

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

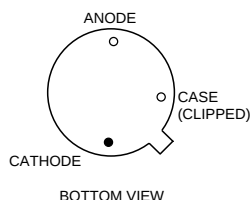
DESCRIPTION

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.

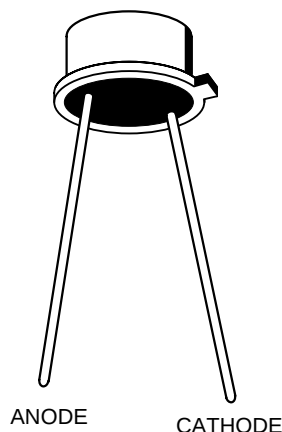
ORDERING INFORMATION

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

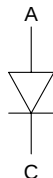
PIN CONFIGURATION



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 _R	Reverse Current			-1	pA	PAD1
				-2		PAD2
				-5		PAD5
				-10		PAD10
				-20		PAD20
				-50		PAD50
				-100		PAD100
BV _R	Breakdown Voltage (Reverse)	-45		-120	V	PAD1, 2, 5
		-35				PAD10, 20, 50, 100
V _F	Forward Voltage Drop		0.8	1.5		I _R = -1µA I _F = 5 mA PAD1, 2, 5, 10, 20, 50, 100
DYNAMIC						
C _R	Capacitance			0.8	pF	PAD1, 2, 5
				2		PAD10, 20, 50, 100

APPLICATION

Operational Amplifier Protection. Input Differential Voltage limited to 0.8 V (typ) by PADS D₁ and D₂ Common mode input voltage limited by PADS D₃ and D₄ to ±15 V.

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