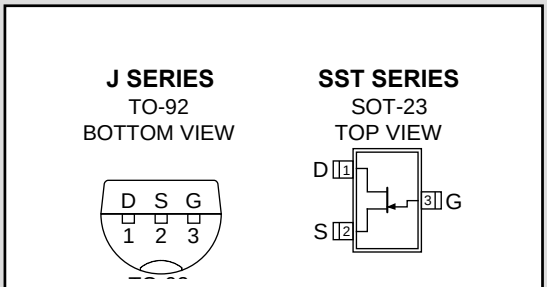
LINEAR SYSTEMS

Linear Integrated Systems

J/SST111 SERIES

SINGLE N-CHANNEL JFET

FEATURES	
DIRECT REPLACEMENT FOR SILICONIX J/SST111 SERIES	
LOW GATE LEAKAGE CURRENT	5pA
FAST SWITCHING	4ns
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 (J)	360mW
Continuous Power Dissipation (SST)	350mW
Maximum Currents	
Gate Current	50mA
Maximum Voltages	
Gate to Drain	-35V
Gate to Source	-35V



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

SYM.	CHARACTERISTIC	TYP	J/SST111		J/SST112		J/SST113		UNIT	CONDITIONS
			MIN	MAX	MIN	MAX	MIN	MAX		
BV_{GSS}	Gate to Source Breakdown Voltage		-35		-35		-35		V	I_G = -1µA, V_{DS} = 0V
$V_{GS(off)}$	Gate to Source Cutoff Voltage		-3	-10	-1	-5		-3		V_{DS} = 5V, I_D = 1µA
$V_{GS(F)}$	Gate to Source Forward Voltage	0.7								I_G = 1mA, V_{DS} = 0V
I_{DSS}	Drain to Source Saturation Current[2]		20		5		2		mA	V_{DS} = 15V, V_{GS} = 0V
I_{GSS}	Gate Leakage Current	-0.005		-1		-1		-1	nA	V_{GS} = -15V, V_{DS} = 0V
I_G	Gate Operating Current	-5							pA	V_{DG} = 15V, I_D = 10mA
$I_{D(off)}$	Drain Cutoff Current	0.005		1		1		1	nA	V_{DS} = 5V, V_{GS} = -10V
$r_{DS(on)}$	Drain to Source On Resistance			30		50		100	Ω	I_G = 1mA, V_{DS} = 0V

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

SYM.	CHARACTERISTIC	TYP	J/SST111		J/SST112		J/SST113		UNIT	CONDITIONS
			MIN	MAX	MIN	MAX	MIN	MAX		
g_{fs}	Forward Transconductance	6							mS	V_{DS} = 20V, I_D = 1mA
g_{os}	Output Conductance	25							µS	f = 1kHz
$r_{ds(on)}$	Drain to Source On Resistance			30		50		100	Ω	V_{GS} = 0V, I_D = 0mA f = 1kHz
C_{iss}	Input Capacitance	7		12		12		12	pF	V_{DS} = 0V, V_{GS} = -10V
C_{rss}	Reverse Transfer Capacitance	3		5		5		5		f = 1MHz
e_n	Equivalent Noise Voltage	3							nV/√Hz	V_{DG} = 10V, I_D = 1mA f = 1 kHz

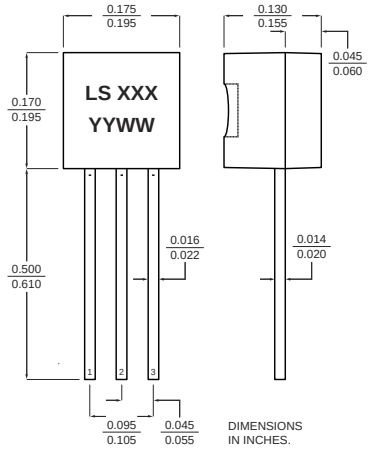
SWITCHING CHARACTERISTICS

SYM.	CHARACTERISTIC	TYP	UNIT	CONDITIONS
$t_{d(on)}$	Turn On Time	2	ns	V_{DD} = 10V $V_{GS(H)}$ = 0V
t_r		2		
$t_{d(off)}$	Turn Off Time	6		
t_f		15		

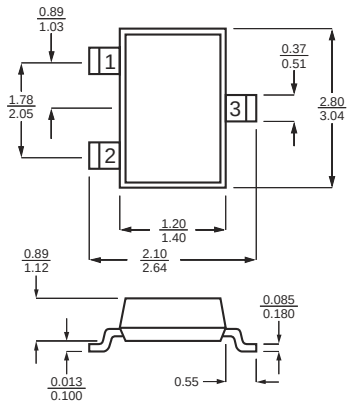
SWITCHING CIRCUIT CHARACTERISTICS

SYM.	J/SST111	J/SST112	J/SST113
$V_{GS(L)}$	-12V	-7V	-5V
R_L	800Ω	1600Ω	3200Ω
$I_{D(on)}$	12mA	6mA	3mA

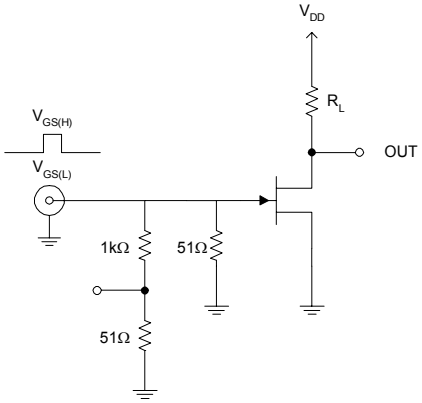
TO-92



SOT-23



SWITCHING TEST CIRCUIT



NOTES

1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. Pulse test: PW ≤ 300µs, Duty Cycle ≤ 3%