

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

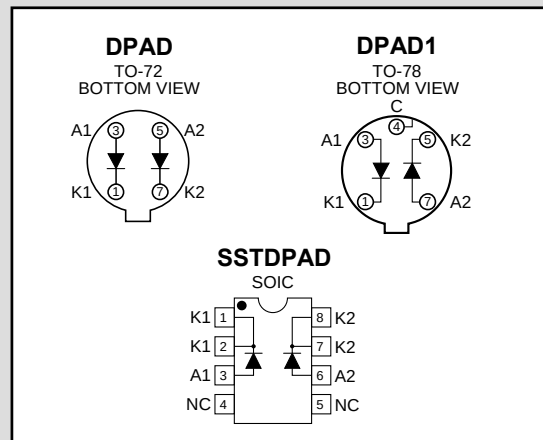
Storage Temperature	-65 to +150 °C
Operating Junction Temperature	-55 to +135 °C

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 ± 15 V.

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

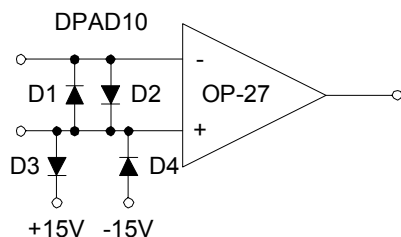
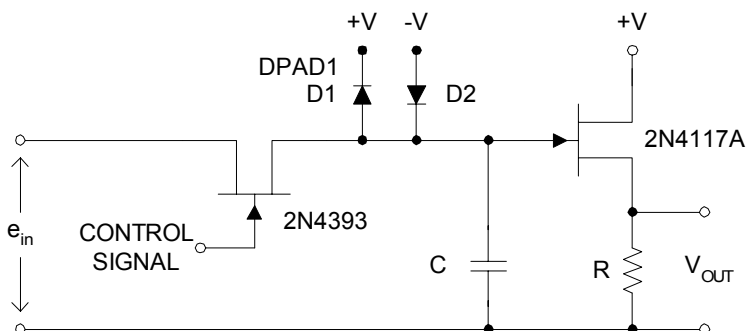
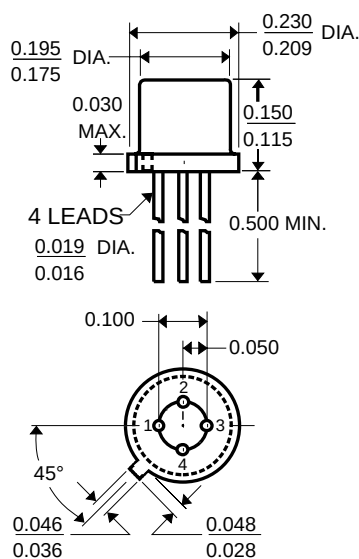


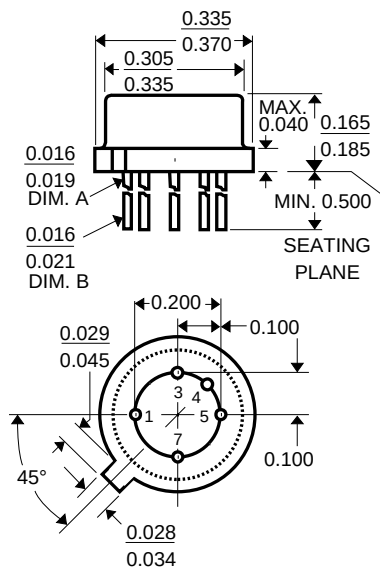
FIGURE 2



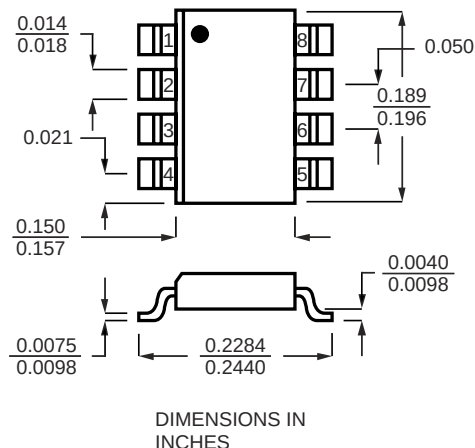
TO-72 Four Lead



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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