

TUBE BASE DIAGRAMS

Bottom views are shown. Terminal designations on sockets are given on page VS.



7DT



7DW



7E



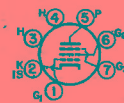
7EA



7EG



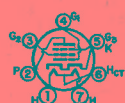
7EK



7EN



7EW



7F



7FB



7FL



7FN



7FP



7FQ



7G



7GA



7GK



7GM



7H



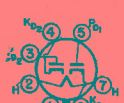
7J



7K



7L



7Q



7R



7S



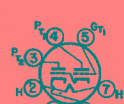
7T



7U



7V



7W



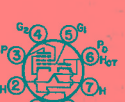
7Z



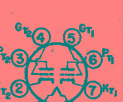
8A



8AA



8AB



8AC



8AE



8AF



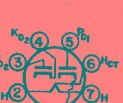
8AG



8AJ



8AL



8AN



8AO



8AR



8AS



8AU



8AV



8AW



8AX



8AY



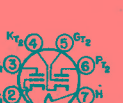
8B



8BA



8BD



8BE



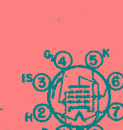
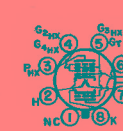
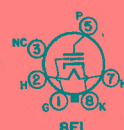
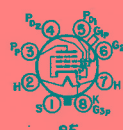
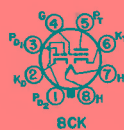
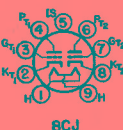
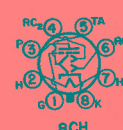
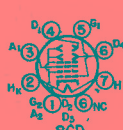
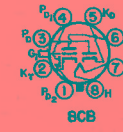
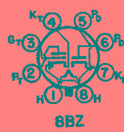
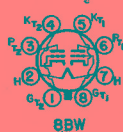
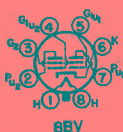
8BF



8BJ

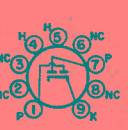
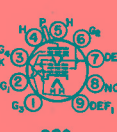
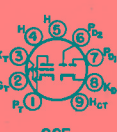
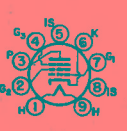
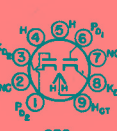
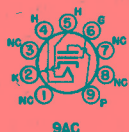
TUBE BASE DIAGRAMS

Bottom views are shown. Terminal designations on sockets are given on page V5.



TUBE BASE DIAGRAMS

Bottom views are shown. Terminal designations on sockets are given on page V5.



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TUBE BASE DIAGRAMS

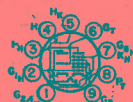
Bottom views are shown. Terminal designations on sockets and * meaning are given on page V5.



9LK



9LS



9KV



9LW



9LY



9M



9MS



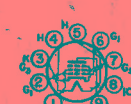
9N



9NM



9NT



9NZ



9PA



9PB



9PM



9PU



9PX



9Q



9QA



9QL



9QP



9R



9S



9T



9U



9V



9X



9Y



9Z



11A



11B



11C



11J



11L



11M



11N



11S



11T



11V



12A



12AQ *



12AS *



12BF



12BJ



12BM



12BQ



12BW



12BY



12CA



12CF *



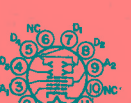
12E



12EA *



12EU



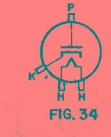
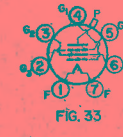
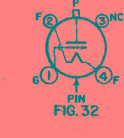
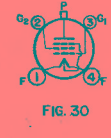
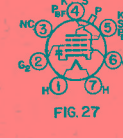
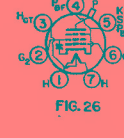
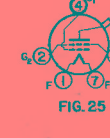
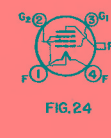
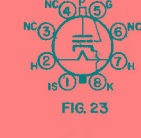
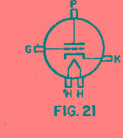
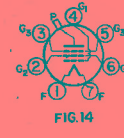
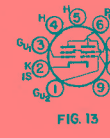
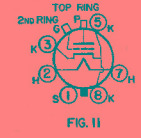
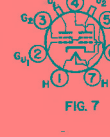
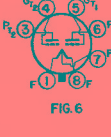
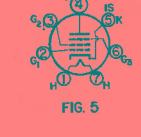
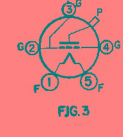
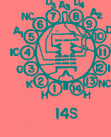
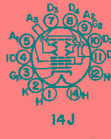
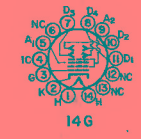
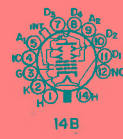
12F



12FB

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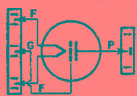


FIG. 39

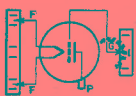


FIG. 40

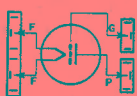


FIG. 41

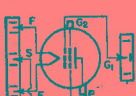


FIG. 42



FIG. 43



FIG. 44

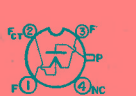


FIG. 45

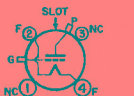


FIG. 46

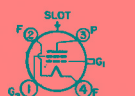


FIG. 47

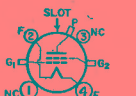


FIG. 48



FIG. 49



FIG. 50



FIG. 51



FIG. 52



FIG. 53



FIG. 54



FIG. 55

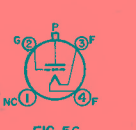


FIG. 56



FIG. 57



FIG. 58

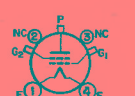


FIG. 59



FIG. 60



FIG. 61



FIG. 62



Type	Name	Base	Fil. or Heater	Capacitances pF			Plate Supply V	Grid Bias	Screen Volts	Screen mA	Plate mA	Plate Res. Ohms	Transformer distance	Amp. Factor	Load Res. Ohms	Watts Output	
				V	Amp.	C _{in}											C _{out}
6AF4A	Uhf — Triode	A ₁ Amp. Osc. 950 MHz	7DK	6.3	0.225	2.2	0.45	1.9	80	150*	—	16	2.27K	6600	15	—	
6AG5	Sharp Cut-off Pent.		7BD	6.3	0.3	6.5	1.8	0.03	100	100K Ω	—	0.4*	22	—	—	—	
									250	180*	150	2.0	6.5	800K	5000	—	—
6AH6	Sharp Cut-off Pent.	Pent. Amp. Triode Amp.	7BK	6.3	0.45	10.0	2.0	0.03	100	180*	100	1.4	4.5	600K	4500	—	
									300	160*	150	2.5	10	500K	9600	—	—
6AJ4	Uhf Triode		9BX	6.3	0.225	4.4	0.18	2.4	125	68*	—	—	16	4.2K	10K	42	
									180	200*	120	2.4	7.7	690K	5100	—	—
6AK5	Sharp Cut-off Pent.		7BD	6.3	0.175	4.0	2.8	0.02	150	330*	140	2.2	7	420K	4300	—	
									120	200*	120	2.5	7.5	340K	5000	—	—
6AK5	Pwr. Amp. Pent.		7BK	6.3	0.15	3.6	4.2	0.12	180	—9	180	2.5	15	200K	2300	10K 1.1	
6AL5	Dual Diode ^{1a}		6BT	6.3	0.3	—	—	—	Max. rms voltage —117. Max. dc output current —9 mA ²								
6AM4	Uhf Triode		9BX	6.3	0.225	4.4	0.16	2.4	150	100*	—	7.5	10K	9000	90	—	
6AN5	Beam Pwr. Pent.		7BD	6.3	0.45	9.0	4.8	0.075	120	200*	120	12.0	36	12.5K	8000	2.5K 1.3	
6AW8A	Sharp Cut-off Pent.		9DA	6.3	0.45	7.0	2.3	0.04	200	—6	—	13	5.75K	3300	—	—	
									200	160*	150	2.8	9.5	30K	6200	—	—
6AQ5A	Beam Pwr. Pent.		7BZ	6.3	0.45	8.3	8.2	0.35	180	—8.5	180	3/4	30*	58K	3700	29* 5.5K 2.0	
									250	—12.5	250	4.5/7	47*	52K	4100	45* 5K 4.5	
6AQ5	Dual Diode — High- μ Triode		7BT	6.3	0.15	1.7	1.5	1.8	100	—1	—	—	0.8	61K	1150	70	
									250	—3	—	—	1	58K	1200	70	—
6AR5	Pwr. Amp. Pent.		6CC	6.3	0.4	—	—	—	250	—16.5	250	5/7/10	35*	65K	2400	34* 7K 3.2	
									250	—18	250	5.5/10	33*	68K	2300	32* 7.6K 3.4	
6AS6	Sharp Cut-off Pent.		7CM	6.3	0.175	4	3	0.2	120	—2	120	3.5	5.2	110K	3200	—	
6AT6	Duplex Diode — High- μ Triode		7BT	6.3	0.3	2.3	1.1	2.1	250	—3	—	1	58K	1200	70	—	
6AV6A	Sharp Cut-off Pent.		7BK	6.3	0.3	5.5	5	0.0035	250	68*	150	4.3	10.6	1 meg.	5200	—	
6AV6	Dual Diode — High- μ Triode		7BT	6.3	0.3	2.2	0.8	2.0	250	—2	—	1.2	62.5K	1600	100	—	
6AZ6	Medium- μ Triode		9ED	6.3	0.45	2	1.7	1.7	200	—6	—	13	5.75K	3300	19	—	
									200	160*	150	9	9.5	300K	6000	—	—
6B2	Semiremote Cut-off Pent.		7BK	6.3	0.3	5.5	5	0.0035	250	68*	100	4.2	11	1 meg.	4400	—	
6BA6	Remote Cut-off Pent.		7BK	6.3	0.3	5.5	5	0.0035	250	68*	100	4.2	11	1 meg.	4400	—	
6BA1	Pentagrid Conv.		8CT	6.3	0.3	Osc. 20K Ω			250	—1	100	10	3.8	1 meg.	950	—	
6BS4	Uhf Medium- μ Triode		9DR	6.3	0.225	2.9	0.26	1.6	150	100*	—	14.5	4.8K	10K	48	—	
6BS6	Pentagrid Conv.		7CH	6.3	0.3	Osc. 20K Ω			250	—1.5	100	6.8	2.9	1 meg.	475	—	
6BE3A	Medium- μ Triode		9EG	6.3	0.45	2.8	1.5	1.8	150	56*	—	18	5K	8500	40	—	
									250	68*	110	3.5	10	400K	5200	—	—
6BF6	Beam Pwr. Amp.		7BZ	6.3	1.2	14	6	0.65	110	—7.5	110	4/10.5	39*	12K	7500	36* 2.5K 1.9	
6BF6	Dual Diode — Medium- μ Triode		7BT	6.3	0.3	1.8	0.8	2	250	—9	—	9.5	8.5K	1900	16	10K 0.3	
6BH6	Sharp Cut-off Pent.		7CM	6.3	0.15	5.4	4.4	0.0035	250	—1	150	2.9	7.4	1.4 meg.	4600	—	
6BN4A	Medium- μ Triode		8DX	6.3	0.6	2.6	0.38	2.4	150	—5	—	9.5	5.15K	3300	17	—	
									200	82*	125	3.4	15	150K	7000	—	—
6BR6A	Sharp Cut-off Pent.		8DX	6.3	0.6	7	2.4	0.046	200	82*	125	3.4	15	150K	7000	—	
6BR6A	Remote Cut-off Pent.		7CM	6.3	0.15	4.5	5.5	0.0035	250	—1	100	3.3	9.2	1.3 meg.	3800	—	
6BR7	Triode Diode		9AX	6.3	0.45	Max. peak inverse plate voltage —330 V. Max. dc plate current each diode —1.0 mA											
6BR7	Dual Diode — Medium- μ Triode		8ER	6.3	0.6	2.8	0.38	2.6	250	—9	—	8	7.15K	2800	20	—	
6BR6	Dual Diode — High- μ Triode		7BT	6.3	0.3	—	—	—	250	—2	—	1.2	62.5K	1600	100	—	
6BK7B	Medium- μ Dual Triode ^{1a}		9AJ	6.3	0.4	3	1	1.8	150	58*	—	18	4.6K	9300	43	—	
									250	—1.3	—	14	—	5000	20	—	—
6BL6	Triode		9DC	6.3	0.43	2.5	1.8	1.5	250	—	—	10	400K	6200	47	—	
									250	—1.3	175	2.8	10	400K	6200	47	—
6BN4A	Medium- μ Triode		7EG	6.3	0.2	3.2	1.4	1.2	150	220*	—	9	6.3K	6800	43	—	
6BN6	Gated-Beam Pent.		7DF	6.3	0.3	4.2	3.3	0.004	80	—1.3	60	5	0.23	—	—	58K	
6BN6	Dual Diode — High- μ Triode		9ER	6.3	0.6	3.6	0.25	2.5	250	—3	—	1.6	28K	2900	70	—	
6BQ5	Pwr. Amp. Pent.		9CV	6.3	0.76	10.8	6.5	0.5	300	—7.3	200	10.8	49.5*	38K	—	5.2K 17*	
6BD7A	Medium- μ Dual Triode ^{1a}		9AJ	6.3	0.4	2.85	1.85	1.15	150	220*	—	9	6.1K	6400	39	—	
6BR6A	Medium- μ Triode		9FA	6.3	0.45	2.5	0.4	1.8	150	56*	—	18	5K	8500	40	—	
6BR6A	Sharp Cut-off Pent.		9FA	6.3	0.45	5	2.6	0.015	250	68*	110	3.5	10	400K	5200	—	
6BS6	Low-Noise Dual Triode ^{1a}		9AJ	6.3	0.4	2.6	1.35	1.15	150	220*	—	10	5K	7200	36	—	
6BX3	Dual Triode ^{1a}		9AJ	6.3	0.4	—	—	1.4	65	—1	—	9	—	6700	25	—	
6BZ6	Semiremote Cut-off Pent.		7CM	6.3	0.3	7.5	1.8	0.02	200	180*	150	2.6	11	800K	6100	—	
6BZ6	Medium- μ Dual Triode ^{1a}		9AJ	6.3	0.4	2.5	1.35	1.15	150	220*	—	10	5.6K	6800	39	—	
6BZ6	Dual Triode ^{1a}		9AJ	6.3	0.4	—	—	—	125	100*	—	10	5.6K	8000	45	—	
6C4	Medium- μ Triode		6BQ	6.3	0.15	1.8	1.3	1.6	250	—8.5	—	10.5	7.7K	2200	17	—	
6C6A	Sharp Cut-off Pent.		7CM	6.3	0.3	6.5	1.9	0.02	200	180*	150	2.8	9.5	800K	6200	—	
6C6A	Rf Pent.		7BD	6.3	0.3	6.5	1.9	0.03	200	180*	150	2.8	9.5	600K	6200	—	
6C6A	Semiremote Cut-off Pent.		7BK	6.3	0.3	5	5	0.008	250	—8	150	2.3	9	720K	2000	—	
6C67	Medium- μ Dual Triode ^{1a}		9AJ	6.3	0.6	2.3	2.2	4	250	—8	—	9	7.7K	2600	20	—	
6C14	Pwr. Amp. Pent.		9BV	6.3	0.65	11	5.5	0.12	250	—3	150	7/7.2	31*	150K	11K	30* 7500 2.8	
6CW4	Triode		12AQ	6.3	0.13	4.1	1.7	0.92	70	0	—	8	5.44K	12.5K	68	—	
6CX6	Medium- μ Triode		9DX	6.3	0.75	2.2	0.38	4.4	150	150*	—	9.2	6.7K	4600	40	—	
									200	68*	125	5.2	24	70K	10K	—	—
6CY6	Sharp Cut-off Pent.		9	4.4	0.06	200	68*	125	5.2	24	70K	10K	—	—	—	—	
6DY6	Sharp Cut-off Tetrode		7EW	6.3	0.2	4.5	3	0.03	125	—7	80	1.5	10	100K	8000	—	
6D10	Yim Triode		9AJ	6.3	0.365	3.3	1.8	1.4	90	—1.3	—	15	—	12.5K	33	—	
6DK6	Sharp Cut-off Pent.		7CM	6.3	0.3	6.3	1.9	0.02	300	—6.5	150	3.8	12	—	9600	—	
6DS4	High- μ Triode		12AQ	6.3	0.135	4.1	1.7	0.92	70	0	—	8	5.44K	12.5K	68	—	
6D15	Sharp Cut-off Pent.		7EN	6.3	0.3	5.8	—	0.02	150	560*	100	2.1	11	150K	615	—	
6D15	Beam Pwr. Amp.		9CK	6.3	1.2	14	9	0.5	200	—22.5	150	2	55	15K	5500	—	
6EA4	Triode		9AE	6.3	0.45	3	0.3	1.7	330	—12	—	18	5K	8600	40	—	
									330	—9	330	4	12	80K	6400	—	—
6E6	High- μ Triode		9DX	6.3	0.75	2.4	0.36	4.4	330	—5	—	2	37K	2700	100	—	
6E6	Sharp Cut-off Pent.		9DX	6.3	0.75	11	4.2	0.1	330	—9	—	7	25	75K	12.5K	—	
6EH6	Power Pentode		7CV	6.3	1.2	17	9	0.65	135	0	117	14.5	42	11K	14.6K	3K 1.4	
6EH7	Remote Cut-off Pent.		9AQ	6.3	0.3	9	3	0.05	125	—2	90	4.5	12	500K	12.5K	—	
6EM6	Triode		9UG	6.3	0.45	2.8	1.7	1.8	125	—1	—	—	13.5	—	7500	40	—
									125	—1	125	4	12	170K	6000	—	—
6EM6	Pentagrid Conv.		9UG	6.3	0.45	4.8	2.4	0.02	125	—1	125	4	12	170K	6000	—	
6EJ7	Sharp Cut-off Pent.		9AQ	6.3	0.3	10	3	0.005	200	—2.5	200	4.7	10	350K	18K	—	
6ER5	Tetrode		7FN	6.3	0.18	4.4	3.0	0.38	200	—1.2	0	10	8K	10.5K	80	—	

