

RF-IF High Frequency Transistors

| TYPE NO. | POLARITY | CASE | MAXIMUM RATINGS | | | HFE | | | | VCE(SAT) | | f _T min (MHz) | Cob Cre max (pF) | N.F. max (dB) |
|----------|----------|--------|---------------------|---------------------|----------------------|-----|------|---------------------|---------------------|----------|---------------------|--------------------------|------------------|---------------|
| | | | P _d (mW) | I _C (mA) | V _{CEO} (V) | min | max | I _C (mA) | V _{CE} (V) | max (V) | I _C (mA) | | | |
| BF 115 | N | TO-72J | 165 | 30 | 30 | 48 | 167 | 1 | 10 | — | — | 230+ | 0.8• | 3.5+ |
| BF 152 | N | TO-106 | 200 | — | 12 | 20 | — | 3 | 10 | 0.5 | 10 | 600 | 1.2 | — |
| BF 153 | N | TO-106 | 200 | — | 12 | 20 | — | 3 | 6 | 0.5 | 10 | 300 | 1.2 | — |
| BF 155 | N | TO-72G | 200 | 20 | 40 | 20 | — | 2.5 | 12 | 0.3 | 10 | 400 | 0.4+• | 9 |
| BF 158 | N | TO-106 | 200 | 50 | 12 | 20 | — | 4 | 10 | 0.5 | 10 | 700+ | 1.2• | 3.5 |
| BF 159 | N | TO-106 | 200 | 50 | 20 | 20 | — | 4 | 10 | 0.5 | 10 | 700+ | 1.2• | 3.5 |
| BF 160 | N | TO-106 | 200 | 50 | 12 | 20 | — | 3 | 10 | 0.5 | 10 | 400 | 1.2• | 3.5 |
| BF 173 | N | TO-72J | 260 | 25 | 25 | 38 | — | 7 | 10 | — | — | 350 | 0.3• | — |
| BF 181 | N | TO-72G | 150 | 20 | 20 | 20 | — | 2 | 10 | — | — | 600+ | 0.9+ | — |
| BF 182 | N | TO-72G | 150 | 20 | 20 | 10 | — | 2 | 10 | — | — | 600+ | 1 | 7.4+ |
| BF 183 | N | TO-72G | 150 | 20 | 20 | 10 | — | 3 | 10 | — | — | 800+ | 1+ | — |
| BF 184 | N | TO-72J | 165 | 30 | 20 | 67 | 220 | 1 | 10 | — | — | 260+ | 0.9• | 4 |
| BF 185 | N | TO-72J | 165 | 30 | 20 | 36 | 125 | 1 | 10 | — | — | 200+ | 0.9• | 4 |
| BF 198 | N | TO-92F | 360 | 25 | 30 | 27 | — | 4 | 10 | — | — | 400+ | 0.22+• | 3+ |
| BF 199 | N | TO-92E | 360 | 25 | 25 | 38 | — | 7 | 10 | — | — | 550+ | 0.32+• | — |
| BF 200 | N | TO-72G | 150 | 20 | 20 | 15 | — | 2 | 10 | — | — | 500+ | 0.5• | 5 |
| BF 224 | N | TO-92E | 360 | 50 | 30 | 30 | — | 7 | 10 | 0.15 | 10 | 300 | 0.3+• | 4 |
| BF 240 | N | TO-92E | 300 | 25 | 40 | 67 | 220 | 1 | 10 | — | — | 430+ | 0.34• | 3.5 |
| BF 241 | N | TO-92E | 300 | 25 | 40 | 36 | 125 | 1 | 10 | — | — | 400+ | 0.34• | 3.5 |
| BF 253 | N | TO-92E | 300 | 30 | 30 | 40 | 350# | 1 | 10 | — | — | 150 | 0.7+• | 1.5 |
| BF 254 | N | TO-92E | 300 | 30 | 20 | 67 | 220 | 1 | 10 | 0.1+ | 10 | 260+ | 0.85+• | 4 |
