

Silicon NPN Transistor

40594

Power Transistor

95V / 2A

DATASHEET

OEM -RCA

Source: RCA Databook 1975

Power Transistors

40594 40595 40611 40613
 40616 40618 40621 40622
 40624 40625 40627-40632
 40634-40636

**Silicon Transistors for
 Audio-Frequency
 Linear-Amplifier Applications**

H-1534R1
 JEDEC TO-220AA
 (For TO-66 Sockets)
 40613 40627
 40618 40629
 40621 40630
 40622 40631
 40624 40632

H-1570
 JEDEC TO-3
 40636

H-1468
 JEDEC TO-5
 40625L or S
 40628L or S
 With Heat-Radiator
 See NOTE at right above

H-1380 H-1381
 JEDEC TO-39
 40594S
 40595S
 40611S
 40616S
 40634S
 40635S
 40594L
 40595L
 40611L
 40616L
 40635L
 See NOTE at right

Transistors for Driver Applications:

N-P-N Types
 40594 40616 40628
 40611 40625 40635

P-N-P Types
 40595 40634

NOTE:

These devices are available with either 1/8-inch leads (TO-5 package) or 1/4-inch leads (TO-39 package). The longer-lead versions are specified by suffix "L" after the type number; the shorter-lead versions are specified by suffix "S" after the type number.

Transistors for Output Applications:

N-P-N Types
 40613 40624 40631
 40618 40627 40632
 40621 40629 40636
 40622 40630

**TERMINAL CONNECTIONS
 FOR TYPES IN
 TO-220AA PACKAGE**

Lead No.1 - Base
 Stub - Do not use stub as tie point.
 Lead No.3 - Emitter
 Mounting Flange - Collector

TERMINAL CONNECTIONS FOR 40636

Pin 1 - Base
 Pin 2 - Emitter
 Case - Collector
 Mounting Flange - Collector

**TERMINAL CONNECTIONS
 FOR TYPES IN TO-5
 OR TO-39 PACKAGE**

Lead 1 - Emitter
 Lead 2 - Base
 Case, Lead 3 - Collector

**TERMINAL CONNECTIONS
 FOR 40625 AND 40628**

Lead 1 - Emitter
 Lead 2 - Base
 Heat-Radiator, Lead 3 - Collector

RCA-40594, 40595, 40611, 40613, 40616, 40618, 40621, 40622, 40624, 40627-40632, and 40634-40636, inclusive are silicon n-p-n and p-n-p transistors intended for driver and output stages in high-fidelity amplifier circuits.

These devices have been specifically designed for use in complementary-and-quasi-complementary-symmetry audio-amplifier circuits.

File No. 358 _____ 40594-5, 40611, 40613; 40616, 40618
40621-2, 40624-5, 40627-32, 40634-36

MAXIMUM RATINGS, Absolute-Maximum Values:

RCA Type	V _{CEO} ^(sus) V	V _{CER} ^{(sus)*} V	V _{EBO} V	I _C A	I _B A	P _T - W*		Temp. Range (Storage & Operating)		
						T _C = 25°C	T _A = 25°C	°C		
								-	to	+
40594	-	95	4	2	1	10	1.2	65	to	200
40595	-	-95	-4	-2	-1	10	1.2	65	to	200
40611	25	-	2.5	0.7	0.2	5	1	65	to	200
40613	25	-	5	4	2	36	1.8	65	to	150
40616	32	-	2.5	0.7	0.2	5	1	65	to	200
40618	30	-	5	4	2	36	1.8	65	to	150
40621	32	-	5	4	2	36	1.8	65	to	150
40622	40	-	5	4	2	36	1.8	65	to	150
40624	45	-	5	6	3	50	1.8	65	to	150
40625	45	-	7	1	-	-	3.5	65	to	200
40627	55	-	5	6	3	50	1.8	65	to	150
40628	55	-	7	1	-	-	3.5	65	to	200
40629	-	35	5	4	2	36	1.8	65	to	150
40630	-	40	5	4	2	36	1.8	65	to	150
40631	-	45	5	4	2	36	1.8	65	to	150
40632	-	60	5	6	3	50	1.8	65	to	150
40634	-	-75	-7	-0.7	-0.2	5	1	65	to	200
40635	-	75	7	0.7	0.2	5	1	65	to	200
40636	-	95	7	15	7	115	-	65	to	200

* R_{BE} = 68 Ω (40612, 40623, & 40626)

= 100 Ω (40594, 40595, 40629, 40630, 40631, 40632, 40633, 40634, 40635, & 40636)

• P_T at temperatures above 25°C, derate linearly to 0 watts at maximum temperature (e.g. +100, +150, or +200°C).

