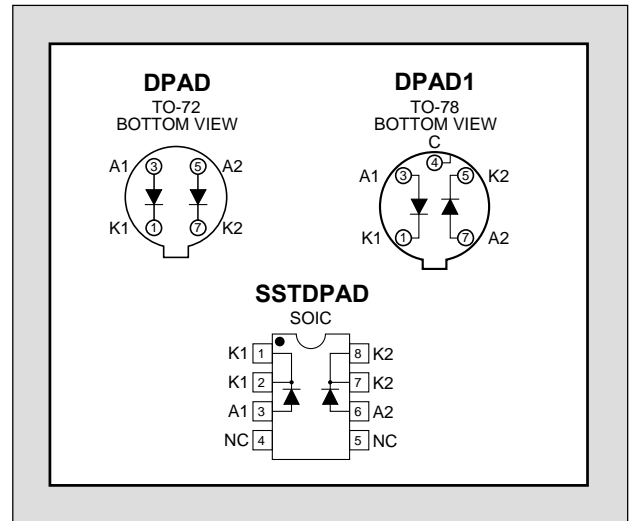


# DPAD SERIES

## MONOLITHIC DUAL PICO AMPERE DIODES

FEATURES	
Direct Replacement For SILICONIX DPAD SERIES	
HIGH ON ISOLATION	20fA
EXCELLENT CAPACITANCE MATCHING	$\Delta C_R \leq 0.2\text{pF}$
<b>ABSOLUTE MAXIMUM RATINGS<sup>1</sup></b>	
@ 25 °C (unless otherwise stated)	
<b>Maximum Temperatures</b>	
Storage Temperature	-65 to +150 °C
Operating Junction Temperature	-55 to +135 °C
<b>Maximum Power Dissipation</b>	
Continuous Power Dissipation (DPAD)	500mW
<b>Maximum Currents</b>	
Forward Current (DPAD)	50mA



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

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
$BV_R$	Reverse Breakdown Voltage	DPAD1	-45		V	$I_R = -1\mu\text{A}$
		DPAD2,5,10,20,50,100	-45			
		SSTDPAD5,50,100	-30			
$V_F$	Forward Voltage		0.8	1.5		$I_F = 1\text{mA}$
$ C_{R1}-C_{R2} $	Differential Capacitance ( $\Delta C_R$ )	DPAD1		0.2	pF	$V_{R1} = V_{R2} = -5\text{V}, f = 1\text{MHz}$
		ALL OTHERS		0.5		
$C_{RSS}$	Total Reverse Capacitance	DPAD1		0.8	pF	$V_R = -5\text{V}, f = 1\text{MHz}$
		DPAD2,5,10,20,50,100		2.0		
		SSTDPAD5,50,100		4.0		

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

SYMBOL	CHARACTERISTIC	DPAD <sup>2</sup>	SSTDPAD <sup>2</sup>	UNITS	CONDITIONS	
$I_R$	Maximum Reverse Leakage Current <sup>2</sup>	(SST)DPAD1	-1	pA	$V_R = -20\text{V}$	
		(SST)DPAD2	-2			
		(SST)DPAD5	-5			-5
		(SST)DPAD10	-10			
		(SST)DPAD20	-20			
		(SST)DPAD50	-50			-50
		(SST)DPAD100	-100			-100

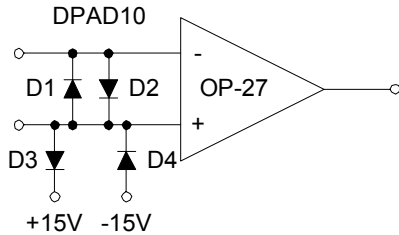
**Figure 1. Operational Amplifier Protection**

Input Differential Voltage limited to 0.8V (typ) by DPADs D<sub>1</sub> and D<sub>2</sub>. Common Mode Input voltage limited by DPADs D<sub>3</sub> and D<sub>4</sub> to ±15V.