| BF 255 | N | TO-92E | 300 | 30 | 20 | 36 | 125 | 1 | 10 | 0.1+ | 10 | 200+ | 0.85+• | 4 |
| BF 271 | N | TO-72J | 250 | 25 | 25 | 30 | — | 10 | 10 | 0.13+ | 10 | 500+ | 0.22+• | — |
| BF 310 | N | TO-92F | 300 | 25 | 30 | 29 | — | 4 | 10 | — | — | 300+ | 1.6 | — |
| BF 311 | N | TO-92E | 300 | 25 | 25 | 40 | — | 15 | 10 | — | — | 750+ | 0.35• | — |
| BF 314 | N | TO-92F | 300 | 25 | 30 | 29 | — | 4 | 10 | — | — | 450+ | 0.13• | — |
| BF 368 | N | TO-92A | 310 | 50 | 15 | 35 | 125 | 1 | 10 | 0.4 | 10 | 250 | 1.7 | — |
| BF 369 | N | TO-92A | 310 | 50 | 20 | 70 | 220 | 1 | 10 | 0.4 | 10 | 400 | 1.7 | — |
| BF 494 | N | TO-92E | 300 | 30 | 20 | 67 | 220 | 1 | 10 | 0.1+ | 10 | 260+ | 0.85+• | 4+ |
| BF 495 | N | TO-92E | 300 | 30 | 20 | 36 | 125 | 1 | 10 | 0.1+ | 10 | 200+ | 0.85+• | 4+ |
| BF 594 | N | TO-92E | 250 | 30 | 25 | 65 | 220 | 1 | 10 | — | — | 260+ | 0.6+• | 1.4+ |
| BF 595 | N | TO-92E | 250 | 30 | 25 | 35 | 125 | 1 | 10 | — | — | 260+ | 0.6+• | 1.4+ |
| BF 597 | N | TO-92E | 360 | 25 | 25 | 38 | — # | 7 | 10 | — | — | 550+ | 0.3+• | — |
| BFS 62 | N | TO-72G | 200 | 25 | 25 | 35 | — | 7 | 10 | — | — | 580 | 0.33• | 4 |
| BFW 41 | N | TO-72G | 200 | — | 15 | 40 | 80 | 3 | 1 | 0.4 | 10 | 600 | 3 | 4 |
| BFW 68 | N | TO-18 | 360 | — | 40 | 40 | — | 10 | 1 | 0.15 | 10 | 250 | 4 | 6 |
| BFW 70 | N | TO-72G | 240 | — | 30 | 30 | — | 10 | 10 | — | — | 750 | 1.6+ | 2.6+ |
| BFX 60 | N | TO-72G | 230 | 25 | 25 | 50 | — | 7 | 10 | — | — | 400 | 0.3• | 5+ |
| BFX 73 | N | TO-72G | 200 | 50 | 15 | 20 | — | 3 | 1 | 0.4 | 10 | 600 | 1.7 | 6 |
| BFY 74 | N | TO-18 | 360 | 100 | 45 | 40 | 180 | 10 | 5 | 1 | 10 | 250 | 4 | — |
| BFY 75 | N | TO-18 | 360 | 100 | 45 | 65 | 300 | 10 | 5 | 1 | 10 | 250 | 4 | — |
| BFY 78 | N | TO-18 | 300 | 50 | 12 | 20 | — | 3 | 1 | 0.4 | 10 | 500 | 2.8 | 6 |
| BFY 79 | N | TO-72G | 300 | — | 30 | 30 | — | 4 | 10 | — | — | 400 | 1.6 | 5.5 |
| BFY 88 | N | TO-72J | 175 | 25 | 25 | 40 | — | 5 | 1 | — | — | 750 | 0.28• | 4 |
| CS 9016 | N | TO-92A | 200 | — | 20 | 29 | 146# | 1 | 5 | 3 | 10 | 300 | 1.6 | 4 |
| CS 9017 | N | TO-92A | 200 | — | 18 | 40 | 198# | 1 | 5 | 2 | 10 | — | 2+ | 4+ |
| CS 9018 | N | TO-92A | 200 | — | 12 | 29 | 198# | 1 | 5 | 0.6 | 10 | 600 | 1.7 | — |
| CX 917 | N | TO-92A | 250 | 50 | 30 | 40 | 150 | 5 | 10 | 0.4 | 20 | 200 | 2• | — |
| CX 918 | N | TO-92A | 250 | 50 | 20 | 40 | 150 | 7 | 10 | 0.4 | 20 | 400 | 1.5• | — |

