

AMPLIFIER SELECTION GUIDE

		MODEL NO.	FREQ. [MHz] f _L f _U	GAIN [dB] MIN.	MAX ⁽¹⁾ POWER [dBm]	N.F. [dB] TYP.	3rd ORDER I.P. [dBm]	VSWR ⁽²⁾		DC POWER		CASE STYLE	STD. CONN.	OPTION	
								IN	OUT	V VOLT	I [mA]				
MONOLITHIC	P I N	ERA-1	DC-8000	9.0	+12	4.3	+26	1.5:1	1.5:1	+3.4	40	VV105			
		ERA-2	DC-6000	13.0	+13	4.0	+26	1.3:1	1.2:1	+3.4	40	VV105			
		ERA-3	DC-3000	16.0	+12.5	3.5	+25	1.5:1	1.4:1	+3.2	35	VV105			
		ERA-4	DC-4000	11.0	+17.3	4.2	+34	1.2:1	1.3:1	+4.5	65	VV105			
		ERA-5	DC-4000	16.0	+18.4	4.3	+32.5	1.3:1	1.3:1	+4.9	65	VV105			
		ERA-6	DC-4000	10.5	+17.9	4.5	+36	1.3:1	1.6:1	+5.0	70	VV105			
	S M T	MAR-1SM	DC-1000	13.0	+1.5	5.5	+14	1.3:1	1.3:1	+5.0	17	WW107			
		MAR-2SM	DC-2000	8.5	+4.5	6.5	+17	1.3:1	1.4:1	+5.0	25	WW107			
		MAR-3SM▼	DC-2000	8.0	+10	6.0	+23	1.5:1	1.7:1	+5.0	35	WW107			
		MAR-4SM	DC-1000	7.0	+12.5	6.5	+25.5	1.6:1	2.0:1	+5.25	50	WW107			
		MAR-6SM▼	DC-2000	9.0	+2	3.0	+14.5	1.5:1	1.4:1	+3.5	16	WW107			
		MAR-7SM▼	DC-2000	8.5	+5.5	5.0	+19	1.4:1	1.5:1	+4.0	22	WW107			
		MAR-8SM	DC-1000	19.0	+12.5	3.3	+27	3.1:1	3.1:1	+7.8	36	WW107			
		MAV-11SM	50-1000	9.0	+17.5	3.6	+30	1.5:1	1.7:1	+5.5	60	RRR137			
		ERA-1SM	DC-8000	9.0	+12	4.3	+26	1.5:1	1.5:1	+3.4	40	WW107			
		ERA-2SM	DC-6000	13.0	+13	4.0	+26	1.3:1	1.2:1	+3.4	40	WW107			
		ERA-21SM	DC-8000	11.2	+12.6	4.7	+26	1.1:1	1.3:1	+3.5	40	WW107			
		ERA-3SM	DC-3000	16.0	+12.5	3.5	+25	1.5:1	1.4:1	+3.2	35	WW107			
		ERA-33SM	DC-3000	15.0	+13.5	3.9	+28.5	1.6:1	1.25:1	+4.3	40	WW107			
		ERA-4SM	DC-4000	11.0	+17.3	4.2	+34	1.2:1	1.3:1	+4.5	65	WW107			
		ERA-5SM	DC-4000	16.0	+18.4	4.3	+32.5	1.3:1	1.2:1	+4.9	65	WW107			
		ERA-50SM	DC-1500	16.0	+17.2	3.5	+32.5	1.3:1	1.2:1	+4.4	60	WW107			
		ERA-51SM	DC-4000	14.0	+18.1	4.1	+33	1.1:1	1.2:1	+4.5	65	WW107			
		ERA-6SM	DC-4000	10.5	+17.9	4.5	+36	1.3:1	1.6:1	+5.0	70	WW107			
		HELA-10	50-1000	10.5	+30	3.5	+47	1.22:1	1.22:1	+12.0	525	CM624			
		RAM-1	DC-1000	13.0	+1.5	5.5	+14	1.3:1	1.3:1	+5.0	17	AF190			
		RAM-2	DC-2000	8.5	+4.5	6.5	+17	1.2:1	1.4:1	+5.0	25	AF190			
		RAM-3	DC-2000	8.0	+10	6.0	+23	1.6:1	1.7:1	+5.0	35	AF190			
		RAM-4	DC-1000	7.0	+12.5	6.5	+25.5	1.4:1	1.9:1	+5.25	50	AF190			
		RAM-6	DC-2000	9.0	+2	2.8	+14.5	1.4:1	1.3:1	+3.5	16	AF190			
	RAM-7	DC-2000	8.5	+5.5	4.5	+19	2.0:1	1.8:1	+4.0	22	AF190				
	RAM-8	DC-1000	19.0	+12.5	3.0	+27	3.1:1	3.1:1	+7.8	36	AF190				
	VAM-93	DC-3000	17.0	+12.7	3.7	+27	1.5:1	1.1:1	+3.2	35	MMM168				
