

n-channel JFETs designed for . . .



Performance Curves NIP
See Section 5

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

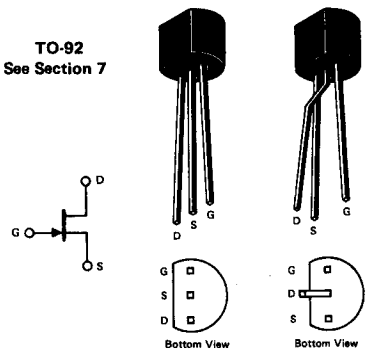
BENEFITS

- Low Cost
- Automated Insertion Package
- Low Insertion Loss
 $R_{DS(on)} < 8 \Omega$ (J108)
- No Offset or Error Voltages Generated by Closed Switch
Purely Resistive
High Isolation Resistance from Driver
- Fast Switching
 $t_{D(on)} + t_r = 5 \text{ ns Typical}$
- Low Noise
 $\bar{e}_n = 6 \text{ nV}/\sqrt{\text{Hz}}$ at 10 Hz, Typ (J110)

ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage -25V
 Gate Current 50 mA
 Total Device Dissipation at 25°C Ambient
 (Derate 3.27 mW/°C) 360 mW
 Operating Temperature Range -55 to 135°C
 Storage Temperature Range -55 to 150°C
 Lead Temperature Range
 (1/16" from case for 10 seconds) 300°C

TO-92
See Section 7



ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

Characteristic	J108			J109			J110			Unit	Test Conditions
	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
1 S I_{GSS} Gate Reverse Current (Note 1)			-3			-3			-3	nA	$V_{DS} = 0 \text{ V}, V_{GS} = -15 \text{ V}$
2 T $V_{GS(off)}$ Gate-Source Cutoff Voltage	-3		-10	-2		-6	-0.5		-4	V	$V_{DS} = 5 \text{ V}, I_D = 1 \mu\text{A}$
3 A BV_{GSS} Gate-Source Breakdown Voltage	-25			-25			-25				$V_{DS} = 0 \text{ V}, I_G = -1 \mu\text{A}$
4 I I_{DSS} Drain Saturation Current (Note 2)	80			40			10			mA	$V_{DS} = 15 \text{ V}, V_{GS} = 0 \text{ V}$
5 C $I_{D(off)}$ Drain Cutoff Current (Note 1)			3			3			3	nA	$V_{DS} = 5 \text{ V}, V_{GS} = -10 \text{ V}$
6 $r_{DS(on)}$ Drain-Source ON Resistance			8			12			18	Ω	$V_{DS} \leq 0.1 \text{ V}, V_{GS} = 0 \text{ V}$
7 $C_{dg(off)}$ Drain-Gate OFF Capacitance			15			15			15	pF	$V_{DS} = 0 \text{ V}, V_{GS} = -10 \text{ V}$ $V_{DS} = V_{GS} = 0$ $f = 1 \text{ MHz}$
8 $C_{sg(off)}$ Source-Gate OFF Capacitance			15			15		15			
9 D $C_{dg(on)} + C_{sg(on)}$ Drain-Gate Plus Source-Gate ON Capacitance			85			85		85			
10 M $t_{d(on)}$ Turn ON Delay Time		4			4			4		ns	Switching Time Test Conditions J108 J109 J110 $V_{DD} \quad 1.5 \text{ V} \quad 1.5 \text{ V} \quad 1.5 \text{ V}$ $V_{GS(off)} \quad -12 \text{ V} \quad -7 \text{ V} \quad -5 \text{ V}$ $R_L \quad 150 \Omega \quad 150 \Omega \quad 150 \Omega$
11 I t_r Rise Time		1			1		1				
12 C $t_{d(off)}$ Turn OFF Delay Time		6			6		6				
13 t_f Fall Time		30			30		30				

NOTES:
 1. Approximately doubles for every 10°C increase in T_A .
 2. Pulse Test duration 300 μs ; duty cycle $\leq 3\%$.

NIP

