TV TRANSISTORS

| TYPE | rf characteristics |  |  |  |  | ${ }^{1}$ CMax (A) | $\begin{gathered} \theta_{\text {jic }} \\ \left({ }^{\circ} / \mathrm{W}\right) \end{gathered}$ | PACKAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | OUTPUT <br> (W) power | $\underset{(\mathrm{dB})}{\text { Min. GAIN }}$ | $\underset{\text { (V) }}{\text { VOLTAGE }}$ | $\underset{(\mathbb{M} H z)}{\mathrm{F}}$ | IMD (dB) |  |  |  |
| TPV 366 | 1.5 | 17 | 25 | BAND 3 | -60 | 0.75 | 8.0 | SOE 280 |
| TPV 394 | 5 | 15 | 28 | BAND 3 | -58 | 4 | 2.5 | SOE 280 |
| TPV 364 | 10 | 10 | 25 | BAND 3 | -55 | 9 | 2.0 | SOE 380 |
| TPV 385 | 14 | 14 | 28 | BAND 3 | -55 | 10 | 1.5 | JO 500 |
| TPV 386 | 30 | 10 | 28 | BAND 3 | -53 | 16 | 1 | JO 500 |
| TPV 590 | 0.250 | 14 | 20 | BAND 4-5 | -60 | 0.4 | 30 | SOE 200 |
| TPV 591 | 0.500 | 13 | 20 | BAND 4-5 | -60 | 0.8 | 16 | SOE 200 |
| TPV 597 | 1 | 11 | 20 | BAND 4-5 | -60 | 1.4 | 9 | SOE 280 |
| TPV 598 | 4.0 | 7 | 25 | BAND 4-5 | -60 | 2.5 | 5 | SOE 280 |
| TPV 599 | 7.5 | 7 | 20 | BAND 4-5 | -60 | 4.5 | 2.5 | MRA |

- VISION - 8 dB , SOUND - 7 dB , SIDEBAND - 17 dB


## CATV HYBRIDS

| TYPE | Pout DIN 45004 B (dBmV) | $\begin{aligned} & \text { GAIN } \\ & \text { (dB) } \end{aligned}$ | BAND(MHz) | NOISE FIGURE (dB) | SLOPE CABLE EQUIVALENT <br> (dB) | $\begin{gathered} \text { Vcc } \\ \text { (V) } \end{gathered}$ | OPERATING TEMPERATURE ( ${ }^{\circ} \mathrm{C}$ ) | PACKAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CA 2150/2250 | 63.5 | 17 | 40-300 | 7.5 | + 0.3/+ 1.0 | 24 | -20 to +90 | CA |
| CA 2152/2252 | 63.5 | 12 | 40-300 | 8.5 | + 1.0/+ 2.0 | 24 | -20 to +90 | CA |
| CA 2350A/2350B | 63.5 | 22 | 40-300 | 6.5 | + 0.0/+ 1.0 | 24 | -20 to +90 | CA |
| CA 2650 | 63.0 | 33 | 40-300 | 7.0 | + 0.5/+ 1.5 | 24 | -20 to +90 | CA |
| CA 2750 | 64.0 | 38 | 40-300 | 7.5 | + 0.5/+ 1.5 | 24 | -20 to +90 | CA |
| CA 227X | 65.0 | 12.5 | 40-300 | 7 | + $0.2 /+0.7$ | 24 | -20 to +90 | CA |
| CA 228X | 65.0 | 17.5 | 40-300 | 7 | + $0.2 /+0.7$ | 24 | -20 to +90 | CA |
| CA 268X | 64.5 | 34 | 40-300 | 6 | + 0.0/+ 1.95 | 24 | -20 to +90 | CA |

MATV TRANSISTORS

| TYPE | RF CHARACTERISTICS$(500 \mathrm{MHz})$ |  |  |  | $\begin{aligned} & v_{\text {CEO }} \\ & \text { (V) } \end{aligned}$ | $\begin{aligned} & v_{\text {сво }} \\ & \text { (v) } \end{aligned}$ | PACKAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | OUTPUT CAPABILITY (mVolt) | $\begin{aligned} & \text { GU MAX } \\ & \text { (500 MHz) } \end{aligned}$ | $\underset{(\mathrm{dB})}{\stackrel{N F}{ }}$ | $\begin{gathered} \mathrm{FT} \\ (\mathrm{GHz}) \end{gathered}$ |  |  |  |
| TP 393 | 300 | 15.5 | 2 | 3 | 14 | 25 | T-PACK |
| TP 491 | 400 | 16.5 | 1.6 | 3.3 | 14 | 25 | T-PACK |
| BFR 91 | 400 | 17.0 | 1.3 | 5.0 | 14 | 20 | T-PACK |
| BFR 96 | 700 | 15.0 | 3.5 | 5.0 | 15 | 20 | T-PACK |
| TP 3094 | 1000 | 13.5 | 4 | 2.6 | 25 | 30 | TO-117 |
| TPV 596 | 1500 | 17 | - | 2.5 | 24 | 45 | SOE 280 |