Type	Name	Base	Fil. or Heater		Capacitances pF			Plate Supply V	Grid Bias	Screen Volts	Screen mA	Plate mA	Plate Res. Ohms	Transcon- ductance ¹	Ampl. Factor ²	Load Res. Ohms	Watts Output
6003	High- μ Triode	12CY	6.3	0.135	6.0	0.046	1.3	110	47 ^a	—	—	10	—	10K	—	—	—
6003	Medium- μ Triode	12AQ	13.5	0.060	4.4	1.7	2.4	75	100 ^a	—	—	10.5	3000	11.5K	35	—	—
6028	High- μ Triode	12AQ	6.3	0.10	10	3.4	1.7	150	3.3K ^a	—	—	0.3	41K	3100	127	7K	—
6077	Power Triode	12CY	6.3	0.15	6.0	1.2	—	100	1.2K ^a	—	—	20	3K	5400	70	—	1.4
6001	Sharp Cut-off Pent.	7BD	6.3	0.15	3.6	3	0.01	250	-3	100	0.7	2	1 meg.	1400	—	—	—
6062	UHF Triode	7BS	6.3	0.15	1.2	1.1	1.4	250	-7	—	—	6.3	114K	2200	25	—	—
6068	Remote Cut-off Pent.	7BD	6.3	0.15	3.4	3	0.1	250	-3	100	2.7	6.7	700K	1800	—	—	—
6066	UHF Triode	6BH	6.3	0.15	—	—	—	Max. ac voltage = 270. Max. dc output current = 5 mA.									

1 Controlled heater warm-up characteristic.
2 Oscillator-grid-leak or screen-dropping resistor ohms.
3 Cathode resistor ohms.
4 Space-charge grid.

5 Per Plate.
6 Maximum-signal current for full-power output.
7 Values are for two tubes in push-pull.
8 Unless otherwise noted.

9 No signal plate mA.
10 Effective plate-to-plate.
11 Triode No. 1.
12 Triode No. 2.

13 Oscillator grid current mA.
14 Values for each section.
15 Micromhos.
16 Through 33K.

TABLE II—METAL RECEIVING TUBES

Characteristics given in this table apply to all tubes having type numbers shown, including metal tubes, glass tubes with "G" suffix, and bantam tubes with "QT" suffix.
For "G" and "QT" tubes not listed (not having metal counterparts), see Tables III and V.

Type	Name	Base	Fil. or Heater		Capacitances pF			Plate Supply V	Grid Bias	Screen Volts	Screen mA	Plate mA	Plate Res. Ohms	Transcon- ductance ¹	Ampl. Factor ²	Load Res. Ohms	Watts Output
6A8	Pentagrid Conv.	8A	6.3	0.3	—	—	—	250	-3	100	2.7	3.5	360K	550	—	—	—
6AG7	Sharp Cut-off Pent.	6N	6.3	0.45	11	5	0.15	300	160 ^a	150	2.5	10	1 meg.	9000	—	—	—
6AG7	Pwr. Amp. Pent.	6Y	6.3	0.65	13	7.5	0.06	300	3	150	7/9	30/31	130K	11K	—	10K	3
6BE	Dual-Diode—Pent.	6E	6.3	0.3	6	9	0.005	250	-3	125	2.3	10	600K	1325	—	—	—
6BE	Pwr. Amp. Pent.	7S	6.3	0.7	6.5	13	0.2	250	20	200 ^a	—	31/34	2.6K	2600	6.8	4K	0.25
								350	730 ^a	120 ¹¹	—	50/60	—	—	—	10K ⁷	9
								350	-38	123 ¹¹	—	48/92	—	—	—	6K ⁷	13
								250	-16.5	250	6/11	34/36	80K	2500	—	7K	3.2
								285	-20	285	7/13	38/40	78K	2500	—	7K	4.8
								375	26	250	5/20	34/32	—	—	82 ¹¹	10K ⁷	18.5
6J5	Medium- μ Triode	6Q	6.3	0.3	3.4	3.6	3.4	250	-8	—	—	9	7.7K	2600	20	—	—
6J7	Sharp Cut-off Pent.	7R	6.3	0.3	7	12	0.005	250	-3	100	0.5	2	1 meg.	1225	—	—	—
6K7	Variable- μ Pent.	7R	6.3	0.3	7	12	0.005	250	10K ^a	100	—	—	Zero signal cathode current = 0.43 mA.				
6K8	Triode—Hexode Conv.	6K	6.3	0.3	—	—	—	250	-3	125	2.6	10.5	600K	1650	990	—	—
6L6-GD ²	Beam Pwr. Amp.	7AC	6.3	0.9	11.5	9.5	0.9	250	-3	100	6	—	600K	350	—	—	—
								100	50K ^a	—	—	3.8	—	—	—	—	—
								250	-20	20 ¹⁰	—	40/44	1.7K	4700	8	9K	1.4
								250	167 ^a	250	5.4/7.2	75/78	—	—	14 ¹⁰	2.5K	6.5
								300	218 ^a	200	3/4.6	51/55	—	—	12 ¹⁰	4.5K	6.5
								250	-14	250	5/7.3	72/79	22.5K	6000	14 ¹⁰	2.5K	6.5
								350	-18	250	2.5/7	54/66	33K	5200	18 ¹⁰	4.2K	10.8
								250	125 ^a	250	10/15	120/130	—	—	36 ¹¹	5K ⁷	13.8
								270	125 ^a	270	11/17	134/145	—	—	28 ¹¹	5K ⁷	18.5
								250	-16	250	10/16	120/140	24.5 ^a	5500 ^a	32 ¹¹	5K ⁷	14.5
								250	-17.5	270	11/17	134/155	23.5 ^a	5700 ^a	35 ¹¹	5K ⁷	17.5
								360	270 ^a	270	5/17	88/100	—	—	40 ¹¹	9K ⁷	24.5
								360	-22.5	270	5/11	88/140	—	—	45 ¹¹	3.8K ⁷	18
								360	-22.5	270	5/15	88/132	—	—	45 ¹¹	6.6K ⁷	26.5
6L7	Pentagrid—Mixer Amp.	7T	6.3	0.3	—	—	—	250	-3	100	6.5	5.3	600K	1100	—	—	—
								250	-6	150	9.2	3.3	1 meg.	350	—	15 ¹⁰	—
6N7GT	Class-B Twin Triode	8B	6.3	0.8	—	—	—	300	0	—	—	35/70	—	—	82 ¹¹	8K ⁷	10
6P7	Dual Diode—High- μ Triode	7V ²	6.3	0.3	5	3.8	1.4	250	-3	—	—	6	11.3K	3100	—	—	—
6P7	Dual Diode—Triode	7V ²	6.3	0.3	4.8	3.8	2.4	250	-9	—	—	9.5	0.5K	1900	16	10K	0.28
6SA7GT	Pentagrid Conv.	8R ²	6.3	0.3	9.5	12	0.13	250	0 ^a	100	8	3.4	800K	—	—	—	—
6SB7Y	Pentagrid Conv.	8R	6.3	0.3	9.6	9.2	0.13	100	-1	100	10.2	3.6	50K	900	—	—	—
								250	-1	100	10	3.8	1 meg.	950	—	—	—
6SC7	High- μ Dual Triode ^a	6S	6.3	0.3	2	3	2	250	-2	—	—	2	53K	1325	70	—	—
6SF7	Diode—Variable- μ Pent.	7AZ	6.3	0.3	5.5	6	0.004	250	-1	100	3.3	12.4	700K	2050	—	—	—
6SG7	Hi Amp. Pent.	6BK	6.3	0.3	8.5	7	0.003	250	-2.5	150	3.4	9.2	1 meg.	4000	—	—	—
6SH7	Hi Amp. Pent.	6BK	6.3	0.3	8.5	7	0.003	250	-1	150	4.1	10.8	900K	4900	—	—	—
6SJ7 ^a	Sharp Cut-off Pent.	8N	6.3	0.3	6	7	0.005	250	-3	100	0.8	3	1 meg.	1650	—	—	—
6SK7	Variable- μ Pent.	8N	6.3	0.3	6	7	0.003	250	-3	100	2.6	9.2	800K	2000	—	—	—
6SO7GT	Dual Diode—High- μ Triode	8Q	6.3	0.3	3.2	3	1.6	250	-2	—	—	0.9	91K	1100	100	—	—
6SE7	Dual Diode—Triode	8Q	6.3	0.3	3.6	2.8	2.4	250	-9	—	—	9.5	8.5K	1900	16	—	—
6V6GTA	Beam Pwr. Amp.	7AC	6.3	0.45	10	11	0.3	180	-8.5	100	3/4	29/30	50K	3700	8.5 ¹⁰	5.5K	2
								250	-12.5	250	4.5/7	45/47	50K	4100	12.5 ¹⁰	8.5K	4.5
								315	-13	225	2.2/6	34/36	80K	3750	13 ¹⁰	5K	3.5
								250	-15	250	5/13	70/79	60K	3750	30 ¹¹	10K ⁷	10
1028	Sharp Cut-off Pent.	7R	6.3	0.3	7	12	0.005	250	-3	100	0.5	2	1 meg.	1225	—	—	—
6003	Sharp Cut-off Pent.	6N	6.3	0.3	5.3	6.2	0.005	250	-3	100	0.85	3	1 meg.	1650	—	—	—

