New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

U311

N-Channel Silicon Junction Field-Effect Transistor

- Mixer
- Oscillator
- VHF/UHF Amplifier

Absolute maximum ratings at T_A = 25 ˚C.

Reverse Gate Source & Reverse Gate Drain Voltage	– 25 V
Continuous Forward Gate Current	10 mA
Continuous Device Power Dissipation	300 mW
Power Derating	2.4 mW/˚C
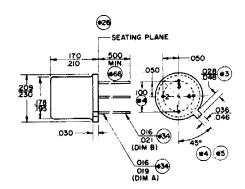
At 25°C free air temperature:

Static Electrical Characteristics

		Min	Typ	Max	Unit	Test Conditions	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	– 25			V	I_G = – 1 µA, V_{DS} = ØV	
Gate Reverse Current	I_{GSS}			– 150	pA	V_{GS} = – 15V, V_{DS} = ØV	
				– 150	nA	V_{GS} = – 15V, V_{DS} = ØV	T_A = 150°C
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	– 1		– 6	V	V_{DS} = 10V, I_D = 1 nA	
Gate Source Forward Voltage	$V_{GS(F)}$			1	V	V_{DS} = ØV, I_G = 1 mA	
Drain Saturation Current (Pulsed)	I_{DSS}	20		60	mA	V_{DS} = 10V, V_{GS} = ØV	

Dynamic Electrical Characteristics

		Min	Typ	Max	Unit	Test Conditions	
Common Gate Forward Transconductance	g_{fg}	1000	17000		µS	V_{DS} = 10V, I_D = 10 mA	f = 1 kHz
Common Gate Output Conductance	g_{og}			250	µS	V_{DS} = 10V, I_D = 10 mA	f = 1 kHz
Gate Drain Capacitance	C_{dg}			2.5	pF	V_{DS} = 10V, I_D = 10 mA	f = 1 MHz
Gate Source Capacitance	C_{gs}			5	pF	V_{DS} = 10V, I_D = 10 mA	f = 1 MHz

Quality Semi-Conductors