HFE groupings available + Typical value

RF-IF High Frequency Transistors

| TYPE NO. | POLARITY | CASE | MAXIMUM RATINGS | | | HFE | | | | VCE(SAT) | | f _T min (MHz) | Cob Cre max (pF) | N.F. max (dB) |
|----------|----------|--------|-----------------|---------|----------|-----|------|---------|---------|----------|---------|--------------------------|------------------|---------------|
| | | | Pd (mW) | Ic (mA) | VCEO (V) | min | max | Ic (mA) | VCE (V) | max (V) | Ic (mA) | | | |
| K 917 | N | TO-92A | 250 | 50 | 20 | 29 | 146# | 1 | 5 | 0.5 | 10 | 150 | 2.5 | - |
| K 918 | N | TO-92A | 250 | 50 | 12 | 29 | 146# | 1 | 5 | 0.5 | 10 | 250 | 1.7 | - |
| K 928 | N | TO-92A | 250 | 50 | 20 | 40 | 120# | 1 | 5 | 0.14+ | 10 | 550 | 1.3 | 2+ |
| MPS 3563 | N | TO-92A | 350 | 50 | 12 | 20 | 200 | 8 | 10 | - | - | 600 | 1.7 | 6 |
| MPS 3693 | N | TO-92A | 350 | 50 | 45 | 40 | 160 | 10 | 10 | - | - | 200 | 3.5 | 4+ |
| MPS 3694 | N | TO-92A | 350 | 50 | 45 | 100 | 400 | 10 | 10 | - | - | 200 | 3.5 | 4+ |
| MPS 3826 | N | TO-92A | 350 | 100 | 45 | 40 | 160 | 10 | 10 | - | - | 200 | 3.5 | - |
| MPS 3827 | N | TO-92A | 350 | 100 | 45 | 100 | 400 | 10 | 10 | - | - | 200 | 3.5 | - |
| MPS 6507 | N | TO-92A | 350 | 100 | 20 | 25 | - | 2 | 10 | - | - | 700 | 2.5 | - |
| MPS 6511 | N | TO-92A | 350 | 100 | 20 | 25 | - | 10 | 10 | - | - | - | 2.5 | - |
| MPS 9425 | N | TO-92A | 350 | 50 | 18 | 25 | 160# | 1 | 5 | 0.3+ | 10 | 300 | 1.8 | - |
| MPS 9623 | N | TO-92A | 310 | 100 | 18 | 25 | 300# | 1 | 5 | 0.5 | 10 | 100 | 3.5 | - |
| MPS 9624 | N | TO-92A | 310 | 100 | 30 | 25 | 300# | 1 | 5 | 0.5 | 10 | 100 | 3.5 | - |
| MPS 9625 | N | TO-92A | 310 | 50 | 12 | 25 | 300# | 1 | 5 | 0.3+ | 10 | 250 | 1.8 | - |
| PN 3563 | N | TO-92A | 250 | 50 | 12 | 20 | 200 | 8 | 10 | - | - | 600 | 1.7 | 4+ |
| PN 5130 | N | TO-92A | 250 | 50 | 12 | 15 | 250 | 8 | 10 | 0.6 | 10 | 450 | 1.7 | 4+ |
| PN 5132 | N | TO-92A | 250 | 50 | 20 | 30 | 400 | 10 | 10 | 0.2 | 10 | 200 | 3.5 | - |
| 2N 915 | N | TO-18 | 360 | - | 50 | 50 | 200 | 10 | 5 | 1 | 10 | 250 | 3.5 | - |
| 2N 916 | N | TO-18 | 360 | - | 25 | 50 | 200 | 10 | 1 | 0.5 | 10 | 300 | 6 | - |
| 2N 917 | N | TO-72G | 200 | 50 | 15 | 20 | 200 | 3 | 1 | 0.5 | 3 | 500 | 1.7 | 6 |
| 2N 918 | N | TO-72G | 200 | 50 | 15 | 20 | - | 3 | 1 | 0.4 | 10 | 600 | 1.7 | 6 |
| 2N 2615 | N | TO-18 | 300 | - | 15 | 20 | - | 3 | 1 | - | - | 500 | 2.8 | - |
| 2N 2616 | N | TO-18 | 300 | 50 | 15 | 20 | - | 3 | 1 | 0.4 | 10 | 600 | 2.8 | 6 |