¹ Cathode resistor ohms.
² Screen tied to plate.
³ No connection to Pin No. 1 for 6L6G, 6Q7G, 6RGT/G, 6S7G, 6SA7GT/G and 6SF5-GT.
⁴ Grid bias = 2 volts if separate oscillator excitation is used.

⁵ Also type 6SJ7Y.
⁶ Values are for single tube or section.
⁷ Values are for two tubes in push-pull.
⁸ Plate-to-plate value.

⁹ Osc. grid leak—Screen res.
¹⁰ Values for two units.
¹¹ Peak of grid voltage.
¹² Peak of G-G voltage.

¹³ Micromhos.
¹⁴ Unless otherwise noted.
¹⁵ G₂ voltage.
¹⁶ Units connected in parallel.

TABLE III—6.3-VOLT GLASS TUBES WITH OCTAL BASES

(For "G" and "GT" type tubes not listed here, see equivalent type in Tables II and V; characteristics and connections will be similar)

Type	Name	Plate Dis- pation (Watts)	Base	Fil. or Heater		Capacitances pF			Plate Supply V	Grid Bias	Screen Volts	Screen mA	Plate mA	Plate Res. Ohms	Transcon- ductance*	Amp. Factor	Load Res. Ohms	Plate Output
				V	Amp.	C _{in}	C _{out}	C _p										
6AL7GT	Electron-Ray Indicator	—	8CH	6.3	0.15	—	—	—	Outer edge of any of the three illuminated areas displaced 1/16 in. min. outward with +5 volts to its electrode. Similar inward disp. with -5 volts. No pattern with -6 volts grid.									
6AQ7GT	Dual Diode— High- μ Triode	—	8CK	6.3	0.3	2.8	3.2	3	250	-2	—	—	2.3	44K	1600	70	—	—
6AR5	Beam Pent.	—	6BQ	6.3	1.2	11	7	0.55	250	-22.5	250	5	77	21K	5400	—	—	—
6AR7GT	Dual Diode— Remote Pent.	—	7DE	6.3	0.3	5.5	7.5	0.003	250	-2	100	1.8	7	1.2 meg.	2500	—	—	—
6AS7GA	Low- μ Twin Triode— DC Amp. ¹	—	8BD	6.3	2.5	6.5	2.2	7.5	135	250*	—	—	125	0.28K	7000	2	—	—
6A55GT	Beam Pwr. Amp. ³	10	8CK	6.3	1.25	11.3	7	0.5	115	-20	175	6.8	60	6K	5600	—	—	—
6BL7GT	Medium- μ Dual Triode ¹	—	8BD	6.3	1.5	4.4	0.9	6	250	-9	—	—	40	2.15K	7000	15	—	—
6BD6GT	Beam Pwr. Amp. ³	11	6AM	6.3	1.2	15	7	0.6	250	-22.5	150	2.1	57	14.5K	5900	—	—	—
6BX7GT	Dual Triode ¹	—	8BD	6.3	1.5	5	3.4	4.2	250	390*	—	—	42	1.3K	7600	10	—	—
6C85A	Beam Pwr. Amp. ³	26	8GD	6.3	2.5	22	10	0.4	175	-30	175	6	90	5K	8800	—	—	—
6C90GA	Beam Pwr. Amp. ³	20	5BT	6.3	2.5	24	9.5	0.8	175	-30	175	5.5	75	7.2K	7700	—	—	—
6CK4	Low- μ Triode	—	8JB	6.3	1.25	8	1.8	6.5	550	-26	—	—	55	1.0K	6500	6.7	—	—
6CL3	Beam Pwr. Amp. ³	25	8GD	6.3	2.5	20	11.5	0.7	175	-40	175	7	90	6K	6500	—	—	—
6DN6	Beam Pwr. Pent. ³	15	5BT	6.3	2.5	22	11.5	0.8	125	-18	125	6.3	70	4K	9000	—	—	—
6DN7	Dissimilar Dual Triode	—	6BD	6.3	0.9	2.2	0.7	4	350	-8	—	—	8	9K	2500	22	—	—
6DQ5	Beam Pwr. Amp. ³	24	8JC	6.3	2.5	23	11	0.5	175	-25	125	5	110	5.5K	10.5K	—	—	—
6DQ6	Beam Pwr. Amp. ³	18	6AM	6.3	1.2	15	7	0.55	250	-22.5	150	2.4	75	20K	6600	—	—	—
6DZ7	Twin Pwr. Pent. ¹	13.2	8JP	6.3	1.52	11	5	0.6	300	120*	250	15	80	—	—	—	9K ²	12
6ER	Electron Ray—Triode	—	8R	6.3	0.3	—	—	—	250	—	—	—	—	—	—	—	—	—
6EA7	Dissimilar— Dual Triode	—	6BD	6.3	1.05	2.2	0.6	4	350	-3	—	—	1.5	34K	1900	65	—	—
6EF5	Beam Pwr. Amp. ³	—	7S	6.3	0.9	11.5	9	0.8	250	-18	250	2	50	—	5000	—	—	—
6EY6	Beam Pwr. Pent.	—	7AC	6.3	0.68	8.5	7	0.7	350	-17.5	300	3	44	60K	4400	—	—	—
6EZ5	Beam Pwr. Pent.	—	7AC	6.3	0.8	9	7	0.6	350	-20	300	3.5	43	50K	4100	—	—	—
6F8B	Beam Pwr. Pent.	—	6AM	6.3	1.2	33	8	0.4	770	-22.5	220	1.7	75	12K	6000	—	—	—
6G6W6	Beam Power Amp. ³	17.5	8AM	6.3	1.2	17	7	0.5	250	-22.5	150	2.1	70	15K	7100	—	—	—
6H6GT	Pwr. Amp. Pent.	—	7S	6.3	0.4	5.5	6	0.5	315	-21	250	4/9	25/28	110K	2100	—	9K	4.5
6SL7GT	High- μ Dual Triode ¹	—	8BD	6.3	0.3	3.4	3.8	2.8	250	-2	—	—	2.3	44K	1600	70	—	—
6SN7GT	Medium- μ Dual Triode ¹	—	8BD	6.3	0.6	3	1.2	4	250	-8	—	—	9	7.7K	2600	20	—	—
6W6GT	Beam Pwr. Amp.	—	7S	6.3	1.2	15	9	0.5	200	180*	125	2/8.5	46/47	28K	8000	—	4K	2.8
6Y6GA	Beam Pwr. Amp.	—	7S	6.3	1.25	15	1	0.7	200	-14	135	2.2/9	61/66	18.3K	7100	—	2.6K	6
7B5	High- μ Dual Triode	—	8B	6.3	0.6	—	—	—	300	0	—	—	6.6/54	—	—	—	12K ²	10.4
8500	Power Pentode	35	7S	6.3	1.6	14	12	0.85	400	-16.5	225	18	105	27K	9000	—	3K	20
7B7A	Beam Pwr. Amp.	—	8HY	6.3	0.9	10	7.5	1.5	450	-30	350	19.2	194	—	6000	—	6K ²	50
7B8	Beam Pwr. Amp.	19	8KQ	6.3	0.8	10	5	0.25	450	200*	400	22	94	—	—	—	9K ²	28

* Cathode resistor-ohms.

* Plate-to-plate value.

* Horiz. Deflection Amp.

* Micromhos. A

* Per section.

* Vert. Deflection mp.

TABLE IV—CONTROL AND REGULATOR TUBES

Type	Name	Base	Cathode	Fil. or Heater		Peak Anode Voltage	Max. Anode mA	Minimum Supply Voltage	Operating Voltage	Operating mA	Grid Resistor	Tube Voltage Drop
				Volts	Amp.							
0A2	Voltage Regulator	5BD	Cold	—	—	—	—	185	150	5-30	—	—
0A2/VR75	Voltage Regulator	4AJ	Cold	—	—	—	—	105	75	5-40	—	—
0A2	Voltage Regulator	5BD	Cold	—	—	—	—	133	108	5-30	—	—
0A3/VR50	Voltage Regulator	4AJ	Cold	—	—	—	—	125	90	5-40	—	—
0A2	Voltage Regulator	5BD	Cold	—	—	—	—	105	75	5-30	—	—
0A3A/VR105	Voltage Regulator	4AJ	Cold	—	—	—	—	135	105	5-40	—	—
0D3A/VR150	Voltage Regulator	4AJ	Cold	—	—	—	—	185	150	5-40	—	—
5051	Thyratron — Fuse	5BD	Cold	—	—	115	—	115	87	1.5-3.5	—	—
5062	Relay Service	Fig. 79	Htr.	6.3	1.5	200 ¹	—	1/2 to fuse — 150 Amp., 60 cycle, half-wave				
5066	Relay Service	7BN	Htr.	6.3	0.15	500 ¹	—	100 ma. peak current; 25-ma. average.				
9727	Gas Thyratron	7BN	Htr.	6.3	0.6	650	—	—	—	—	—	—
9823	Relay or Trigger	4CK	Cold	—	—	—	—	Max. peak inv. volts = 200; Peak mA = 100; Avg. mA = 25.				
5062	Voltage Regulator	2AG	Cold	—	—	—	—	730	700	5/55 ²	—	—
5066	Series Regulator	8BD	Htr.	6.3	2.4	250	125	—	110	100	350 ³	—

* Peak inverse voltage.

* Values in microamperes.

