LINEAR SYSTEMS

Linear Integrated Systems

ID100 ID101

MONOLITHIC DUAL
PICO AMPERE DIODES

FEATURES	
DIRECT REPLACEMENT FOR INTERSIL ID100 & ID101	
REVERSE LEAKAGE CURRENT	I_R = 0.1pA
REVERSE BREAKDOWN VOLTAGE	$BV_R \geq$ 30V
REVERSE CAPACITANCE	C_{rss} = 0.75pF
ABSOLUTE MAXIMUM RATINGS[1]	
@ 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	100µA
Maximum Voltages	
Reverse Voltage	30V
Diode to Diode Voltage	±50V

ID100
TO-78
BOTTOM VIEW

ID101
TO-71
BOTTOM VIEW
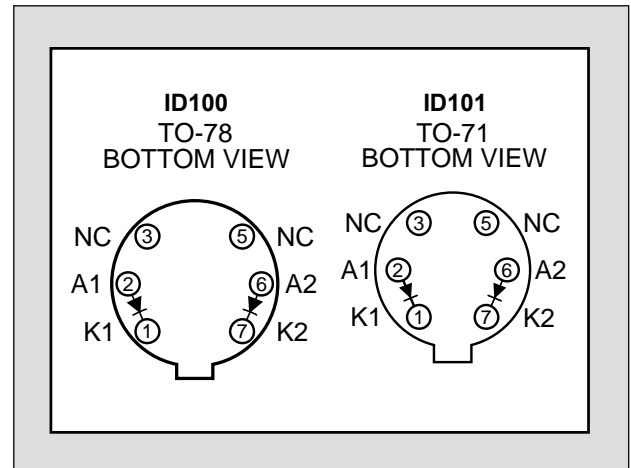
ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

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

Figure 1. Operational Amplifier Protection
Input Differential Voltage limited to 0.8V (typ) by Diodes ID100 D_1 and D_2.
Common Mode Input voltage limited by Diodes ID100 D_3 and D_4 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.
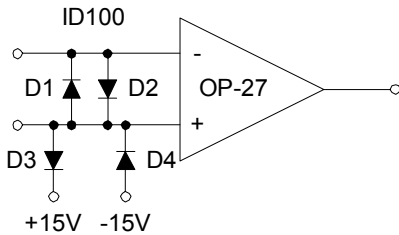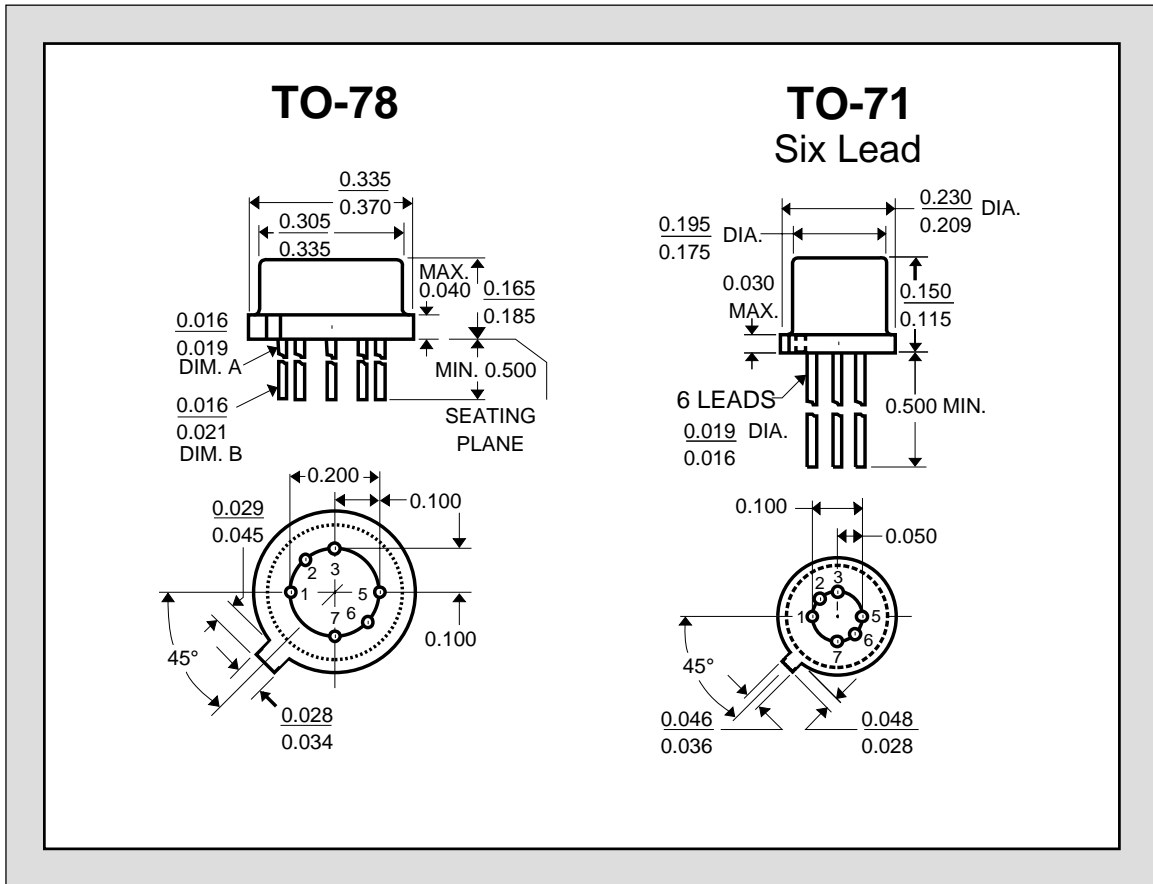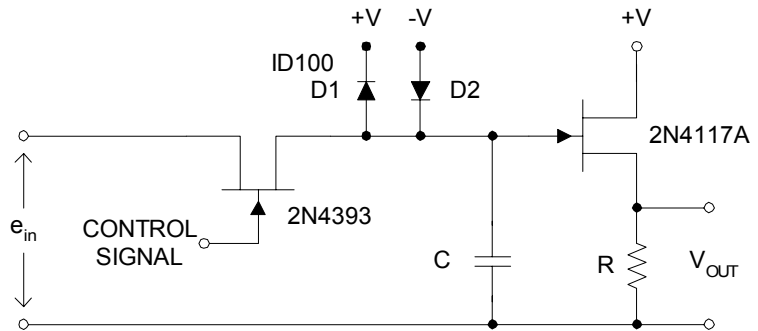
FIGURE 1

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.

Information furnished by Linear Integrated Systems is believed to be accurate and reliable. However, no responsibility is assumed for its use; nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Linear Integrated Systems.

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