

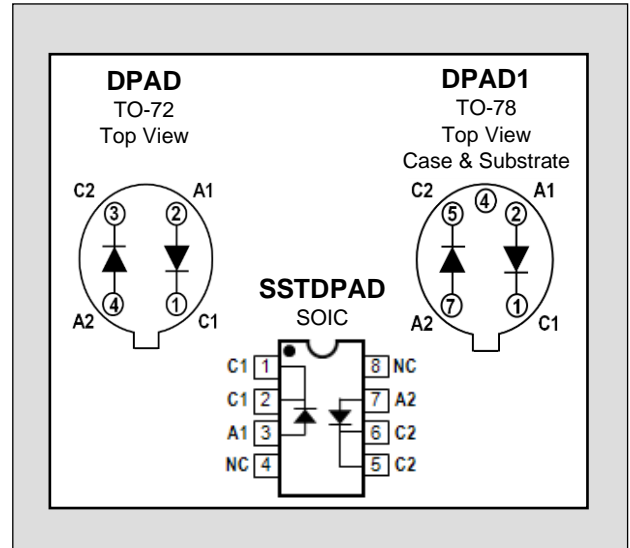
# LINEAR SYSTEMS

Over 30 Years of Quality Through Innovation

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	-55°C to +150°C
Operating Junction Temperature	-55°C to +150°C
<b>Maximum Power Dissipation</b>	
Continuous Power Dissipation (DPAD) <sup>3</sup>	500mW
<b>Maximum Currents</b>	
Forward Current (DPAD)	50mA

## DPAD SERIES

### MONOLITHIC DUAL PICO AMPERE DIODES



\* Case and Pin 4 must be floating on all TO-78 case devices

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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNITS	CONDITIONS
BV <sub>R</sub>	Reverse Breakdown Voltage	DPAD1	-45		V	I <sub>R</sub> = -1μA
		DPAD2,5,10,20,50,100	-45			
		SSTD PAD5,50,100	-30			
V <sub>F</sub>	Forward Voltage		0.8	1.5	pF	I <sub>F</sub> = 1mA
C <sub>R1</sub> - C <sub>R2</sub>	Differential Capacitance (ΔC <sub>R</sub> )	DPAD1		0.2		
		ALL OTHERS		0.5		
C <sub>rss</sub>	Total Reverse Capacitance	DPAD1		0.8	pF	V <sub>R</sub> = -5V, f=1MHz
		DPAD2,5,10,20,50,100		2.0		
		SSTD PAD5,50,100		4.0		

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

SYMBOL	CHARACTERISTIC	DPAD <sup>2</sup>	SSTD PAD <sup>2</sup>	UNITS	CONDITIONS	
I <sub>R</sub>	Maximum Reverse Leakage Current <sup>2</sup>	(SST)DPAD1	-1	pA	V <sub>R</sub> = -20V	
		(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

