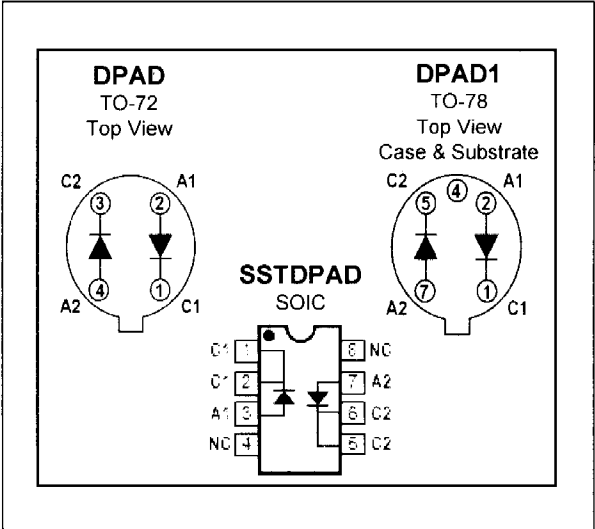


**DPAD SERIES**  
**MONOLITHIC DUAL**  
**PICO AMPERE DIODES**

| FEATURES                                                                        |                                |
|---------------------------------------------------------------------------------|--------------------------------|
| Direct Replacement For SILICONIX DPAD SERIES                                    |                                |
| HIGH ON ISOLATION                                                               | 20fA                           |
| EXCELLENT CAPACITANCE MATCHING                                                  | $\Delta C_R \leq 0.2\text{pF}$ |
| <b>ABSOLUTE MAXIMUM RATINGS<sup>1</sup></b><br>@ 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                           |



\* 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  |      |       |                                                   |
|                                   |                                             | SSTDPAD5,50,100      | -30  |      |       |                                                   |
| V <sub>F</sub>                    | Forward Voltage                             |                      | 0.8  | 1.5  |       | I <sub>F</sub> = 1mA                              |
| C <sub>R1</sub> - C <sub>R2</sub> | Differential Capacitance (ΔC <sub>R</sub> ) | DPAD1                |      | 0.2  | pF    | V <sub>R1</sub> = V <sub>R2</sub> = -5V, f = 1MHz |
|                                   |                                             | ALL OTHERS           |      | 0.5  |       |                                                   |
| C <sub>rss</sub>                  | Total Reverse Capacitance                   | DPAD1                |      | 0.8  |       | V <sub>R</sub> = -5V, f = 1MHz                    |
|                                   |                                             | DPAD2,5,10,20,50,100 |      | 2.0  |       |                                                   |
|                                   |                                             | SSTDPAD5,50,100      |      | 4.0  |       |                                                   |

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

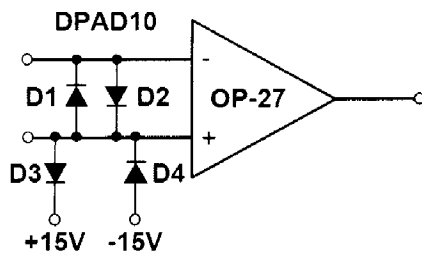
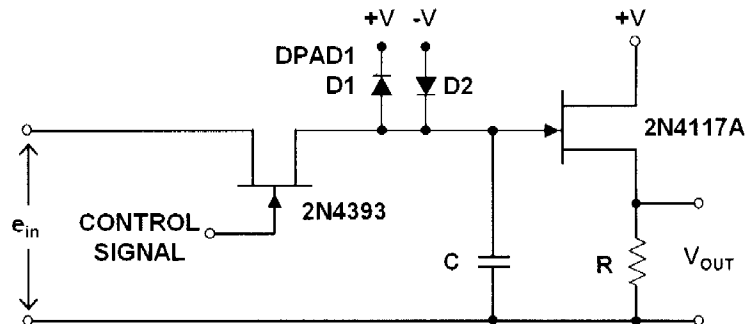
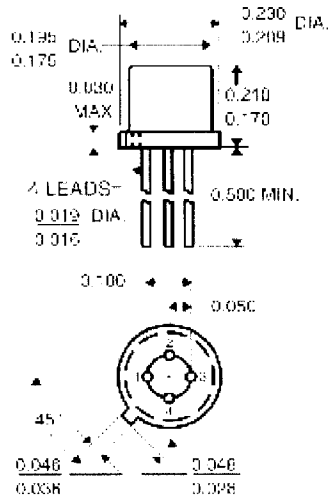
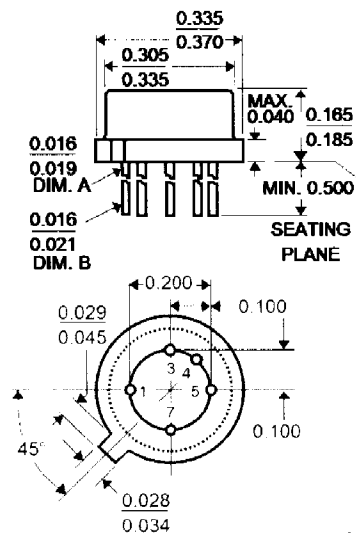
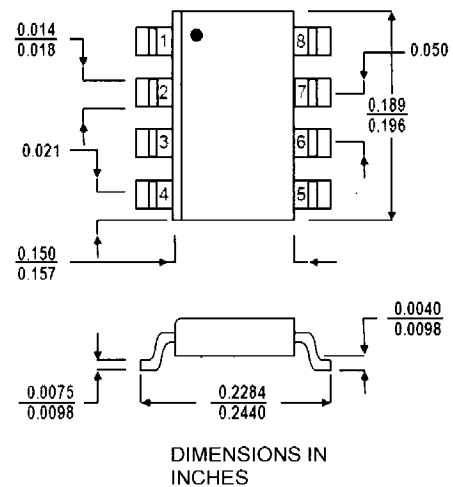
| SYMBOL         | CHARACTERISTIC                               | DPAD <sup>2</sup> | SSTDPAD <sup>2</sup> | UNITS | CONDITIONS            |
|----------------|----------------------------------------------|-------------------|----------------------|-------|-----------------------|
| I <sub>R</sub> | Maximum Reverse Leakage Current <sup>2</sup> | (SST)DPAD1        | -1                   | pA    | V <sub>R</sub> = -20V |
|                |                                              | (SST)DPAD2        | -2                   |       |                       |
|                |                                              | (SST)DPAD5        | -5                   |       |                       |
|                |                                              | (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 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  $\pm 15V$ .

**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**

All dimensions in inches