LOW NOISE TRANSISTORS

| TYPE | technology | RF CHARACTERISTICS |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\underset{(\mathrm{GHz})}{\mathrm{F}}$ | NOISE FIGURE (dB) | $\begin{gathered} \text { GAIN } \\ (\mathrm{dB}) \end{gathered}$ | OUTPUT POWER (dBm) |
| $\begin{aligned} & \text { TPL } 1200 \\ & \text { TPL } 2400 \end{aligned}$ $\text { TPL } 4800$ | Si Bipolar Si Bipolar GaAs FET | $\begin{aligned} & 2 \\ & 4 \\ & 8 \end{aligned}$ | $\begin{aligned} & 3.6 \\ & 2.7 \\ & 3 \end{aligned}$ | $\begin{aligned} & 7 \\ & 8 \\ & 9 \end{aligned}$ | $\begin{gathered} 18 \\ 12 \\ 8.5 \end{gathered}$ |

## Wivithe sanconducions

QUICK SELECTION GUIDE FROM 1 MHz UP TO 5 GHz


SSB TRANSISTORS

| TYPE * | rf Characteristics |  |  |  | $\begin{aligned} & \mathbf{v}_{\text {cEo }} \\ & \text { (v) } \end{aligned}$ | $\begin{aligned} & v_{\text {сво }} \\ & \text { (v) } \end{aligned}$ | ${ }^{\mathrm{I}_{\mathrm{Max}}}$. <br> (A) | $\begin{gathered} \theta \mathrm{jic} \\ \left({ }^{\circ} \mathrm{C} / \mathrm{W}\right) \end{gathered}$ | PACKAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | OUTPUT <br> (W) power | Min. GAIN (dB) | $\underset{(V)}{\text { voltage }}$ | $\underset{(M H z)}{F}$ |  |  |  |  |  |
| PT 9795/A | 15 | 15 | 13.5 | 28 | 20 | 50 | 4 | 3.0 | 380 SOE/F |
| PT 9796/A | 30 | 15 | 13.5 | 28 | 20 | 50 | 8 | 2.5 | 380 SOE/F |
| PT 9797/A | 50 | 15 | 13.5 | 28 | 20 | 50 | 12 | 2.0 | 380 SOE/F |
| PT 9784/A | 75 | 15 | 13.5 | 28 | 20 | 50 | 15 | 1.4 | 380 SOE/F |
| PT 9785 | 100 | 13 | 13.5 | 28 | 20 | 50 | 25 | 0.9 | 380 SOE/F |
| PT 9787/A | 8 | 14 | 28 | 28 | 40 | 70 | 2 | 7.0 | 380 SOE/F |
| PT 9788/A | 20 | 14 | 28 | 28 | 40 | 70 | 4 | 2.5 | 380 SOE/F |
| PT 9783/A | 50 | 14 | 28 | 28 | 40 | 70 | 10 | 1.0 | 380 SOE/F |
| PT 9780/A | 100 | 14 | 28 | 28 | 40 | 70 | 20 | 0.5 | 500 SOE/F |
| LOT 1000 | 200 | 14 | 50 | 30 | 110 | 110 | 25 | 0.42 | LOT |

* A SUFFIX denote stud package.

FM TRANSISTORS

| TYPE | bf Characteristics |  |  | vswr | ${ }_{\mathrm{C}}^{\mathrm{I} \text { Max. }}$ <br> (A) | $\begin{gathered} \theta \mathrm{jc} \\ \left({ }^{\circ} \mathrm{C} / \mathrm{W}\right) \end{gathered}$ | package |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | OUTPUT POWER at 108 MHz (W) | $\underset{(\mathrm{dAB})}{\text { GIN }}$ | $\begin{aligned} & V_{c e} \\ & \text { (V) } \end{aligned}$ |  |  |  |  |
| TP 9380 | 75 | 10.3 | 28 | 4:1 | 10 | 1.5 | 500 SOE |
| TP 9381 | 100 | 7.4 | 28 | $\infty$ | 12 | 1.1 | 500 SOE |
| TP 9382 | 175 | 6.4 | 28 | $\infty$ | 20 | 0.7 | 500 SOE |
| TP 9383 | 150 | 9.2 | 28 | 4:1 | 16 | 1.0 | 500 SOE |

