

## Linear Systems replaces discontinued Siliconix DPAD1

The DPAD1 is a low leakage Monolithic Dual Pico-Amp Diode

The DPAD1 extremely low-leakage monolithic dual diode provides a superior alternative to conventional diode technology when reverse current (leakage) must be minimized. In addition the monolithic dual construction allows excellent capacitance matching per diode. The DPAD1 features a leakage current of -1 pA and is well suited for use in applications such as input protection for operational amplifiers.

### DPAD1 Benefits:

- Negligible Circuit Leakage Contribution
- Circuit "Transparent" Except to Shunt High-Frequency Spikes
- Simplicity of Operation

### DPAD1 Applications:

- Op Amp Input Protection
- Multiplexer Overvoltage Protection

### FEATURES

DIRECT REPLACEMENT FOR SILICONIX DPAD1	
HIGH ON ISOLATION	20fA
EXCELLENT CAPACITANCE MATCHING	$\Delta C_R \leq 0.2\text{pF}$
ULTRALOW LEAKAGE	$\leq 1\text{pA}$
REVERSE BREAKDOWN VOLTAGE	$BV_R \geq -45\text{V}$
REVERSE CAPACITANCE	$C_{RSS} \leq 0.8\text{pF}$
<b>ABSOLUTE MAXIMUM RATINGS</b> @ 25°C (unless otherwise noted)	
<b>Maximum Temperatures</b>	
Storage Temperature	-65°C to +150°C
Operating Junction Temperature	-55°C to +135°C
<b>Maximum Power Dissipation</b>	
Continuous Power Dissipation	500mW
<b>MAXIMUM CURRENT</b>	
Forward Current (Note 1)	50mA

### DPAD1 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTICS	MIN.	TYP.	MAX.	UNITS	CONDITIONS
$BV_R$	Reverse Breakdown Voltage	-45	--	--	V	$I_R = -1\mu\text{A}$
$V_F$	Forward Voltage	--	0.8	1.5	V	$I_F = 1\text{mA}$
$C_{RSS}$	Total Reverse Capacitance	--	--	0.8	pF	$V_R = -5\text{V}, f = 1\text{MHz}$
$ C_{R1}-C_{R2} $	Differential Capacitance ( $\Delta C_R$ )	--	--	0.2	pF	$V_{R1} = V_{R2} = -5\text{V}, f = 1\text{MHz}$
$I_R$	Maximum Reverse Leakage Current	--	--	-1	pA	$V_R = -20\text{V}$

### Notes:

1. Absolute maximum ratings are limiting values above which DPAD1 serviceability may be impaired.

### Available Packages:

DPAD1 in TO-78  
DPAD1 available as bare die

Please contact Microcross for full package and die dimensions



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TO-78 (Bottom View)

