LINEAR SYSTEMS

LS3N163
P-CHANNEL MOSFET

micross

The LS3N163 is an enhancement mode P-Channel Mosfet

The LS3N163 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).

LS3N163 Features:

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

FEATURES	
DIRECT REPLACEMENT FOR INTERSIL LS3N163	
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	-40V
Drain to Source	-40V
Peak Gate to Source[2]	±125V

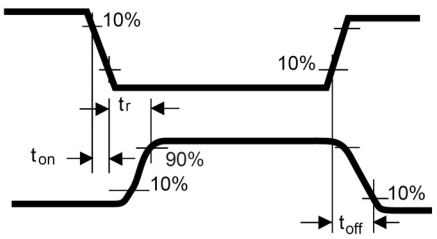
LS3N163 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
I_{GSSF}	Gate Forward Current	-10	--	--	pA	V_{GS} = -40V, V_{DS} = 0V
	T_A= +125°C	--	--	-25		
BV_{DSS}	Drain to Source Breakdown Voltage	-40	--	--	V	I_D = -10µA, V_{GS} = 0V
BV_{SDS}	Source-Drain Breakdown Voltage	-40	--	--		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		

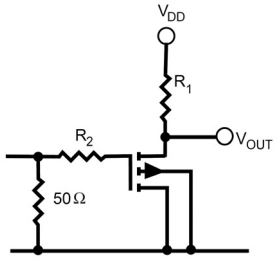
SWITCHING CHARACTERISTICS - T_A = 25°C and V_{BS} = 0 unless otherwise noted

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



SWITCHING TEST CIRCUIT



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

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

Note 1 - Absolute maximum ratings are limiting values above which LS3N163 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

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Available Packages:

LS3N163 in TO-72
LS3N163 in bare die.

Please contact Micross for full package and die dimensions

TO-72 (Bottom View)