LINEAR SYSTEMS

3N164
P-CHANNEL MOSFET

micross

The 3N164 is an enhancement mode P-Channel Mosfet

The 3N164 is an enhancement mode P-Channel Mosfet designed for use as a General Purpose amplifier or switch

The hermetically sealed TO-72 package is well suited for high reliability and harsh environment applications.

(See Packaging Information).

3N164 Features:

- Very high Input Impedance
- Low Capacitance
- High Gain
- High Gate Breakdown Voltage
- Low Threshold Voltage

FEATURES	
DIRECT REPLACEMENT FOR INTERSIL 3N164	
ABSOLUTE MAXIMUM RATINGS[1] @ 25°C (unless otherwise noted)	
Maximum Temperatures	
Storage Temperature	-65°C to +200°C
Operating Junction Temperature	-55°C to +150°C
Maximum Power Dissipation	
Continuous Power Dissipation	375mW
MAXIMUM CURRENT	
Drain Current	50mA
MAXIMUM VOLTAGES	
Drain to Gate	-30V
Drain to Source	-30V
Peak Gate to Source[2]	±125V

3N164 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

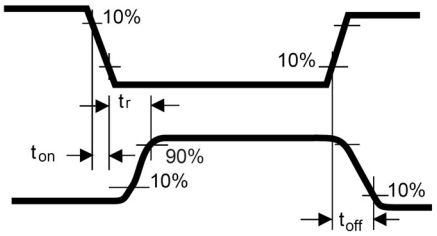
SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
I_{GSSF}	Gate Forward Current	-10	--	--	pA	V_{GS} = -30V, V_{DS} = 0V
	T_A= +125°C	--	--	-25		
BV_{DSS}	Drain to Source Breakdown Voltage	-30	--	--	V	I_D = -10µA, V_{GS} = 0V
BV_{SDS}	Source-Drain Breakdown Voltage	-30	--	--		I_S = -10µA, V_{GD} = 0V, V_{BD} = 0V
$V_{GS(th)}$	Gate to Source Threshold Voltage	-2.0	--	-5.0		V_{DS} = V_{GS}, I_D = -10µA
		-2.0	--	-5.0		V_{DS} = -15V, I_D = -10µA
V_{GS}	Gate Source Voltage	-3.0	--	-6.5		V_{DS} = -15V, I_D = -0.5mA
I_{DSS}	Drain Leakage Current "Off"	--	--	200	pA	V_{DS} = -15V, V_{GS} = 0V
I_{SDS}	Source Drain Current	--	--	400		V_{DS} = 15V, V_{GS} = V_{DB} = 0V
$r_{DS(on)}$	Drain to Source "On" Resistance	--	--	250	Ω	V_{GS} = -20V, I_D = -100µA
$I_{D(on)}$	Drain Current "On"	-5.0	--	-30	mA	V_{DS} = -15V, V_{GS} = -10V
g_{fs}	Forward Transconductance	2000	--	4000	µS	V_{DS} = -15V, I_D = -10mA, f = 1kHz
g_{os}	Output Admittance	--	--	250		
C_{iss}	Input Capacitance–Output shorted	--	--	2.5	pF	V_{DS} = -15V, I_D = -10mA, f = 1MHz[3]
C_{rss}	Reverse Transfer Capacitance	--	--	0.7		
C_{oss}	Output Capacitance–Input Shorted	--	--	3.0		

Click To Buy

SWITCHING CHARACTERISTICS - T_A = 25°C and V_{BS} = 0 unless otherwise noted

SYMBOL	CHARACTERISTIC	MAX	UNITS	CONDITIONS
$t_{d(on)}$	Turn On Delay Time	12	ns	V_{DD} = -15V
t_r	Turn On Rise Time	24		$I_{D(on)}$ = -10mA
t_{off}	Turn Off Time	50		R_G = R_L = 1.4KΩ[3]

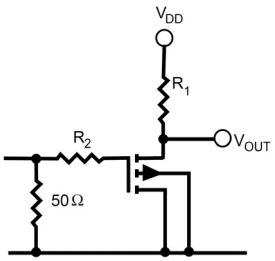
TIMING WAVEFORMS



INPUT PULSE
Rise Time≤2ns
Pulse Width≥200ns

SAMPLING SCOPE
T_r≤0.2ns
C_{IN}≤2pF
R_{IN}≥10M

SWITCHING TEST CIRCUIT



Note 1 - Absolute maximum ratings are limiting values above which 3N164 serviceability may be impaired.
Note 2 – Device must not be tested at ±125V more than once or longer than 300ms.
Note 3 – For design reference only, not 100% tested

Micross Components Europe

micross

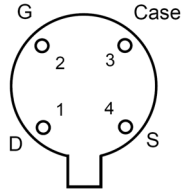
Tel: +44 1603 788967
Email: chipcomponents@micross.com
Web: http://www.micross.com/distribution

Available Packages:

3N164 in TO-72
3N164 in bare die.

Please contact Micross for full package and die dimensions

TO-72 (Bottom View)



Information furnished by Linear Integrated Systems and Micross Components is believed to be accurate and reliable. However, no responsibility is assumed for its use; nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Linear Integrated Systems.