2N3966

CASE 20-03, STYLE 1
TO-72 (TO-206AF)

JFET
HIGH-FREQUENCY AMPLIFIER

N-CHANNEL — DEPLETION

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	Vdc
Drain-Gate Voltage	V_{DG}	30	Vdc
Gate-Source Voltage	V_{GS}	30	Vdc
Gate Current	I_G	10	mA
Total Device Dissipation @ T_A = 25°C Derate above 25°C (Free Air)	P_D	300 1.71	mW mW/°C
Lead Temperature (1/16" from Case for 10 Seconds)	T_L	300	°C
Storage Temperature Range	T_{stg}	−55 to 200	°C

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Gate-Source Breakdown Voltage (I_G = 1.0 μA, V_{DS} = 0)		$V_{(BR)GSS}$	−30	—	Vdc
Gate Reverse Current (V_{GS} = 20 V, V_{DS} = 0)		I_{GSS}	—	0.1	nA
Drain Cutoff Current (V_{DS} = 10 V, V_{GS} = −7.0 V, T_A = 150°C)		$I_{D(off)}$	—	2.0	μA
Gate Source Cutoff Voltage (I_D = 10 nA, V_{DS} = 10 V)		$V_{GS(off)}$	4.0	6.0	Vdc
ON CHARACTERISTICS					
Zero-Gate-Voltage Drain Current (V_{DS} = 20 V, V_{GS} = 0)		I_{DSS}	2.0	—	mA
Drain-Source "ON" Voltage (I_D = 1.0 mA, V_{GS} = 0 V)		$V_{DS(on)}$	—	0.25	Vdc
Drain Reverse Current (V_{DG} = 20 V, I_S = 0 A)	(25°C) (150°C)	I_{DGO}	— —	0.1 0.2	nA μA
Static Drain-Source On Resistance (V_{GS} = 0 V, I_D = 0, f = 1.0 kHz)		$r_{DS(on)}$	—	220	Ω
SMALL-SIGNAL CHARACTERISTICS					
Input Capacitance (V_{DS} = 20 V, V_{GS} = 0 V, f = 1.0 MHz)		C_{iss}	—	6.0	pF
Reverse Transfer Capacitance (V_{DS} = 0 V, V_{GS} = 7.0 V, f = 1.0 MHz)		C_{rss}	—	1.5	pF
SWITCHING CHARACTERISTICS					
Delay Time (See Figure 1)		t_d	—	0.02	μsec
Rise Time (See Figure 1)		t_r	—	100	nsec
Turn-Off Time (See Figure 1)		t_{off}	—	100	nsec