| 2N 2865 | N | TO-72G | 200 | 50 | 13 | 20 | 200 | 4 | 10 | 0.4 | 10 | 600 | 2.5 | 4.5 |
| 2N 3478 | N | TO-72G | 200 | - | 15 | 25 | 150 | 2 | 8 | - | - | 750 | 1 | 4.5 |
| 2N 3563 | N | TO-106 | 200 | 50 | 12 | 20 | 200 | 8 | 10 | - | - | 600 | 1.7 | 4 |
| 2N 3564 | N | TO-106 | 200 | 100 | 15 | 20 | 500 | 15 | 10 | 0.3 | 20 | 400 | 3.5 | 4 |
| 2N 3600 | N | TO-72G | 200 | - | 15 | 20 | 150 | 3 | 1 | 0.4 | 10 | 850 | - | 4.5 |
| 2N 3662 | N | TO-92B | 200 | 25 | 12 | 20 | - | 8 | 10 | 0.6 | 10 | 700 | 1.5 | 4 |
| 2N 3663 | N | TO-92B | 200 | 25 | 12 | 20 | - | 8 | 10 | 0.6 | 10 | 700 | 1.5 | 4 |
| 2N 3693 | N | TO-106 | 200 | 30 | 45 | 40 | 160 | 10 | 10 | 0.4 | 10 | 200 | 3.5 | 4 |
| 2N 3694 | N | TO-106 | 200 | 30 | 45 | 100 | 400 | 10 | 10 | 0.25 | 10 | 200 | 3.5 | 4 |
| 2N 3825 | N | TO-92B | 250 | 100 | 15 | 20 | - | 2 | 10 | 0.25 | 2 | 200 | 3.5 | 4 |
| 2N 3826 | N | TO-92B | 360 | 30 | 45 | 40 | 160 | 10 | 10 | - | - | 200 | 3.5 | 4 |
| 2N 3827 | N | TO-92B | 360 | 30 | 45 | 100 | 400 | 10 | 10 | - | - | 200 | 3.5 | 4 |
| 2N 3854 | N | TO-92B | 200 | 100 | 18 | 35 | 70 | 2 | 4.5 | 0.2 | 10 | 100 | 3.5 | - |
| 2N 3854A | N | TO-92B | 200 | 100 | 30 | 35 | 70 | 2 | 4.5 | 0.2 | 10 | 100 | 3.5 | - |
| 2N 3855 | N | TO-92B | 200 | 100 | 18 | 60 | 120 | 2 | 4.5 | 0.2 | 10 | 130 | 3.5 | - |
| 2N 3855A | N | TO-92B | 200 | 100 | 30 | 60 | 120 | 2 | 4.5 | 0.2 | 10 | 130 | 3.5 | - |
| 2N 3856 | N | TO-92B | 200 | 100 | 18 | 100 | 200 | 2 | 4.5 | 0.2 | 10 | 140 | 3.5 | - |
| 2N 3856A | N | TO-92B | 200 | 100 | 30 | 100 | 200 | 2 | 4.5 | 0.2 | 10 | 140 | 3.5 | - |
| 2N 3932 | N | TO-72G | 200 | - | 20 | 40 | 150 | 2 | 8 | - | - | 750 | 0.55 | 4.5 |
| 2N 3933 | N | TO-72G | 200 | - | 30 | 60 | 200 | 2 | 8 | - | - | 750 | 0.55 | 4 |
| 2N 4269 | N | TO-72G | 175 | - | 30 | 60 | 250 | 2 | 8 | - | - | 750 | 0.55 | 5 |
| 2N 4292 | N | TO-92B | 200 | 50 | 15 | 20 | - | 3 | 1 | 0.6 | 10 | 600 | 3.5 | 6 |
| 2N 4293 | N | TO-92B | 200 | 50 | 15 | 20 | - | 3 | 1 | 0.6 | 10 | 600 | 3.5 | 6 |
| 2N 4934 | N | TO-72J | 200 | - | 30 | 40 | 170 | 2 | 8 | - | - | 700 | - | 3.5 |
| 2N 4935 | N | TO-72J | 200 | - | 40 | 60 | 200 | 2 | 8 | - | - | 700 | - | 3.6 |
| 2N 4936 | N | TO-72J | 200 | - | 40 | 60 | 250 | 2 | 8 | - | - | 700 | - | 4.5 |
| 2N 4994 | N | TO-92F | 360 | 30 | 45 | 40 | 160 | 10 | 10 | - | - | 200 | 3.5 | - |
| 2N 4995 | N | TO-92F | 360 | 30 | 45 | 100 | 400 | 10 | 10 | - | - | 200 | 3.5 | - |
| 2N 5127 | N | TO-106 | 200 | 100 | 12 | 15 | 300 | 2 | 10 | 0.3 | 10 | 150 | 3.5 | - |