TABLE V—RECTIFIERS—RECEIVING AND TRANSMITTING

See Also Table IV—Controls and Regulator Tubes

Type	Name	Base	Cathode	Fil. or Heater		Max. AC Voltage Per Plate	DC Output Current mA	Max. Inverse Peak Voltage	Peak Plate Current mA	Type
				Volts	Amp.					
0Z4-G	Full-Wave Rectifier	4R	Cold	—	—	300	75	1000	200	GAS
10Z4-GT/ 10Z4-GT	Half-Wave Rectifier	3C	Fil.	1.25	0.2	—	1.0	33000	80	HV
11Z3/11Z	Half-Wave Rectifier	3C	Fil.	1.25	0.2	—	0.5	26000	50	HV
11Z2	Half-Wave Rectifier	9U	Fil.	0.625	0.3	—	0.5	7500	10	HV
21Z2-A	Half-Wave Rectifier	4AB	Htr.	2.5	1.75	4500	7.5	—	—	HV
21Z2	Half-Wave Rectifier	4AB	Fil.	2.5	1.75	4400	5.0	—	—	HV
22Z2/20A	Half-Wave Rectifier	4B	Fil.	2.5	1.5	350	50	—	—	HV

See Also Table IV—Control and Regulator Tubes

Type	Name	Base	Cathode	Fil. or Heater		Max. AC Voltage Per Plate	D.C. Output Current mA	Max. Inverse Peak Voltage	Peak Plate Current mA	Type
				Volts	Amp.					
5A4	Half-Wave Rectifier	Fig. 49	Fil.	5.0	3.0	—	60	20000	300	HV
5A4	Half-Wave Rectifier	4P	Fil.	2.5 ^a	3.0	—	30	20000	150	HV
5A4	Half-Wave Rectifier	4P	Fil.	2.5	5.0	—	250	10000	1000	HV
5A4	Full-Wave Rectifier	5L	Htr.	5.0	2.25	550	800	1550	—	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	4.5	300 ^a	350 ^a	1400	1075	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	4.0	400 ^a	325 ^a	1550	750	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	2.0	500 ^a	325 ^a	1550	650	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	2.0	450 ^a	250 ^a	2800	—	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	2.0	550 ^a	250 ^a	—	—	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	3.0	900 ^a	150 ^a	—	—	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	3.0	950 ^a	175 ^a	—	—	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	3.0	300 ^a	275 ^a	1550	900	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	3.0	450 ^a	250 ^a	1550	1000	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	3.0	550 ^a	250 ^a	1550	1200	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	3.0	300 ^a	275 ^a	1550	925	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	2.0	375 ^a	175	1400	—	HV
5A4	Full-Wave Rectifier	5T	Fil.	5.0	2.0	—	—	1400	—	HV
5A4	Full-Wave Rectifier	4C	Fil.	5.0	3.0	500	250	1250	250	HV
5A4	Full-Wave Rectifier	5L	Htr.	5.0	2.0	400	125	1100	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	5.0	2.0	—	90	1250	350	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.95	—	125	1250	375	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	1.2	450	100	1275	270	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.9	450	100	1350	270	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.6	—	90	1400	525	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	1.6	375 ^a	175	1000	450	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	1.0	350 ^a	150	5000	1100	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	1.6	—	175	—	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.6	350	90	—	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.3	325 ^a	70	1250	210	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.3	450 ^a	—	—	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.3	350	50	—	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.3	650 ^a	70	1250	210	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.3	900 ^a	70	1250	210	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.3	125	100	—	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	125	60	330	600	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	125	100	700	600	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	125	60	—	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.1	117	75	365	530	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	117	100	330	720	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	125	85	—	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	350 ^a	125	1400	375	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	500 ^a	125	1400	800	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	500	250	1100	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	400	200	1100	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	117	75	350	450	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	117	90	500	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	2200	125	7500	500	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	—	—	5000	1000	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	—	—	10000	1000	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	—	—	8500	1000	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	1250	250 ^a	—	—	HV
5A4	Full-Wave Rectifier	5L	Htr.	6.3	0.15	—	1250	10000	5000	HV

^a Tapped for pilot lamps.

^b Per pair with choke input.

^c Capacitor input.

^d Choke input.

^e Using only one-half of filament.

TABLE VI—TRIODE TRANSMITTING TUBES

Type	Maximum Ratings						Cathode				Capacitances			Base	Typical Operation									
	Plate Dissipation Watts	Plate Voltage	Plate Current mA	DC Grid Current mA	Freq. MHz	Full Ratings	Amplification Factor	Volts	Amperes	C _{in} pF	C _{out} pF	C _{out} pF	Class of Service		Plate Voltage	Grid Voltage	Plate Current mA	DC Grid Current mA	Approx. Driving Power Watts	Plate-P Load Ohms	Approx. Output Power Watts			
6A4	1.5	300	30	16	250	32	6.3	0.45	2.2	1.6	0.4	7BF	C-T	150	-10	30	1.6	0.085	—	3.5				
6A4	2.0	150	20	8.0	500	17	6.3	0.225	2.0	1.9	0.6	7BR	C-T-O	150	-15	20	7.5	0.2	—	1.8				
6A4	2.75 ^a	350	12 ^a	3.5 ^a	54	18	6.3	0.3	1.5	1.5	0.5	9A	C-T-O	350	-100	24	7	—	—	6.0				
6A4	5.6	350	25	8.0	54	18	6.3	0.15	1.8	1.6	1.3	8BG	C-T-O	300	-27	25	7.0	0.35	—	5.5				
6A4	5	185	30	8	3000	20	6.3	0.135	2.3	1.3	0.09	Fig. 21	G-G-O	120	-8	25	4	—	—	0.05				
6A4	5.5 ^a	350	30 ^a	5.0 ^a	10	35	6.3	0.8	—	—	—	6B	C-T-O	350	-100	60	10	—	—	14.5				
6A4	6.5	500	25	—	500	36	6.3	0.75	2.1	1.3	0.05	Fig. 11	C-T-O	250	-5	20	0.3	—	—	0.075				
6A4	8.0	400	40	13	1000	27	6.0	0.33	2.5	1.75	0.07	Fig. 21	C-T	350	-33	35	13	2.4	—	6.5				
6A4	112	500	49	—	1250	48	6.3	0.9	2.9	1.7	0.05	Fig. 11	C-P	300	-45	30	12	2.0	—	6.5				
6A4	25	2000	75	—	—	—	—	—	—	—	—	—	C-T	470	—	38 ^a	—	—	—	9				
6A4	25	2000	75	—	—	—	—	—	—	—	—	—	C-T	2000	-130	63	16	4	—	10				
6A4	25	1000	60	7 ^a	60	24	6.3	3.0	1.7	1.6	0.2	2D	C-P	1600	-170	53	11	3.1	—	6				
6A4	25	2000	75	—	—	—	—	—	—	—	—	—	AB	1250	-42	24/150	270 ^a	3.4 ^a	2.4K	11				
6A4	30	1000	300	25	60	30	6.3	2.6	5.7	6.7	0.9	3B	C-T-O	1000	-90	100	20	3.1	—	7.5				
6A4	30	1000	300	25	60	30	6.3	2.6	5.7	6.7	0.9	3B	C-P	750	-125	100	20	4.0	—	7.5				
6A4	30	1000	300	25	60	30	6.3	2.6	5.7	6.7	0.9	3B	C-P	1000	-40	30/200	230 ^a	4.2 ^a	2.4K	11				

TABLE VI—TRIODE TRANSMITTING TUBES—Continued

V21

Type	Maximum Ratings					Cathode					Capacitances					Base	Typical Operation									
	Plate Dissipation Watts	Plate Voltage	Plate Current mA	DC Grid Current mA	Freq. MHz Full Ratings	Amplification Factor	Volts	Amperes	pF _{g1}	pF _{g2}	C _{out} pF	Class of Service	Plate Voltage	Grid Voltage	Plate Current mA		DC Grid Current mA	Approx. Driving Power Watts	P-to-P Load Ohms	Approx. Output Power Watts						
811-A	65	1500	175	50	60	160	6.3	4.0	5.9	5.8	0.7	3G		C-Y	1500	-70	173	40	7.1	—	200					
														C-P	1250	-120	140	45	10.0	—	135					
														G-G-B	1250	0	27/175	28	12	—	165					
														AB ₁	1250	0	27/175	13	3.0	—	155					
														C-T	1500	-120	173	30	6.5	—	190					
812-A	65	1500	175	35	60	29	6.3	4.0	5.4	5.5	0.77	3G		C-P	1250	-115	140	35	7.8	—	130					
														B [†]	1500	-48	28/310	270 ^a	5.0	13.2K	340					
														C-T	3000	-200	165	51	18	—	400					
														C-P	3000	—	165	35 ^a	5.0 ^a	—	400					
														B [†]	3000	-65	40/215	335 ^a	5.0 ^a	31K	650					
100TH	160	3000	225	60	40	40	5.0	6.3	2.9	2.0	0.4	2D		C-Y	3000	-400	165	30	20	—	400					
														C-P	3000	—	165	30	20	—	400					
														G-M-A	3000	-560	60	2.0	7.0	—	90					
														B [†]	3000	-185	40/215	640 ^a	6.0 ^a	30K	450					
														G-G-A	800	-20	80	30	6	—	27					
3CX100A5 ¹⁵	100	1000	125 ¹⁴	50	2500	100	6.0	1.05	7.0	2.15	0.035	—		C-P	600	-15	75	40	6	—	18					
														G-I-C	600	-35	60	40	5.0	—	20					
														C-T-O	900	-40	90	30	—	—	40					
														C-P	600	-150	100 ¹⁴	50	—	—	—					
														C-T	2500	-200	200	40	16	—	390					
3-100A2 100TL	100	3000	225	50	40	14	5.0	6.3	2.3	2.0	0.4	2D		C-P	2000	-225	127	40	16	—	204					
														B [†]	2500	-90	80/330	350 ^a	14 ^a	15.68K	560					
														C-Y	1650	-70	165	32	6	—	205					
														G-G-B [†]	2400	-2.0	90/500	—	100	—	600					
														C-T	2500	-180	300	60	19	—	575					
572B/7180L	160	2750	275	—	—	170	6.3	4.0	—	—	—	3G		C-P	2000	-350	250	70	35	—	380					
														G-M-A	2250	-140	100	2.0	4	—	75					
														B [†]	2250	-60	70/450	380 ^a	13 ^a	11.6K	725					
														AB ₂	2000	—	22/500	98 ^a	27 ^a	—	505					
														C-T-O	2000	-100	357	94	29	—	464					
250TH	250	4000	350	40 ¹³	40	37	5.0	10.5	4.6	2.9	0.5	2N		C-P	3000	-150	333	90	32	—	750					
														C-P	2000	-160	250	60	22	—	335					
														C-P	2500	-180	225	45	17	—	400					
														C-P	3000	-200	200	38	14	—	435					
														AB ₂ [†]	1500	0	220/700	460 ^a	46 ^a	4.2K	630					
250TL	250	4000	350	35 ¹³	40	14	5.6	10.5	3.7	3.0	0.7	2N		C-T-O	2000	-200	350	45	22	—	455					
														C-T-O	3000	-350	335	45	29	—	750					
														C-P	2000	-520	250	29	24	—	335					
														C-P	2500	-520	225	20	16	—	400					
														C-P	3000	-520	200	14	11	—	435					
PL-9500	250	4000	300	120	30	45	5.0	14.6	7.6	3.7	0.1	Fig. 3		G-G-A	2000	-40	200/700	780 ^a	38 ^a	3.8K	560					
														G-G-A	2500	-70	300	85	75 ¹⁴	—	555					
														G-G-A	3000	-95	300	110	85 ¹⁴	—	710					
														G-G-A	3500	-110	285	90	85 ¹⁴	—	805					
														G-G-A	4000	-120	250	50	70 ¹⁴	—	820					
687B	300	2200	250	—	500	160	6.3	3.2	19.5	7.0	0.03	—		AB ₂	2000	—	22/500	98 ^a	27 ^a	—	505					
														C-T-O	1500	-125	665	115	25	—	700					
														C-T-O	2000	-200	600	125	39	—	900					
														C-P	1500	-200	420	55	18	—	900					
														C-P	2000	-300	440	60	26	—	680					
304TH	300	3000	900	60 ¹³	40	20	5.0	25	13.5	10.2	0.7	4BC		C-P	2500	-350	400	60	28	—	800					
														AB ₂ [†]	1500	-65	1065 ^a	330 ^a	25 ^a	2.84K	1000					
														C-T-O	1500	-250	665	90	33	—	700					
														C-T-O	2000	-300	600	85	36	—	800					
														C-P	2000	-500	250	30	18	—	410					
304TL	300	3000	900	50 ¹³	40	12	5.0	25	12.1	8.6	0.8	4BC		C-P	2000	-500	500	75	52	—	310					
														C-P	2500	-525	200	18	11	—	425					
														C-P	2500	-500	400	50	35	—	630					
														AB ₁ [†]	1500	-118	270/572	236 ^a	0	2.54K	256					
														AB ₂ [†]	2500	-230	160/483	480 ^a	0	8.5K	610					
833A	350	3300	500	100	30	35	10	10	12.3	0.3	8.5	Fig. 41		C-T-O	1500	-118	1140 ^a	490 ^a	39 ^a	2.75K	1100					
														C-T-O	2250	-125	445	85	23	—	780					
														C-P	3000	-160	335	70	20	—	800					
														C-P	2500	-300	335	75	30	—	635					
														C-P	3000	-240	335	70	26	—	800					
887A	400	2200	250	—	500	160	6.3	3.2	18.5	7.0	0.03	—		B [†]	3000	-70	100/750	400 ^a	20 ^a	9.5K	1650					
														AB ₂	2000	—	22/500	98 ^a	27 ^a	—	505					
3-400Z	400	3000	400	—	110	200	5	14.5	7.4	4.1	0.07	Fig. 3		G-G-B	3000	0	100/333	120	32	—	855					
														G-G-A	4000	-110	350	92	105 ¹⁴	—	1080					
PL-9500	400	4000 ¹⁵	350	120	—	45	5.0	14.5	7.6	3.9	0.1	5BK		G-G-A	2500	-70	350	95	65	—	660					
														G-G-B	2500	0	72/400	140	35	—	640					
8183	400	3000	400	20 ¹³	30	350	5.0	14.1	8.0	5.0	0.3	Fig. 3		G-G-B	3000	—	370	115	30	—	750					
														C-T	3500	-75	300	115	22	—	850					
3-500Z	500	4000	400	—	110	160	5	14.5	7.4	4.1	0.07	Fig. 3		G-G-B	3000	0	180/670	300	65	—	1360					
														C-T	3500	-75	300	115	22	—	850					
3-1000Z	1000	3000	600	—	110	200	7.5	21.3	17	6.9	0.12	Fig. 3		G-G-B	3000	0	180/670	300	65	—	1360					
														AB ₂	2500	-8.2	1000	—	57	—	1620					

