

## Communications, Broadcast and Industrial, Scientific and Medical

Frequency (MHz)	Part Number	Description	Operating Voltage (V)	Output Power (W)	Min. Gain (dB)	Efficiency (%)	Pulse Condition
2 - 30	MRF448	Bipolar	50	250	12	45	CW
2 - 30	MRF429	Bipolar	50	150	13	45	CW
2 - 30	MRF422	Bipolar	28	150	10	40	CW
2 - 30	MRF421	Bipolar	12.5	100	10	40	CW
2 - 30	MRF454	Bipolar	12.5	80	12	50	CW
2 - 30	MRF455	Bipolar	12.5	60	13	55	CW
2 - 30	MRF426	Bipolar	28	25	22	35	CW
2 - 80	MRF157	MOSFET	50	600	15	40	CW
2 - 100	MRF154	MOSFET	50	600	15	40	CW
2 - 128	MAPF250128-150000	MOSFET	100	150	19	40	CW
2 - 150	MRF140	MOSFET	28	150	14	35	CW
2 - 150	MRF150	MOSFET	50	150	17	45	CW
2 - 175	MRF141G	MOSFET	28	300	12	45	CW
2 - 175	MRF141	MOSFET	28	150	16	40	CW
2 - 175	MRF173	MOSFET	28	80	11	55	CW
2 - 175	MRF173CQ	MOSFET	28	80	11	55	CW
2 - 175	MRF151G	MOSFET	50	300	14	50	CW
2 - 175	MRF151	MOSFET	50	150	18	40	CW
2 - 175	MRF148A	MOSFET	50	30	18	40	CW
2 - 200	MRF174	MOSFET	28	125	9	50	CW
2 - 400	MRF313	Bipolar	38	1	15	40	CW
2 - 400	MRF175LU	MOSFET	28	100	8	50	CW
2 - 400	MRF177	MOSFET	28	100	10	55	CW
2 - 400	MRF136Y	MOSFET	28	30	12	50	CW
2 - 400	MRF137	MOSFET	28	30	13	50	CW
2 - 400	MRF136	MOSFET	28	15	13	50	CW
2 - 400	MRF134	MOSFET	28	5	11	50	CW
2 - 500	MRF176GV	MOSFET	50	200	15	50	CW
2 - 500	MRF175GV	MOSFET	28	200	14	65	CW
2 - 500	MRF175GU	MOSFET	28	150	12	50	CW
2 - 500	MRF275L	MOSFET	28	100	7.5	50	CW
2 - 500	MRF158	MOSFET	28	2	16	50	CW
30 - 175	DU28200M	MOSFET	28	200	13	55	CW
30 - 175	DU28120T	MOSFET	28	120	13	60	CW
30 - 175	DU28120V	MOSFET	28	120	13	60	CW
30 - 175	DU2880T	MOSFET	28	80	13	60	CW
30 - 175	DU2880U	MOSFET	28	80	13	60	CW
30 - 175	DU2880V	MOSFET	28	80	13	60	CW
30 - 175	DU2860U	MOSFET	28	60	13	60	CW
30 - 175	DU2860T	MOSFET	28	60	13	60	CW
30 - 175	DU1260T	MOSFET	12	60	8	60	CW
30 - 175	DU2840S	MOSFET	28	40	13	60	CW
30 - 175	DU1230S	MOSFET	12	30	10	60	CW
30 - 175	DU2820S	MOSFET	28	20	13	60	CW
30 - 175	DU1215S	MOSFET	12	15	9.5	60	CW

Note: Part numbers are RoHS compliant ◆ indicates non-RoHS compliant

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## Communications, Broadcast and Industrial, Scientific and Medical (continued)