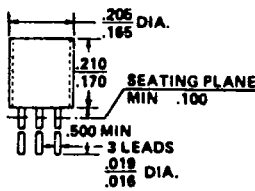
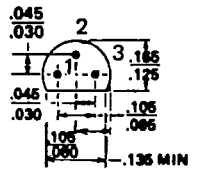
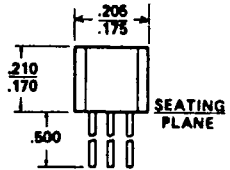
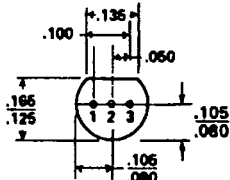
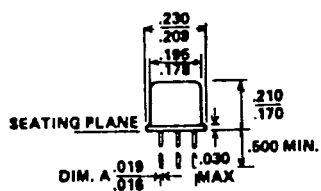
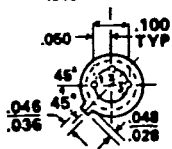
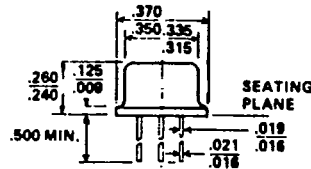
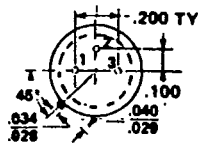
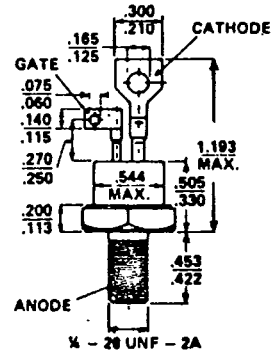
+ Typical value # HFE groupings available