Type	Maximum Ratings				Cathode					Capacitance					Base	Typical Operation									
	Plate Dissipation Watts	Plate Voltage	Screen Dissipation Watts	Screen Voltage	Freq. MHz Full Ratings	Volts	Amperes	C _{in} pF	C _{sp} pF	Count pF	Class of Service	Plate Voltage	Screen Voltage	Suppressor Voltage		Grid Voltage	Plate Current mA	Screen Current mA	Grid Current mA	Approx. Driving Power Watts	Pole-P Lead Ohms	Approx. Output Power Watts			
6X6	1.8	400	—	—	250	6.3	0.16	4.2	2.2	1.6	12A6	C-P/C-T	155	—	—	14/2700	21	—	5	0.4	—	155			
6AB6	7.5	275	3	200	500	6.3	0.75	6.6	0.15	1.55	Fig. 13	C-T	200	200	—	—20	60	13	2	1.0	—	7.5			
						C-P	180					180	—	—20	55	11.5	1.7	1.0	—	6					
						C-M	200					190	—	—	68K ¹	46	10	2.2	0.9	—	—				
7AS/7ASL	12	300	2	250	175	12.6	0.38	10	0.15	5.5	9LK	C-T	300	250	—	—55	80	5.1	1.6	1.5	—	10			
						C-P	250					250	—	—75	70	3.0	2.3	1.0	—	7.5					
5Y6/5Y7	13.5	350	2	250	50	6.3	0.75	9.5	0.3	4.5	9K	C-T	350	250	—	—28.5	48.5	6.2	1.6	0.1	—	12			
						C-P	300					250	—	—42.5	50	6	2.4	0.15	—	10					
						C-M ²	300					250	—	—75	40	4	1	0.6	—	2.1					
2E26/5883	13.5	600	2.5	200	125	6.3	0.8	12.5	0.2	7	7CK	C-M ⁴	300	235	—	—100	35	5	1	0.6	—	1.3			
						C-T	600					185	—	—45	66	10	3	0.17	—	27					
						C-P	500					180	—	—50	54	9	2.5	0.15	—	18					
6300 ³	14	300	2	200	200	6.3	0.82	6.2	0.1	2.6	Fig. 13	AB ₁	500	200	—	—25	9/45	10 ⁷	0	0	—	15			
						C-T	300					200	—	—45	100	3	3	0.2	—	18.5					
						C-P	200					100	—	—15K ¹	86	3.1	3.3	0.2	—	9.8					
6E26	15	450	4	250	125	6.3	1.6	8.5	0.15	6.7	5BJ	C-M ¹	300	150	—	—100	65	3.5	3.8	0.45	—	4.7			
						AB ₂	300					200	—	—21.5	30/100	1/11.4	64 ¹	0.04	6.5K	17.5					
						C-T-O	450					250	—	—45	75	15	3	0.4	—	24					
622AP	15	750	5	250	200	6.3	0.8	8	0.07	3.8	7BP	C-P	400	200	—	—45	60	12	3	0.4	—	16			
						AB ₂ ²	450					250	—	—30	44/150	10/40	3	0.9 ¹	6K	40					
						C-T	750					200	—	—65	48	15	2.8	0.19	—	26					
6BS2/6X301B	20	750	4	300	300	6.3	1.3	6.5	—	2.5	Fig. 7	C-P	600	200	—	—65	36	16	2.6	0.16	—	17			
						C-T	600					250	—	—80	140	14	4	2.0	—	—					
						C-P	500					250	—	—80	100	12	3	4.0	—	—					
16T4	25	450	3.5	300	80	6.3	0.9	10	0.4	12.5	7AC	B	500	250	—	—26	25/73	0.7/16	52 ¹	—	20K	23.5			
						C-T	450					250	—	—45	100	8	2	0.15	—	31					
						C-P	375					250	—	—50	93	7	2	0.15	—	24.5					
615 ¹	25	500	4	200	125	6.3	1.6	13.3	0.2	8.5	8BY	AB ₂ ²	530	340	—	—36	60/180	20 ⁷	—	—	7.2K	50			
						C-T-O	500					200	—	—45	150	17	2.5	0.13	—	56					
						AB ₂	500					125	—	—15	22/150	32 ⁷	—	0.36 ⁷	8K	54					
RT16A/6148A	25	500	4	200	125	6.3	1.25	13	0.24	8.5	7CK	C-T	500	170	—	—66	135	9	2.5	0.2	—	48			
						C-T	750					160	—	—62	120	11	3.1	0.2	—	70					
						C-T ¹²	400					190	—	—54	150	10.4	2.2	3.0	—	35					
6P32/6B03	25	750	3	250	80	12.6	0.585	13	0.24	8.5	7CK	C-P	400	150	—	—87	112	7.8	3.4	0.4	—	32			
						C-T	600					150	—	—87	112	7.8	3.4	0.4	—	52					
						AB ₂ ⁴	600					190	—	—48	28/270	1.2/20	2 ⁷	0.3	5K	113					
6BS06	25	500	4	200	125	26.5	0.3	13	0.24	8.5	7CK	AB ₂ ⁴	750	165	—	—46	22/240	0.3/20	2.6 ⁷	0.4	7.4K	131			
						AB ₂ ⁴	750					195	—	—50	23/220	1/26	100 ¹	0	8K	120					
						C-T	600					200	—	—44	120	8	3.7	0.2	—	56					
6E24 ² /6B50	25	600	—	300	100	6.3	1.25	7	0.11	3.4	Fig. 7b	C-P	500	200	—	—61	100	7	2.5	0.2	—	40			
						AB ₂	500					200	—	—26	20/116	0.1/10	2.6	0.1	11.1K	40					
						C-T	750					250	—	—45	100	6	3.5	0.22	—	50					
6P7/6P31W/5833	30	750	3.5	300	60	6.3	0.9	12	0.2	7	5AW	C-P	600	275	—	—90	100	6.5	4	0.4	—	42.5			
						AB ₁	750					300	—	—35	15/70	3/8	75 ¹	0	—	72					
						B ¹⁰	750					—	—	0	15/240	—	555 ¹	5.3 ¹	6.65K	120					
16T6/2E22	30	750	10	250	—	6.3	1.5	13	0.2	8	5J	C-T-O	750	250	22.5	—60	100	16	6	0.55	—	53			
						C-T	750					280	—	—77	160	10	2.7	0.3	—	85					
						C-P	600					175	—	—92	140	9.5	3.4	0.5	—	62					
6148B/6298A	35	750	3	250	60	6.3	1.125	13	0.22	8.5	7CK	AB ₁	750	200	—	—48	25/125	6.3	—	—	3.6K	61			
						C-T	600					250	—	—80	200	16	2	0.2	—	80					
						C-P	500					200	—	—45	240	32	12	0.7	—	83					
629B ³ /362B ³	40	750	7	240	200	6.3	2.25	14.5	0.12	7	7BP	B	425	200	—	—60	212	35	11	0.8	—	63			
						C-T	500					200	—	—18	27/230	—	55 ¹	0.39	4.8K	76					
						C-T-O	2000					375	—	—300	90	20	10	4.0	—	140					
362A	46	2000	10	400	125	6.3	3	6.5	0.2	2.4	Fig. 75	AB ₁	1500	375	—	—300	90	22	10	4.0	—	105			
						C-T	750					300	—	—100	240	26	12	1.5	—	135					
						C-P	600					300	—	—100	215	30	10	1.25	—	100					
4D22	50	750	14	350	60	12.6	1.6	28	0.27	13	Fig. 26	C-T	600	—	—	—100	220	28	10	1.25	—	100			
						600	—					—	—100	175	17	6	0.5	—	70						
						AB ₂ ³	550					—	—	—100	175	17	6	0.5	—	70					
4D32	50	750	14	350	60	6.3	3.75	28	0.27	13	Fig. 27	AB ₂ ³	600	250	—	—25	100/365	26 ⁷	70 ¹	0.45 ¹	3K	125			
						C-T	600					250	—	—32.5	60/212	1.9/25	—	—	1410	76					
						C-P	1500					300	—	—90	150	24	10	1.5	—	160					
614	65	1500	10	300	30	10	3.25	13.5	0.1	13.5	Fig. 64	C-T	1250	300	—	—150	145	20	10	3.2	—	130			
						C-P	1500					250	—	—85	150	40	18	3.2	—	165					
						C-T-O	3000					250	—	—100	115	22	10	1.7	—	280					
4-65A	65	3000	10	600	150	6	3.5	8	0.08	2.1	Fig. 25	C-P	1500	250	—	—125	120	40	16	3.5	—	140			
						AB ₁	2500					250	—	—135	110	25	12	2.6	—	230					
						AB ₁	2500					400	—	—85	15/66	3 ⁷	—	—	—	100					
7864 ⁴	68	1000	8	300	175	6.3	1.8	6.7	2.1	0.09	Fig. 7	C-T	750	260	—	—75	240	12.7	5.5	3.5	—	123			
						C-P	600					225	—	—75	200	7.8	5.5	3.5	—	185					
						C-T	2000					500	60	—200	150	11	6	1.4	—	230					
4E27/8001	75	4000	30	750	75	5	7.5	12	0.06	6.5	7BM	C-P	1800	400	60	—130	135	11	8	1.7	—	178			
						C-T	2000					400	0	—125	150	12	5	0.8	—	220					
						C-T-C-P	1000					400	0	—105	150	16	5	0.7	—	100					
PL-177A	75	2000	10	600	175	6	3.2	7.5	0.06	4.2	Fig. 14	AB ₁	2000	600	—	—115	25/175	0/7	0	0	—	210			
						C-T	850					400	—	—100	275	15	8	10	—	135					
						AB ₁	865					400	—	—119	220	15	6	10	—	85					
7276/7271	100	2200	8	400	500	13.5	1.3	16	0.13	0.011	Fig. 85	C-T-O	700	200	—	—30	300	10	20	5	—	185			

