MFE3001

CASE 20-03, STYLE 2
TO-72 (TO-206AF)

FET
LOW-POWER AUDIO

N-CHANNEL — DEPLETION

Refer to 2N3796 for graphs.

MAXIMUM RATINGS

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

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Drain-Source Breakdown Voltage (V_{GS} = −8.0 V, I_D = 10 μAdc)	$V_{(BR)DSX}$	20	—	Vdc
Gate Reverse Current (V_{GS} = −10 Vdc, V_{DS} = 0)	I_{GSS}	—	10	pAdc
Gate Source Cutoff Voltage (I_{DS} = 1.0 μAdc, V_{DS} = 10 Vdc)	$V_{GS(off)}$	—	−8.0	Vdc
ON CHARACTERISTICS				
Zero-Gate-Voltage Drain Current (V_{GS} = 0 Vdc, V_{DS} = 10 Vdc)	I_{DSS}	0.5	6.0	mAdc
On-State Drain Current (V_{GS} = 3.5 Vdc, V_{DS} = 10 Vdc)	$I_{D(on)}$	5.0	—	mAdc
SMALL-SIGNAL CHARACTERISTICS				
Forward Transfer Admittance (V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 kHz)	$\|y_{fs}\|$	700	3500	μmhos
Output Admittance (V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 kHz)	$\|y_{os}\|$	—	100	μmhos
Input Capacitance (V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 MHz)	C_{iss}	—	5.0	pF
Reverse Transfer Capacitance (V_{DS} = 10 Vdc, V_{GS} = 0, f = 1.0 MHz)	C_{rss}	—	1.5	pF