	VNA-25	500-2500	11.5	+15.5	5.5	+27	1.5:1*	1.6:1	+5.0	85	XX211				
	VAR. GAIN	C O N	ZFL-1000G	10-1000	17.0	+3	12.0	+13	2.0:1	2.0:1	+15	100	Y39	SMA	—
			ZFL-1000GH	10-1200	24.0	+13	15.0	+25	2.2:1	2.0:1	+15	170	Y39	SMA	—
LOW NOISE (N.F. < 4.0 dB)	P I N	MAN-1LN	0.5-500	28.0	+8	2.8	+18	1.8:1	1.8:1	+12	60	A05			
		AMP-76	5-500	26.0	+13.5	3.1	+28	2.0:1	2.0:1	+15	68	PP120			
		AMP-77	5-500	15.0	+16	3.3	+32	2.0:1	2.0:1	+15	56	PP120			
		AMP-75	5-500	19.0	+12	2.4	+28	2.0:1	2.0:1	+15	29	PP120			
		AMP-15	5-1000	13.0	+8	2.8	+22	2.0:1	2.0:1	+15	29	PP120			
		AMP-11-2	5-1000	14.0	+3.5	3.0	+13	2.0:1	2.0:1	+15	12	PP120			
		MAN-1HLN	10-500	10.0	+15	3.7	+30	1.8:1	1.8:1	+12	70	A06			
		TO-0812LN	800-1200	20.0	+8	1.6	+18	2.5:1	2.5:1	+15	70	QQ96			
		TO-1217LN	1200-1700	20.0	+10	1.6	+25	2.5:1	2.5:1	+15	70	QQ96			
		TO-1724LN	1700-2400	20.0	+10	1.6	+22	2.5:1	2.5:1	+15	70	QQ96			
	C O N	ZFL-500LN	0.1-500	24.0	+5	2.9	+14	1.5:1	1.6:1	+15	60	Y39	SMA	BNC	
		ZFL-1000LN	0.1-1000	20.0	+3	2.9	+14	1.5:1	2.0:1	+15	60	Y39	SMA	—	
		ZFL-500HLN	10-500	19.0	+16	3.8	+30	1.5:1	1.5:1	+15	110	Y39	SMA	—	
		ZEL-0812LN	800-1200	20.0	+8	1.5	+18	2.5:1	2.5:1	+15	70	EEE132	SMA	—	
		ZHL-0812HLN	800-1200	30.0	+26	1.5	+36	2.4:1	2.4:1	+15	725	NN92	SMA	—	
		ZHL-0812MLN	800-1200	28.0	+20	1.3	+33	1.5:1	1.6:1	+15	300	S32	SMA	—	
		ZEL-1217LN	1200-1700	20.0	+10	1.5	+25	2.5:1	2.5:1	+15	70	EEE132	SMA	—	
		ZHL-1217HLN	1200-1700	30.0	+26	1.5	+36	2.4:1	2.4:1	+15	725	NN92	SMA	—	
		ZHL-1217MLN	1200-1700	30.0	+20	1.2	+34	1.5:1	1.6:1	+15	300	S32	SMA	—	
		ZEL-1724LN	1700-2400	20.0	+10	1.5	+22	2.5:1	2.5:1	+15	70	EEE132	SMA	—	
		ZHL-1724HLN	1700-2400	30.0	+26	1.5	+36	2.4:1	2.4:1	+15	725	NN92	SMA	—	
		ZHL-1724MLN	1700-2400	28.0	+20	1.2	+32	1.5:1	1.6:1	+15	300	S32	SMA	—	
		ZQL-900LNW	800-900	13.0	+21	1.0	+35	1.2:1	1.1:1	+15	160	CW686	SMA	—	
		ZQL-900MLNW	800-900	22.0	+23	1.2	+41	1.3:1	1.4:1	+15	230	CW686	SMA	—	
		ZQL-900LN	824-849	15.0	+21	1.0	+35	1.2:1	1.1:1	+15	160	CW686	SMA	—	
		ZQL-900MLN	824-849	25.5	+24.5	1.0	+41	1.3:1	1.4:1	+15	230	CW686	SMA	—	
		ZQL-1900LNW	1700-2000	14.0	+18.5	0.9	+37	1.15:1	1.25:1	+15	160	CW686	SMA	—	
		ZQL-1900MLNW	1800-2000	23.0	+25	1.1	+41	1.4:1	1.25:1	+15	310	CW686	SMA	—	
		ZQL-1900LN	1850-1910	15.0	+19	0.9	+37	1.15:1	1.25:1	+15	160	CW686	SMA	—	
		ZQL-1900MLN	1850-1910	25.0	+26	1.1	+41	1.25:1	1.20:1	+15	310	CW686	SMA	—	
		ZQL-2700MLNW	2200-2700	25.0	+25	1.0	+38	1.25:1	1.15:1	+15	325	CW686	SMA	—	

