

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 RATINGS¹

@ 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

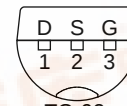
Gate Current 50mA

Maximum Voltages

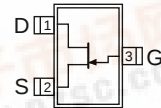
Gate to Drain -35V

Gate to Source -35V

J SERIES
TO-92
BOTTOM VIEW



SST SERIES
SOT-23
TOP VIEW



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)

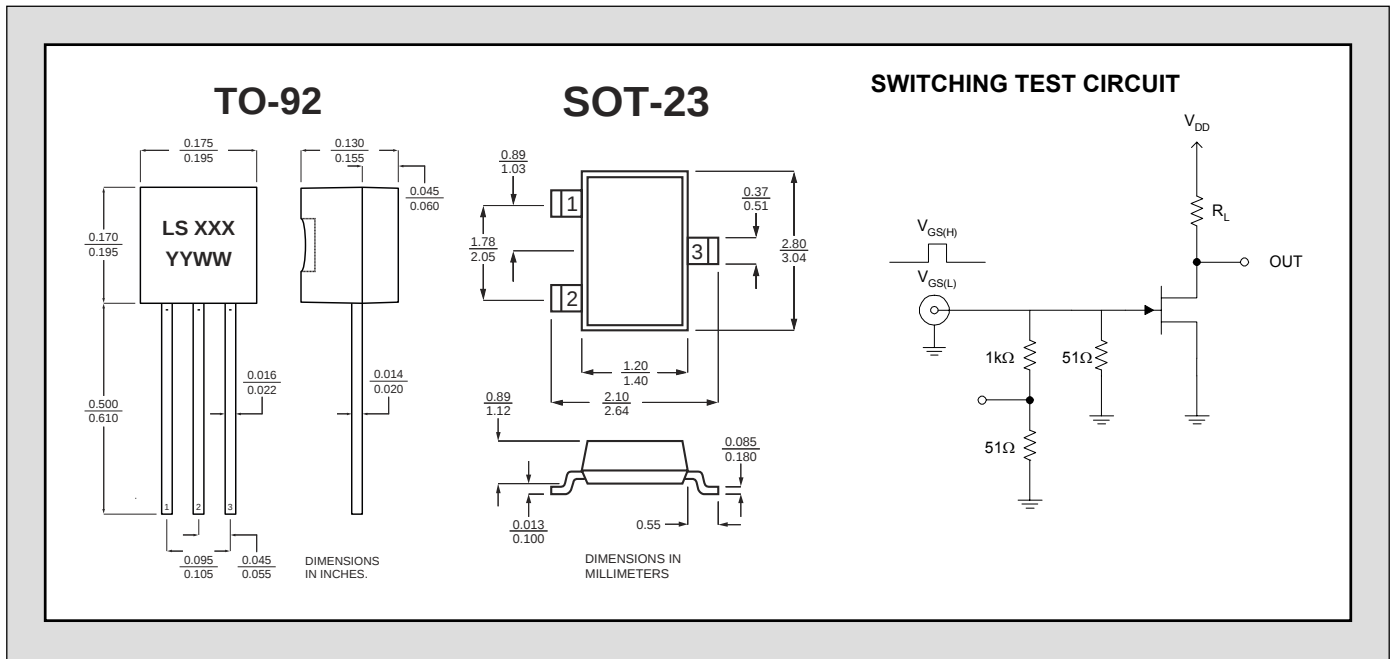
SYM.	CHARACTERISTIC	TYP	J/SST111		J/SST112		J/SST113		UNIT	CONDITIONS
			MIN	MAX	MIN	MAX	MIN	MAX		
g_{fs}	Forward Transconductance	6							mS	$V_{DS} = 20V, I_D = 1mA$ $f = 1kHz$
g_{os}	Output Conductance	25							μS	
$r_{ds(on)}$	Drain to Source On Resistance			30		50		100	Ω	$V_{GS} = 0V, I_D = 0mA$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

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	800 Ω	1600 Ω	3200 Ω
$I_{D(on)}$	12mA	6mA	3mA



NOTES

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

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