

**PAD1 / PAD2 / PAD5 / PAD10 / PAD20 / PAD50**

**FEATURES**

- **Low Leakage** ..... 1 pA (PAD1)
- **High Breakdown Range**  
..... -45 V min - 120 V max (PAD1, 2, 5)  
..... -35V min (PAD10, 20, 50, 100)
- **Low Capacitance** ..... 0.8 pf (PAD1, 2, 5)  
..... 2.0 pf (PAD10, 20, 50, 100)

**APPLICATIONS**

- High Impedance Protection Devices
- Fast Diode Switching
- Clipping Circuits

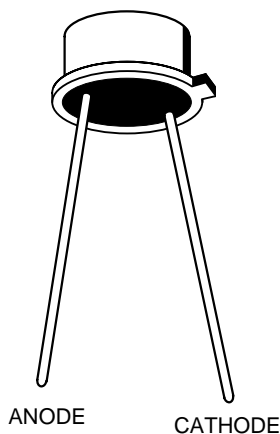
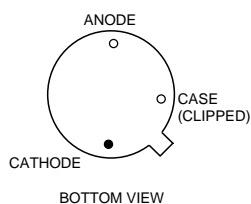
**DESCRIPTION**

Calogic's series of Pico Amp Diodes are an excellent choice for protection devices where ultra low leakage is critical and must be at a minimal measurement. These devices have a wide operating voltage range and are low capacitance for high speed switching requirements. Housed in a hermetic TO-18 package the product line is also available in chip form for hybrid uses.

**ORDERING INFORMATION**

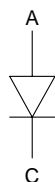
Part	Package	Temperature Range
PAD1-100	Hermetic TO-18	-55°C to +150°C
XPAD1-100	Sorted Chips in Carriers	-55°C to +150°C

**PIN CONFIGURATION**



5007

**SCHEMATIC DIAGRAM**

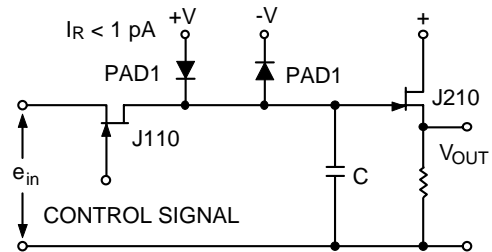
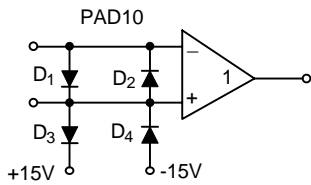


**ABSOLUTE MAXIMUM RATINGS (25°C)**

Forward Current . . . . . 50 mA  
 Total Device Dissipation . . . . . 300 mW  
 Storage Temperature Range . . . . . -55°C to 125°C  
 Lead Temperature (1/16" from case for 10 seconds) . . . . . 300°C

**ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)**

SYMBOL	CHARACTERISTICS	MIN	TYP	MAX	UNIT	TEST CONDITIONS
STATIC						
I <sub>R</sub>	Reverse Current			-1	pA	V <sub>R</sub> = -20 V
				-2		
				-5		
				-10		
				-20		
				-50		
				-100		
B <sub>V</sub> R	Breakdown Voltage (Reverse)	-45		-120	V	I <sub>R</sub> = -1μA
		-35				
V <sub>F</sub>	Forward Voltage Drop		0.8	1.5		I <sub>F</sub> = 5 mA
DYNAMIC						
C <sub>R</sub>	Capacitance			0.8	pF	V <sub>R</sub> = -5 V, f = 1 MHz
				2		



**APPLICATION**

Operational Amplifier Protection. Input Differential Voltage limited to 0.8 V (typ) by PADS D<sub>1</sub> and D<sub>2</sub> Common mode input voltage limited by PADS D<sub>3</sub> and D<sub>4</sub> to ±15 V.

Typical sample and hold circuit with clipping. PAD diodes reduce offset voltages fed capacitively from the FET switch gate.