

Linear Systems replaces discontinued Siliconix LSDPAD1

The LSDPAD1 is a low leakage Monolithic Dual Pico-Amp Diode

The LSDPAD1 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 LSDPAD1 features a leakage current of -1 pA and is well suited for use in applications such as input protection for operational amplifiers.

LSDPAD1 Benefits:

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

LSDPAD1 Applications:

- Op Amp Input Protection
- Multiplexer Overvoltage Protection

FEATURES

DIRECT REPLACEMENT FOR SILICONIX LSDPAD1	
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	$C_{RSS} \leq 0.8\text{pF}$

ABSOLUTE MAXIMUM RATINGS @ 25°C (unless otherwise noted)

Maximum Temperatures

Storage Temperature	-65°C to +150°C
Operating Junction Temperature	-55°C to +135°C

Maximum Power Dissipation

Continuous Power Dissipation	500mW
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MAXIMUM CURRENT

Forward Current (Note 1)	50mA
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LSDPAD1 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 (ΔC_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 LSDPAD1 serviceability may be impaired.

Available Packages:

LSDPAD1 in TO-78
LSDPAD1 available as bare die

Please contact Micross for full package and die dimensions



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TO-78 (Bottom View)

