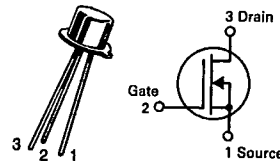


**2N3796
2N3797****CASE 22-03, STYLE 2
TO-18 (TO-206AA)****MOSFETs
LOW POWER AUDIO****N-CHANNEL — DEPLETION****MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	25 20	Vdc
Gate-Source Voltage	V_{GS}	± 10	Vdc
Drain Current	I_D	20	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	200 1.14	mW mW/ $^\circ\text{C}$
Junction Temperature Range	T_J	+175	$^\circ\text{C}$
Storage Channel Temperature Range	T_{stg}	-65 to +200	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Drain-Source Breakdown Voltage ($V_{GS} = -4.0\text{ V}$, $I_D = 5.0\text{ }\mu\text{A}$) ($V_{GS} = -7.0\text{ V}$, $I_D = 5.0\text{ }\mu\text{A}$)	2N3796 2N3797	$V_{(BR)DSX}$	25 20	30 25	— —	Vdc
Gate Reverse Current(1) ($V_{GS} = -10\text{ V}$, $V_{DS} = 0$) ($V_{GS} = -10\text{ V}$, $V_{DS} = 0$, $T_A = 150^\circ\text{C}$)		I_{GSS}	— —	— —	1.0 200	pAdc
Gate Source Cutoff Voltage ($I_D = 0.5\text{ }\mu\text{A}$, $V_{DS} = 10\text{ V}$) ($I_D = 2.0\text{ }\mu\text{A}$, $V_{DS} = 10\text{ V}$)	2N3796 2N3797	$V_{GS(off)}$	— —	-3.0 -5.0	-4.0 -7.0	Vdc
Drain-Gate Reverse Current(1) ($V_{DG} = 10\text{ V}$, $I_S = 0$)		I_{DGO}	—	—	1.0	pAdc

ON CHARACTERISTICS

Zero-Gate-Voltage Drain Current ($V_{DS} = 10\text{ V}$, $V_{GS} = 0$)	2N3796 2N3797	I_{DSS}	0.5 2.0	1.5 2.9	3.0 6.0	mAdc
On-State Drain Current ($V_{DS} = 10\text{ V}$, $V_{GS} = +3.5\text{ V}$)	2N3796 2N3797	$I_{D(on)}$	7.0 9.0	8.3 14	14 18	mAdc

SMALL-SIGNAL CHARACTERISTICS

Forward Transfer Admittance ($V_{DS} = 10\text{ V}$, $V_{GS} = 0$, $f = 1.0\text{ kHz}$) ($V_{DS} = 10\text{ V}$, $V_{GS} = 0$, $f = 1.0\text{ MHz}$)	2N3796 2N3797 2N3796 2N3797	$ y_{fs} $	900 1500 900 1500	1200 2300 — —	1800 3000 — —	μmhos
Output Admittance ($V_{DS} = 10\text{ V}$, $V_{GS} = 0$, $f = 1.0\text{ kHz}$)	2N3796 2N3797	$ y_{os} $	— —	12 27	25 60	μmhos
Input Capacitance ($V_{DS} = 10\text{ V}$, $V_{GS} = 0$, $f = 1.0\text{ MHz}$)	2N3796 2N3797	C_{iss}	— —	5.0 6.0	7.0 8.0	pF
Reverse Transfer Capacitance ($V_{DS} = 10\text{ V}$, $V_{GS} = 0$, $f = 1.0\text{ MHz}$)		C_{rss}	—	0.5	0.8	pF

FUNCTIONAL CHARACTERISTICS

Noise Figure ($V_{DS} = 10\text{ V}$, $V_{GS} = 0$, $f = 1.0\text{ kHz}$, $R_S = 3\text{ megohms}$)	NF	—	3.8	—	dB
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(1) This value of current includes both the FET leakage current as well as the leakage current associated with the test socket and fixture when measured under best attainable conditions.

