

## Linear Systems replaces discontinued Siliconix J174

### The LSJ174 is a single P-Channel JFET switch

This p-channel analog switch is designed to provide low on-resistance and fast switching. When used in combination with the complimentary J/SST111 n-channel family, the LSJ174 simplifies series-shunt switching applications

#### LSJ174 Benefits:

- Low Error Voltage
- High-Speed Analog Circuit Performance
- Negligible "Off-Error," Excellent Accuracy
- Good Frequency Response
- Eliminates Additional Buffering

#### LSJ174 Applications:

- Analog Switches
- Choppers
- Sample-and-Hold
- Normally "On" Switches
- Current Limiters

#### FEATURES

DIRECT REPLACEMENT FOR SILICONIX J174

LOW ON RESISTANCE	$r_{DS(on)} \leq 85\Omega$
LOW GATE OPERATING CURRENT	$I_{D(off)} = 10pA$
FAST SWITCHING	$t_{(ON)} 25ns$

**ABSOLUTE MAXIMUM RATINGS**  
@ 25°C (unless otherwise noted)

#### Maximum Temperatures

Storage Temperature	-55°C to +150°C
Operating Junction Temperature	-55°C to +135°C

#### Maximum Power Dissipation

Continuous Power Dissipation	350mW
------------------------------	-------

#### MAXIMUM CURRENT

Gate Current (Note 1)	$I_G = -50mA$
-----------------------	---------------

#### MAXIMUM VOLTAGES

Gate to Drain Voltage	$V_{GDS} = 30V$
Gate to Source Voltage	$V_{GSS} = 30V$

#### LSJ174 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
$BV_{GSS}$	Gate to Source Breakdown Voltage	30	--	--	V	$I_G = -1\mu A, V_{DS} = 0V$
$V_{GS(F)}$	Gate to Source Forward Voltage	--	-0.7	--		$I_G = -1mA, V_{DS} = 0V$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	5	--	10		$V_{DS} = -15V, I_D = -10nA$
$I_{DSS}$	Drain to Source Saturation Current	-20	--	-135	nA	$V_{DS} = -15V, V_{GS} = 0V$
$I_{GSS}$	Gate Reverse Current	--	0.01	1		$V_{GS} = 20V, V_{DS} = 0V$
$I_G$	Gate Operating Current	--	0.01	--		$V_{DG} = -15V, I_D = -1mA$
$I_{D(off)}$	Drain Cutoff Current	--	-0.01	-1		$V_{DS} = -15V, V_{GS} = 0V$
$r_{DS(on)}$	Drain to Source On Resistance	--	--	85		$V_{GS} = 0V, V_{DS} = -0.1V$

#### LSJ174 SWITCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	UNITS	CONDITIONS
$t_{d(on)}$	Turn On Time	10	$V_{GS(L)} = 0V$ $V_{GS(H)} = 10V$ See Switching Circuit
$t_r$	Turn On Rise Time	15	
$t_{d(off)}$	Turn Off Time	10	
$t_f$	Turn Off Fall Time	20	

Note 1 - Absolute maximum ratings are limiting values above which LSJ174 serviceability may be impaired.

#### LSJ174 SWITCHING CIRCUIT PARAMETERS

$V_{DD}$	-10V
$V_{GG}$	20V
$R_L$	560Ω
$R_G$	100Ω
$I_{D(on)}$	-15mA

Micross Components Europe

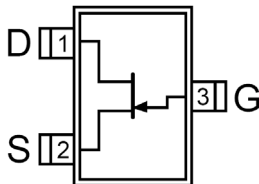


Tel: +44 1603 788967

Email: [chipcomponents@micross.com](mailto:chipcomponents@micross.com)

Web: <http://www.micross.com/distribution>

#### SOT-23 (Top View)

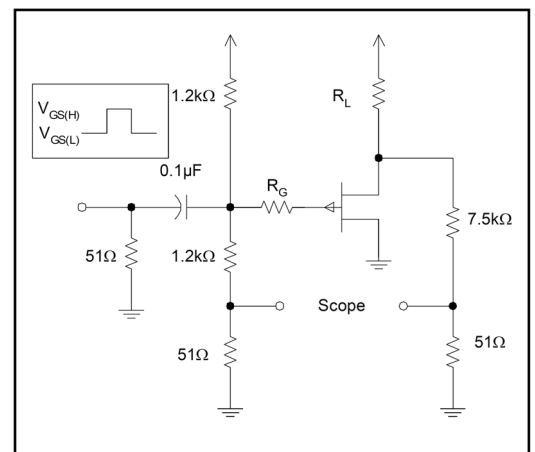


Available Packages:

LSJ174 in SOT-23  
LSJ174 in bare die.

Please contact Micross for full package and die dimensions

#### SWITCHING CIRCUIT



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.