

## DPAD1, DPAD2 Dual PicoAmp Diode

### Features

- InterFET [N0001H Geometry](#)
- Low Leakage: 0.5pA Typical
- Low Capacitance: 0.8pF Typical
- RoHS Compliant
- Custom Package types Available

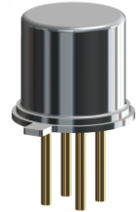
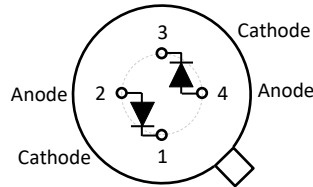
### Applications

- High Impedance Protection Circuits
- Low Power Battery Circuitry
- High Impedance Diode Switching

### Description

The -45V InterFET DPAD1 and DPAD2 are targeted for low power and high impedance applications. Leakages are typically 0.5pA at room temperatures. The DPAD series houses two parts per package. The DPAD package is hermetically sealed and suitable for military applications.

TO-72 Bottom View



### Product Summary

| Parameters      |                           | DPAD1 Min | DPAD2 Min | Unit |
|-----------------|---------------------------|-----------|-----------|------|
| BV <sub>R</sub> | Breakdown Reverse Voltage | -45       | -45       | V    |
| I <sub>R</sub>  | Reverse Current           | -1 (Max)  | -2 (Max)  | pA   |
| V <sub>F</sub>  | Forward Voltage Drop      | 1.5 (Max) | 1.5 (Max) | V    |

### Ordering Information Custom Part and Binning Options Available

| Part Number  | Description  | Case  | Packaging |
|--------------|--------------|-------|-----------|
| DPAD1; DPAD2 | Through-Hole | TO-72 | Bulk      |



**Disclaimer:** It is the Buyers responsibility for designing, validating and testing the end application under all field use cases and extreme use conditions. Guaranteeing the application meets required standards, regulatory compliance, and all safety and security requirements is the responsibility of the Buyer. These resources are subject to change without notice.

## Electrical Characteristics

### Maximum Ratings (@ $T_A = 25^\circ\text{C}$ , Unless otherwise specified)

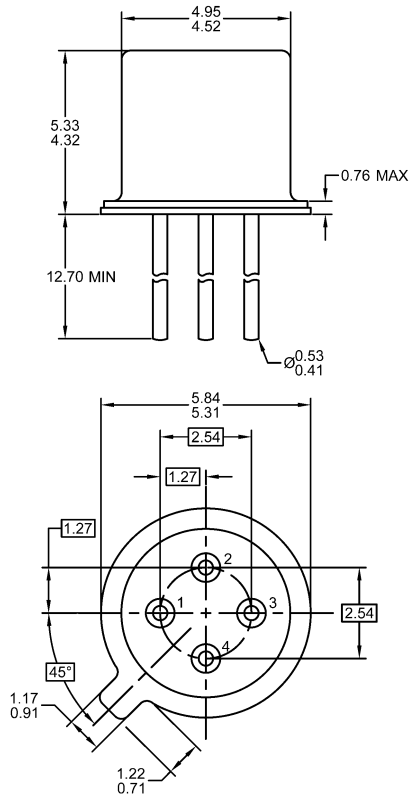
| Parameters                                           | Value      | Unit                 |
|------------------------------------------------------|------------|----------------------|
| $V_{RGS}$ Reverse Gate Source and Gate Drain Voltage |            | V                    |
| $I_{FG}$ Continuous Forward Gate Current             | 50         | mA                   |
| $P_D$ Continuous Device Power Dissipation            |            | mW                   |
| $P$ Power Derating                                   |            | mW/ $^\circ\text{C}$ |
| $T_J$ Operating Junction Temperature                 | -55 to 125 | $^\circ\text{C}$     |
| $T_{STG}$ Storage Temperature                        | -55 to 125 | $^\circ\text{C}$     |

### Static Characteristics (@ $T_A = 25^\circ\text{C}$ , Unless otherwise specified)

| Parameters                                   | Conditions                                         | DPAD1 |     |     | DPAD2 |     |     | Unit |
|----------------------------------------------|----------------------------------------------------|-------|-----|-----|-------|-----|-----|------|
|                                              |                                                    | Min   | Typ | Max | Min   | Typ | Max |      |
| $BV_R$ Breakdown Reverse Voltage             | $I_R = -1\mu\text{A}$                              | -45   |     |     | -45   |     |     | V    |
| $I_R$ Reverse Current                        | $V_R = -20\text{V}$                                |       |     | -1  |       |     | -2  | pA   |
| $V_F$ Forward Voltage Drop                   | $I_F = 5\text{mA}$                                 |       | 0.8 | 1.5 |       | 0.8 | 1.5 | V    |
| $C_R$ Capacitance                            | $V_R = -5\text{V}$ , $f = 1\text{MHz}$             |       |     | 0.8 |       |     | 0.8 | pF   |
| $ C_{R1} - C_{R2} $ Differential Capacitance | $V_{R1} = V_{R2} = -5\text{V}$ , $f = 1\text{MHz}$ |       |     | 0.2 |       |     | 0.2 | pF   |

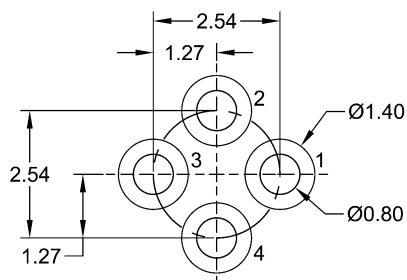
## TO-72 Mechanical and Layout Data

### Package Outline Data



1. All linear dimensions are in millimeters.
2. Four leaded device. Not all leads are shown in drawing views.
3. Package weight approximately 0.31 grams
4. Bulk product is shipped in standard ESD shipping material
5. Refer to JEDEC standards for additional information.

### Suggested Through-Hole Layout



1. All linear dimensions are in millimeters.
2. The suggested land pattern dimensions have been provided as a straight lead reference only. A more robust pattern may be desired for wave soldering and/or bent lead configurations.

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[InterFET:](#)

[DPAD1](#) [DPAD2](#)