MOTOROLA SMALL-SIGNAL TRANSISTORS, FETs AND DIODES

TYPICAL DRAIN CHARACTERISTICS

FIGURE 1 — 2N3796

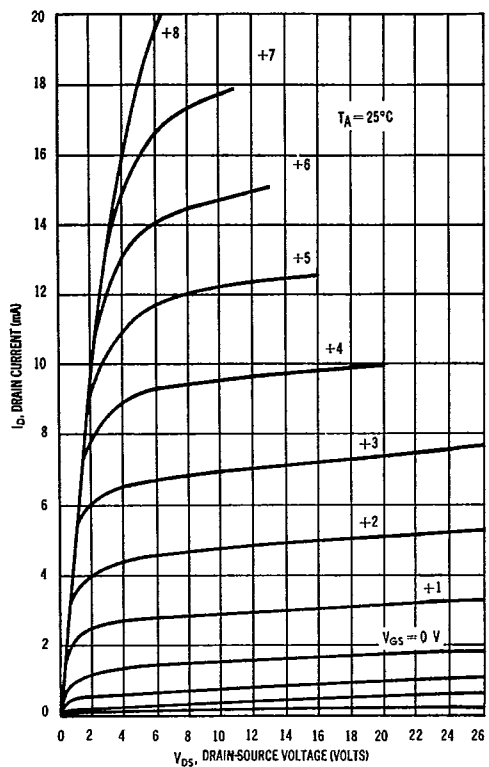
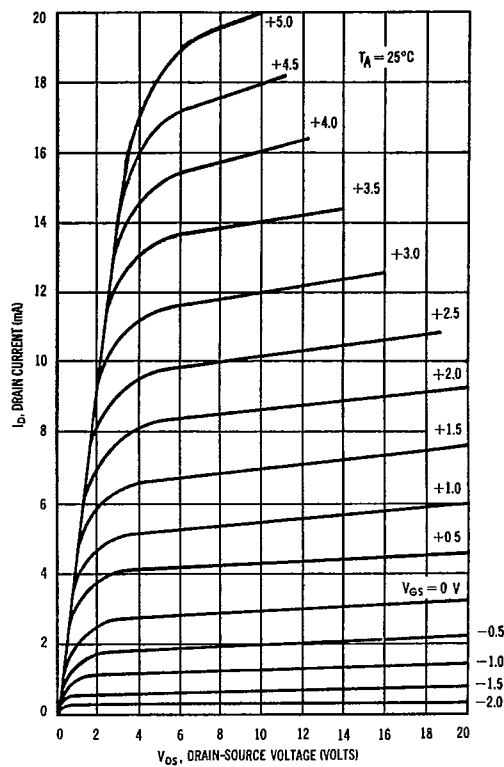


FIGURE 2 — 2N3797



COMMON SOURCE TRANSFER CHARACTERISTICS

FIGURE 3 — 2N3796

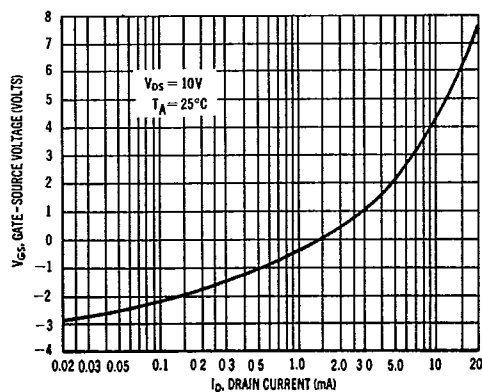
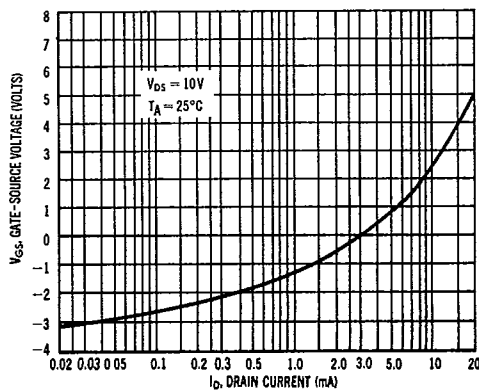


FIGURE 4 — 2N3797



T-29-25

FIGURE 5 — FORWARD TRANSFER ADMITTANCE

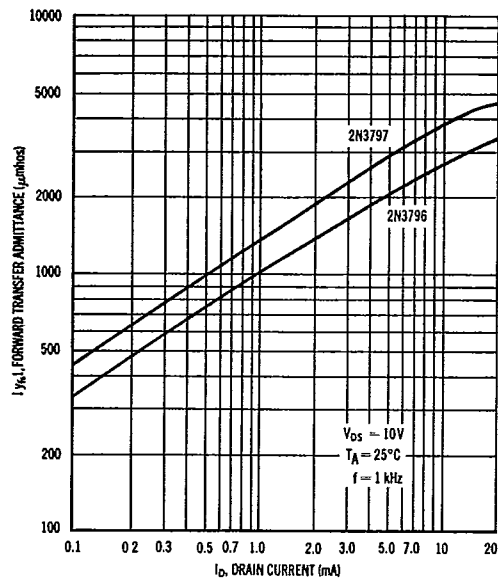


FIGURE 6 — OUTPUT ADMITTANCE

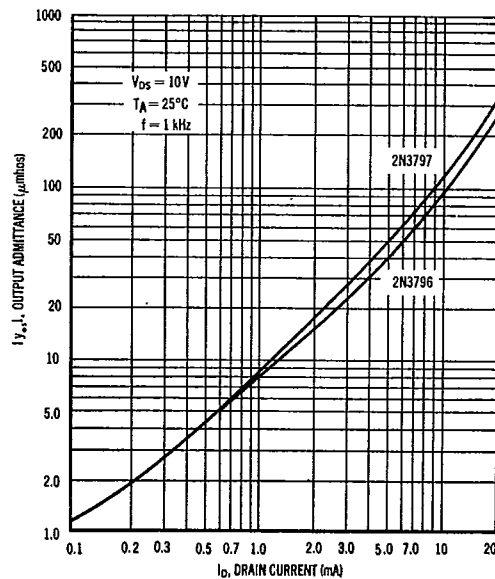


FIGURE 7 — NOISE FIGURE

