

RF Power Product Selection Guide

LDMOS Transistors and ICs



RF Power Product Selection Guide

INFINEON'S state-of-the-art LDMOS technology, high-volume manufacturing facilities and fully-automated production assembly and test lines enable us to provide one of the most comprehensive RF power product portfolios in the industry. For additional information contact us at highpowerRF@infineon.com, and on the web at www.infineon.com/rfpower.

Cellular Infrastructure RF Power Transistors [400 MHz to 2700 MHz]

Product	Operating Frequency [MHz]	Matching	P _{1dB} Typ [W]	Gain Typ [dB]	Eff Typ [%]	P _{OUT} Avg [W]	Test Signal	Supply Voltage Typ [V]	θJC [°C/W]	Packaga Type
420 MHz to 500 MHz										
PTFA041501E	420-500	I	175	21	41	60	CMDA	28	0.42	H-36248-2
PTFA041501F	420-500	I	175	21	41	60	CDMA	28	0.42	H-37248-2

725 MHz to 770 MHz										
PTFA070601E	725-770	I	60	19	29	12	WCDMA	28	0.80	H-36265-2
PTFA070601F	725-770	I	60	19	29	12	WCDMA	28	0.80	H-37265-2
PTFA071701E	725-770	I/O	165	18.5	32	40	WCDMA	30	0.38	H-36248-2
PTFA071701F	725-770	I/O	165	18.5	32	40	WCDMA	30	0.38	H-37248-2
PTFA072401EL	725-770	I/O	240	19	25	40	WCDMA	30	0.28	H-33288-2
PTFA072401FL	725-770	I/O	240	19	25	40	WCDMA	30	0.28	H-34288-2

791 MHz to 821 MHz										
PTFB082817FH	791-821	I/O	280	19.3	29	60	WCDMA	28	0.22	H-34288-4/2

860 MHz to 960 MHz										
PTFA080551E	869-960	I	75	18	44	26	EDGE	28	0.80	H-36265-2
PTFA080551F	869-960	I	75	18	44	26	EDGE	28	0.80	H-37265-2
PTFB090901EA	920-960	I/O	90	19.5	40	25	WCDMA	28	0.73	H-36265-2
PTFB090901FA	920-960	I/O	90	19.5	40	25	WCDMA	28	0.73	H-37265-2
PTFA091201E	920-960	I/O	135	19	44	50	EDGE	28	0.41	H-36248-2
PTFA091201F	920-960	I/O	135	19	44	50	EDGE	28	0.41	H-37248-2
PTFA091203EL	920-960	I/O	140	17	27	28	WCDMA	30	0.42	H-33288-6
PTFA091503EL	920-960	I/O	150	17	29	32	WCDMA	30	0.42	H-33288-6
PTFB091507FH	920-960	I/O	150	20	38	50	WCDMA	28	0.31	H-34288-4/2
PTFA082201E	869-894	I/O	250	18	30	55	WCDMA	30	0.25	H-36260-2
PTFA082201F	869-894	I/O	250	18	30	55	WCDMA	30	0.25	H-37260-2
PTFA092201E	920-960	I/O	250	18.5	30	55	WCDMA	30	0.25	H-36260-2
PTFA092201F	920-960	I/O	250	18.5	30	55	WCDMA	30	0.25	H-37260-2
PTFA092211EL	920-960	I/O	250	180	30	50	WCDMA	30	0.25	H-33288-2
PTFA092211FL	920-960	I/O	250	180	30	50	WCDMA	30	0.25	H-34288-2
PTFA092213EL	920-960	I/O	250	17.5	29	50	WCDMA	30	0.23	H-33288-6
PTFA092213FL	920-960	I/O	250	17.5	29	50	WCDMA	30	0.23	H-34288-4/2
PTFB093608FV	920-960	I/O	360	20	34	112	WCDMA	28	0.12	H-37275-6/2
PTFB093608SV	920-960	I/O	360	20	34	112	WCDMA	28	0.12	H-34275G-6/2



Cellular Infrastructure RF Power Transistors [400 MHz to 2700 MHz]

[continued]

