# DPAD1 SERIES

Siliconix incorporated

**Dual Low-Leakage Pico-Amp Diodes**

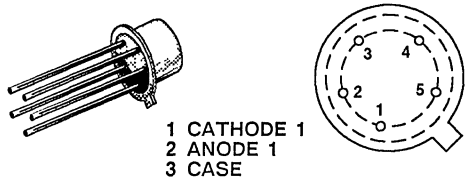
The DPAD1 Series of extremely low-leakage diodes provides a superior alternative to conventional diode technology when reverse current (leakage) must be minimized. These devices feature leakage currents ranging from −1 pA (DPAD1) to −100 pA (DPAD100) to support a wide range of applications. With two diodes per package, the DPAD1 Series is well suited for use in applications such as input protection for operational amplifiers. Its hermetically sealed metal can is available with full military processing per MIL-S-19500. (See Section 1.)

| PART NO. | $I_R$ (pA) |
|---|---|
| DPAD1 | −1 |
| DPAD2 | −2 |
| DPAD5 | −5 |
| DPAD10 | −10 |
| DPAD20 | −20 |
| DPAD50 | −50 |
| DPAD100 | −100 |

## SIMILAR PRODUCTS

- TO-92, See JPAD5 Series
- SOT-23, See SSTPAD5 Series
- TO-18, See PAD1 Series
- Chips, Order DPADXXCHP

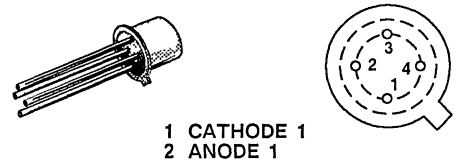
**TO-78 (MODIFIED)** **BOTTOM VIEW**




1 CATHODE 1
2 ANODE 1
3 CASE
4 CATHODE 2
5 ANODE 2

(DPAD1)

**TO-71 (MODIFIED)** **BOTTOM VIEW**




1 CATHODE 1
2 ANODE 1
3 CATHODE 2
4 ANODE 2

(DPAD2, 5, 10, 20, 50, 100)

## ABSOLUTE MAXIMUM RATINGS ($T_A$ = 25°C unless otherwise noted)

| PARAMETERS/TEST CONDITIONS | SYMBOL | LIMIT | UNITS |
|---|---|---|---|
| Forward Current | $I_F$ | 50 | mA |
| Total Device Dissipation | $P_D$ | 400 | mW |
| Storage Temperature | $T_{stg}$ | −55 to 125 | °C |
| Lead Temperature (1/16" from case for 10 seconds) | $T_L$ | 300 | |

## ELECTRICAL CHARACTERISTICS [1]

| PARAMETER | SYMBOL | TEST CONDITIONS | | LIMITS TYP [2] | LIMITS MIN | LIMITS MAX | UNIT |
|---|---|---|---|---|---|---|---|
| **STATIC** | | | | | | | |
| Reverse Current | $I_R$ | $V_R$ = -20 V | DPAD1 | -0.2 | | -1 | pA |
| | | | DPAD2 | -1 | | -2 | |
| | | | DPAD5 | -2 | | -5 | |
| | | | DPAD10 | -3 | | -10 | |
| | | | DPAD20 | -5 | | -20 | |
| | | | DPAD50 | -10 | | -50 | |
| | | | DPAD100 | -15 | | -100 | |
| Reverse Breakdown Voltage | $BV_R$ | $I_R$ = -1 µA | DPAD1, 2, 5 | -60 | -45 | -120 | V |
| | | | DPAD10, 20 DPAD50, 100 | -55 | -35 | | |
| Forward Voltage Drop | $V_F$ | $I_F$ = 1 mA | | 0.7 | | 1.5 | |
| **DYNAMIC** | | | | | | | |
| Reverse Capacitance | $C_R$ | $V_R$ = -5 V f = 1 MHz | DPAD1, 2,5 | 0.6 | | 0.8 | pF |
| | | | DPAD10, 20 DPAD50, 100 | 1 | | 2 | |
| Differential Capacitance | $\lvert C_{R1} - C_{R2} \rvert$ | $V_{R1} = V_{R2}$ = -5 V, f = 1 MHz | | 0.07 | | 0.2 | |

NOTES: 1. $T_A$ = 25 °C unless otherwise noted.
2. For design aid only, not subject to production testing.

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