INTERSIL

ID100, ID101 Low Leakage Monolithic Dual Diode

1

FEATURES

- I_R = 0.1 pA (typical)
- BV_R > 30 V
- C_r = 0.75 pF (typical)

GENERAL DESCRIPTION

The ID100 and ID101 are monolithic dual diodes intended for use in applications requiring extremely low leakage currents. Applications include interstage coupling with reverse isolation, signal clipping and clamping and protection of ultra low leakage FET differential dual and operational amplifiers.

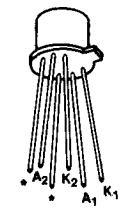
ABSOLUTE MAXIMUM RATINGS

(@ 25°C unless otherwise noted)

Maximum Temperatures	
Storage Temperature	-65°C to +200°C
Operating Junction Temperature	+200°C
Lead Temperature (soldering, 10 sec. time limit)	+300°C
Maximum Power Dissipation	
Device Dissipation @ Free Air Temperature	300 mW
Linear Derating	1.7 mW/°C
Maximum Voltages & Currents	
V_R Reverse Voltage	30 V
$V_{D_1D_2}$ Diode to Diode Voltage	±50 V
I_F Forward Current	20 mA
I_R Reverse Current	100 μA

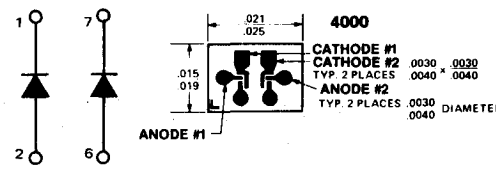
PIN CONFIGURATIONS

TO-71
TO-78



* These leads are not to be tied together nor connected to the circuit in any way.

CHIP TOPOGRAPHY



ORDERING INFORMATION

TO78	TO71	WAFER	CHIP
ID100	ID101	ID100/W	ID101/D

ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise noted)

PARAMETER		ID100, ID101 MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V_F	Forward Voltage Drop	0.8		1.1	V	I_F = 10 mA
BV_R	Reverse Breakdown Voltage	30			V	I_R = 1 μA
I_R	Reverse Leakage Current		0.1		pA	V_R = 1 V, T_A = 25°C
			2.0	10	pA	V_R = 10 V, T_A = 25°C
				10	nA	V_R = 10 V, T_A = 125°C
$\lvert I_{R_1} - I_{R_2} \rvert$	Differential Leakage Current			3	pA	V_R = 10 V
C_r	Total Reverse Capacitance		0.75	1	pF	V_R = 10 V, f = 1 MHz

TYPICAL CHARACTERISTICS OF ID100/ID101