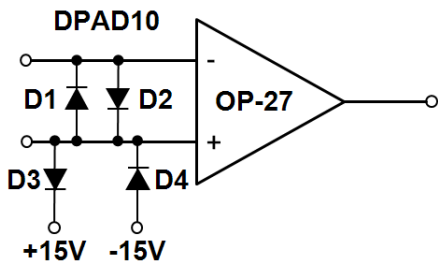
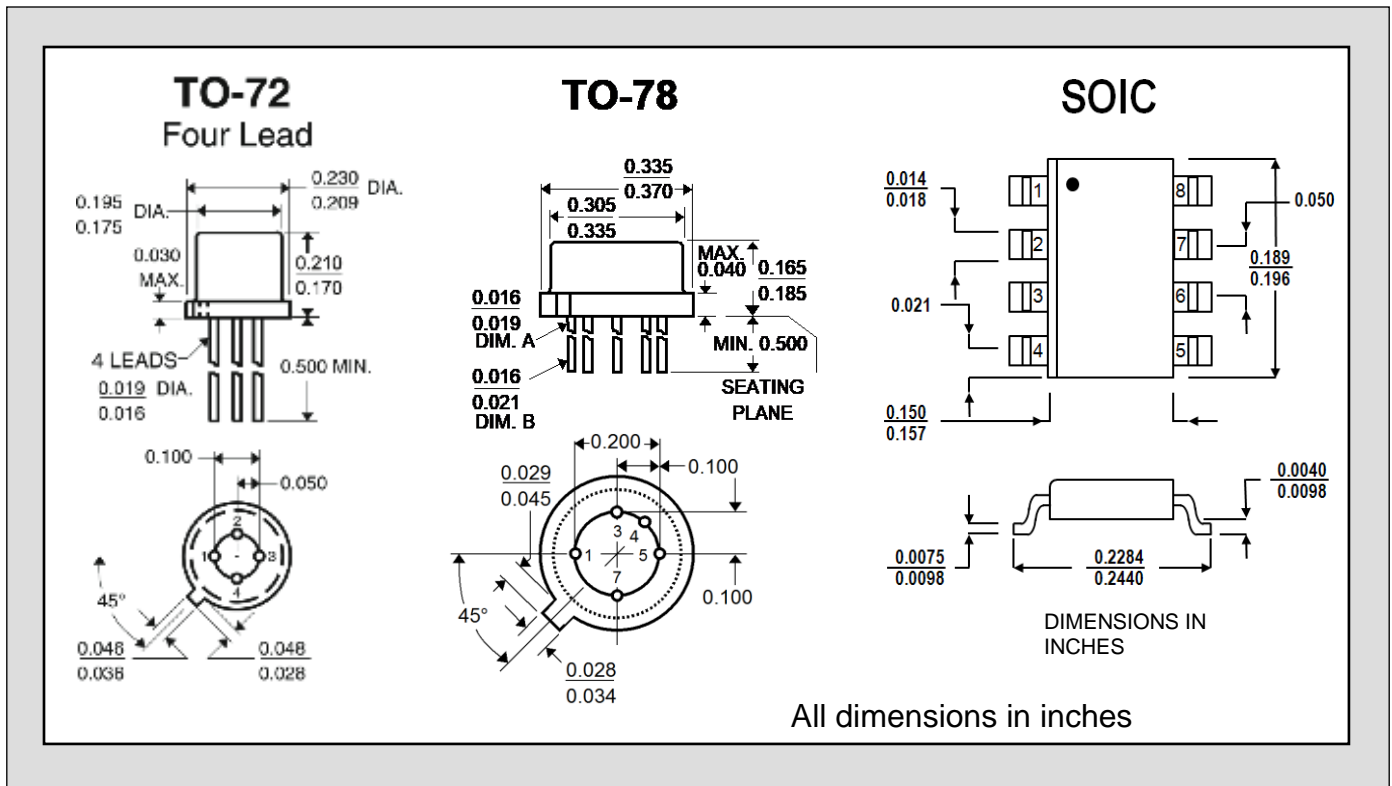
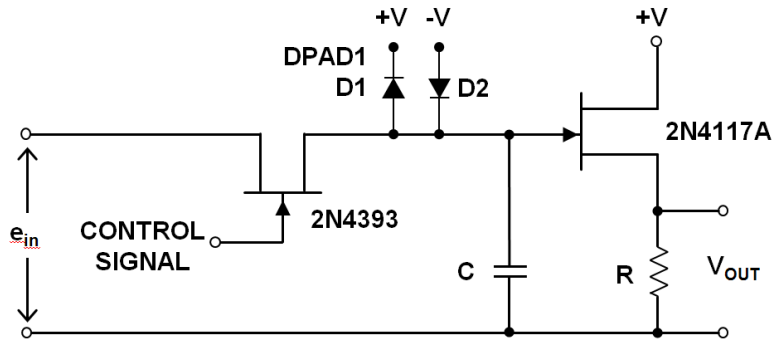


FIGURE 2



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.
3. Derate 4 mW/°C above 25°C

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