

LINEAR SYSTEMS

Linear Integrated Systems

DPAD SERIES

MONOLITHIC DUAL PICO AMPERE DIODES

FEATURES

Direct Replacement For SILICONIX DPAD SERIES

HIGH ON ISOLATION 20fA

EXCELLENT CAPACITANCE MATCHING $\Delta C_R \leq 0.2\text{pF}$

ABSOLUTE MAXIMUM RATINGS¹

@ 25 °C (unless otherwise stated)

Maximum Temperatures

Storage Temperature -65 to +150 °C

Operating Junction Temperature -55 to +135 °C

Maximum Power Dissipation

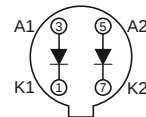
Continuous Power Dissipation (DPAD) 500mW

Maximum Currents

Forward Current (DPAD) 50mA

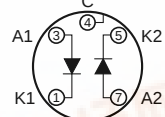
DPAD

TO-72
BOTTOM VIEW



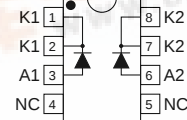
DPAD1

TO-78
BOTTOM VIEW



SSTD PAD

SOIC



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 = -1μA
		DPAD2,5,10,20,50,100	-45			
		SSTD PAD5,50,100	-30			
V _F	Forward Voltage		0.8	1.5		I _F = 1mA
C _{R1} -C _{R2}	Differential Capacitance (ΔC _R)	DPAD1		0.2	pF	V _{R1} = V _{R2} = -5V, f = 1MHz
		ALL OTHERS		0.5		
C _{rss}	Total Reverse Capacitance	DPAD1		0.8		V _R = -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 ²	SSTD PAD ²	UNITS	CONDITIONS
I _R	Maximum Reverse Leakage Current ²	(SST)DPAD1	-1	pA	V _R = -20V
		(SST)DPAD2	-2		
		(SST)DPAD5	-5		
		(SST)DPAD10	-10		
		(SST)DPAD20	-20		
		(SST)DPAD50	-50		
		(SST)DPAD100	-100		

Figure 1. Operational Amplifier Protection

Input Differential Voltage limited to 0.8V (typ) by DPADs D₁ and D₂. Common Mode Input voltage limited by DPADs D₃ and D₄ to $\pm 15V$.

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

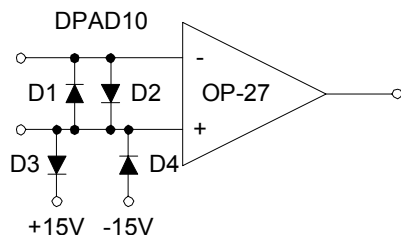
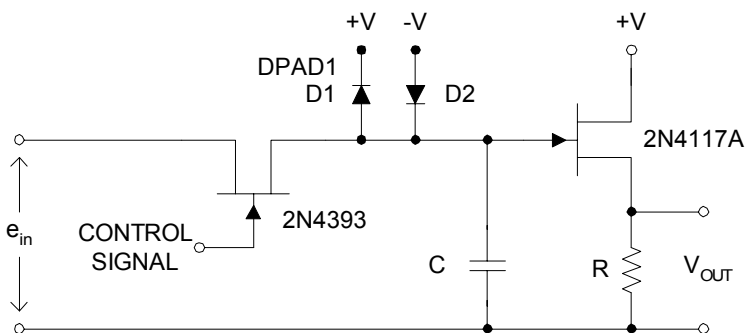
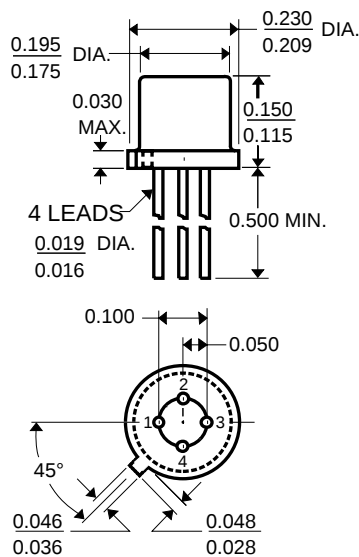


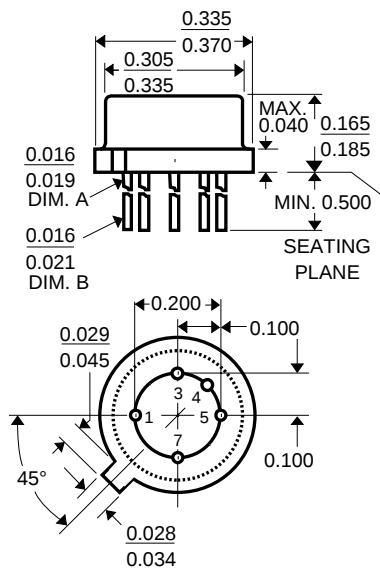
FIGURE 2



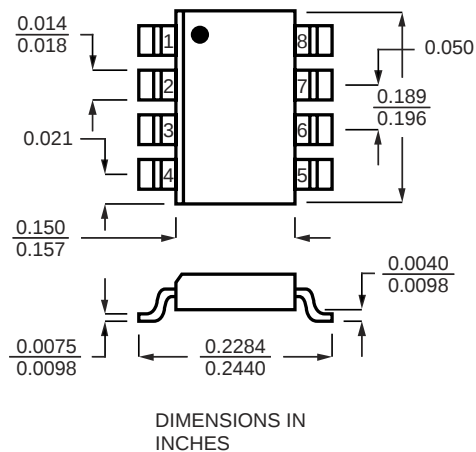
TO-72 Four Lead



TO-78



SOIC



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_R values intermediate to those shown are available upon request.

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