New Jersey Semi-Conductor Products, Inc.

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

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

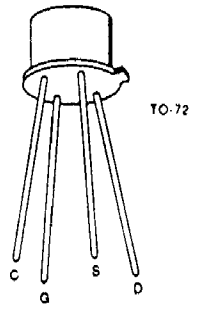
P-Channel Enhancement Mode MOSFET General Purpose Amplifier Switch

3N163 / 3N164

FEATURES

- Very High Input Impedance
- High Gate Breakdown
- Fast Switching
- Low Capacitance

PIN CONFIGURATION



ABSOLUTE MAXIMUM RATINGS (Note 1)

(T_A = 25°C unless otherwise specified)

Drain-Source or Drain-Gate Voltage
- 3N163 ..... -40V
- 3N164 ..... -30V

Static Gate-Source Voltage
- 3N163 ..... ±40V
- 3N164 ..... ±30V

Transient Gate-Source Voltage (Note 2) ..... ±125V
Drain Current 50mA
Storage Temperature ..... -65°C to +200°C
Operating Temperature ..... -55°C to +150°C
Lead Temperature (Soldering, 10sec) ..... +300°C
Power Dissipation 375mW
- Derate above +25°C ..... 3.0mW/°C

NOTE: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ORDERING INFORMATION

Part	Package	Temperature Range
3N163	Hermetic TO-72	-55°C to +150°C
X3N163	Sorted Chips in Carriers	-55°C to +150°C
3N164	Hermetic TO-72	-55°C to +150°C
X3N164	Sorted Chips in Carriers	-55°C to +150°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

SYMBOL	PARAMETER	3N163		3N164		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
I_{GSS}	Gate-Body Leakage Current		-10		-10	pA	V_{GS} = -40V, V_{DS} = 0 (3N163) V_{GS} = -30V, V_{DS} = 0 (3N164)
			-25		-25		T_A = +125°C
BV_{DSS}	Drain-Source Breakdown Voltage	-40		-30		V	I_D = -10µA, V_{GS} = 0
BV_{SDS}	Source-Drain Breakdown Voltage	-40		-30			I_S = -10µA, V_{GD} = 0, V_{BD} = 0
$V_{GS(th)}$	Threshold Voltage	-2.0	-5.0	-2.0	-5.0		V_{DS} = V_{GS}, I_D = -10µA
$V_{GS(th)}$	Threshold Voltage	-2.0	-5.0	-2.0	-5.0		V_{DS} = -15V, I_D = -10µA
V_{GS}	Gate Source Voltage	-2.5	-6.5	-2.5	-6.5		V_{DS} = -15V, I_D = -0.5mA
I_{DSS}	Zero Gate Voltage Drain Current		200		400	pA	V_{DS} = -15V, V_{GS} = 0
I_{SDS}	Source Drain Current		400		800		V_{SD} = 15V, V_{GS} = V_{DB} = 0
$r_{DS(on)}$	Drain-Source on Resistance		250		300	ohms	V_{GS} = -20V, I_D = -100µA
$I_{D(on)}$	On Drain Current	-5.0	-30.0	-3.0	-30.0	mA	V_{DS} = +15V, V_{GS} = -10V