

Linear Systems replaces discontinued Siliconix J110

This n-channel JFET is optimised for low noise high performance switching. The part is particularly suitable for use in low noise audio amplifiers. The SOT-23 package is well suited for cost sensitive applications and mass production.

(See Packaging Information).

LSJ110 Benefits:

- Low On Resistance
- Low insertion loss
- Low Noise

LSJ110 Applications:

- Analog Switches
- Commutators
- Choppers

FEATURES	
DIRECT REPLACEMENT FOR SILICONIX J110	
LOW ON RESISTANCE	$r_{DS(on)} \leq 18\Omega$
FAST SWITCHING	$t_{(on)} \leq 4ns$
ABSOLUTE MAXIMUM RATINGS @ 25°C (unless otherwise noted)	
Maximum Temperatures	
Storage Temperature	-55°C to +150°C
Operating Junction Temperature	-55°C to +150°C
Maximum Power Dissipation	
Continuous Power Dissipation	350mW
MAXIMUM CURRENT	
Gate Current (Note 1)	50mA
MAXIMUM VOLTAGES	
Gate to Drain Voltage	$V_{GDS} = -25V$
Gate to Source Voltage	$V_{GSS} = -25V$

LSJ110 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
BV_{GSS}	Gate to Source Breakdown Voltage	-25	--	--	V	$I_G = 1\mu A, V_{DS} = 0V$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-0.5	--	-4		$V_{DS} = 5V, I_D = 1\mu A$
$V_{GS(F)}$	Gate to Source Forward Voltage	--	0.7	--		$I_G = 1mA, V_{DS} = 0V$
I_{DSS}	Drain to Source Saturation Current (Note 2)	10	--	--	mA	$V_{DS} = 15V, V_{GS} = 0V$
I_{GSS}	Gate Reverse Current	--	-0.01	-3	nA	$V_{GS} = -15V, V_{DS} = 0V$
I_G	Gate Operating Current	--	-0.01	--		$V_{DG} = 10V, I_D = 10mA$
$I_{D(off)}$	Drain Cutoff Current	--	0.02	3		$V_{DS} = 5V, V_{GS} = -10V$
$r_{DS(on)}$	Drain to Source On Resistance	--	--	18		$V_{GS} = 0V, V_{DS} \leq 0.1V$

LSJ110 DYNAMIC ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
g_{fs}	Forward Transconductance	--	17	--	mS	$V_{DS} = 5V, I_D = 10mA, f = 1kHz$
g_{os}	Output Conductance	--	0.6	--		
$r_{DS(on)}$	Drain to Source On Resistance	--	--	18	Ω	$V_{GS} = 0V, I_D = 0A, f = 1kHz$
C_{iss}	Input Capacitance	--	60	--	pF	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$
C_{rss}	Reverse Transfer Capacitance	--	11	--		$V_{DS} = 0V, V_{GS} = -10V, f = 1MHz$
e_n	Equivalent Noise Voltage	--	3.5	--		nV/√Hz

LSJ110 SWITCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	UNITS	CONDITIONS
$t_{d(on)}$	Turn On Time	3	ns
t_r	Turn On Rise Time	1	
$t_{d(off)}$	Turn Off Time	4	
t_f	Turn Off Fall Time	18	
			$V_{DD} = 1.5V$ $V_{GS(H)} = 0V$ See Switching Circuit

Note 1 - Absolute maximum ratings are limiting values above which LSJ110 serviceability may be impaired. Note 2 – Pulse test: $PW \leq 300 \mu s$, Duty Cycle $\leq 3\%$

LSJ110 SWITCHING CIRCUIT PARAMETERS

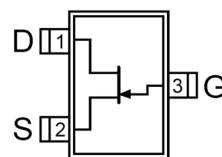
$V_{GS(L)}$	-5V
R_L	150 Ω
$I_{D(on)}$	10mA

Available Packages:

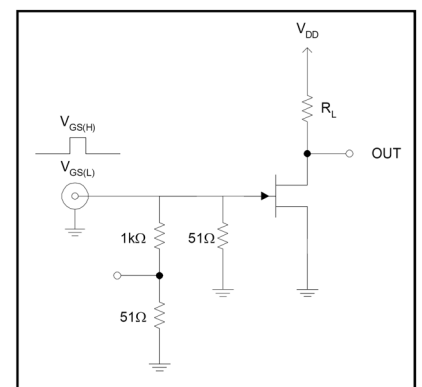
LSJ110 in SOT-23
LSJ110 in bare die.

Please contact Micross for full package and die dimensions

SOT-23 (Top View)



SWITCHING TEST CIRCUIT



Micross Components Europe



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