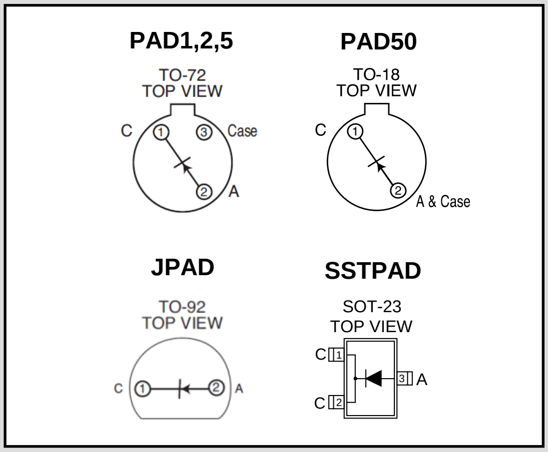
LINEAR SYSTEMS

Twenty-Five Years Of Quality Through Innovation

PAD SERIES

PICO AMPERE DIODES

FEATURES	
DIRECT REPLACEMENT FOR SILICONIX PAD SERIES	
REVERSE BREAKDOWN VOLTAGE	$BV_R \geq -30V$
REVERSE CAPACITANCE	$C_{rss} \leq 2.0pF$
ABSOLUTE MAXIMUM RATINGS[1] @ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-55 to +150 °C
Operating Junction Temperature	-55 to +150 °C
Maximum Power Dissipation	
Continuous Power Dissipation (PAD)	300mW
Continuous Power Dissipation (J/SSTPAD)	350mW
Maximum Currents	
Forward Current (PAD)	50mA
Forward Current (J/SSTPAD)	10mA



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

SYMBOL	CHARACTERISTIC		MIN	TYP	MAX	UNITS	CONDITIONS
BV_R	Reverse Breakdown Voltage	ALL PAD	-45			V	$I_R = -1\mu A$
		ALL SSTPAD	-30				
		ALL JPAD	-35				
V_F	Forward Voltage			0.8	1.5		$I_F = 5mA$
C_{rss}	Total Reverse Capacitance	PAD1,5		0.5	0.8	pF	$V_R = -5V$, $f = 1MHz$
		All Others		1.5	2		

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

SYMBOL	CHARACTERISTIC		PAD	JPAD	SSTPAD	UNITS	CONDITIONS
I_R	Maximum Reverse Leakage Current	PAD1	-1			pA	$V_R = -20V$
		PAD2	-2				
		(SST/J)PAD5	-5	-5	-5		
		(SST/J)PAD10	-10	-10	-10		
		(SST/J)PAD20	-20	-20	-20		
		(SST/J)PAD50	-50	-50	-50		
		(SST/J)PAD100	-100	-100			
		(SST/J)PAD200		-200			
		(SST/J)PAD500		-500			

1. Derate 2mW/°C above 25°C
2. Derate 2.8mW/°C above 25°C

Figure 1. Operational Amplifier Protection
Input Differential Voltage limited to 0.8V (typ) by JPADs D_1 and D_2. Common Mode Input voltage limited by JPADs D_3 and D_4 to ±15V.

Figure 2. Sample and Hold Circuit
Typical Sample and Hold circuit with clipping. JPAD diodes reduce offset voltages fed capacitively from the JFET switch gate.