ELECTRICAL CHARACTERISTICS, At Case Temperature = 25°C

RCA Type	I _{CB0} Max.		I _{CER} Max.				I _{EBO} Max.			V _{CEO} ^(sus) Min.	
	μA	V _{CB} V	μA	mA	V _C V	R _{BE} Ω	μA	mA	V _{EB} V	V	I _C mA
40611	0.5	15	-	-	-	-	-	1	2.5	25	100
40613	2	25	-	-	-	-	-	1	5	25	100
40616	0.5	15	-	-	-	-	-	1	5	32	100
40618	2	30	-	-	-	-	-	1	5	30	100
40621	0.5	30	-	-	-	-	-	1	5	32	100
40622	-	-	500	-	40	100	-	1	5	40	100
40624	-	-	500	-	45	100	-	1	5	45	100
40625	0.25	60	-	-	-	-	1	-	5	45	100
40627	-	-	500	-	55	100	-	1	5	55	100
40628	0.25	60	-	-	-	-	1	-	5	55	100
40629	-	-	-	0.5	30	100	-	1	5	-	-

40594-5, 40611, 40613, 40616, 40618
40621-2, 40624-5, 40627-32, 40634-36

File No. 358

ELECTRICAL CHARACTERISTICS, At Case Temperature = 25°C (Cont'd)

RCA Type	I _{CBO} Max.		I _{CER} Max.				I _{EBO} Max.			V _{CE0(sus)} Min.	
	μA	V	μA	mA	V _{CE} V	R _{BE} Ω	μA	mA	V _{EB} V	V	I _C mA
40630	-	-	-	0.5	35	100	-	1	5	-	-
40631	-	-	-	0.5	40	100	-	1	5	-	-
40632	-	-	-	0.5	50	100	-	1	5	-	-
40634	-	-	-10	-	-65	100	-	-0.1	-4	-	-
40635	-	-	10	-	65	100	-	0.1	4	-	-
40636	-	-	-	0.5	85	100	-	1	4	-	-
40594	-	-	10	-	85	100	-	0.1	4	-	-
40595	-	-	-10	-	-85	100	-	-0.1	-4	-	-

V	V _{CE(sus)} Min.		V _{CE(sat)} Max.			V _{BE} Max.			h _{FE}				RCA Type
	I _C mA	R _{BE} Ω	V	I _C mA	I _B mA	V	V _{CE} V	I _C mA	Min.	Max.	I _C mA	V _{CE} V	
-	-	-	-	-	-	-	-	-	70	500	50	4	40611
-	-	-	-	-	-	1.3	4	1000	30	120	1000	4	40613
-	-	-	-	-	-	-	-	-	70	500	50	4	40616
-	-	-	-	-	-	-	-	-	30	120	1000	4	40618
-	-	-	1	1500	150	1.5	4	1500	25	100	1500	4	40621
-	-	-	1	1500	150	1.5	4	1500	25	100	1500	4	40622
-	-	-	1	2500	250	1.7	4	2500	20	100	2500	4	40624
-	-	-	0.5	150	15	1	4	150	100	300	150	10	40625
-	-	-	1	2500	250	1.7	4	2500	20	100	2500	4	40627
-	-	-	0.5	150	15	1	4	150	100	300	150	10	40628
35	100	100	1	1000	100	1.3	4	1000	20	70	1000	4	40629
40	100	100	1	1500	150	1.4	4	1500	20	70	1500	4	40630
45	100	100	1	2000	200	1.5	4	2000	20	70	2000	4	40631
60	100	100	1	3000	300	1.4	4	3000	20	70	3000	4	40632
-75	-100	100	-0.8	-150	-15	-1.4	-4	-150	50	250	-150	-4	40634
75	100	100	0.8	150	15	1.4	4	150	50	250	150	4	40635
95	200	100	1	4000	400	1.4	4	4000	20	70	4000	4	40636
95	100	100	0.8	300	30	1.4	4	300	70	350	300	4	40594
-95	-100	100	-0.8	-300	-30	-1.4	-4	-300	70	350	-300	-4	40595