Type	Maximum Ratings				Cathode		Capacitances			Base	Typical Operation																				
	Plate Dissipation Watts	Plate Voltage	Screen Dissipation Watts	Screen Voltage	Freq. MHz, Full Rating	Volts	Amperes	C _{g1} pF	C _{g2} pF		C _{out} pF	Class of Service ¹⁴	Plate Voltage	Screen Voltage	Suppressor Voltage	Grid Voltage	Plate Current mA	Screen Current mA	Grid Current mA	Approx. Driving Power Watts	P-to-P Load Ohms	Approx. Output Power Watts									
6B1P ¹ 6B6A	115	1000	4.5	300	400	6.3	2.1	14	0.085	0.015	Fig. 77	C-T-O	900	300	—	-30	170	1	10	3	—	80									
						C-P	700					250	—	-50	130	10	10	3	—	45											
						AB ₁ ²	850					300	—	-15	80/200	0/20	30 ³	0	7K	80											
						26.5	0.52					AB ₂ ²	850	300	—	-15	80/335	0/25	45 ³	0.3	3.96K	140									
813 ^{1,2}	125	2500	20	800	30	10	5	16.3	0.25	14	58A	C-T-O	1250	300	0	-75	180	35	12	1.7	—	170									
													2250	400	0	-155	220	40	15	4	—	375									
												AB ₁	2500	750	0	-95	25/145	27 ³	0	0	—	245									
												AB ₂ ²	2000	750	0	-90	40/315	1.5/58	230 ³	0.17 ³	16K	435									
													2500	750	0	-95	35/360	1.2/55	235 ³	0.35 ³	17K	650									
4-125A 4B21 6165	125	3000	20	600	120	5	6.5	10.8	0.07	3.1	58K	C-T-O	2000	350	—	-100	200	50	12	2.8	—	275									
													3000	350	—	-150	167	30	9	2.5	—	325									
												AB ₁ ²	2500	350	—	-43	93/260	0/6	178 ³	1.0 ³	22K	400									
												AB ₂ ²	2500	600	—	-96	50/232	0.3/8.5	192 ³	0	20.3K	330									
												GG	2000	0	0	0	10/105 ¹⁷	30 ³	55 ³	16 ³	10.5K	145									
4E27A/ 5-325B	125	4000	20	750	75	5	7.5	10.5	0.08	4.7	78M	C-	3000	500	80	-200	167	5	6	1.6	—	875									
													1000	750	0	-170	160	21	3	0.5	—	115									
883	125	2000	30	600	20	10	5	17.5	0.15	29	5J	C-T	2000	500	40	-90	180	45	12	2	—	210									
												C-P	1600	400	100	-80	150	45	25	5	—	155									
7004	125	2000	20	400	60	6.3	3.2	9.0	0.5	1.8	Fig. 82	C-T	1500	400	—	-100	330	20	5	4	—	340									
												C-P	1200	400	—	-130	275	20	5	5	—	240									
												AB ₁	2000	400	—	-65	30/200	35 ³	60 ³	0	12K	250									
4X150A 4X150B ¹⁵	150 ³	2000	12	400	500	6	2.6	15.5	0.03	4.5	Fig. 75	C-T-O	1250	250	—	-90	200	20	10	0.8	—	195									
						2.5	6.25	27	0.035	4.5	—	C-P	1000	250	—	-105	200	20	15	2	—	140									
												AB ₁ ²	1250	300	—	-44	475 ³	0/65	100 ³	0.15 ³	5.6K	425									
6121	150	2200	8	400	500	13.5	1.3	16	0.13	0.011	Fig. 5	C-T-O	1000	200	—	-30	300	10	30	5	—	165									
													2500	500	—	-150	300	80	9	1.7	—	575									
													3000	500	—	-180	345	80	10	2.6	—	800									
4-260A 6122 6156	250 ³	4000	35	600	110	5	14.5	12.7	0.12	4.5	58K	C-P	2500	400	—	-200	200	30	9	2.2	—	375									
													3000	400	—	-310	225	30	9	3.2	—	518									
												AB ₁ ²	2000	300	—	-48	510 ³	0/26	198 ³	5.5 ³	8K	650									
												AB ₂ ²	2500	600	—	-110	430 ³	0.3/13	180 ³	0	11.4K	625									
4X250B	250 ³	2000	12	400	175	6	2.1	18.5	0.04	4.7	Fig. 75	C-T-O	2000	250	—	-90	250	25	27	2.8	—	410									
													C-P	1500	250	—	-100	200	25	17	2.1	—	250								
													AB ₁ ²	2000	350	—	-50	500 ³	30 ³	100 ³	0	8.26K	650								
7004/ ³ 4X150A	250	2000	12	300	150	6	2.6	16	0.03	4.4	Fig. 75	C-T-O	2000	250	—	-88	250	24	8	2.5	—	370									
							C-P					1600	250	—	-118	200	23	5	3	—	230										
							AB ₁ ²					2000	300	—	-50	100/500	0/36	106 ³	0.2	8.1K	630										
7036/ 4X150D	250	2000	12	400		26.5	0.58					AB ₂ ²	2000	300	—	-50	100/470	0/36	100 ³	0	8.76K	580									
4CX- 300A	300 ³	2000	12	400	500	6	2.75	29.5	0.04	4.8	—	C-T	2000	250	—	-90	250	25	27	2.8	—	410									
													C-P	1500	250	—	-100	200	25	17	2.1	—	250								
												AB ₁ ²	2000	350	—	-50	500 ³	30 ³	100 ³	0	8.26K	650									
175A	400	4000	25	600	—	5	14.5	15.1	0.06	9.8	Fig. 86	C-T-C-P	4000	600	0	-200	350	29	6	1.4	—	590									
													2500	600	0	-180	350	40	7	1.6	—	600									
												AB ₁	2500	750	—	-143	180/350	1/35	0	0	—	570									
4-400A	400 ³	4000	35	600	110	5	14.5	12.5	0.12	4.7	58K	C-T-C-P	4000	300	—	-170	270	22.5	10	10	—	720									
													GG	2500	0	0	0	80/270 ¹⁷	55 ³	100 ³	38 ³	4.9K	325								
6122	400	2200	8	400	500	13.5	1.3	16	0.13	0.011	Fig. 86	AB ₁	2500	750	—	-130	95/317	0/14	0	0	—	425									
													C-T-O	2000	200	—	-30	300	5	30	5	—	300								
5-500A	500	4000	35	600	30	10	10.2	19	0.10	12	—	C-T	3000	500	0	-220	432	65	35	12	—	805									
													C-T	3100	470	0	-310	200	50	15	6	—	580								
													AB ₁	3000	750	0	-112	320	26	—	—	—	612								
8156/ 4-1800A	1000	6000	75	1000	—	7.5	21	27.2	.24	7.6	—	C-T	3000	500	—	-150	700	146	38	11	—	1430									
													C-P	3000	500	—	-200	600	145	36	12	—	1390								
													AB ₂	4000	500	—	-80	300/1200	0/95	—	11	7K	3000								
4CX1800A	1000	3000	12	400	400	6	12.5	35	.005	12	—	GG	3000	0	0	0	100/700 ¹⁷	105 ³	170 ³	130 ³	2.5K	1475									
8295/ 172	1000	3000	50	600	—	6	8.2	38	.09	18	—	AB ₁	2000	325	—	-55	500/2000	-4/80	—	—	—	2.8K	2150								
														2500	325	—	-55	500/2000	-4/60	—	—	—	3.1K	2920							
														3000	325	—	-55	500/1800	-4/60	—	—	—	3.89K	3380							
														2000	500	35	-175	850	42	10	1.9	—	1155								
														2500	500	35	-200	840	40	10	2.1	—	1440								
		</																													

¹ Grid-resistor.² Doubler to 175 MHz.³ Dual tube. Values for both sections, in push-pull. Interelectrode capacitances, however, are for each section.⁴ Tripler to 175 MHz.⁵ Filament limited to intermittent operation.⁶ Values are for two tubes⁷ Max. signal value.⁸ Peak grid-to-grid volts.⁹ Forced-air cooling required.¹⁰ Two tubes bridge connected, G₂ to G₁ through 20K Ω. Input to G₂.¹¹ Tripler to 200 MHz.¹² Typical Operation at 175 MHz.¹³ ± 1.5 volts.¹⁴ KEY TO CLASS-OF-SERVICE ABBREVIATIONSAB₁ = Class-AB₁AB₂ = Class-AB₂

B = Class-B push-pull at modulator.

C-M = Frequency multiplier.

C-P = Class-C plate-modulated telephone.

C-T = Class-C telegraph.

C-T-O = Class-C amplifier-osc.

GG = Grounded-grid (grid and screen connected together).

¹⁵ No Class B data available.¹⁶ HK257B 120 MHz. full rating.¹⁷ Single tone.

This list contains but a small percentage of the available diode types. A complete listing would be impractical.

Small-Signal General-Purpose Diodes

Type	Material ²	Use	Peak Reverse Volts	Max. Forward Voltage at Max. mA	Max. Forward mA at Max. V	Max. Reverse Amp
1N34A	G	General Purpose	75	50	5.0	.30
1N38	G	General Purpose	50	—	—	2000
1N34A	G	General Purpose	85	50	5.0	100
1N40	G	Videx Detector	25	50	5.0	40
1N37A	G	General Purpose	100	1	4.0	6
1N34A	G	General Purpose	100	1.0	4.0	5
1N34	S	High-Speed	75	1.0	10.0	5
1N370	G	General Purpose	100	90	—	100
1N36A	S	Signal Diode	125	1	100	25
1N34	G	50-Volt Very Low Z	120	—	50.0	45
1N34A	S	Signal Diode	225	1	400	.05
1N34	S	Fast Logic/HF Det.	75	1	75	.025
1N374	S	Rectifier	100	1.2	150	300
1N4001	S	Rectifier	50	1.1	1000	30
1N4002	S	Rectifier	100	1.1	1000	30
1N4004	S	Rectifier	400	1.1	1000	30
1N4233	S	Rectifier	50	1.0	3000	1500
1N5700	S	Dual Series Diode	100	1.1	200	100

Microwave Mixer and UHF Diodes

Type	Material ²	Use	Average Freq.	Noise Figure
1N2173	G	Mixer	3050 MHz	6dB
1N32A	S	Mixer	1000 MHz	14dB
1N50101	S	Mixer ($V_R = .4V$)	1000 MHz ($C_T = 1pF @ 0V$)	7dB

¹ A bar, plus sign, or color dot usually denotes the cathode end of crystal diodes.

² Diode color code rings are grouped toward the cathode end.

³ S = Silicon. G = Germanium.

⁴ Polarity is such that the base is the anode and the tip is the cathode. R-types have opposite polarity.

TABLE IX—SEMICONDUCTORS

SMALL-SIGNAL TYPES

No.	Type	Maximum Ratings				Characteristics				Other Data			
		Material ¹	Diss. (Watts)	V _{CEO} (Volts)	I _C (dc)	I _h g (Min.)	f _T (Typ.)	Noise Fig. (dB)	Use (Typ.)	Case Style	Base Conn.	Manufacturer ²	Application
2N3638	PNP	G	0.15	—18	—	34	0.65 MHz	—	Gen. Purpose	T0-1	7	R	Gen. Purpose
2N363A	NPN	S	0.3*	20	56 mA	20	400 MHz	—	rf	T0-18	8	M	rf, Switching
2N371A	NPN	S	0.5	50	150 mA	40	60 MHz	—	—	T0-18	8	R	Switching
2N3112	PNP	G	0.080*	—30	—10 mA	100	—	—	rf Amp.	T0-45	5	R	rf Mixer
2N3302	NPN	G	0.15	25	0.3A	20	—	—	Computer	T0-5	8	R	Osc., Amp.
2N3200	NPN	G	0.15	25	0.3A	60	—	—	Computer	T0-5	8	R	Osc., Amp.
2N2222	NPN	S	1.3	30	800 mA	35	250 MHz	—	Gen. Purpose	T0-18	8	M	vhf Amp., Osc.
2N3005	NPN	S	0.2*	25	100 mA	170	150 MHz	2.8	Gen. Purpose	—	1	GE	Osc., rf, i-f, af
2N3331A	NPN	S	0.2*	25	100 mA	250	160 MHz	1.9	Audio	—	1	GE	Low-noise Preamps.
2N3634	NPN	S	0.31	25	100 mA	55	—	—	Gen. Purpose	T0-92	2	M	Audio Amp.
2N3636	NPN	S	0.2	25	50 mA	150	—	—	—	T0-106	7	—	—
2N3638	NPN	S	0.3	60	500 mA	120	60 MHz	—	—	T0-105	—	—	—
2N3638	PNP	S	0.3	—25	—500 mA	100	150 MHz	—	—	T0-105	—	—	—
2N3633	NPN	S	0.12*	12	25 mA	20	900 MHz	4	rf	—	1	GE	vhf/uhf Osc., Amp., Mix.
2N3702	PNP	S	0.31	—25	—200 mA	60	100 MHz	—	Gen. Purpose	T0-92	2	M	vhf Osc., Amp.
2N3636	NPN	S	5	3	400 mA	5	800 MHz	—	Gen. Purpose	T0-39	8	M	uhf Amp., Osc.
2N3634	NPN	S	0.21	40	200 mA	40	300 MHz	—	Gen. Purpose	T0-92	2	M	vhf Amp., Osc.
2N3636	NPN	G	0.15	25	300 mA	50	—	—	Computer	T0-5	8	R	Osc., Amp.
2N3123	NPN	S	0.21	30	200 mA	50	250 MHz	—	Gen. Purpose	T0-92	2	M	vhf Amp., Osc.
2N3124	NPN	S	0.3	25	200 mA	120	250 MHz	5	Audio-rf	—	2	M	—
2N3123	PNP	S	0.3	—25	—200 mA	120	250 MHz	4	Audio-rf	—	2	M	—
2N3773	NPN	S	0.28	15	—	18	—	—	—	—	—	—	Switching
2N3401	NPN	S	0.31*	40	600 mA	20	250 MHz	—	Gen. Purpose	T0-92	2	M	Osc., rf, i-f, af
2N3110	NPN	S	0.31*	80	250 mA	60	250 MHz	—	Gen. Purpose	T0-92	2	M	Osc., rf, i-f, af
2N3637	PNP	S	2	30	30 mA	20	1600 MHz	2.6	rf Amp.	T0-72	9	M	rf Amp., Mix., Osc.
2N3638	PNP	S	2	30	30 mA	20	1500 MHz	3.2	rf Amp.	T0-72	9	M	rf Amp., Mix., Osc.
2N3632	NPN	S	2	10	20 mA	25	2000 MHz	3.0	rf Amp.	T0-72	9	M	Low-noise rf Amp.
2N3634	PNP	S	0.310*	—50	—50 mA	200	150 MHz	1	rf Amp.	T0-92	2	M	Low-noise rf Amp.
2N3636	PNP	S	0.310*	—25	—50 mA	450	175 MHz	2	rf Amp.	T0-92	2	M	Low-noise rf Amp.
2N3638	NPN	S	3.5*	40	0.4 A	70	—	3	vhf Amp.	T0-39	8	R	Wide-band Amp.
2N3173	NPN	S	0.200*	12	50 mA	25	900 MHz	4.5	rf Amp.	T0-72	9	M	uhf Amp., Osc., Mix.
2N3169	NPN	S	0.5	18	1 A	120	200 MHz	—	Gen. Purpose	T0-104	8	R	vhf Osc., Amp.
2N3222	PNP	S	0.310*	—15	—50 mA	20	450 MHz	—	rf Amp.	T0-92	18	M	rf Amp., Mix., Video i-f
2N3639	PNP	S	2	30	30 mA	20	1600 MHz	2.3	rf Amp.	T0-72	9	M	rf Amp., Mix., Osc.
2N31	NPN	S	0.5*	18	100 mA	55	60 MHz	2.8	Audio	T0-104	7	R	Preamps. and Drivers
2N363	NPN	S	0.18*	30	50 mA	40	1200 MHz	3.3	rf	T0-104	9	R	vhf/uhf Amp., Osc., Mix.
2N3631	PNP	S	0.6	—25	—600 mA	60	150 MHz	—	—	T0-5	8	M	rf Amp.
2N3633	NPN	S	0.6	30	600 mA	85	200 MHz	—	—	T0-5	8	M	rf Amp.
2N3634	NPN	S	0.31	20	100 mA	70	750 MHz	—	—	T0-92	18	M	uhf Amp.
2N3631A	NPN	S	0.310*	15	—	20	200 MHz	6	Amp. Osc.	T0-92	2	M	uhf Amp., Osc.
2N3632	NPN	S	0.31	18	100 mA	35	300 MHz	—	Gen. Purpose	T0-92	2	M	vhf Osc., Amp.
2N3634	NPN	S	0.31	25	100 mA	55	—	—	Gen. Purpose	T0-92	2	M	Audio Amp.
2N3633	NPN	S	0.310*	12	—	20	200 MHz	—	Amp. Osc.	T0-92	2	M	uhf Amp., Osc.
2N3633	NPN	S	0.310*	45	—	40	200 MHz	4	rf Amp.	T0-92	2	M	50 MHz Amp.
2N3634	NPN	S	0.310*	45	—	100	200 MHz	4	rf Amp.	T0-92	2	M	50 MHz Amp.
2N3172	NPN	S	0.31	—25	—200 mA	60	100 MHz	—	Gen. Purpose	T0-92	2	M	vhf Osc., Amp.
2N3170A	NPN	S	0.310*	20	600 mA	600	100 MHz	—	af Amp.	T0-92	2	M	Audio Amp.