Product	Operating Frequency [MHz]	Matching	P _{1dB} Typ [W]	Gain Typ [dB]	Eff Typ [%]	P _{OUT} Avg [W]	Test Signal	Supply Voltage Typ [V]	θJC [°C/W]	Packaga Type
1450 MHz to 1500 MHz										
PTFA142401EL	1450–1500	I/O	240	16.5	27.5	50	DVB-T	30	0.28	H-33288-2
PTFA142401FL	1450–1500	I/O	240	16.5	27.5	50	DVB-T	30	0.28	H-34288-2
1800 MHz to 2000 MHz										
PTFA190451E	1930–1990	I/O	60	17.5	28	11	WCDMA	28	0.83	H-36265-2
PTFA190451F	1930–1990	I/O	60	17.5	28	11	WCDMA	28	0.83	H-37265-2
PTFA180701E	1805–1880	I/O	72	16.5	40.5	25	EDGE	28	0.87	H-36265-2
PTFA180701F	1805–1880	I/O	72	16.5	40.5	25	EDGE	28	0.87	H-37265-2
PTFA181001E	1805–1880	I/O	120	16.5	36	45	EDGE	28	0.43	H-36248-2
PTFA181001F	1805–1880	I/O	120	16.5	36	45	EDGE	28	0.43	H-37248-2
PTFA191001E	1930–1990	I/O	130	17	28	25	WCDMA	30	0.42	H-36248-2
PTFA191001F	1930–1990	I/O	130	17	28	25	WCDMA	30	0.42	H-37248-2
PTFB191501E	1930–1990	I/O	150	18	30	35	WCDMA	30	0.29	H-36248-2
PTFB191501F	1930–1990	I/O	150	18	30	35	WCDMA	30	0.29	H-37248-2
PTFB181702FC	1805–1880	I/O	180	19	26	30	WCDMA	28	0.27	H-37248-4
PTAB182002FC	1805–1880	I/O	70+120	15.5	44	29	WCDMA	28	0.86/0.64	H-37248-4
PTFA192001E	1930–1990	I/O	220	15.9	27	50	WCDMA	30	0.28	H-36260-2
PTFA192001F	1930–1990	I/O	220	15.9	27	50	WCDMA	30	0.28	H-37260-2
PTFA192401E	1930–1990	I/O	240	16	27	50	WCDMA	30	0.23	H-36260-2
PTFA192401F	1930–1990	I/O	240	16	27	50	WCDMA	30	0.23	H-37260-2
PTFB182503EL	1805–1880	I/O	240	19	28	50	WCDMA	30	0.26	H-33288-6
PTFB182503FL	1805–1880	I/O	240	19	28	50	WCDMA	30	0.26	H-34288-4/2
PTFB192503EL	1930–1990	I/O	240	19	28	50	WCDMA	30	0.26	H-33288-6
PTFB192503FL	1930–1990	I/O	240	19	28	50	WCDMA	30	0.26	H-34288-4/2
PTFB182557SH	1805–1880	I/O	250	19	32.5	60	WCDMA	28	0.23	H-34288G-4/2
PTFB183404E	1805–1880	I/O	340	17	25.5	80	WCDMA	30	0.20	H-36275-8
PTFB183404F	1805–1880	I/O	340	17	25.5	80	WCDMA	30	0.20	H-37275-6/2
PTFB183408SV	1805–1880	I/O	340	17	25.5	80	WCDMA	30	0.20	H-37275G-6/2
PTFB192557SH	1930–1990	I/O	250	19	31	60	WCDMA	28	0.23	H-34288G-4/2
PTFB193404F	1930–1990	I/O	340	19	30	80	WCDMA	30	0.20	H-37275-6/2
PTFB193408SV	1930–1990	I/O	340	19	31	80	WCDMA	30	0.20	H-34275G-6/2
2000 MHz to 2200 MHz										
PTFA210601E	2110–2170	I/O	68	16	27	12	WCDMA	28	0.89	H-36265-2
PTFA210601F	2110–2170	I/O	68	16	27	12	WCDMA	28	0.89	H-37265-2
PTAC210802FC	2110–2170	I/O	19+60	17	43	5	WCDMA	28	2.5/0.8	H-37248-4
PTFA210701E	2110–2170	I/O	80	16.5	29	18	WCDMA	30	0.92	H-36265-2
PTFA210701F	2110–2170	I/O	80	16.5	29	18	WCDMA	30	0.92	H-37265-2
PTFB210801FA	2110–2170	I/O	80	18.5	31	20	WCDMA	28	0.50	H-37265-2
PTFB201402FC	2010–2025	I/O	2 X 70	17	36	20	WCDMA	28	0.39	H-37248-4
PTFB211501E	2110–2170	I/O	150	18	32	40	WCDMA	30	0.29	H-36248-2
PTFB211501F	2110–2170	I/O	150	18	32	40	WCDMA	30	0.29	H-37248-2