FIGURE 1

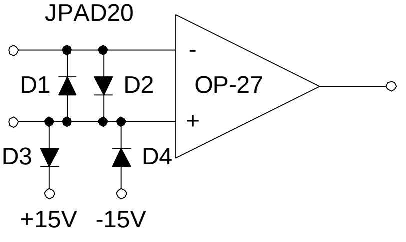
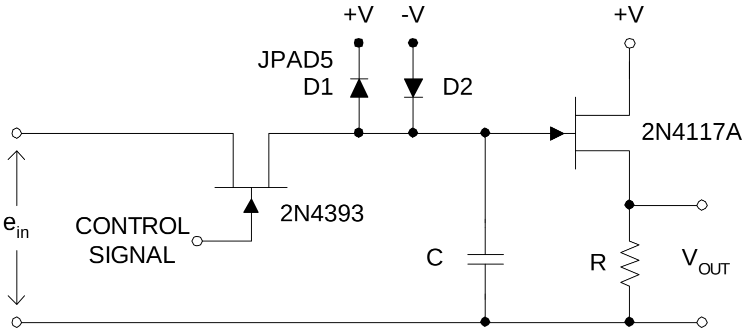
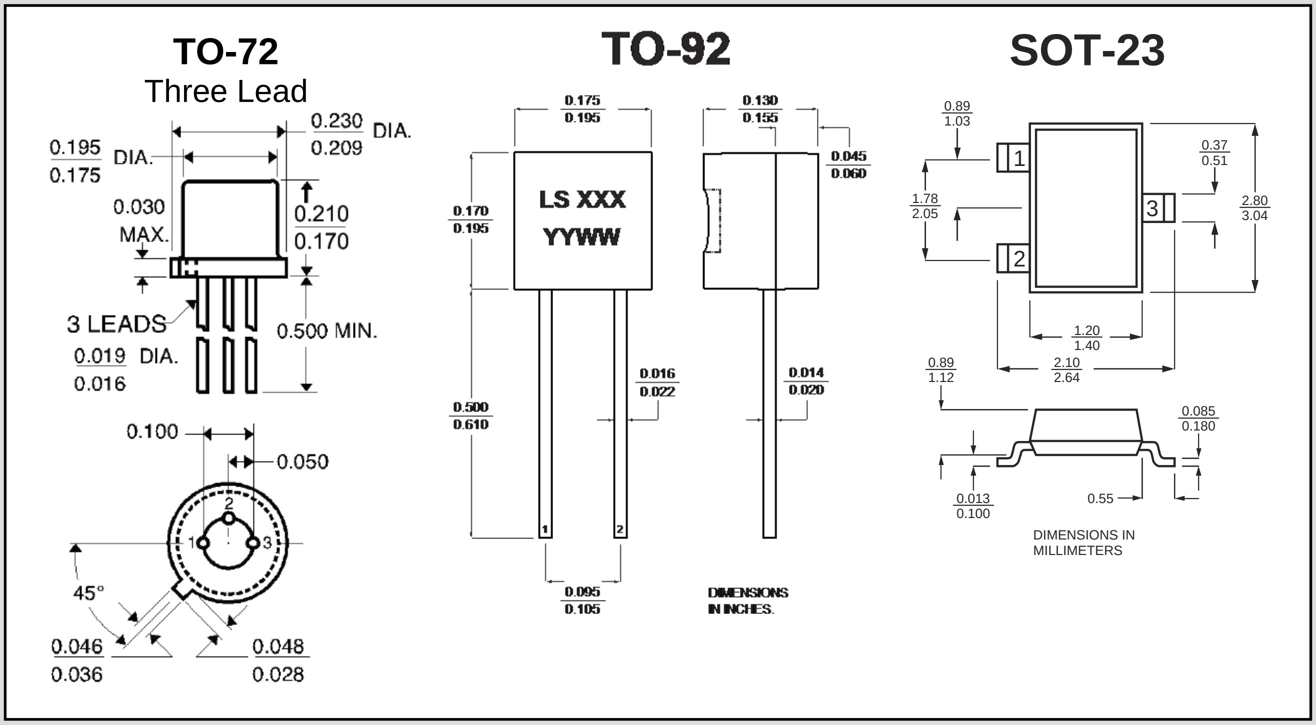


FIGURE 2





1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. The PAD type number denotes its maximum reverse current value in pico amperes. Devices with I_R values intermediate to those shown are available upon request.

Linear Integrated Systems (LIS) is a 25-year-old, third-generation precision semiconductor company providing high-quality discrete components. Expertise brought to LIS is based on processes and products developed at Amelco, Union Carbide, Intersil and Micro Power Systems by company President John H. Hall. Hall, a protégé of Silicon Valley legend Dr. Jean Hoerni, was the director of IC Development at Union Carbide, co-founder and vice president of R&D at Intersil, and founder/president of Micro Power Systems.