

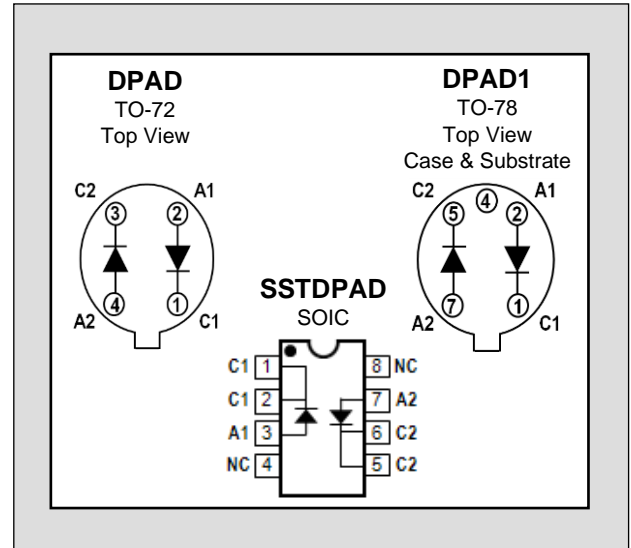
LINEAR SYSTEMS

Over 30 Years of Quality Through Innovation

| FEATURES | |
|--|--------------------------------|
| Direct Replacement For SILICONIX DPAD SERIES | |
| HIGH ON ISOLATION | 20fA |
| EXCELLENT CAPACITANCE MATCHING | $\Delta C_R \leq 0.2\text{pF}$ |
| ABSOLUTE MAXIMUM RATINGS¹ | |
| @ 25°C (unless otherwise stated) | |
| Maximum Temperatures | |
| Storage Temperature | -55°C to +150°C |
| Operating Junction Temperature | -55°C to +150°C |
| Maximum Power Dissipation | |
| Continuous Power Dissipation (DPAD) ³ | 500mW |
| Maximum Currents | |
| 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 _R | Reverse Breakdown Voltage | DPAD1 | -45 | | V | I _R = -1μA |
| | | DPAD2,5,10,20,50,100 | -45 | | | |
| | | SSTDPAD5,50,100 | -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 | pF | V _R = -5V, f=1MHz |
| | | 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 = -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 D₁ and D₂. Common Mode Input voltage limited by DPADs D₃ and D₄ 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

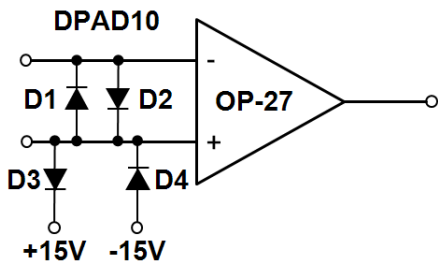
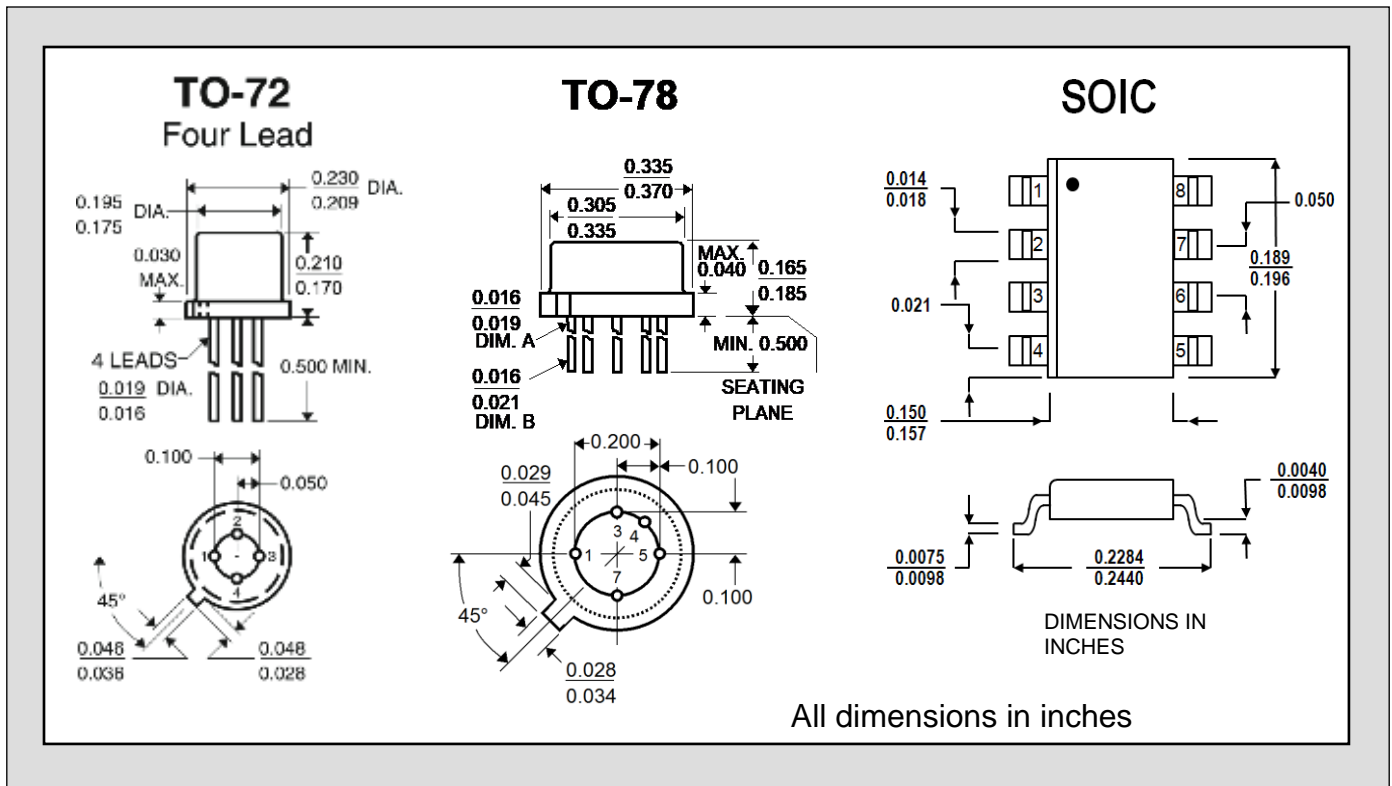
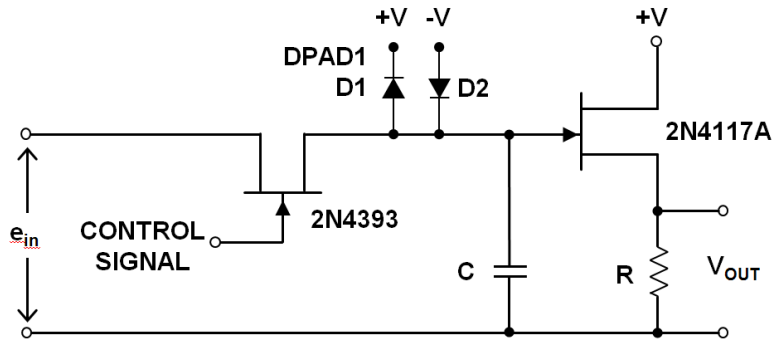


FIGURE 2



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_R values intermediate to those shown are available upon request.
3. Derate 4 mW/°C above 25°C

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