LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

J/SST174 SERIES

SINGLE P-CHANNEL JFET SWITCH

| FEATURES	
Replacement For SILICONIX J/SST174 SERIES	
LOW ON RESISTANCE	$r_{DS(on)} \leq 85\Omega$
LOW GATE OPERATING CURRENT	$I_{D(off)} = 10pA$
ABSOLUTE MAXIMUM RATINGS[1]	
@ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to 150°C
Junction Operating Temperature	-55 to 135°C
Maximum Power Dissipation	
Continuous Power Dissipation[3]	350mW
Maximum Currents	
Gate Current	$I_G = -50mA$
Maximum Voltages	
Gate to Drain Voltage	$V_{GDS} = 30V$
Gate to Source Voltage	$V_{GSS} = 30V$

J SERIES
TO-92
TOP VIEW
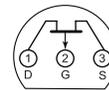
SST SERIES
SOT-23
TOP VIEW
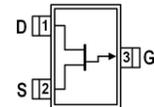
COMMON ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

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			$I_G = -1mA$, $V_{DS} = 0V$
I_{GSS}	Gate Reverse Current		0.01	1	nA	$V_{GS} = 20V$, $V_{DS} = 0V$
I_G	Gate Operating Current		0.01			$V_{DG} = -15V$, $I_D = -1mA$
$I_{D(off)}$	Drain Cutoff Current		-0.01	-1		$V_{DS} = -15V$, $V_{GS} = 10V$

SPECIFIC ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	J/SST174		J/SST175		J/SST176		J/SST177		UNITS	CONDITIONS
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX		
$V_{GS(off)}$	Gate to Source Cutoff Voltage	5	10	3	6	1	4	0.8	2.25	V	$V_{DS} = -15V$, $I_D = -10nA$
I_{DSS}	Drain to Source Saturation Current	-20	-195	-7	-90	-2	-55	-1.5	-30	mA	$V_{DS} = -15V$, $V_{GS} = 0V$
$r_{DS(on)}$	Drain to Source On Resistance		85		125		250		300	Ω	$V_{GS} = 0V$, $V_{DS} = -0.1V$

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SWITCHING CHARACTERISTICS

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

SWITCHING CIRCUIT PARAMETERS

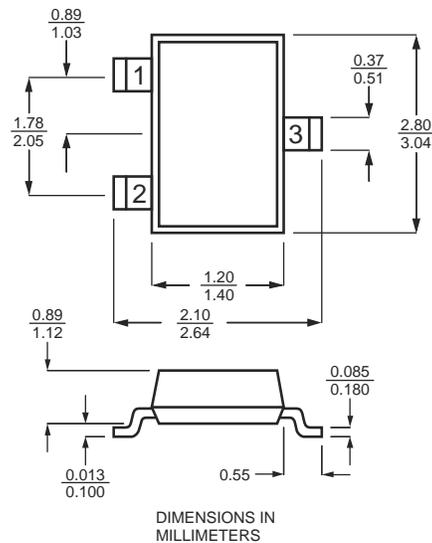|	J/SST174	J/SST175	J/SST176	J/SST177
V_{DD}	-10V	-6V	-6V	-6V
V_{GG}	20V	12V	8V	5V
R_L	560Ω	750Ω	1800Ω	5600Ω
R_G	100Ω	220Ω	390Ω	390Ω
$I_{D(on)}$	-15mA	-7mA	-3mA	-1mA

SWITCHING CIRCUIT
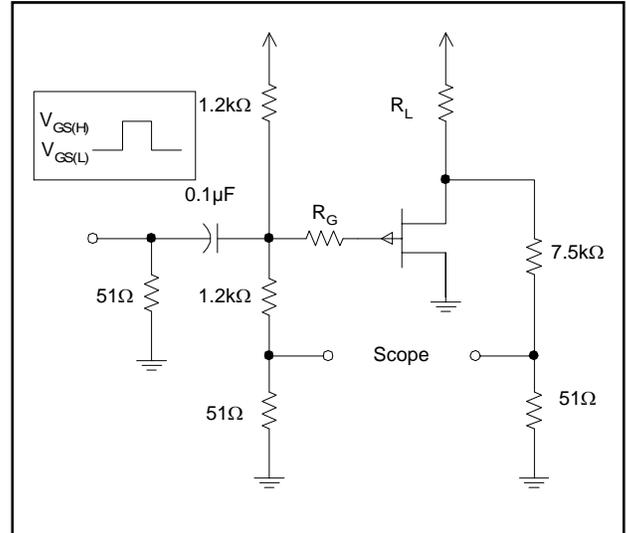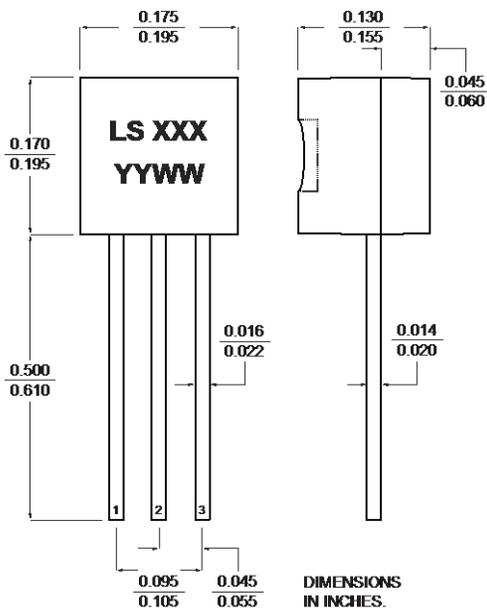
2. Pulsed test: $P_W \leq 300\mu S$ Duty Cycle: 3%

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3. Derate 2.8mW/°C above 25 °C.

Linear Integrated Systems (LIS) is a 25-year-old, third-generation precision semiconductor company providing high-quality discrete components. Expertise brought to LIS is based on processes and products developed at Amelco, Union Carbide, Intersil and Micro Power Systems by company President John H. Hall. Hall, a protégé of Silicon Valley legend Dr. Jean Hoerni, was the director of IC Development at Union Carbide, co-founder and vice president of R&D at Intersil, and founder/president of Micro Power Systems.

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