

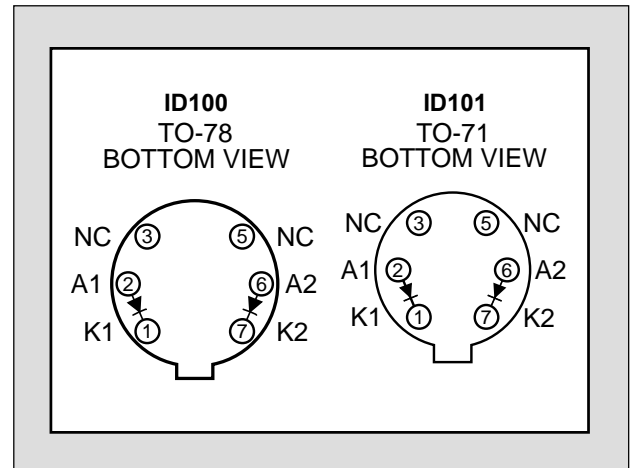
LINEAR SYSTEMS

Linear Integrated Systems

ID100 ID101

MONOLITHIC DUAL PICO AMPERE DIODES

FEATURES	
DIRECT REPLACEMENT FOR INTERSIL ID100 & ID101	
REVERSE LEAKAGE CURRENT	$I_R = 0.1\mu\text{A}$
REVERSE BREAKDOWN VOLTAGE	$BV_R \geq 30\text{V}$
REVERSE CAPACITANCE	$C_{RSS} = 0.75\text{pF}$
ABSOLUTE MAXIMUM RATINGS¹	
@ 25 °C (unless otherwise stated)	
Maximum Temperatures	
Storage Temperature	-65 to +200 °C
Operating Junction Temperature	-55 to +150 °C
Maximum Power Dissipation	
Continuous Power Dissipation	300mW
Maximum Currents	
Forward Current	20mA
Reverse Current	100 μA
Maximum Voltages	
Reverse Voltage	30V
Diode to Diode Voltage	$\pm 50\text{V}$



ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

SYMBOL	CHARACTERISTIC	MIN	TYP	MAX	UNITS	CONDITIONS
BV_R	Reverse Breakdown Voltage	30			V	$I_R = 1\mu\text{A}$
V_F	Forward Voltage	0.8		1.1		$I_F = 10\text{mA}$
I_R	Reverse Leakage Current		0.1		pA	$V_R = 1\text{V}$
			2.0	10		$V_R = 10\text{V}$
$ I_{R1} - I_{R2} $	Differential Leakage Current			3		
C_{RSS}	Total Reverse Capacitance ²		0.75	1	pF	$V_R = 10\text{V}, f = 1\text{MHz}$

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• 4042 Clipper Court • Fremont, CA 94538 • Tel: 510 490-9160 • Fax: 510 353-0261

Figure 1. Operational Amplifier Protection

Input Differential Voltage limited to 0.8V (typ) by Diodes ID100 D₁ and D₂.
Common Mode Input voltage limited by Diodes ID100 D₃ and D₄ to ±15V.

Figure 2. Sample and Hold Circuit

Typical Sample and Hold circuit with clipping. ID100 diodes reduce offset voltages fed capacitively from the ID100 switch gate.