⁽¹⁾ Minimum output power at 1 dB gain compression.

⁽²⁾ For ERA models, VSWR given as DC-3GHz; ERA-50SM at 1.5 GHz.

● SMT Surface Mount.

▼ Alternate package style SOT 143, see VAM series.

* Increase below 1500 MHz.

Using the Selection Guide:

Locate the Mini-Circuits' amplifier best suited for your particular application quickly with this convenient Selection Guide. Amplifiers are grouped into ten major categories and then listed in the sequence of frequency span. If your amplifier requirements are not met by the catalog models listed, we encourage you to contact our Application Engineering Department. You will find them courteous and eager to support your needs with their depth of knowledge coupled with our extensive database on engineering and catalog models.

		MODEL NO.	FREQ. [MHz]		GAIN [dB] MIN.	MAX ⁽¹⁾ POWER [dBm]	N.F. [dB] TYP.	3rd ORDER I.P. [dBm]		VSWR		DC POWER		CASE STYLE	STD. CONN.	OPTION
			f _L	f _H				IN	OUT	V	I [mA]					
HIGH ISOLATION	PIN	MAN-2AD	2-1000		9.0	-3.5	6.5	+14	2.0:1	2.0:1	+15	22	A05			
		MAN-11AD	2-2000		8.0	-3.5	6.5	+14	3.0:1	2.0:1	+15	22	A05			
		MAN-1AD	5-500		16.0	+7	7.2	+20	1.6:1	1.7:1	+12	85	A05			
	NOC	ZFL-2AD	2-1000		9.0	-3.5	6.5	+14	2.0:1	2.0:1	+15	22	Y39	SMA	—	
		ZFL-11AD	2-2000		8.0	-3.5	6.5	+14	2.5:1	2.0:1	+15	22	Y39	SMA	—	
		ZFL-1HAD	10-500		10.0	+20	7.5	+30	1.3:1	1.35:1	+15	115	SS98	SMA	—	
		ZFL-2HAD	50-1000		11.0	+20	5.0	+33	2.0:1	2.0:1	+15	110	SS98	SMA	—	
LOW POWER	PIN	ZHL-1HLD	225-400		23.0	+27	2.5	+40	2.0:1	2.0:1	+24	525	T34	SMA	—	
		MAN-1	0.5-500		28.0	+8	4.5	+18	1.8:1	1.8:1	+12	60	A05			
		MAN-2	0.5-1000		18.0	+9	6.0	+19	1.8:1	1.8:1	+12	85	A05			
		AMP-74	5-500		27.0	+7	5.0	+20	2.0:1	2.0:1	+15	44	PP120			
		AMP-3G	30-3000		8.0	+9.5	3.5	+20	2.6:1	2.5:1	+15	55	PP230			
	NOC	ZFL-500	0.05-500		20.0	+9	5.3	+18	1.9:1	1.9:1	+15	60	Y460	SMA	BNC	
