

## Linear Systems High Input Impedance BiFET Amplifier

The LS320 is a high input impedance amplifier produced using a BiFET process and packaged in SOT-23.

The SOT-23 package is well suited for cost sensitive applications and mass production.

(See Packaging Information).

### LS320 Features:

- High Input Impedance
- High Transconductance

### FEATURES

HIGH INPUT IMPEDANCE	$r_{GS} \geq 100G\Omega$
HIGH TRANSCONDUCTANCE	$Y_{FS} = 30,000\mu S$
<b>ABSOLUTE MAXIMUM RATINGS</b> <sup>1</sup> @ 25°C (unless otherwise noted)	
<b>Maximum Temperatures</b>	
Storage Temperature	-65°C to +150°C
Operating Junction Temperature	-55°C to +125°C
<b>Maximum Power Dissipation</b>	
Continuous Power Dissipation @ +125°C	200mW
<b>Maximum Currents</b>	
Drain Current	$I_D = 25mA$
<b>Maximum Voltages</b>	
Drain to Source	$V_{DSO} = 20V$
Gate to Source	$V_{GSS} = 20V$

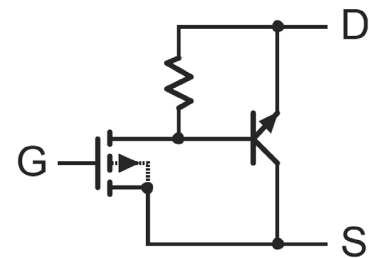
### ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTICS	MIN.	TYP.	MAX.	UNITS	CONDITIONS
$V_{DS}$	Drain to Source Voltage	-20	--	--	V	$I_{DS} = 100\mu A, V_{GS} = 0$
$V_{GS}$	Collector to Source Voltage	-12	-10	-7	V	$I_{DS} = 10mA, V_{GS} = -10V^{23}$
$g_{fs}$	Common Source Forward Transconductance	30000	--	--	$\mu S$	$I_{DS} = 10mA, V_{GS} = -10V, f = 1kHz$
$g_{oss}$	Common Source Output Conductance	--	300	--		
$r_{GS}$	Gate to Source Input Resistance	100	--	--	$G\Omega$	$V_{GS} = 0$ to 20V, $T_J$ to 125°C
$C_{ISS}$	Input Capacitance	--	8	--	pA	$I_{DS} = 100\mu A, V_{DS} = -10V$
$C_{RSS}$	Reverse Transfer Capacitance	--	1.5	--	pF	$I_{DS} = 10mA, V_{GS} = -10V$
$e_n$	Noise Voltage	--	25	--	$\mu V$	$I_{DS} = 10mA, V_{DS} = 10V, BW = 50$ to 15 kHz

### Notes:

- Absolute Maximum ratings are limiting values above which serviceability may be impaired
- The gate to source voltage must never exceed 100V,  $t < 10ms$
- Additional screening available

### Functional Schematic



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Available Packages:

LS320 in SOT-23  
LS320 in bare die.

Please contact Micross for full package and die dimensions

SOT-23 (Top View)