Cellular Infrastructure RF Power Transistors [400 MHz to 2700 MHz]

[continued]

Product	Operating Frequency [MHz]	Matching	P _{1dB} Typ [W]	Gain Typ [dB]	Eff Typ [%]	P _{OUT} Avg [W]	Test Signal	Supply Voltage Typ [V]	θJC [°C/W]	Package Type
2000 MHz to 2200 MHz [continued]										
PTFB211503EL	2110–2170	I/O	150	18	29	32	WCDMA	30	0.27	H-33288-6
PTFB211503FL	2110–2170	I/O	150	18	29	32	WCDMA	30	0.27	H-34288-4/2
PTFA211801E	2110–2170	I/O	180	15.5	27.5	35	WCDMA	28	0.31	H-36260-2
PTFB211803EL	2110–2170	I/O	180	17.5	29.5	40	WCDMA	30	0.30	H-33288-6
PTFB211803FL	2110–2170	I/O	180	17.5	29.5	40	WCDMA	30	0.30	H-34288-4/2
NEW PTFB212507SH	2110–2170	I/O	200	18	26	50	WCDMA	28	0.26	H-34288G-4/2
PTFA212001E	2110–2170	I/O	220	15.8	28	50	WCDMA	30	0.28	H-36260-2
PTFA212001F	2110–2170	I/O	220	15.8	28	50	WCDMA	30	0.28	H-37260-2
PTFB212503EL	2110–2170	I/O	240	18	31	55	WCDMA	30	0.26	H-33288-6
PTFB212503FL	2110–2170	I/O	240	18	31	55	WCDMA	30	0.26	H-34288-4/2
PTFB213004F	2110–2170	I/O	300	18	26.5	60	WCDMA	30	0.23	H-37275-6/2
PTFB213208FV	2110–2170	I/O	2 X 160	17	33	50	WCDMA	28	0.21	H-37275-6/2
PTFB213208SV	2110–2170	I/O	2 X 160	17	33	50	WCDMA	28	0.21	H-37275G-6/2

2400 MHz to 2700 MHz										
NEW PTFB241402F	2300–2400	I/O	2 X 70	17	37	110 (PEP)	Two-tone	30	0.38	H-37248-4
PTFC260202FC	2495–2690	I/O	25	20	30	5	WCDMA	28	2.20	H-37248-4

General Purpose Transistors [700 MHz to 2200 MHz]

PTFA220041M	700–2200	None	5	19	37.5	4 (PEP)	Two-tone	28	5.5	PG-SON-10
PTFA220081M	700–2200	None	10	17	38	8 (PEP)	Two-tone	28	4.2	PG-SON-10
PTFA220121M	700–2200	None	15	16	37	9 (PEP)	Two-tone	28	3.4	PG-SON-10

LDMOS Integrated RF Power Amplifiers [700 MHz to 2200 MHz]

PTMA080152M	700–1000	I	20	30	34	8	GSM/EDGE	28	8.5/2.5	PG-DSO-20-63
PTMA080302M	700–1000	I	32	31	36	15	GSM/EDGE	28	6.7/1.7	PG-DSO-20-63
PTMA080304M	700–1000	I	2 X 20	30	33	8	GSM/EDGE	28	8.5/2.5	PG-DSO-20-63
PTMA180402EL	1800–2000	I	40	30	14	4	CDMA	28	5/1.1	H-33265-8
PTMA180402FL	1800–2000	I	40	30	14	4	CDMA	28	5/1.1	H-34265-8
PTMA180402M	1800–2200	I	40	30	16	5	CDMA	28	3.6/1.5	PG-DSO-20-63
PTMA210152M	1800–2200	I	20	28.5	33	7	WCDMA	28	10.7/2.9	PG-DSO-20-63
PTMA210452EL	1900–2200	I	45	28	10.5	3.2	WCDMA	28	3.5/1.3	H-33265-8
PTMA210452FL	1900–2200	I	45	28	10.5	3.2	WCDMA	28	3.5/1.3	H-34265-8

