

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

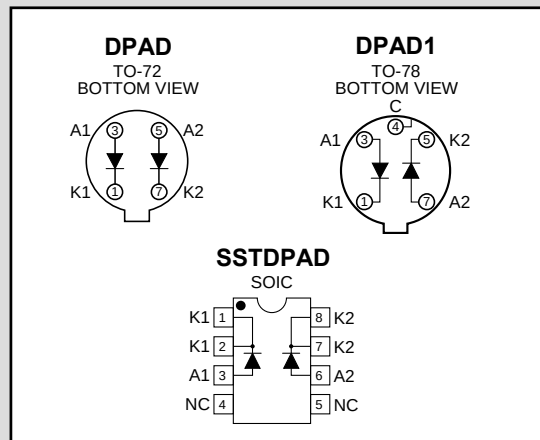
Storage Temperature	-65 to +150 °C
Operating Junction Temperature	-55 to +135 °C

Maximum Power Dissipation

Continuous Power Dissipation (DPAD)	500mW
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Maximum Currents

Forward Current (DPAD)	50mA
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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 (ΔC_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		$V_R = -5\text{V}, f = 1\text{MHz}$
		DPAD2,5,10,20,50,100		2.0		
		SSTDPAD5,50,100		4.0		

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

SYMBOL	CHARACTERISTIC	DPAD ²	SSTDPAD ²	UNITS	CONDITIONS
I_R	Maximum Reverse Leakage Current ²	(SST)DPAD1	-1	pA	$V_R = -20\text{V}$
		(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

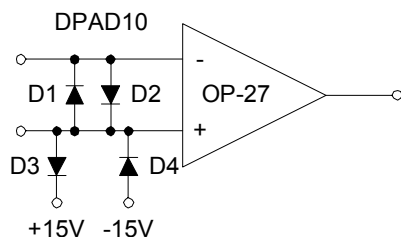
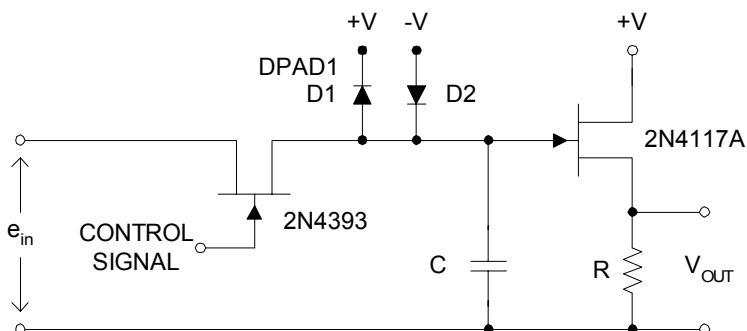
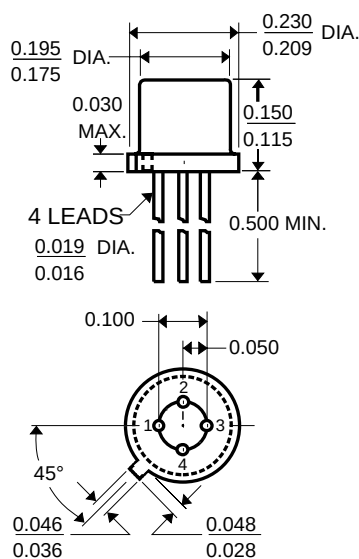


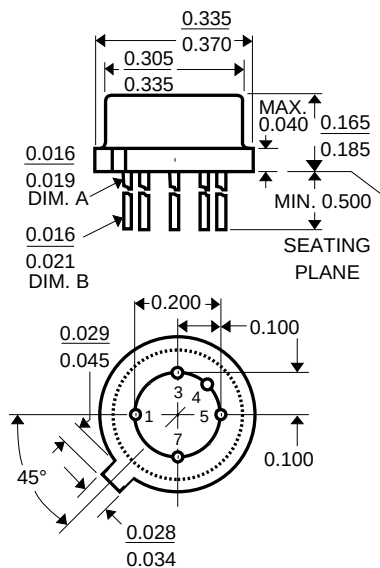
FIGURE 2



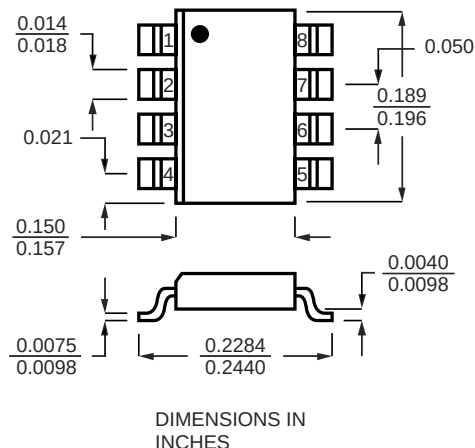
TO-72 Four Lead



TO-78



SOIC



DIMENSIONS IN INCHES

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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