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30 - 175	DU2810S	MOSFET	28	10	13	55	CW
30 - 175	DU2805S	MOSFET	28	5	11	55	CW
30 - 200	MRF317	Bipolar	28	100	9	55	CW
30 - 200	MRF316	Bipolar	28	80	10	55	CW
30 - 200	MRF314	Bipolar	28	30	10	50	CW
30 - 200	MRF171A	MOSFET	28	45	15	55	CW
30 - 500	MRF392	Bipolar	28	125	8	50	CW
30 - 500	MRF393	Bipolar	28	100	7.5	50	CW
30 - 500	MRF166W	MOSFET	28	40	14	50	CW
30 - 500	MRF166C	MOSFET	28	20	13.5	50	CW
30 - 500	MRF160	MOSFET	28	4	15	50	CW
100 - 500	MRF327	Bipolar	28	80	7.3	50	CW
100 - 500	UF2805B	MOSFET	28	5	10	50	CW
100 - 500	UF28100H	MOSFET	28	100	10	50	CW
100 - 500	UF28100M	MOSFET	28	100	10	50	CW
100 - 500	UF28100V	MOSFET	28	100	10	50	CW
100 - 500	UF2810P	MOSFET	28	10	10	50	CW
100 - 500	UF28150J	MOSFET	28	150	8	55	CW
100 - 500	UF2815B	MOSFET	28	15	10	50	CW
100 - 500	UF2820P	MOSFET	28	20	10	50	CW
100 - 500	UF2840G	MOSFET	28	40	10	50	CW
100 - 500	UF2840P	MOSFET	28	40	10	50	CW
100 - 500	MRF275G	MOSFET	28	150	10	50	CW
200 - 500	MRF321	Bipolar	28	10	12	50	CW
200 - 500	MRF323	Bipolar	28	20	10	50	CW
225 - 400	2N6439	Bipolar	28	60	7.8	55	CW
500 - 1000	LF2802A	MOSFET	28	2	10	40	CW
500 - 1000	LF2805A	MOSFET	28	5	10	50	CW
500 - 1000	LF2810A	MOSFET	28	10	10	50	CW
1600 - 1640	MRF16030	Bipolar	28	30	7.5	40	CW
1600 - 1640	MRF16006	Bipolar	28	6	7.4	40	CW

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## Avionics: TACAN, TCAS, IFF, Mode S, DME, JTIDS

Frequency (MHz)	Part Number	Description	Operating Voltage (V)	Output Power (W)	Min. Gain (dB)	Efficiency (%)	Pulse Condition
960 - 1215	MAPR-000912-700S00	Bipolar	50	700	9.5	45	10 µs, 10%
960 - 1215	MAPR-000912-500S00*	Bipolar	50	500	9	45	10 µs, 10%*
960 - 1215	MAPRST0912-350**	Bipolar	50	350	9.4	45	10 µs, 10%**
960 - 1215	MRF1150MA	Bipolar	50	150	7.8	35	10 µs, 1%
960 - 1215	MRF1150MB	Bipolar	50	150	7.8	35	10 µs, 1%
960 - 1215	MRF1090MA	Bipolar	50	90	8.4	35	10 µs, 1%
960 - 1215	MRF1090MB	Bipolar	50	90	8.4	35	10 µs, 1%
960 - 1215	MAPRST0912-50	Bipolar	50	50	6.8	40	10 µs, 10%
960 - 1215	MRF10120	Bipolar	36	120	7.6	40	7 µs at 54% for 3.4 mS
960 - 1215	MRF10031	Bipolar	36	30	9	40	10 µs at 50% for 3.5mS
960 - 1215	MRF10005	Bipolar	28	5	8.5	45	CW
960 - 1215	MRF1004MB	Bipolar	35	4	10	40	10 µs, 1%
960 - 1215	MRF1000MB	Bipolar	18	0.2	10	-	CW
1025 - 1150	MAPR-001011-850S00	Bipolar	50	850	7.8	42	10 µs, 1%
1025 - 1150	MRF10502	Bipolar	50	500	8.5	40	32 µs, 2%
1025 - 1150	MRF10350	Bipolar	50	350	8.5	40	MODE S, 128 µs, burst on, 0.5 off, 6.4 mS
1025 - 1150	MAPR-001090-350S00	Bipolar	50	350	9	45	10 µs, 10%
1025 - 1150	MRF10150	Bipolar	50	150	9.5	40	10 µs, 10%
1030	MAPRST1030-1KS	Bipolar	50	1000	8	45	10 µs, 1%
1030 - 1090	PHI090-700B***	Bipolar	50	700	7.5	50	32 µs, 2%***
1030 - 1090	PHI090-550S	Bipolar	50	550	7.4	55	10 µs, 1%
1030 - 1090	PHI090-350L	Bipolar	45	350	8	55	250 µs, 10%
1030 - 1090	PHI090-175L	Bipolar	45	175	8.3	55	250 µs, 10%
1030 - 1090	MAPR-001090-165S00	Bipolar	50	165	9.6	50	10 µs, 10%
1030 - 1090	PHI090-75L	Bipolar	45	75	9	45	250 µs, 10%
1030 - 1090	PHI090-15L	Bipolar	45	15	9	40	250 µs, 10%

\* For JTIDS requirements, de-rate to 180 W, 36 V to 38 V,

\*\* For JTIDS, requirements, de-rate to 30 W, 36 V to 38 V,

\*\*\* For Mode-S ELM, de-rate to 450 W, 45 V

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## Broadband Modules and Pallets