SMALL-SIGNAL TYPES — Continued

No.	Type	Maximum Ratings				Characteristics				Other Data			
		Material ¹	Diss. (Watts)	V _{CEO} (Volts)	I _C (dc)	f _{TE} (Min.)	f _T (Typ.)	Noise Fig. (dB)	Use (Typ.)	Case Style	Base Conn.	Manufacturer ²	Application
MP5651A	NPN	S	3	25	100 mA	150	480 MHz	2.0	Audio-ri	T0-92	2	M	af-ri Amp.
MP5653A	NPN	S	0.310*	40	600 mA	30	390 MHz	—	Amp.	T0-92	2	M	Complementary Amp
MP5654A	PNP	S	0.310*	40	600 mA	60	260 MHz	—	μA Amp.	T0-92	2	M	Complementary Amp.
MP5654A	NPN	S	0.310*	25	—	25	760 MHz	—	Osc.	T0-92	2	M	uhf Osc.
MP5658A	NPN	S	0.310*	20	—	20	300 MHz	6	i-f Amp.	T0-92	18	M	vhf Amp., Video i-f
MP5A12	NPN	S	0.310*	20	—	35	—	—	Audio Amp.	T0-92	2	M	High-Z Pre-amp.
MP5A55	PNP	S	0.5	60	500 mA	50	50 MHz	—	Audio Amp.	T0-92	2	M	Audio Amp.
T1538	NPN	—	1.2*	40	500 mA	40	500 MHz	—	rf	T0-92	3	TI	rf, Switching
T1554	PNP	—	0.25*	12	60 mA	30	300 MHz	—	rf	T0-92	3	TI	rf, Switching
T1X11D	PNP	—	0.075*	20	30 mA	20	630 MHz	4	rf	T0-72	4	TI	rf, Preamp., vhf/uhf

LARGE-SIGNAL TYPES

No.	Type	Maximum Ratings				Characteristics				Other Data			
		Material ¹	Diss. (Watts)	V _{CEO} (Volts)	I _C (dc)	f _{TE} (Min.)	f _T (Typ.)	Noise Fig. (dB)	Use (Typ.)	Case Style	Base Conn.	Manufacturer ²	Application
2N441	PNP	G	150	40	15 A	20	—	—	Gen. Purpose	T0-36	13	M	Switch, Amp.
2N1491	NPN	S	3.0*	30	100 mA	15	300 MHz	—	rf Amp.	T0-39	8	R	vhf Amp., Mix.
2N1970	PNP	G	170	50	15 A	17	—	—	Gen. Purpose	T0-36	13	M	Switch, Amp.
2N2102	NPN	S	5†	65	1 A	20	100 MHz	6	Gen. Purpose	T0-5	8	R	af, rf Amps. (Linear)
2N2157	PNP	—	170†	60	30 A	40	100 kHz	—	af	T0-36	13	M	af, dc Amp., Switch.
2N2270	NPN	S	5†	—	1 A	10	—	6	Amp.	T0-5	9	R	Low-noise Amp.
2N2631	NPN	S	8.75†	60	1.5 A	—	200 MHz	—	rf	T0-39	8	R	Class C rf Amp., Osc.
2N2669	PNP	—	30†	50	10 A	50	200 kHz	—	Gen. Purpose	T0-3	11	R	af, Osc., Amp., Switch.
2N2676	NPN	S	17.5†	60	1.5 A	—	200 MHz	—	rf	T0-60	12	R	vhf Class-C Amp.
2N3053	MPN	S	5	60	700 mA	50	—	—	—	T0-5	8	R	Pwr. Switch
2N3055	NPN	S	115	60	15 A	20-70	—	—	Gen. Purpose	T0-3	11	R	Switch, Reg., Amp.
2N3119	NPN	S	4†	80	500 mA	50	450 MHz	—	Amp.	T0-5	8	R	Switch, Pulse Amp.
2N3512	NPN	—	4	35	500 mA	10	250 MHz	—	Audio-ri	—	7	R	—
2N3568	NPN	S	7†	40	1 A	10	500 MHz	—	rf	T0-39	8	M	Class A, B, C rf Mult., Amp., Osc.
2N3568	NPN	S	35†	175	2 A	10	15 MHz	—	HV Gen. Purp.	T0-66	11	R	rf, af Osc., Amp. dc Amp.
2N3632	NPN	S	23*	65	3 A	—	400 MHz	—	rf Amp.	T0-60	12	R	uhf Pwr. Amp., Osc.
2N3733	PNP	S	23*	65	3 A	—	400 MHz	—	rf Amp.	T0-60	12	R	uhf Pwr. Amp., Osc.
2N3772	NPN	S	150	60	20 A	15-60	800 kHz	—	Pwr. Amp.	T0-3	11	R	Pwr. Amp.
2N3866	NPN	S	5†	30	0.4 A	—	800 MHz	—	rf	T0-39	8	R	uhf Pwr. Amp., Osc.
2N3924	NPN	S	7*	18	500 mA	—	350 MHz	—	rf Amp.	T0-39	8	M	uhf Pwr. Amp., Osc.
2N3948	NPN	S	1*	20	400 mA	15	700 MHz	—	rf Amp.	T0-39	8	M	uhf Pwr. Amp., Osc.
2N4012	NPN	S	11.5*	40	1.5 A	—	500 MHz	—	rf Amp.	T0-60	12	R	uhf Pwr. Amp., Osc.
2N4037	PNP	S	7†	40	1 A	50	60 MHz	—	Gen. Purpose	T0-5	8	R	Amp., Switching
2N4396	NPN	S	62†	60	5 A	60	4 MHz	—	Gen. Purpose	T0-3	11	R	rf, af Osc., Amp. dc Amp.
2N4427	PNP	S	3.5*	20	400 mA	—	500 MHz	—	rf Amp.	T0-39	8	R	uhf Amp.
2N4916	NPN	S	30*	65	4.5 A	—	600 MHz	—	rf Amp.	T0-60	12	R	uhf Pwr., rf Amp.
2N5070	NPN	S	70†	65	3.3 A	—	30 MHz	—	Amp.	T0-60	12	R	30 MHz Amp.
2N5071	NPN	S	70†	65	3.3 A	—	76 MHz	—	Amp.	T0-60	12	R	50 MHz Amp.
2N5470	NPN	S	3.5†	55	200 mA	—	2GHz	—	uhf Amp.	—	—	R	Microwave Osc., Amp.
2N5636	NPN	S	7.5*	35	1 A	5	—	—	rf Amp.	—	23	M	400 MHz, rf Amp.
2N5636	PNP	S	15*	35	1.5 A	5	—	—	rf Amp.	—	23	M	400 MHz, rf Amp.
2N5637	NPN	S	30*	35	3 A	5	—	—	rf Amp.	—	23	M	400 MHz rf Amp.
2N5641	PNP	S	15*	35	1 A	5	—	—	rf Amp.	—	23	M	400 MHz, rf Amp.
2N5642	NPN	S	30*	35	3 A	5	—	—	rf Amp.	—	23	M	400 MHz, rf Amp.
2N5643	NPN	S	60*	35	5 A	5	—	—	rf Amp.	—	23	M	400 MHz, rf Amp.
2N5913	NPN	S	3.5†	14	330 mA	—	900 MHz	—	uhf Amp.	T0-39	8	R	432 MHz Amp.
2N5914	NPN	S	10.7†	14	1.5 A	—	900 MHz	—	uhf Amp.	—	—	R	432 MHz Amp.
2N5915	NPN	S	10.7†	14	1.5 A	—	800 MHz	—	uhf Amp.	—	—	R	432 MHz Amp.
2N5919	NPN	S	25†	30	4.5 A	—	400 MHz	—	uhf Amp.	—	—	R	220 MHz Amp.
2N5921	NPN	S	8.3†	50	700 mA	—	2.3 GHz	—	uhf Amp.	—	—	R	Microwave Osc., Amp.
2N5941	NPN	S	80	35	6.0A	10	50 MHz	—	rf Amp.	—	25	M	30 MHz rf Amp.
2N5942	NPN	S	140	35	12 A	10	50 MHz	—	rf Amp.	—	26	M	30 MHz rf Amp.
2N5944	NPN	S	5	16	0.4A	20	470 MHz	—	uhf Amp.	—	27	M	432 MHz rf Amp.
2N5945	NPN	S	15	16	0.8 A	20	470 MHz	—	uhf Amp.	—	27	M	432 MHz rf Amp.
2N5946	NPN	S	37.5	16	2.0 A	20	470 MHz	—	uhf Amp.	—	27	M	432 MHz rf Amp.
2N5995	NPN	S	10.7	14	1.5 A	—	175 MHz	—	vhf Amp.	—	23	R	vhf rf Amp.
2N5996	NPN	S	35.7	18	5.0 A	—	175 MHz	—	vhf Amp.	—	23	R	vhf rf Amp.
2N6136	NPN	S	60	18	6.0 A	20	470 MHz	—	uhf Amp.	—	27	M	432 MHz rf Amp.
H3460	NPN	S	87†	40	1 A	30	4 MHz	—	Gen. Purpose	T0-3	11	M	af, rf Amp., Osc.
MPS-U01	NPN	S	1.0*	30	1.5 A	70	50 MHz	—	af Amp.	—	20	M	Audio Amp.
MPS-U51	PNP	S	1.0*	30	1.5 A	70	50 MHz	—	Gen. Purpose	—	20	M	af Amp.

