

DATA SHEET

Selection guide RF Power Transistors for HF and VHF

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Selection guide

INTRODUCTION

The following tables represent our complete range of bipolar and MOS transmitting transistors, grouped according to the main RF power application area. The data in each table is subsequently divided into different voltage groups and sorted within each voltage group in order of increasing power.

BIPOLAR: 1.6 to 30 MHz

TYPE NUMBER	P _L (PEP) (W)	V _{CE} (V)	G _p (dB)	PACKAGE	PAGE
Class-A SSB; intermodulation distortion d₃, d₅ < -40 dB					
BLV10	1	12	18	SOT123	
BLY87C/01	1	12	18	SOT120	
BLY87C	1	12	18	SOT120	
BLV11	2	12	18	SOT123	
BLY88C	2	12	18	SOT120	
BLY88C/01	2	12	18	SOT120	
BLW87	6	12	18	SOT123	
BLY89C	6	12	18	SOT120	
BLV20	1.3	26	20	SOT123	
BLY91C	1.3	26	20	SOT120	
BLY91C/01	1.3	26	20	SOT120	
BLV21	2.5	26	20	SOT123	
BLY92C	2.5	26	20	SOT120	
BLY92C/01	2.5	26	20	SOT120	
BLX13C	8	26	>20	SOT120	
BLW83	10	26	>20	SOT123	
BLX39	15	26	20	SOT120	
BLW86	17	26	22	SOT123	
BLW78	35	26	19.5	SOT121	
BLW50F	16	45	19.5	SOT123	
BLX15	30	40	>14	SOT 55	
BLW96	50	40	19	SOT121	
Class-AB SSB; intermodulation distortion d₃, d₅ < -30 dB					
BLV11	10	13.5	18	SOT123	
BLY88C	10	13.5	20	SOT120	
BLY88C/01	10	13.5	20	SOT120	
BLY89C	15	13.5	18	SOT120	
BLW87	15	13.5	18	SOT123	
BLW60C	30	12.5	19.5	SOT120	
BLW85	30	12.5	19.5	SOT123	
BLW99	80	12.5	14	SOT121	
BLV21	10	28	20	SOT123	
BLY92C	10	28	20	SOT120	

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TYPE NUMBER	P _L (PEP) (W)	V _{CE} (V)	G _P (dB)	PACKAGE	PAGE
BLY92C/01	10	28	20	SOT120	
BLX13C	25	28	>21	SOT120	
BLW83	30	28	21	SOT123	
BLX39	42.5	28	19	SOT120	
BLW86	47.5	28	19	SOT123	
BLW76	80	28	>13	SOT121	
BLW78	100	28	19	SOT121	
BLW77	130	28	>12	SOT121	
BLW97	175	28	>11.5	SOT121	
BLW50F	65	50	18	SOT123	
BLW95	160	50	>14	SOT121	
BLW96	200	50	>13.5	SOT121	

MOS: 1.6 to 30 MHz

TYPE NUMBER	P _L (PEP) (W)	V _{CE} (V)	G _P (dB)	PACKAGE	PAGE
Class-A SSB; intermodulation distortion d3, d5 < -40 dB					
BLF242	2	28	23	SOT123	
BLF244	4	28	23	SOT123	
BLF145	8	28	>24	SOT123	
BLF246	20	28	23	SOT121	
BLF175	8	50	>24	SOT123	
Class-AB SSB; intermodulation distortion d3, d5 < -30 dB					
BLF145	30	28	20	SOT123	
BLF246	80	28	20	SOT121	
BLF147	150	28	>17	SOT121	
BLF248	300	28	13	SOT262A1	
BLF175	30	50	24	SOT123	
BLF177	150	50	>20	SOT121	

