

## RF Power Transistors

A wide variety of rf types capable of handling a broad range of power from hf to microwave frequencies (25 W at 30 MHz to 1 W at 1 GHz), supplied in JEDEC TO-5, TO-39, TO-39 with flange, TO-60, and TO-72 packages.

### Features

- High gain-bandwidth product ( $f_T$ ): 1000 MHz
- High power gain ( $G_p$ ): 17 dB min. at 200 MHz, 12.5 dB min. at 450 MHz, 7 dB min. at 470 MHz
- Low noise factor (NF): 3.4 dB at 450 MHz
- High power output ( $P_O$ ): 24 W at 76 MHz, 9 dB gain min., 1 W at 1 GHz

### Applications

- HF, vhf, uhf, microwave frequencies
- Fuse and sonde oscillators
- L- and S-band radar and telemetry
- VHF mobile, marine, ECM, sonobuoy
- Beacons
- Commercial and military aircraft
- TV tuners, FM and AM front-ends
- High-reliability and radiation-tolerant versions available for critical applications in aerospace, military, and industrial equipment

| Class of Service                            | Type   | Operating Frequency MHz | P <sub>OUT</sub> Min. W                        | V <sub>CC</sub> V | P <sub>G</sub> Min. dB |
|---|--|-------------------------|--|-------------------|------------------------|
| Microwave                                   | 41024  | 1 GHz                   | 1  | 28                | 6-12.4                 |
| VHF and UHF Mobile Radio                    | 40280, 40340, 40341, 40964, 40965<br>2N4427, 2N4932, 2N4933, 2N5913                        | 50-470                  | 0.4-30   | 12-24             | 6-12.4                 |
| Aircraft Radio                              | 40290, 40291, 40292, 2N5102  | 118-136                 | 2-15   | 12.5-24           | 4-6                    |
| Single Sideband and Military Communications | 40936, 2N2876, 2N3229, 2N3375<br>2N3553, 2N3632, 2N3866<br>2N3866A, 2N4440, 2N5070, 2N5071 | 30-400                  | 1-25   | 12.5-28           | 9-13                   |
| CATV, MATV, and Small-Signal, Low-Noise     | 40608, 40894, 40895, 40896,<br>40897, 2N2857, 2N3478, 2N3839,<br>2N3600, 2N5109, 2N5179    | 60-890                  | N.F. = 3-6 dB typ.<br>V <sub>CE</sub> = 6-15 V |                   | 11-18                  |
| General Purpose                             | 2N3733, 2N4012, 2N5090, 2N5180   | 200-1000                | 1.2-10   | 10-28             |                        |

## Silicon Rectifiers

RCA offers two basic families of silicon rectifiers, standard and fast-recovery types, consisting of more than 70 device types. The types in each family differ in repetitive-peak-reverse-voltage ratings ( $V_{RRM}$ ). Types are available in JEDEC stud-mounted DO-4 and DO-5 packages, and in reverse-polarity versions.

### Features

- Low leakage currents
- Low voltage drop
- Low-thermal-resistance hermetic packages
- High output current
- Fast recovery times

### Applications

- For medium- and high-current applications in commercial, industrial, and military power supplies

| RCA Family                   | Forward Current      |                      |                          |                   | V <sub>RRM</sub> Range V | Voltage Drop     |                  | Reverse Recovery Time* |                   |                   |
|------------------------------|----------------------|----------------------|--------------------------|-------------------|--------------------------|------------------|------------------|------------------------|-------------------|-------------------|
|                              | I <sub>F</sub> RMS A | I <sub>F</sub> AVG A | I <sub>FSM</sub> Surge A | T <sub>A</sub> °C |                          | V <sub>F</sub> V | I <sub>O</sub> A | t <sub>rr</sub> μs     | I <sub>FM</sub> A | T <sub>C</sub> °C |
| <b>Standard Types</b>        |                      |                      |                          |                   |                          |                  |                  |                        |                   |                   |
| 1N1341B-1N1348B <sup>△</sup> | —                    | 6                    | 160                      | 150               | 50-600                   | 0.65             | 6                | —                      | —                 | —                 |
| 1N1199A-1N1206A <sup>△</sup> | —                    | 12                   | 240                      | 150               | 50-600                   | 0.55             | 12               | —                      | —                 | —                 |
| 1N248C-1N250C <sup>□</sup>   | —                    | 20                   | 350                      | 150               | 50-600                   | 0.6              | 20               | —                      | —                 | —                 |
| 1N1195A-1N1198A <sup>□</sup> | —                    | 20                   | 350                      | 150               | 50-600                   | 0.6              | 20               | —                      | —                 | —                 |
| 1N1183A-1N1190A <sup>△</sup> | —                    | 40                   | 800                      | 150               | 50-600                   | 0.65             | 40               | —                      | —                 | —                 |
| <b>Fast-Recovery Types</b>   |                      |                      |                          |                   |                          |                  |                  |                        |                   |                   |
| D2406F-D2406M <sup>#</sup>   | 9                    | 6                    | 125                      | 100               | 50-600                   | 1.4              | 6                | 0.35                   | 19                | 25                |
| 1N3879-1N3883 <sup>##</sup>  | 9                    | 6                    | 75                       | 100               | 50-400                   | 1.4              | 6                | 0.2                    | 1                 | 25                |
| D2412F-D2412M <sup>#</sup>   | 18                   | 12                   | 250                      | 100               | 50-600                   | 1.4              | 12               | 0.35                   | 38                | 25                |
| 1N3889-1N3893 <sup>##</sup>  | 18                   | 12                   | 150                      | 100               | 50-400                   | 1.4              | 12               | 0.2                    | 1                 | 25                |
| D2520F-D2520M <sup>##</sup>  | 30                   | 20                   | 300                      | 100               | 50-600                   | 1.4              | 20               | 0.35                   | 63                | 25                |
| 1N3899-1N3903 <sup>##</sup>  | 30                   | 20                   | 225                      | 100               | 50-400                   | 1.4              | 20               | 0.2                    | 1                 | 25                |
| 1N3909-1N3913 <sup>##</sup>  | 45                   | 30                   | 300                      | 100               | 50-400                   | 1.4              | 30               | 0.2                    | 1                 | 25                |
| D2540F-D2540M <sup>#</sup>   | 60                   | 40                   | 700                      | 165               | 50-600                   | 1.8              | 100              | 0.35                   | 125               | 25                |

■ At full cycle average  
 • T<sub>A</sub> = 25 °C

T<sub>A</sub> Operating-Temperature Range: △ - 65 to + 200 □ - 65 to + 175  
 # - 40 to + 150 ## - 65 to + 150