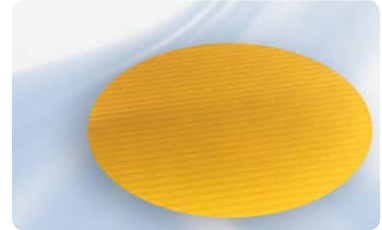
UHF and L-Band RF Power Transistors [400 MHz to 1400 MHz]

NEW PTVA030121EA	390–450	None	12	24	70	–	Pulsed	50	6.5	H-36265-2
PTVA035002EV	390–450	None	400	19.5	65	–	Pulsed	50	0.2	H-36275-4
PTVA042502FC	470–860	None	250	19.5	60	–	Pulsed	50	0.47	H-37248-4
PTVA120251EA	1200–1400	None	30	16.5	54	–	Pulsed	50	3.7	H-36265-2
PTVA123501EC	1200–1400	I/O	350	15.2	50	–	Pulsed	50	0.5	H-36248-2
PTVA101K02EV	1030 / 1090	I	950	17.5	58	–	Pulsed	50	0.15	H-36275-4

The Infineon Advantage

30 V and 50 V LDMOS Technology

- Leading-edge RF performance
- High RF consistency
- Enhanced DPD performance
- Rugged transistor design
- Excellent thermal performance
- Superior reliability
- High peak power and efficiency



Advance Manufacturing Technology

- Infineon state-of-the-art LDMOS fab
- Fully-automated assembly and test production facilities
- 100% DC and RF power tested
- Over 10 years experience enabling the most advance RF communication systems in the world



Enabling Advanced Cellular Amplifiers Architectures

- Broad product portfolio
- Power levels from 4 W to 360 W
- Outstanding DPD Performance
- Optimized for Doherty
- Best thermal performance
- Enables multi-standard, high signal bandwidth designs



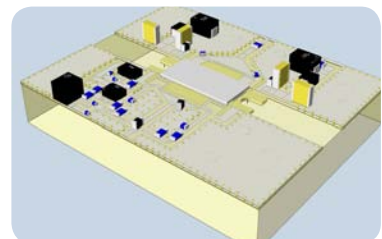
Innovative Packaging Technology : Smart Discrete Package

- Lower gain spike amplitude
- Lowers BB parasitics
- Enables compact designs
- Improves VBW capability
- Available in 275 and 288 style packages



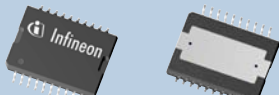
Design Tools

- AWR and ADS device models
- Evaluation boards and reference circuits
- Doherty amplifier reference designs
- Comprehensive data sheets, application notes and gerber files.

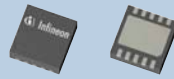


Packages for LDMOS RF Power Transistors and ICs

Molded Plastic

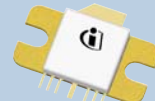


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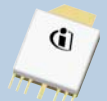


PG-SON-10

TEPAC – Open-Cavity Ceramic



H-33265-8



H-34265-8

TEPAC – Thermally-Enhanced Open-Cavity Ceramic



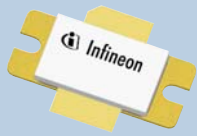
H-36248-2



H-37248-2



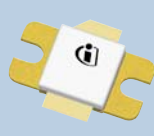
H-37248-4



H-36260-2



H-37260-2



H-36265-2



H-37265-2



H-33288-2



H-34288-2



H-34288-4/2



H-34288G-4/2



H-33288-6



H-36275-4



H-37275-6/2



H-37275G-6/2 or
H-34275G-6/2

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