BIPOLAR: 25 to 175 MHz

TYPE NUMBER	P _L (W)	V _{CE} (V)	G _P (dB)	PACKAGE	PAGE
Class-B; 7.5 to 9.6 V; portable					
2N4427	0.7	7.5	8	TO-39/1	
BFQ42	1.5	7.5	8.4	TO-39/1	
BFQ43	3	7.5	9.4	TO-39/3	
BLW29	9	7.5	7.4	SOT120	

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TYPE NUMBER	P _L (W)	V _{CE} (V)	G _P (dB)	PACKAGE	PAGE
Class-B; 12 to 13.5 V; car mobile					
2N4427	1	12	>10	TO-39/1	
BFQ42	2	13.5	>11	TO-39/1	
BLW79	2	12.5	13.5	SOT122	
BLW80	4	12.5	15	SOT122	
BFQ43	4	13.5	>12	TO-39/3	
BFQ43S	4	13.5	>12	TO-39/3	
BFS22A	4	13.5	>8	TO-39/1	
BLV10	8	13.5	>9	SOT123	
BLY87C	8	13.5	>12	SOT120	
BLY87C/01	8	13.5	>9	SOT122	
BLW81	10	12.5	13.5	SOT122	
BLV11	15	13.5	>8	SOT123	
BLW29	15	13.5	>10	SOT120	
BLY88C	15	13.5	8	SOT120	
BLY88C/01	15	13.5	7.5	SOT122	
BLW87	25	13.5	>6	SOT123	
BLY89C	25	13.5	>6	SOT120	
BLW31	28	13.5	>9	SOT120	
BLV12	30	12.5	9.8	SOT123	
BLW30	30	12.5	11	SOT120	
BLW40	40	12.5	11	SOT120	
BLV45/12	45	12.5	8	SOT119	
BLW60C	45	12.5	>5	SOT120	
BLW85	45	12.5	>4.5	SOT123	
BLV75/12	75	12.5	7.5	SOT119	
Class-B; 28 V base stations					
2N3866	1.5	28	>10	TO-39/1	
2N3553	2.5	28	>10	TO-39/1	
BFS23A	4	28	>10	TO-39/1	
BLV20	8	28	>12	SOT123	
BLY91C	8	28	>12	SOT120	
BLY91C/01	8	28	>12	SOT122F	
BLY92C	15	28	>10	SOT120	
BLY92C/01	15	28	>10	SOT122F	
BLV21	15	28	>10	SOT123	
BLW84	25	28	>9	SOT123	
BLY93C	25	28	>9	SOT120	
BLW86	45	28	>7.5	SOT123	

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TYPE NUMBER	P _L (W)	V _{CE} (V)	G _P (dB)	PACKAGE	PAGE
BLX39	45	28	>7.5	SOT120	
BLV80/28	80	28	>7	SOT121	
BLW78	100	28	>6	SOT121	
BLW77	130	28	7.5	SOT121	

MOS: (25 to 175 MHz)

TYPE NUMBER	P _L (PEP) (W)	V _{DS} (V)	G _P (dB)	PACKAGE	PAGE
Class-B; VHF mobile transmitters (12.5 V)					
BLF221	2	12.5	13	SOT5 (TO-39/3)	
BLF241	2	12.5	12.5	SOT5 (TO-39/1)	
BLF244	6	12.5	15	SOT123	
BLF245	12	12.5	12	SOT123	
BLF245B	–	12.5	–	SOT279	
BLF225	30	12.5	9.5	SOT123	
Class-B; VHF mobile transmitters (28 V)					
BLF241	3	28	14	SOT5 (TO-39/1)	
BLF242	5	28	16	SOT123	
BLF244	15	28	17	SOT123	
BLF245	30	28	15.5	SOT123	
BLF245B	30	28	18	SOT279	
BLF246B	60	28	19	SOT161	
BLF246	80	28	18	SOT121	
Class-B; VHF mobile transmitters (50 V)					
BLF175	30	50	20	SOT123	
BLF276	100	50	22	SOT119D3	
BLF177	150	50	19	SOT121	
BLF277	150	50	17	SOT119	
BLF278	300	50	22	SOT262A1	