FIGURE 1

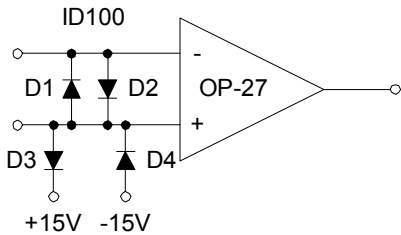
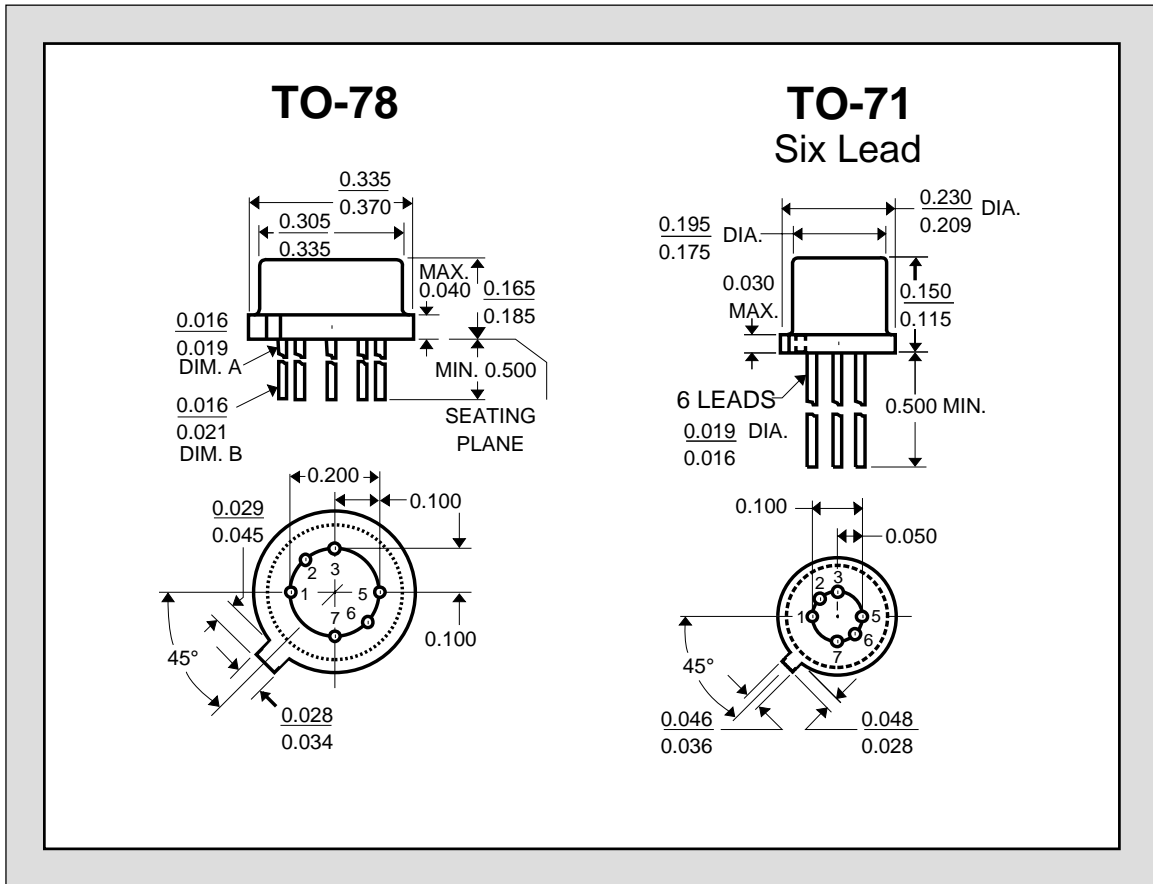
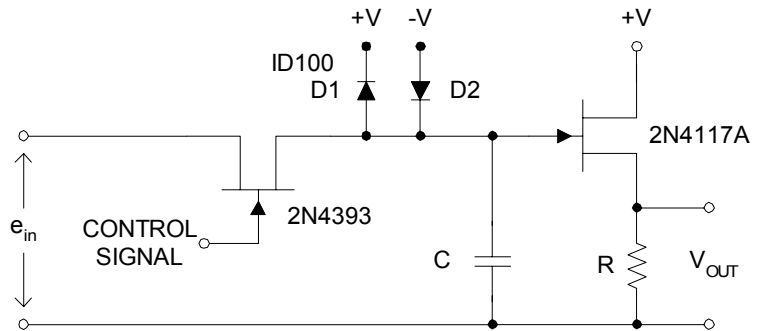


FIGURE 2



1. Absolute maximum ratings are limiting values above which serviceability may be impaired.
2. Design reference only, not 100% tested.
3. Pins 3 & 5 on ID100 and ID101 must not be connected, in any fashion or manner, to any circuit or node.

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