

IT1700

P-Channel

Enhancement Mode MOSFET

General Purpose Amplifier



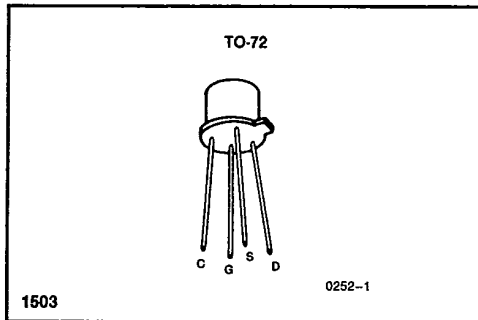
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IT1700

FEATURES

- Low ON-Resistance
- High Gain
- Low Noise Voltage
- High Input Impedance
- Low Leakage

PIN CONFIGURATION



ABSOLUTE MAXIMUM RATINGS

(T_A = 25°C unless otherwise noted)

Drain-Source and Gate-Source Voltage -40V
Peak Gate-Source Voltage (Note 1) ±125V
Drain Current 50mA
Storage Temperature -65°C to +200°C
Operating Temperature Range -55°C to +150°C
Lead Temperature (Soldering, 10sec) +300°C
Power Dissipation 375mW
Derate above 25°C 3mW/°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.

ORDERING INFORMATION

TO-72
IT1700

ELECTRICAL CHARACTERISTICS (T_A = 25°C and V_{BS} = 0 unless otherwise specified)

Symbol	Parameter	Test Conditions	Limits		Units
			Min	Max	
BV _{DSS}	Drain to Source Breakdown Voltage	V _{GS} = 0, I _D = -10μA	-40		V
BV _{SDS}	Source to Drain Breakdown Voltage	V _{GS} = 0, I _D = -10μA	-40		V
I _{GSS}	Gate Leakage Current		(See note 2)		
I _{DSS}	Drain to Source Leakage Current	V _{GS} = 0, V _{DS} = -20V		200	pA
I _{DSS} (150°C)	Drain to Source Leakage Current			0.4	μA
I _{SDS}	Source to Drain Leakage Current			400	pA
I _{SDS} (150°C)	Source to Drain Leakage Current			0.8	μA
V _{GS(th)}	Gate Threshold Voltage	V _{GS} = V _{DS} , I _D = -10μA	-2	-5	V
r _{DS(on)}	Static Drain to Source "on" Resistance	V _{GS} = -10V, V _{DS} = 0		400	ohms
I _{DS(on)}	Drain to Source "on" Current	V _{GS} = -10V, V _{DS} = -15V	2		mA
g _{fs}	Forward Transconductance Common Source	V _{DS} = -15V, I _D = -10mA f = 1kHz	2000	4000	μs
C _{iss}	Small Signal, Short Circuit, Common Source, Input Capacitance	V _{DS} = -15V, I _D = -10mA f = 1MHz (Note 3)		5	pF
C _{rbs}	Small Signal, Short Circuit, Common Source, Reverse Transfer Capacitance	V _{DS} = -15V, I _D = 0 f = 1MHz (Note 3)		1.2	pF
C _{oss}	Small Signal, Short Circuit, Common Source, Output Capacitance	V _{DS} = -15V, I _D = -10mA f = 1MHz (Note 3)		3.5	pF

- NOTES: 1. Device must not be tested at ±125V more than once nor longer than 300ms.
 2. Actual gate current is immeasurable. Package suppliers are required to guarantee a package leakage of <10pA. External package leakage is the dominant mode which is sensitive to both transient and storage environment, which cannot be guaranteed.
 3. For design reference only, not 100% tested.

INTERASIL'S SOLE AND EXCLUSIVE WARRANTY OBLIGATION WITH RESPECT TO THIS PRODUCT SHALL BE THAT STATED IN THE WARRANTY ARTICLE OF THE CONDITION OF SALE. THE WARRANTY SHALL BE EXCLUSIVE AND SHALL BE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE.

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

10