Frequency (MHz)	Part Number	Description	Operating Voltage (V)	Output Power (W)	Min. Gain (dB)	Efficiency (%)	Pulse Condition
30 - 88	MAPM-003088-010C12 ◆	VHF Power Module	28	10	25	—	CW
30 - 88	MAPM-003088-020C12 ◆	VHF Power Module	28	20	25	—	CW
30 - 400	MAPM-030400-010C00 ◆	Broadband Module	28	10	25	—	CW
30 - 400	MAPM-030400-060C00 ◆	Broadband Module	28	60	9	35	CW
30 - 400	MAPP-030400-100C2X ◆	Broadband Module	28	2 x 100	10	—	CW
20 - 512	MAPM-020512-010C00 ◆	Communications Module	28	10	20	—	CW
20 - 512	MAPM-020512-040C00 ◆	Communications Module	28	40	10	37	CW
20 - 512	MAPM-020512-060C00 ◆	Communications Module	28	60	10	—	CW
20 - 512	MAPM-020512-010C12 ◆	Broadband Power Module	12	10	25	30	CW
20 - 512	MAPM-020512-100C28 ◆	Broadband Power Module	32	100	12	30	CW
30 - 400	PHA4000-1 ◆	Broadband VHF/UHF Module	27	13	28	25	CW
30 - 400	PHA4000-2 ◆	Broadband VHF/UHF Module	27	64	7	35	CW
2700 - 2900	PHA2729-240M ◆	Pulsed Power Pallet	36	240	7.4	39	100 $\mu$ s, 10%
2700 - 2900	MAPP-002729-300M00 ◆	Pulsed Power Pallet	38	300	8.3	40	100 $\mu$ s, 10%
2700 - 3100	MAPP-002731-250M00 ◆	Pulsed Power Pallet	36	250	7.5	40	200 $\mu$ s, 10%
2700 - 3100	PHA2731-140L ◆	Pulsed Power Pallet	36	140	7.0	35	300 $\mu$ s, 10%
2900 - 3300	MAPPST2933-190M ◆	Pulsed Power Pallet	36	190	7	35	200 $\mu$ s, Pulse, 10%
3100 - 3400	MAPP-003134-150L00 ◆	Pulsed Power Pallet	36	150	8	36	300 $\mu$ s, 10%
3100 - 3400	MAPP-003134-180M00 ◆	Pulsed Power Pallet	36	180	7.5	35	150 $\mu$ s, Pulse, 10%
3100 - 3400	MAPP-003134-150L00 ◆	Pulsed Power Pallet	36	150	8.3	35	300 $\mu$ s, Pulse, 10%
3100 - 3500	PHA3135-130M ◆	Pulsed Power Pallet	36	130	7.4	35	100 $\mu$ s, 10%
3100 - 3500	MAPP-003134-130M2S ◆	Pulsed Power 2-Stage Amp	36	130	16	32	100 $\mu$ s, 10%

## Radar: L- and S-Band

Frequency (MHz)	Part Number	Description	Operating Voltage (V)	Output Power (W)	Min. Gain (dB)	Efficiency (%)	Pulse Condition
1100 - 1300	PH1113-100	Bipolar	32	100	8.0	52	3 $\mu$ s, 30% duty
1200 - 1400	MAPR-001214-400M00	Bipolar	44	400	9	47	150 $\mu$ s, 10% duty
1200 - 1400	PH1214-300M	Bipolar	40	300	7.5	45	150 $\mu$ s, 10% duty
1200 - 1400	PH1214-220M	Bipolar	40	220	7.4	50	150 $\mu$ s, 10% duty
1200 - 1400	PH1214-110M	Bipolar	40	110	7.4	50	150 $\mu$ s, 10% duty
1200 - 1400	PH1214-80M	Bipolar	40	80	7.5	50	150 $\mu$ s, 10% duty
1200 - 1400	MAPRST0002	Bipolar	40	50	9.5	50	150 $\mu$ s, 10% duty
1200 - 1400	PH1214-40M	Bipolar	40	40	8.5	50	150 $\mu$ s, 10% duty
1200 - 1400	MAPRST1214-150UF	Bipolar	36	150	7.4	45	6 ms, 25% duty
1200 - 1400	MAPRST1214-30UF	Bipolar	36	30	7.5	45	6 ms, 25% duty
1200 - 1400	MAPRST1214-6UF	Bipolar	36	6	8.8	40	6 ms, 25% duty
1200 - 1400	PH1214-100EL	Bipolar	28	100	6.0	52	2 ms, 20% duty
1200 - 1400	PH1214-55EL	Bipolar	28	55	6.6	50	1ms, 10% duty
1200 - 1400	PH1214-30EL	Bipolar	28	30	7.8	50	1 ms, 10% duty

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## Radar: L- and S-Band (continued)

