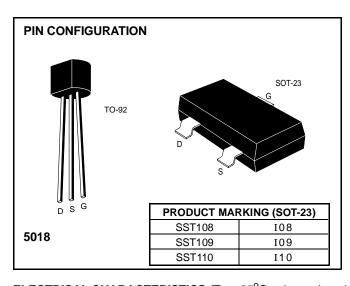
N-Channel JFET Switch



J108 - J110 / SST108 - SST110

FEATURES

- Low Cost
- Automated Insertion Package
- Low Insertion Loss
- No Offset or Error Voltages Generated by Closed Switch Purely Resistive High Isolation Resistance from Driver
- Fast Switching
- Low Noise



APPLICATIONS

- Analog Switches
- Choppers
- Commutators
- Low-Noise Audio Amplifiers

ABSOLUTE MAXIMUM RATINGS

 $(T_A = 25^{\circ}C \text{ unless otherwise specified})$

Gate-Drain or Gate-Source Voltage25V
Gate Current
Storage Temperature Range55°C to +150°C
Operating Temperature Range55°C to +135°C
Lead Temperature (Soldering, 10sec) +300°C
Power Dissipation
Derate above 25°C

NOTE: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ORDERING INFORMATION

Part	Package	Temperature Range
J108-110	Plastic TO-92	-55°C to +135°C
XJ108-110	Sorted Chips in Carriers	-55°C to +135°C
SST109-110	Plastic SOT-23	-55°C to +135°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

SYMBOL	PARAMETER		108		109		110		UNITS	TEST CONDITIONS			
STIVIBUL			TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	UNITS	TEST CONDITIONS	
I _{GSS}	Gate Reverse Current (Note 1)			-3			-3			-3	nA	V _{DS} = 0V, V _{GS} = -15V	
V _{GS(off)}	Gate-Source Cutoff Voltage	-3		-10	-2		-6	-0.5		-4	V	$V_{DS} = 5V, I_{D} = 1\mu A$	
BV _{GSS}	Gate-Source Breakdown Voltage	-25			-25			-25			V	$V_{DS} = 0V$, $I_{G} = -1\mu A$ $V_{DS} = 15V$, $V_{GS} = 0V$ $V_{DS} = 5V$, $V_{GS} = -10V$	
I _{DSS}	Drain Saturation Current (Note 2)	80			40			10			mA		
I _{D(off)}	Drain Cutoff Current (Note 1)			3			3			3	nA		
r _{DS(on)}	Drain-Source ON Resistance			8			12			18	Ω	V _{DS} ≤0.1V, V _{GS} = 0V	
C _{dg(off)}	Drain-Gate OFF Capacitance			15			15			15		$V_{DS} = 0$,	
C _{sg(off)}	Source-Gate OFF Capacitance			15			15			15	pF	$V_{GS} = -10V$ (Note 3)	f = 1MHz
C _{dg(on)} + C _{sg(on)}	Drain-Gate Plus Source-Gate ON Capacitance			85			85			85		$V_{DS} = V_{GS} = 0$ (Note 3)	
t _{d(on)}	Turn On Delay Time		4			4			4			Switching Time	
t _r	Rise Time		1			1			1			Conditions (Not	
td(off)	Turn OFF Delay Time		6			6			6		ns		
t _f	Fall Time		30			30			30			V _{GS(off)} -12V	-7V -5V 150Ω 150Ω

NOTES: 1. Approximately doubles for every 10°C increase in T_A.

- **2.** Pulse test duration = $300\mu s$; duty cycle $\leq 3\%$.
- 3. For design reference only, not 100% tested.