		ZFL-1000	0.1-1000		17.0	+9	6.0	+18	1.5:1	2.0:1	+15	105	Y460	SMA	—	
		ZFL-750	0.2-750		18.0	+9	6.0	+18	1.5:1	2.0:1	+15	90	Y460	SMA	—	
		ZJL-7G	20-7000		7.5	+9	5.0	+24	1.5:1	1.5:1	+12	50	BW459	SMA	—	
		ZJL-6G	20-6000		10.0	+10	4.5	+24	1.5:1	1.4:1	+12	50	BW459	SMA	—	
MEDIUM POWER	PIN	ZJL-3G	20-3000		14.0	+8	3.8	+22	1.4:1	1.6:1	+12	45	BW459	SMA	—	
		AMP-2000	10-2000		20.0	+15	5.0	+25	2.0:1	2.0:1	+150	100	QQ96			
		ZHL-6A	.0025-500		21.0	+23	9.5	+34	1.8:1	2.0:1	+24	350	S32	BNC	—	
		ZFL-1000H	10-1000		28.0	+20	5.0	+33	2.0:1	2.0:1	+15	150	SS98	SMA	—	
		ZFL-1000VH	10-1000		20.0	+25	4.5	+38	2.0:1	2.5:1	+15	320	SS98	SMA	—	
		ZFL-1000VH2	10-1000		26.0	+25	5.0	+38	2.0:1	2.5:1	+15	320	SS98	SMA	—	
		ZFL-2000	10-2000		20.0	+16	7.0	+25	2.0:1	2.0:1	+15	120	SS98	SMA	—	
		ZFL-2500	500-2500		28.0	+15	8.0	+27	2.5:1	2.5:1	+5	220	Y460	SMA	—	
		ZFL-2500VH	10-2500		20.0	+24	5.5	+35	1.7:1	2.0:1	+15	300	SS98	SMA	—	
		ZHL-1042J	10-4200		25.0	+20	4.5	+30	2.5:1	2.5:1	+15	300	NN92	SMA	—	
		ZJL-4G	20-4000		10.0	+11	5.5	+30.5	1.4:1	1.6:1	+12	75	BW459	SMA	—	
		ZJL-4HG	20-4000		13.0	+12	4.5	+30.5	1.5:1	1.4:1	+12	75	BW459	SMA	—	
		ZJL-5G	20-5000		7.0	+9.5	8.5	+32	1.6:1	1.3:1	+12	80	BW459	SMA	—	
		ZKL-2R7	10-2700		20.0	+11	5.0	+30	1.3:1	1.4:1	+12	120	BY493	SMA	—	
		ZKL-2R5	10-2500		26.0	+15	5.0	+31	1.4:1	1.4:1	+12	120	BY493	SMA	—	
ZKL-2	10-2000		30.0	+15	4.0	+31	1.4:1	1.4:1	+12	120	BY493	SMA	—			
ZKL-1R5	10-1500		36.0	+15	3.0	+31	1.4:1	1.6:1	+12	115	BY493	SMA	—			
MEDIUM HIGH POWER	NOC	ZRON-8G	2000-8000		20.0	+20	6.0	+30	2.0:1	2.0:1	+15	310	AV243	SMA	—	
		ZHL-32A	.05-130		25.0	+29	10.0	+38	2.0:1	2.0:1	+24	600	S32	BNC	SMA,N	
		ZHL-3A	4-150		24.0	+29.5	11.0	+38	2.0:1	2.0:1	+24	600	S32	BNC	SMA,N	
		ZHL-1A	2-500		16.0	+28	11.0	+38	2.0:1	2.0:1	+24	600	S32	BNC	SMA,N	
