I	200	13.5	42	29	WCDMA	48	GaN on SiC	H-37248C-4
	GTRA412852FC	3700-4100	I/O	235	11.5	39	30	WCDMA	48	GaN on SiC	H-37248C-4
	GTRA362802FC	3400-3600	I	280	13.5	45.5	44	WCDMA	48	GaN on SiC	H-37248C-4
	GTRA364002FC	3400-3600	I	400	13	40	50	WCDMA	48	GaN on SiC	H-37248C-4
	GTRA384802FC	3600 -3800	I	400	12	44	63	WCDMA	48	GaN on SiC	H-37248C-4
	GTRA374902FC	3600-3700	I	450	12	37.5	63	WCDMA	48	GaN on SiC	H-37248C-4
	GTRB384608FC	3300-3800	-	440 @P3dB	13	41	56.2	WCDMA	48	GaN on SiC	H-37248KC-6/2
	GTRB424908FC/1	3700-4000	-	450	12	42	56.2	WCDMA	48	GaN on SiC	H-37248KC-6/2

Visit wolfspeed.com/RF to learn more

General Purpose RF Transistors (500 MHz to 5000 MHz)

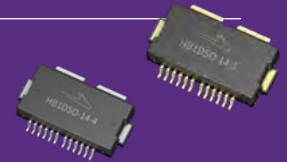
Our general-purpose transistors are unmatched for flexibility in use over a broad frequency range while providing high-power outputs. These products offer high gain, efficiency and linearity performance in a cost-effective overmold plastic package.



	Product	Operating Frequency [MHz]	Matching	P1dB Output Power (W)	Gain typ [dB]	Eff typ [%]	P _{OUT} avg [W]	Test Signal	Supply Voltage typ [V]	Technology	Package Type
900 MHz to 5000 MHz	WSGPA01	UP TO 5 GHZ	NO	10 @P3dB	18	19	26.5	WCDMA	48	GaN on SiC	DFN-3X4-1
	PTVA120252MT	500-1400	NO	25	19.8	64.0	-	CW	50	LDMOS	SON-16

Integrated RF Power Amplifiers (600 MHz to 2200 MHz)

These two-stage integrated amplifiers are designed to provide high gain and on-chip matching for broadband performance. They are suitable for use in both driver and output stage amplifier applications.



	Product	Operating Frequency [MHz]	Matching	P1dB Output Power (W)	Gain typ [dB]	Eff typ [%]	P _{OUT} avg [W]	Test Signal	Supply Voltage typ [V]	Technology	Package Type
700 MHz to 2200 MHz	PTGA090304MD	575-960	I/O	15+15	32	19	3.9	WCDMA	50	LDMOS	HB1DSO-14-4
	PTMC210404MD	1805-2200	I/O	20+20	31.5	19.3	5	WCDMA	28	LDMOS	HB1DSO-14-1
	PTNC210604MD	1805-2200	I/O	20+40	27	37	10	WCDMA	28	LDMOS	HB1DSO-14-4

RF Power Amplifier Modules for mMIMO Systems (2500 MHz to 4000 MHz)



	Product	Operating Frequency [MHz]	Matching	P3dB Output Power (W)	Gain typ [dB]	Eff typ [%]	P _{OUT} avg [W]	Test Signal	Supply Voltage typ [V]	Technology	Package Type
2500 MHz to 4000 MHz	WSGPA01	UP TO 5 GHz	NO	10	18	19	26.5	WCDMA	48	GaN on SiC	PG-DFN-3X4-1
	WS1A2639	2496-2690	I	50	16.5	57	38.5	WCDMA	48	GaN on SiC	PG-LGA-6X6-2
	WS1A3640	3300-3800	I	60	14	54	39.5	WCDMA	48	GaN on SiC	PG-LGA-6X6-2
	WS1A3940	3700-3980	I	60	13.5	52	39.5	WCDMA	48	GaN on SiC	PG-LGA-6X6-2



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