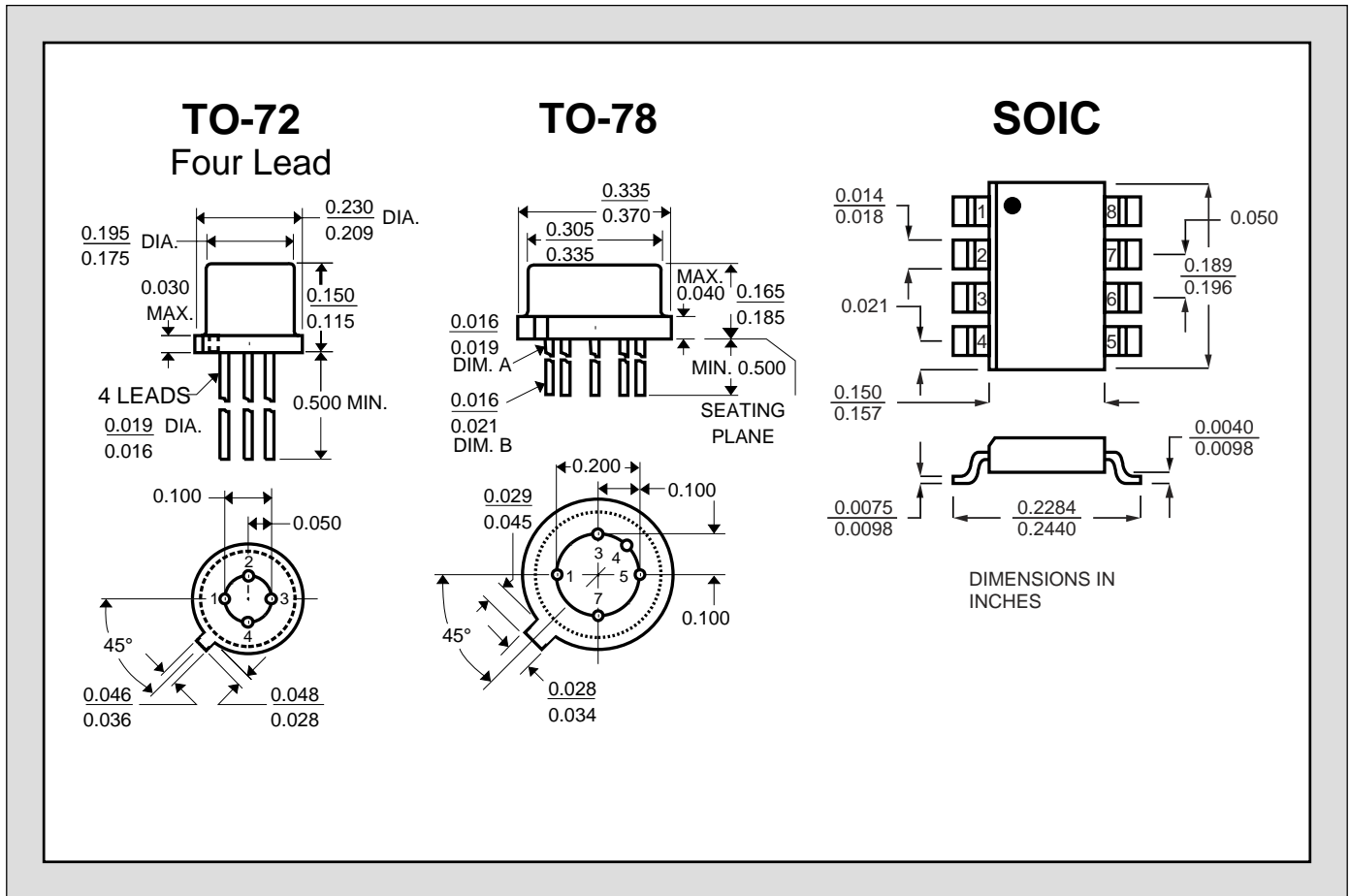
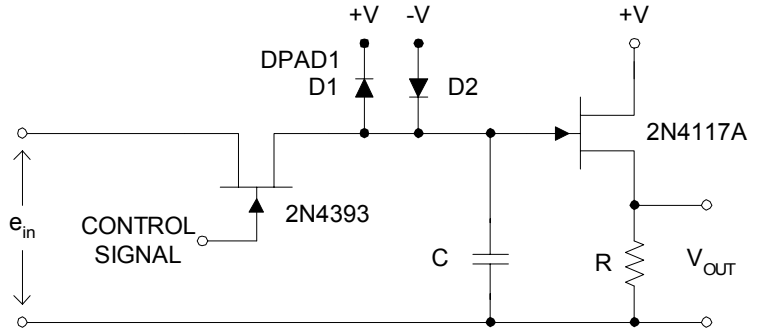
**Figure 2. Sample and Hold Circuit**

Typical Sample and Hold circuit with clipping. DPAD 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 DPAD type number denotes its maximum reverse current value in pico amperes. Devices with I<sub>R</sub> values intermediate to those shown are available upon request.

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