		ZHL-450-75	5-450		9.3	+26	3.5	+48	2.5:1	1.6:1	+12	525	S32	BNC	—	
		ZHL-1010-75	50-1000		9.5	+26	3.5	+47	1.5:1	1.5:1	+12	525	S32	BNC	—	
		ZHL-2	10-1000		16.0	+29	9.0	+38	2.0:1	2.0:1	+24	600	T34	BNC	SMA,N	
		ZHL-2-8	10-1000		27.0	+29	10.0	+38	2.0:1	2.0:1	+24	600	T34	BNC	SMA,N	
		ZHL-2-12	10-1200		24.0	+29	4.0	+38	2.0:1	2.0:1	+24	750	T34	SMA	—	
		ZHL-1010	50-1000		9.5	+26	3.5	+46	1.5:1	1.5:1	+12	525	S32	SMA	—	
		ZHL-2010	50-1000		20.0	+26	3.7	+46	1.5:1	1.5:1	+12	900	S32	SMA	—	
		ZHL-3010	50-1000		30.0	+26	5.5	+46	2.0:1	1.6:1	+12	1000	S32	SMA	—	
		ZHL-42W	10-4200		30.0	+28	8.0	+38	2.5:1	2.5:1	+15	880	U36	SMA	—	
		ZHL-4240W	10-4200		40.0	+28	8.0	+38	2.5:1	2.5:1	+15	900	U36	SMA	—	
		ZHL-42	700-4200		30.0	+28	10.0	+38	2.5:1	2.5:1	+15	880	U36	SMA	—	
ZHL-211	800-950		20.0	+29	8.0	+38	1.8:1	1.8:1	+24	600	T34	BNC	SMA			
ZHL-4240	700-4200		40.0	+28	8.0	+38	2.5:1	2.5:1	+15	900	U36	SMA	—			
HIGH POWER	NOC	ZVE-8G	2000-8000		30.0	+30	4.0	+40	2.0:1	2.0:1	+12	2000	BN333	SMA	—	
		ZHL-03-5WF	60-300		30.0	+36	4.0	+47	1.4:1	1.5:1	+24	2800	CP641	SMA	—	
		ZHL-5W-1	1-500		40.0	+37	8.0	+49	2.0:1	2.5:1	+24	3300	DDD131	SMA	—	
		ZHL-1-2W	5-500		29.0	+33	12.0	+44	2.0:1	2.0:1	+24	900	T35	BNC	SMA,N	
		ZHL-900-10W	480-900		19.0	+38	10.0	+50	2.0:1	2.0:1	+24	5500	DDD131	SMA	—	
ZHL-1000-3W	500-1000		38.0	+35	9.0	+45	2.0:1	2.5:1	+24	2000	DDD131	SMA	—			
VERY HIGH POWER	NOC	ZHL-7-2W	600-800		28.0	+33	12.0	+43	2.0:1	2.0:1	+24	900	T35	BNC	SMA,N	
		LZY-1	20-512		39.0	+44	8.6	+54	2.0:1	9.0:1	+26	7300	BT412	SMA	—	
		LZY-2	500-1000		40.0	+43	8.0	+54	2.0:1	3.5:1	+28	8000	BT451	SMA	—	
LOW DISTORTION FEED FORWARD	NOC	ZHL-2-50P3	50-1000		21.0	+25	8.0	+43	2.0:1	2.0:1	+24	650	U200	SMA	—	

See Environmental Specifications on the following page.



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