MOBILE TRANSISTORS AND MODULES

| TYPE | rf characteristics |  |  |  | $\begin{aligned} & v_{\text {CEO }} \\ & \text { (v) } \end{aligned}$ | $\begin{aligned} & \mathrm{v} \\ & \mathrm{CBO} \\ & \text { (V) } \end{aligned}$ | ${ }_{\text {c.max. }}$ <br> (A) | $\theta$ jc <br> (OC/W) | PACKAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | output (W) power | Min. GAIN (dB) | $\underset{(V)}{\text { voltage }}$ | $\underset{(M H z)}{\mathrm{F}}$ |  |  |  |  |  |
| TP 2312 | 3 | 15.7 | 12.5 | 88 | 16 | 35 | 0.7 | 25 | TO-39 GE |
| TP 2320 | 20 | 11.2 | 12.5 | 88 | 18 | 40 | 6 | 3.5 | 380 SOE |
| TP 2180 | 80 | 7.0 | 12.5 | 88 | 18 | 40 | 16 | 1.25 | J-ZERO-C |
| TP 2314 | 4 | 12.0 | 12.5 | 175 | 16 | 36 | 1 | 20 | T0-39 GE |
| PT 8828 | 9 | 11.1 | 12.5 | 175 | 16 | 36 | 3.4 | 3.5 | 380 SOE |
| TP 2320 | 17 | 8.2 | 12.5 | 175 | 18 | 40 |  | 3.5 | 380 SOE |
| TP 2303 | 30 | 6.0 | 12.5 | 175 | 18 | 40 | 7 | 2.5 | 380 SOE |
| TP 2304 | 40 | 5.2 | 12.5 | 175 | 18 | 40 | 8 | 2.2 | 380 SOE |
| JO 4070 | 70 | 5.9 | 12.5 | 175 | 18 | 40 | 12 | 1.25 | J-ZERO-C |
| TP 250 | 0.01 | 10.0 | 7.5 | 470 | 18 | 35 | 200 |  | T-PACK |
| TP 251 | 0.175 | 12.4 | 7.5 | 470 | 18 | 40 | 0.2 | 175 | 200 STUDLESS |
| TP 252 | 1.50 | 10.0 | 7.5 | 470 | 14 | 30 | 1 | 10 | 280 SOE |
| PT 8809 | 2 | 10.0 | 12.5 | 470 | 16 | 36 | 0.75 | 10 | 280 SOE |
| PT 8810 | 5 | 8.5 | 12.5 | 470 | 16 | 36 | 1.7 | 5 | 280 SOE |
| PT 8811 | 10 | 6.0 | 12.5 | 470 | 16 | 36 | 3.4 | 3.5 | 280 SOE |
| JO 3055 | 55 | 4.4 | 12.5 | 470 | 17 | 38 | 10 | 1.75 | J-ZERO-C |
| ML 20 | 20 | 21.2 | 12.5 | 68-88 | $50 \Omega$ Impedance $40 \%$ Efficiency |  |  |  | MVM |
| MV 20 | 20 | 20.0 | 12.5 | 140-175 | $50 \Omega$ Impedance |  |  | 40 \% Efficiency $40 \%$ Efficiency | MVM |
| MX 15 | 15 | 19.0 | 12.5 | 400-470 | $50 \Omega$ Impedance |  |  | Efficiency | MXM |

VHF/UHF TRANSISTORS

| TYPE | RF CHARACTERISTICS |  |  |  | $\begin{aligned} & v_{\text {cEo }} \\ & \text { (v) } \end{aligned}$ | $\begin{aligned} & v_{\text {cво }} \\ & \text { (v) } \end{aligned}$ | ${ }^{\mathrm{Cmax}}$. <br> (A) | $\begin{gathered} \theta_{\mathrm{jc}} \\ \left(\mathrm{C}^{\circ} / \mathrm{W}\right) \end{gathered}$ | PACKAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | OUTPUT <br> (W) power | Min. GAIN (dB) | $\underset{\text { (V) }}{\text { voltage }}$ | $\underset{(\mathrm{MHz})}{\mathrm{F}}$ |  |  |  |  |  |
| PT 9730 | 4 | 13 | 28 | 175 | 35 | 60 | 1 | 17.5 | 380 SOE |
| PT 9732 | 8 | 12 | 28 | 175 | 35 | 60 | 1.25 | 8.8 | 380 SOE |
| PT 9734 | 15 | 11.7 | 28 | 175 | 35 | 60 | 2.5 | 5.8 | 380 SOE |
| PT 9731 | 25 | 10 | 28 | 175 | 35 | 60 | 4 | 3.9 | 380 SOE |
| PT 9733 | 50 | 8 | 28 | 175 | 35 | 60 | 8 | 2.1 | 380 SOE |
| JO 1006 | 100 | 7 | 28 | 100-180 | 35 | 60 | 12 | 0.88 | J-ZERO-C |
| TPM 401 | 1 | 13 | 20 | 100-400 | 24 | 45 | 0.7 | 20 | 280 SOE |
| TPM 405 | 5 | 16 | 24 | 100-400 | 24 | 45 | 1.4 | 9.5 | 280 SOE |
| TPM 425 | 25 | 9 | 24 | 100-400 | 25 | 45 | 2 | 5 | 280 SOE |
| JO 2015 A | 50 | 10 | 28 | 225-400 | 30 | 65 | 10 | 1.25 | J-ZERO-C |

