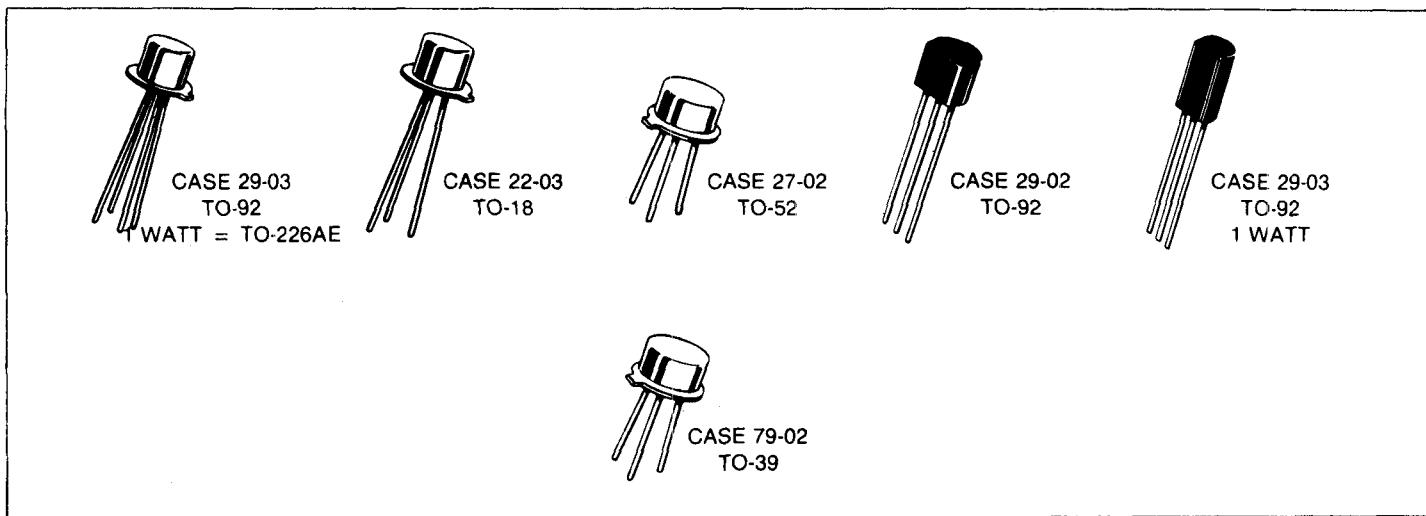


# Field-Effect Transistors



Motorola offers a line of field-effect transistors that encompasses the latest technology and covers the full range of FET applications. Included here is a wide variety of junction FETs, MOSFETs (with P- or N-channel polarity with both single and dual gates) and TMOS FETs. These FETs include devices developed for operation across the frequency range from dc to UHF in switching and amplifying applications. Package options

from low cost plastic to metal TO-72 packages are available. The selector guides on the following pages are designed to emphasize those FET families and device types that, by virtue of widespread industry use, ease of manufacture and, consequently, low relative cost, merit first consideration for new equipment design.

## JFETs

**TABLE 1. Switches and Choppers**

JFETs operate in the depletion mode. They are available in both P- and N-channel and are offered in both metal and plastic packages. Applications include general-purpose amplifiers, switches and choppers, and RF amplifiers and mixers. These devices are economical and very rugged. The drain and source are interchangeable on many typical FETs.

### P-Channel JFETs

Package TO-	Device	r <sub>ds(on)</sub>		V <sub>GS(off)</sub>		I <sub>DSS</sub>		V <sub>(BR)GSS</sub> V <sub>(BR)GDO</sub>	C <sub>iss</sub>	C <sub>rss</sub>	t <sub>on</sub>	t <sub>off</sub>
		( $\Omega$ ) MAX	@ I <sub>D</sub> ( $\mu$ A)	(V) MIN	(V) MAX	(mA) MIN	(mA) MAX					
92	MPF970	100	1.0	5.0	12	15	100	30	12	5.0	8.0	25
92	MPF971	250	1.0	1.0	7.0	2.0	80	30	12	5.0	10	120
72	2N3993	150	—	4.0	9.5	10	—	25	16	4.5	—	—
72	2N3994	300	—	1.0	5.5	2.0	—	25	16	4.5	—	—

### N-Channel JFETs

18	2N4859A	25	—	2.0	6.0	50	—	30	10	4.0	8.0	20
18	2N4856A	25	—	4.0	10	50	—	40	10	4.0	8.0	20
18	2N4856	26	—	4.0	10	50	—	40	10	8.0	9.0	25
18	2N4859	25	—	4.0	10	50	—	30	18	8.0	9.0	25
18	2N4391	30	1.0	4.0	10	50	150	40	14	3.5	15	20
92	MPF4391	30	1.0	4.0	10	60	130	20	10	3.5	15	20
18	2N4091	30	1.0	5.0	10	30	—	40	16	5.0	25	40
92	MPF4091	30	1.0	5.0	10	30	—	40	16	5.0	25	40
92	J111	30	1.0	3.0	10	20	—	35	10 <sup>t</sup>	5.0 <sup>t</sup>	13	35
18	2N4857A	40	—	2.0	6.0	20	100	40	10	3.5	10	40