

ID100, ID101

Dual Low Leakage Diode

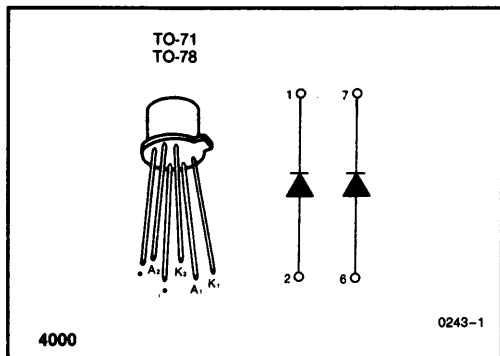


ID100, ID101

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.

PIN CONFIGURATIONS



ORDERING INFORMATION

TO78	TO71
ID100	ID101

ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	ID100, ID101			Units
			Min	Typ	Max	
V_F	Forward Voltage Drop	$I_F = 10\text{mA}$	0.8		1.1	V
BV_R	Reverse Breakdown Voltage	$I_R = 1\mu\text{A}$	30			V
I_R	Reverse Leakage Current	$V_R = 1\text{V}$		0.1		pA
		$V_R = 10\text{V}$		2.0	10	
		$T_A = 125^\circ\text{C}$			10	nA
$ I_{R1} - I_{R2} $	Differential Leakage Current	$V_R = 10\text{V}$			3	pA
C_{RSS}	Total Reverse Capacitance	$V_R = 10\text{V}, f = 1\text{Hz}$ (Note 1)		0.75	1	pF

NOTE 1: For design reference only, not 100% tested.

2: Pins 3 and 5 should not be connected together nor connected to the circuit in any way.

FEATURES

- $I_R = 0.1\text{pA}$ (Typical)
- $BV_R > 30\text{V}$
- $C_{RSS} = 0.75\text{pF}$ (Typical)

ABSOLUTE MAXIMUM RATINGS

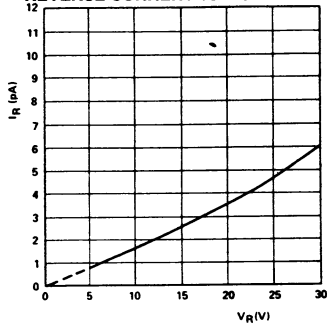
($T_A = 25^\circ\text{C}$ unless otherwise noted)

Diode Reverse Voltage	30V
Diode to Diode Voltage	$\pm 50\text{V}$
Forward Current	20mA
Reverse Current	100 μA
Storage Temperature Range	-65°C to $+200^\circ\text{C}$
Operating Temperature Range	-55°C to $+150^\circ\text{C}$
Lead Temperature (Soldering, 10sec)	$+300^\circ\text{C}$
Power Dissipation	300mW
Derate above 25°C	2.4mW/ $^\circ\text{C}$

NOTE: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

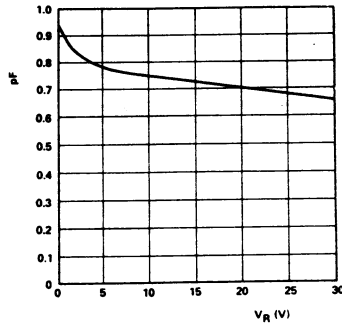
TYPICAL PERFORMANCE CHARACTERISTICS

REVERSE CURRENT vs. VOLTAGE



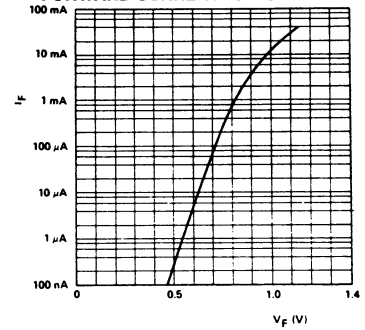
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CAPACITANCE vs. VOLTAGE



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FORWARD CURRENT vs. VOLTAGE



0243-5

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NOTE: All typical values have been characterized and are not tested.