BIPOLAR: FM BROADCAST (87 to 108 MHz)

TYPE NUMBER	P _L (W)	V _{CE} (V)	G _P (dB)	PACKAGE	PAGE
Class-B					
2N3866	1.8	28	>10	TO-39/3	
BLW90	4	28	20	SOT122	
BLV21	15	28	>10	SOT123	
BLW86	45	28	>7.5	SOT123	

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TYPE NUMBER	P _L (W)	V _{CE} (V)	G _P (dB)	PACKAGE	PAGE
BLX39	45	28	>7.5	SOT120	
BLV80/28	80	28	>7	SOT121	
BLW76	80	28	7.9	SOT121	
BLW78	100	28	6	SOT121	
BLV25	175	28	10	SOT119	

BIPOLAR: TV TRANSPOSERS/TRANSMITTERS

TYPE NUMBER	P _{o sync} (W)	V _{CE} (V)	G _P (dB)	d _{im} (dB)	PACKAGE	PAGE
Class-A; bands I (41 to 68 MHz) and III (174 to 230 MHz)						
BLV30	1.7	25	20	-60	SOT122	
BLV31	7	25	16.5	-58	SOT122	
BLV32F	12.5	25	17.2	-55	SOT160	
BLV33F	22	25	14.8	-55	SOT119	
BLV33	26	25	9.7	-55	SOT147	
Class-AB; bands I (41 to 68 MHz) and III (174 to 230 MHz)						
BLV30	10	28	15	-	SOT122	
BLV31	20	28	12	-	SOT122	
BLV32F	30	28	13	-	SOT160	
BLV33F	85	28	10.5	-	SOT119	
BLV33	90	28	6.5	-	SOT147	
BLV36	115	28	13	-	SOT161	
Class-A; bands IV and V (470 to 860 MHz)						
BFR96S	0.12	10	10	-60	SOT37	
BFQ34	0.3	15	11	-60	SOT122	
BFQ68	0.7	15	10	-60	SOT122	
BLW32	0.63	25	12.2	-60	SOT122	
BLW33	1.15	25	10.5	-60	SOT122	
BLW34	2.15	25	10.2	-60	SOT122	
BLW98	4.4	25	7.0	-60	SOT122	
BLV57	12	25	9	-60	SOT161	
BLV58	25	25	11.5	-47	SOT289	
BLW898	≥3	25	≥9	-60	SOT171A	
BLV859	≥20	25	≥10	≤-51	SOT262B	

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TYPE NUMBER	$P_{o\ sync}$ (W)	V_{CE} (V)	G_P (dB)	d_{im} (dB)	PACKAGE	PAGE
Class-AB; bands IV and V (470 to 860 MHz)						
BLV59	30 ⁽¹⁾	25	8.5	–	SOT171	
BLV57	38 ⁽¹⁾	25	6.5	–	SOT161	
BLV62	150 ⁽¹⁾	28	9.5	–	SOT262A2	
BLV862	150 ⁽¹⁾	28	≥8.5	–	SOT262B	

Note

- P_L at 1 dB power gain compression.

MOS: TV TRANSPOSERS/TRANSMITTERS

TYPE NUMBER	$P_{o\ sync}$ (W)	V_{CE} (V)	G_P (dB)	d_{im} (dB)	PACKAGE	PAGE
Class-A; band III (174 to 230 MHz)						
BLF346	30	28	16.5	–52	SOT119	
BLF348	75	28	13	–52	SOT262A1	
Class-AB; band III (174 to 230 MHz)						
BLF248	300	28	11.5	–	SOT262A1	
BLF368	300	32	13.5	–	SOT262A1	
BLF278	250	50	16	–	SOT262A1	
BLF378	250	50	16	–	SOT262A1	
Class-B; band III (174 to 230 MHz)						
BLF276	100	50	15	–	SOT119D3	

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