Frequency (MHz)	Part Number	Description	Operating Voltage (V)	Output Power (W)	Min. Gain (dB)	Efficiency (%)	Pulse Condition
1200 - 1400	PH1214-25L	Bipolar	28	25	9.5	50	300 $\mu$ s, 10% duty
1200 - 1400	PH1214-25M	Bipolar	28	25	9.5	50	150 $\mu$ s, 10% duty
1200 - 1400	PH1214-25S	Bipolar	28	25	9.5	50	1 $\mu$ s, 10% duty
1200 - 1400	PH1214-20EL	Bipolar	28	20	9.5	50	2 ms, 10% duty
1200 - 1400	PH1214-12M	Bipolar	28	12	9.0	45	150 $\mu$ s, 10% duty
1200 - 1400	PH1214-8M	Bipolar	28	8	7.0	45	100 $\mu$ s, 10% duty
1200 - 1400	PH1214-6M	Bipolar	28	6	7.0	45	100 $\mu$ s, 10% duty
1200 - 1400	PH1214-4M	Bipolar	28	4	7.0	45	100 $\mu$ s, 10% duty
1200 - 1400	PH1214-2M	Bipolar	28	2	7.0	40	100 $\mu$ s, 10% duty
1200 - 1400	PH1214-3L	Bipolar	16.5	3	5.7	40	2ms, 20% duty
1200 - 1400	PH1214-0.85L	Bipolar	11.5	0.85	9.3	30	2ms, 20% duty
2200 - 2600	PH2226-110M	Bipolar	36	110	8.0	45	100 $\mu$ s, 10% duty
2200 - 2600	PH2226-50M	Bipolar	36	50	8.0	45	100 $\mu$ s, 10% duty
2700 - 2900	MAPR-002729-170M00	Bipolar	36	170	8.5	40	100 $\mu$ s, 10% duty
2700 - 2900	PH2729-150M	Bipolar	38	150	8.3	38	100 $\mu$ s, 10% duty
2700 - 2900	PH2729-130M	Bipolar	36	130	7.0	40	100 $\mu$ s, 10% duty
2700 - 2900	PH2729-110M	Bipolar	36	110	6.8	35	100 $\mu$ s, 10% duty
2700 - 2900	PH2729-65M	Bipolar	36	65	8.5	40	100 $\mu$ s, 10% duty
2700 - 2900	PH2729-25M	Bipolar	36	25	9.2	45	100 $\mu$ s, 10% duty
2700 - 2900	PH2729-8.5M	Bipolar	36	8.5	8.1	35	100 $\mu$ s, 10% duty
2700 - 2900	PH2729-5M	Bipolar	36	5	9.2	45	100 $\mu$ s, 10% duty
2700 - 3100	PH2931-135S	Bipolar	42	135	7.5	40	20 $\mu$ s, 1% duty
2700 - 3100	PH2731-75L	Bipolar	36	75	7.0	38	300 $\mu$ s, 10% duty
2700 - 3100	PH2731-20M	Bipolar	36	20	8.2	45	100 $\mu$ s, 10% duty
2700 - 3100	PH2731-5M	Bipolar	36	5	7.0	30	100 $\mu$ s, 10% duty
3100 - 3400	PH3134-75S	Bipolar	36	75	7.5	35	1 $\mu$ s, 10% duty
3100 - 3400	PH3134-65M	Bipolar	36	65	7.5	35	100 $\mu$ s, 10% duty
3100 - 3400	PH3134-55L	Bipolar	36	55	7.5	35	300 $\mu$ s, 10% duty
3100 - 3400	PH3134-30S	Bipolar	36	30	7.5	35	1 $\mu$ s, 10% duty
3100 - 3400	PH3134-25M	Bipolar	36	25	7.5	35	100 $\mu$ s, 10% duty
3100 - 3400	PH3134-20L	Bipolar	36	20	7.5	35	300 $\mu$ s, 10% duty
3100 - 3400	PH3134-11S	Bipolar	36	11	8.0	35	1 $\mu$ s, 10% duty
3100 - 3400	PH3134-10M	Bipolar	36	10	8.0	35	100 $\mu$ s, 10% duty
3100 - 3400	PH3134-9L	Bipolar	36	9	8.0	35	300 $\mu$ s, 10% duty
3100 - 3500	PH3135-90S	Bipolar	36	90	7.5	35	2 $\mu$ s, 10% duty
3100 - 3500	PH3135-65M	Bipolar	36	65	7.5	35	100 $\mu$ s, 10% duty
3100 - 3500	PH3135-30M	Bipolar	36	30	7.0	35	100 $\mu$ s, 10% duty
3100 - 3500	PH3135-25S	Bipolar	36	25	7.5	35	2 $\mu$ s, 10% duty
3100 - 3500	PH3135-20M	Bipolar	36	20	7.5	35	100 $\mu$ s, 10% duty
3100 - 3500	PH3135-5M	Bipolar	33	5	8.5	30	100 $\mu$ s, 10% duty
3100 - 3500	PH3135-5S	Bipolar	33	5	8.5	30	2 $\mu$ s, 10% duty

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