RF-IF High Frequency Transistors

| TYPE NO. | POLARITY | CASE | MAXIMUM RATINGS | | | HFE | | | | VCE(SAT) | | f _T min (MHz) | Cob Cre max (pF) | N.F. max (dB) |
|----------|----------|--------|---------------------|---------------------|----------------------|-----|------|---------------------|---------|----------|---------------------|--------------------------|------------------|---------------|
| | | | P _d (mW) | I _C (mA) | V _{CEO} (V) | min | max | I _C (mA) | VCE (V) | max (V) | I _C (mA) | | | |
| 2N 5130 | N | TO-106 | 200 | 50 | 12 | 15 | 250 | 8 | 10 | 0.6 | 10 | 450 | 2 | 4 |
| 2N 5131 | N | TO-106 | 200 | 200 | 15 | 30 | 500 | 10 | 10 | 1 | 10 | 100 | 6 | - |
| 2N 5132 | N | TO-106 | 200 | 50 | 20 | 30 | 400 | 10 | 10 | 0.2 | 10 | 200 | 3.5 | - |
| 2N 5179 | N | TO-72G | 200 | 50 | 12 | 25 | 250 | 3 | 1 | 0.4 | 10 | 600+ | 1 | 4.5 |
| 2N 5180 | N | TO-72G | 180 | - | 15 | 20 | 200 | 2 | 8 | 0.3 | 10 | 650 | 1 | 0 |
| 2N 5181 | N | TO-72G | 180 | 50 | 45 [▲] | 27 | - | 1 | 6 | - | - | 400 | - | - |
| 2N 5182 | N | TO-72G | 180 | - | 35 [▲] | 27 | - | 1 | 6 | - | - | 400 | - | - |
| 2N 5770 | N | TO-92A | 625 | 50 | 15 | 20 | - | 3 | 1 | 0.4 | 10 | 600+ | 1.7 | 6 |
| 2SC 477 | N | TO-72G | 140 | 30 | 32 | 40 | 170 | 1 | 10 | - | - | 150 | - | - |
| 2SC 568 | N | TO-72G | 200 | 20 | 15 | 40 | 150 | 2 | 6 | - | - | 700 | 1 | 3 |
| 2SC 817 | N | TO-72G | 120 | 20 | 15 | 35 | 300# | 1 | 1 | - | - | 550 | 0.7* | - |
| 2SC 829 | N | TO-92B | 250 | 30 | 20 | 40 | 250# | 1 | 10 | 0.1 | 10 | 150 | 1.6* | - |
| 2SC 838 | N | TO-92B | 250 | 50 | 25 | 30 | 180# | 0.5 | 3 | 0.3 | 10 | 150 | 2.5 | - |
| 2SC 839 | N | TO-92B | 250 | 50 | 25 | 30 | 180# | 0.5 | 3 | 0.3 | 10 | 150 | 2.5 | 4 |
| 2SC 922 | N | TO-92B | 250 | 20 | 20 | 40 | 180 | 1 | 6 | - | - | 400 | 1.2* | 5 |
| 2SC 929 | N | TO-92B | 120 | 30 | 10 | 40 | 320# | 1 | 6 | - | - | 170 | 1.6* | - |
| 2SC 930 | N | TO-92B | 120 | 30 | 10 | 25 | 320# | 1 | 6 | - | - | 170 | 1.6* | - |
| 2SC 947 | N | TO-72G | 150 | 15 | 20 | 35+ | - | 1 | 10 | 0.6+ | 10 | 400 | - | - |
| 2SC 948 | N | TO-72G | 150 | 15 | 20 | 35+ | - | 1 | 10 | 0.6+ | 10 | 700 | - | - |
| 2SC 1047 | N | TO-92B | 150 | 15 | 20 | 40 | 160 | 1 | 6 | - | - | 450 | 1* | 5 |
| 2SC 1293 | N | TO-92B | 300 | 50 | 25 | 15 | 120 | 1 | 6 | - | - | 200 | 1.8* | - |
| 2SC 1359 | N | TO-92B | 250 | 30 | 20 | 50 | 220 | 1 | 10 | 0.1+ | 10 | 150 | 1.5* | 4 |
| 2SC 1687 | N | TO-92E | 400 | 30 | 25 | 38 | - | 7 | 10 | 0.8 | 10 | 360 | 0.5* | - |
| 2SC 1688 | N | TO-92E | 400 | 30 | 40 | 38 | - | 7 | 10 | 0.8 | 10 | 360 | 0.5* | - |
| 2SC 1778 | N | TO-92E | 150 | 15 | 20 | 20 | - | 3 | 10 | - | - | 600 | 0.6* | - |
| 2SC 1789 | N | TO-92B | 200 | 50 | 18 | 20 | - | 2 | 10 | - | - | 600 | 1.5* | - |
| 2SC 1923 | N | TO-92B | 100 | 20 | 30 | 25 | 140# | 1 | 6 | - | - | 500+ | 0.7+* | 4 |

▲BV_{CEO} + Typical value #HFE groupings available

Packaging Information

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>PACKAGING INFORMATION</p> | <p>1. CATHODE 2. GATE 3. ANODE</p>   | <p>SCR 1. CATHODE 2. GATE 3. ANODE</p>   |
| | <p>TO-18 (PLASTIC)</p> | <p>TO-92</p> |
| <p>1. CATHODE 2. GATE 3. ANODE</p>   | <p>SCR 1. CATHODE 2. GATE 3. ANODE</p>   | <p>TRIAC 1. MT 1 2. GATE 3. MT 2</p>  |
| <p>TO-18</p> | <p>TO-39</p> | <p>TO-48D</p> |