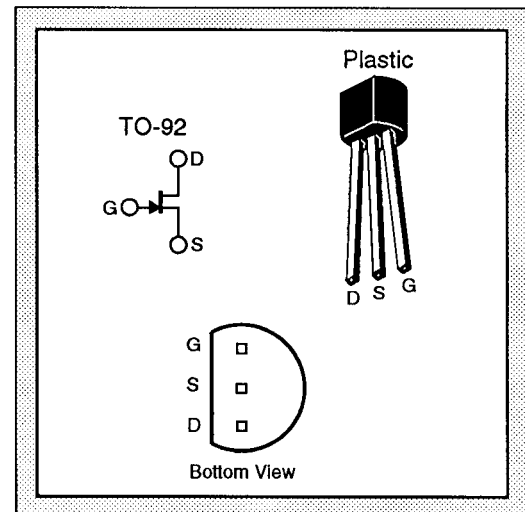


LINEAR SYSTEMS

Linear Integrated Systems

J108, J109, J110, J110A LOW NOISE N-CANNEL JFET SWITCH

FEATURES	
LOW $r_{DS(on)}$	$< 8\Omega$ (J108)
LOW NOISE e_n	$=6nV/\sqrt{Hz}$ @ 10Hz TYPICAL
HIGH SPEED $t_{d(on)} + T_r$	$=5nS$ TYPICAL
ABSOLUTE MAXIMUM RATINGS @ 25°C (unless otherwise noted)	
Reverse Gate to Drain or Source	-25V
Gate Forward Current	50mA
Total Device Dissipation @ 25°C	360mW
Storage Temperature	-65°C to +200°C



ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTICS	J108			J109			J110			UNITS	CONDITIONS				
		MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX						
I_{GSS}	Gate Reverse Current	--	--	-3	--	--	-3	--	--	-3	nA	$V_{DS}=0$	$V_{GS}=-15V$	(NOTE 1)		
$V_{GS(off)}$	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	--	--		$V_{DS}=0V$	$I_G=-1\mu A$			
I_{DSS}	Drain Saturation Current	80	--	--	40	--	--	10	--	--	mA	$V_{DS}=15V$	$V_{GS}=0V$	(NOTE 2)		
$I_{D(off)}$	Drain Cutoff Current	--	--	3	--	--	3	--	--	3	nA	$V_{DS}=5V$	$V_{GS}=-10V$			
$r_{DS(on)}$	Drain-Source ON Resistance		--	--	8	--	--	12	--	--	18	Ω	$V_{DS}\leq 0.1V$	$V_{GS}=0V$		
		J110A							--	--	25					
$C_{dg(off)}$	Drain-Gate OFF Capacitance	--	--	15	--	--	15	--	--	15	pF	$V_{DS}=0V$	$V_{GS}=-10V$			
$C_{sg(off)}$	Source-Gate OFF Capacitance	--	--	15	--	--	15	--	--	15						
$C_{dg(on)}$ + $C_{sg(on)}$	Drain-Gate Plus Source-Gate ON Capacitance	--	--	85	--	--	85	--	--	85				$V_{DS}=V_{GS}=0$	f=1MHz	
$t_{d(on)}$	Turn ON Delay Time	--	4	--	--	4	--	--	4	--	ns	Switching Time Test Conditions				
t_r	Rise Time	--	1	--	--	1	--	--	1	--		V_{DD}	1.5V	1.5V	1.5V	
$t_{d(off)}$	Turn OFF Delay Time	--	6	--	--	6	--	--	6	--		$V_{GS(off)}$	-12V	-7V	-5V	
t_f	Fall Time	--	30	--	--	30	--	--	30	--		R_L	150 Ω	150 Ω	150 Ω	

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

NOTE 2: Pulse test duration 300 μs ; duty cycle $\leq 3\%$.