FIELD-EFFECT TRANSISTORS

No.	Type	Diss. (mW)	V _{DS}	V _{GS}	MIN. μ MHOS	C _{ISS} (pF)	MAX. f_{OSS} (MHz)	Top Freq. (MHz)	Case Style	Base Conn.	Manufacturer	Application
2N4416	N JFET	175	30	—6.0	4000	4	15	450	T0-72	15	M	vhf/uhf rf Amp., Mix., Osc.
2N4417	N FET	175	30	—30	4500	3.5	15	400	—	22	UC	vhf/uhf Amp.
2N5460	P JFET	310	—	40	1000	5	5	—	T0-92	19	M	Gen. Purpose Audio

FIELD-EFFECT TRANSISTORS—Continued

No.	Type	Diss. (mW)	V _{DS}	V _{GS}	h _{FE} , mhos	C _{iss} (pF)	MAX. I _{DSS} (mA)	Top Freq. (MHz)	Case Style	Base Conn.	Manufacturer	Application
2N5401	P JFET	310	—	40	1500	5	9	—	TO-92	19	M	Gen. Purpose Audio
2N5403	P JFET	310	—	40	1000	5	5	—	TO-92	19	M	Gen. Purpose Audio
2N5405	P JFET	310	—	60	2000	5	16	—	TO-92	19	M	Gen. Purpose Amp.
2N5563	N JFET	310	25	1.0	1600	4.7	4	—	TO-92	6	M	Amp. Switching
2N5670	N JFET	310	25	2.0	2500	4.7	8	—	TO-92	6	M	Amp. Switching
3N128	N IGJFET	100	20	—	5000	5.8	—	200	TO-72	14	R	af, rf, Amp., Mix., Osc.
3N187	MOS n-channel Depletion type	330	20	-6+6	7000	4	8.5	300	TO-72	16	R	—
3N200	MOS n-channel Depletion type	330	20	-6+6	10,000	8.5	—	500	TO-72	16	R	uhf rf Amp.
40600	N Dual-Gate FET	400	20	-8	10,000	5.5	18	250	TO-72	16	R	uhf rf Amp.
40601	N Dual-Gate FET	400	20	-8	10,000	5.5	18	250	TO-72	16	R	vhf Mixer
40602	N Dual-Gate FET	400	20	-8	10,000	5.5	18	250	TO-72	16	R	vhf Amp.
40603	N Dual-Gate FET	400	20	-8	10,000	5.5	18	—	TO-72	16	R	rf Amp.
40604	N Dual-Gate FET	400	20	-8	10,000	5.5	18	—	TO-72	16	R	rf Mix.
40673	N Dual-Gate FET	330	20	-6	12,000	6	35	400	TO-72	16	R	rf Amp.
E300	N JFET	250	—	1	9000	5.5	30	100	—	4	SI	vhf Amp.
MEP801	N JFET	200	20	—	3000	—	9	—	TO-72	14	M	af Amp.
MEP802	N JFET	200	25	—	2000	—	20	—	TO-92	6	M	rf Amp.
MMT3823	N JFET	225	30	-30	3000	4.0	20	—	—	21	M	rf Amp., Mix.
MPF102	N JFET	200	25	-2.5	2000	4.5	20	200	TO-92	6	M	af, rf Amp., Mix., Osc.
MPF103/2N5457	N JFET	310	25	-25	1000	4.5	5	—	TO-92	6	M	Gen. Purpose Audio
MPF104/2N5458	N JFET	310	25	-25	1500	4.5	9	—	TO-92	6	M	Gen Purpose Audio
MPF105/2N5459	N JFET	200	25	-4.5	2000	4.5	16	100	TO-92	6	M	af, rf Amp., Mix., Osc.
MPF106/2N5460	N JFET	200	25	-25	2500	5	30	432	TO-92	6	M	af, rf Amp., Mix., Osc.
MPF107/2N5466	N JFET	310	—	-25	1000	5	20	400	TO-92	6	M	vhf-uhf rf Amp.
MPF120	N Dual-Gate MOS FET	500	25	±20	8000	4.5	18	105	—	24	M	rf Amp.
MPF121	N Dual-Gate MOS FET	500	25	±20	10,000	4.5	30	200	—	24	M	rf Amp.
MPF122	N Dual-Gate MOS FET	500	25	±20	8000	4.5	20	200	—	24	M	rf Mix.

* = Ambient Temp. of 25°C (No heat sink).

† = Case Temp. of 25°C (with heat sink).

* S = Silicon.

G = Germanium.

* GE = General Electric.

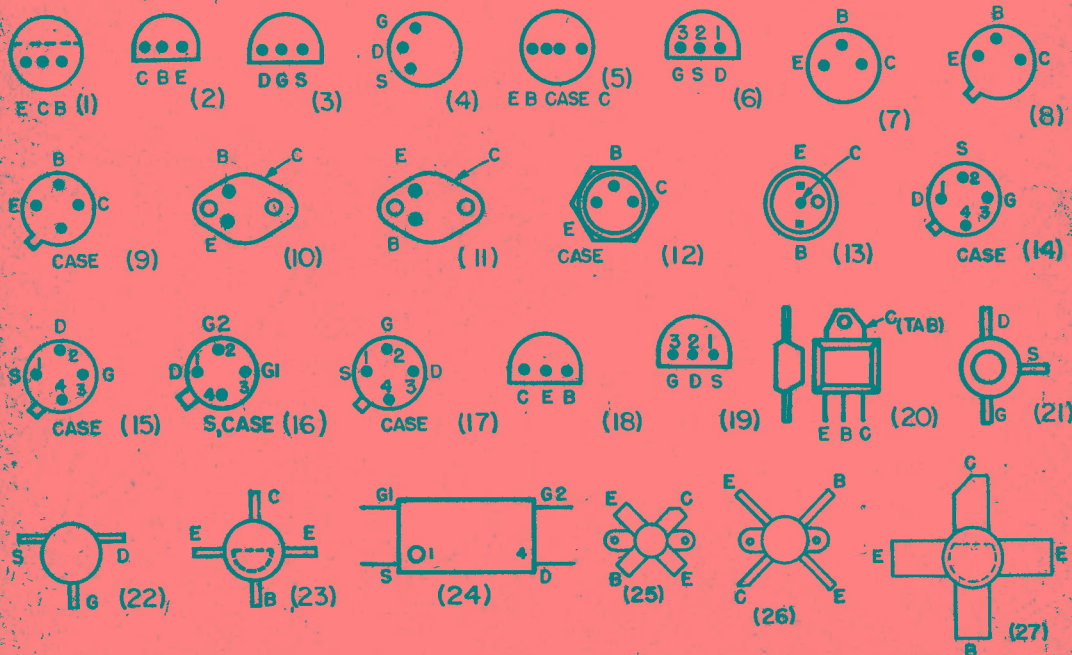
M = Motorola.

R = RCA.

SI = Siliconix.

TI = Texas Instruments.

UC = Union Carbide.



The leads are marked C - collector, B - base, E - emitter, G - gate, D - drain, and S - source.

Some Abbreviations used in Text and Drawings

A – ampere	HFO – heterodyne frequency oscillator	PLL – phase-locked loop
ac – alternating current	Hz – hertz	pm – phase modulation
A/D – analog-to-digital	IARU – International Amateur Radio Union	pnp – positive-negative-positive
af – audio frequency	IC – integrated circuit	pot – potentiometer
afc – automatic frequency control	ID – inside diameter	PRV – peak-reverse voltage
afsk – audio frequency-shift keying	i-f – intermediate frequency	PSHR – Public Service Honor Roll
agc – automatic gain control	in./s – inch per second	PTO – permeability-tuned oscillator
alc – automatic load (or level) control	IRC – International Reply Coupon	PTT – push-to-talk
a-m – amplitude modulation	ITU – International Telecommunication Union	RACES – Radio Amateur Civil Emergency Service
anl – automatic noise limiter	IW – Intruder Watch	RCC – Rag Chewers Club
ARC – amateur radio club	JFET – junction field-effect transistor	rcvr – receiver
AREC – Amateur Radio Emergency Corps	k – kilo	rf – radio frequency
ARPS – Amateur Radio Public Service Corps	kc – kilocycle	rfe – radio-frequency choke
ATV – amateur television	kHz – kilohertz	RFI – radio-frequency interference
avc – automatic volume control	kW – kilowatt	RM – Route Manager
bc – broadcast	LED – light-emitting diode	RM-(number) – FCC rulemaking
BCD – binary-coded decimal	lf – low frequency	rms – root-mean-square
bci – broadcast interference	LMO – linear master oscillator	RO – Radio Officer (c.d.)
bcl – broadcast listener	LO – local oscillator	RST – readability-strength-tone
BFO – beat-frequency oscillator	lsb – lower sideband	RTL – resistor-transistor logic
BPL – Brass Pounders League	LSB – least-significant bit	RTTY – radio teletype
CB – Citizens band	LSD – least-significant digit	s.a.e. – self-addressed envelope
CCIR – International Radio Consultative Committee	LSI – large-scale integration	s.a.s.e. – stamped s.a.e.
ccw – counterclockwise	luf – lowest usable frequency	SCM – Section Communications Manager
c.d. – civil defense	mA – milliamperes	SCR – silicon-controlled rectifier
CD – Communications Department (ARRL)	MARS – Military Affiliate Radio System	SEC – Section Emergency Coordinator
CMOS or COSMOS – complimentary-symmetry metal-oxide semiconductor	Mc – Megacycle	SET – simulated emergency test
coax – coaxial cable, connector	mf – medium frequency	S.M. – silver mica (capacitor)
COR – carrier-operated relay	MG – motor-generator	SNR – signal-to-noise ratio
CP – Code Proficiency (award)	mH – millihenry	spdt – single-pole double-throw
CR – cathode ray	MHz – Megahertz	spst – single-pole single-throw
CRT – cathode-ray tube	mic – microphone	SS – Sweepstakes (contest)
ct – center tap	mix – mixer	ssb – single sideband
CTCSS – continuous tone-controlled squelch system	MO – master oscillator	SSTV – slow-scan TV
cw – continuous wave (code), clockwise	MOSFET – metal-oxide semiconductor field-effect transistor	SWL – short-wave listener
D/A – digital-to-analog	MOX – manually-operated switching	SWR – standing wave ratio
dB – decibel	ms – millisecond	sync – synchronous, synchronizing
dc – direct current	m.s. – meteor scatter	TCC – Transcontinental Corps
DF – direction finder	MSB – most-significant bit	TD – transmitting distributor
DOC – Department of Communications (Canadian)	MSD – most-significant digit	TE – transequatorial (propagation)
dpsdt – double-pole double-throw	MSI – medium-scale integration	tfc – traffic
dpst – double-pole single-throw	muf – maximum usable frequency	tpi – turns per inch
dsb – double sideband	MUX – multiplex	T-R – transmit-receive
DTL – diode-transistor logic	mV – millivolt	TTL or T ² L – transistor-transistor logic
DX – long distance	mW – milliwatt	TTY – Teletype
DXCC – DX Century Club	nbfm – narrow-band frequency modulation	TV – television
EC – Emergency Coordinator	n.c. – no connection	TVI – television interference
ECO – electron-coupled oscillator	NC – normally closed	UJT – unijunction transistor
ECL – emitter-coupled logic	NCS – net control station	usb – upper sideband
EME – earth-moon-earth	NO – normally open	uhf – ultra-high frequency
emf – electromotive force (voltage)	npn – negative-positive-negative	V – volt
FAX – facsimile	NTS – National Traffic System (ARRL)	VCO – voltage-controlled oscillator
FCC – Federal Communications Commission	OBS – Official Bulletin Station	VCO – voltage-controlled crystal oscillator
FD – Field Day	OD – outside diameter	VFO – variable frequency oscillator
FET – field-effect transistor	OO – Official Observer	vhf – very high frequency
FF – flip-flop	op amp – operational amplifier	vlf – very low frequency
fm – frequency modulation	OPS – Official Phone Station	VOM – volt-ohm-milliammeter
FMT – frequency measuring test	ORS – Official Relay Station	VOX – voice-operated break-in
fsk – frequency-shift keying	osc – oscillator	VR – voltage regulator
GDO – grid-dip oscillator	OVS – Official VHF Station	VTVM – vacuum-tube voltmeter
GHz – gigahertz	oz – ounce	VXO – variable crystal oscillator
GMT – Greenwich Mean Time	PA – power amplifier	W – watt
gnd – ground	pc – printed or etched circuit board	WAC – Worked All Continents
H – henry	PEP – peak-envelope power	WAS – Worked All States
hf – high frequency	PEV – peak-envelope voltage	wbfm – wide-band fm
	pF – picofarad	wpm – words per minute
	PIV – peak-inverse voltage	ww – wire wound
	pk – peak	wv – working voltage
	pk-pk – peak-to-peak	xtal – crystal
	PL – private line	μ – micro (10 ⁻⁶)



Application for Membership

AMERICAN RADIO RELAY LEAGUE

Administrative Headquarters: Newington, Connecticut, U. S. A. 06111

.....19....

AMERICAN RADIO RELAY LEAGUE,
Newington, Conn., U. S. A. 06111

Being genuinely interested in Amateur Radio, I hereby
apply for membership* in the American Radio Relay League.
I enclose remittance (\$9.00 in the U. S., \$10.00 in Canada,
\$10.50 elsewhere, U. S. funds) in payment of dues for.....
.....year(s), including subscription to *QST* for the
same period. Please begin *QST* with the.....
issue. Amount enclosed: \$.....

The call of my station is.....

The class of my operator's license is.....

I belong to the following radio societies.....

.....

Send Membership Certificate ☐ or Membership Card ☐

Name.....

Address.....

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Any member of the immediate family, living at the same address, may also become a League member, without *QST*, at the special rate of \$2.00 per year. Such family membership must run concurrently with that of the member receiving *QST*.

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