RF HYBRIDS

| TYPE | bf characteristics |  |  |  |  | $\underset{\mathrm{mA}}{\mathrm{I}_{\mathrm{cmax}}}$ | OPERATINGTEMPERATURE ( ${ }^{\mathrm{C}} \mathrm{C}$ ) | PACKAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | BROADBAND GAIN (dB) | $\underset{\text { (V) }}{\substack{\text { voitage }}}$ | $\underset{\substack{\text { BANDWIDTH } \\ \text { (MHz) }}}{\text { Ben }}$ | $\begin{aligned} & \text { Zin et Zout } \\ & (\Omega) \end{aligned}$ |  |  |  |
| CA 2800 | 800 | 17 | 24 | 10-400 | 50 | 220 | $-20 /+90$ | CA |
| CA 2820 | 400 | 30 | 24 | 1-520 | 50 | 360 | $-40 /+100$ | CA |
| CA 2832 | 2 W | 35 | 28 | 1-200 | 50 | 470 | -40/+ 90 | CA |
| CA 2870 | 400 | 34 | 24 | 20-400 | 50 | 330 | $-40 /+100$ | CA |
| CA 2876 | 100 | 22 | 19 | 40-100 | 75 | 80 | -40/+ 100 | CA |

MICROWAVE TRANSISTORS

| TYPE | bF Characteristics |  |  |  | $\begin{aligned} & v_{\text {CEO }} \\ & \text { (V) } \end{aligned}$ | $\begin{aligned} & v_{\text {CBO }} \\ & \text { (V) } \end{aligned}$ | OPERATINGMODE | $\begin{gathered} \theta \mathrm{jc} \\ \left({ }^{\circ} \mathrm{C} / \mathrm{W}\right) \end{gathered}$ | PACKAGE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | HIGHEST POWER DEVICE (W) | Min. <br> (dB) | voltage | $\underset{(\mathrm{GH})}{\mathrm{F})}$ |  |  |  |  |  |
| TRW 52600 SERIES | 6 | 10 | 20 | 1 | 24 | 45 | LINEAR | 6 | HLP-8 |
| TRW 53600 SERIES | 1.6 | 8 | 20 | 2 | 24 | 45 | LINEAR | 17 | HLP-8 |
| TRW 54600 SERIES | 0.5 | 5 | 20 | 4 | 24 | 45 | LINEAR | 40 | HLP-8 |
| TRW 62600 SERIES | 2 | - | 20 | 2.5 | 22 | 45 | OSCIL- | 8.5 | HLP-8 |
| TRW 63600 SERIES | 0.85 | - | 20 | 3 | 22 | 45 | LATOR | 17 | HLP-8 |
| TRW 64600 SERIES | 0.65 | - | 20 | 4 | 22 | 45 |  | 40 | HLP-8 |
| TRW 2000 SERIES | 20 | 5.2 | 28 | 2 | 28 | 45 | cw | 3 | HLP-11/8 |
| TRW 2300 SERIES | 7 | 8.4 | 20 | 2.3 | 24 | 42 | CW | 8.5 | HLP-8 |
| TRW 3000 SERIES | 5 | 5 | 28 | 3 | 28 | 45 | CW | 8.5 | HLP-8 |
| MRA 0610 SERIES | 40 | 7 | 28 | 0.6-1.0 | 28 | 45 | cW | 2.5 | MRA |
| MRA 1014 SERIES | 35 | 7 | 28 | 1.0-1.4 | 28 | 45 | cW | 2 | MRA |
| MRA 1417 SERIES | 25 | 7 | 28 | 1.4-1.7 | 28 | 45 | cW | 2.5 | MRA |
| MRA 1720 SERIES | 20 | 6 | 28 | 1.7-2.0 | 28 | 45 | cW | 2.5 | MRA |
| MRAL 2023 SERIES | 12 | 7 | 22 | 2.0-2.3 | 24 | 42 | CW | 4.5 | MRA |
| MRAL 2327 SERIES | 12 | 7 | 22 | 2.3-2.7 | 24 | 42 | CW | 4.5 | MRA |
| MRP 0912 SERIES | 250 | 6.5 | 50 | 0.9-1.2 | 50 | 65 | PULSE | - | MRP |
| MRP 1214 SERIES | 85 | 6.5 | 28 | 1.2-1.4 | 28 | 45 | PULSE | - | MRP |

