P-Channel Enhancement Mode MOSFET General Purpose Amplifier

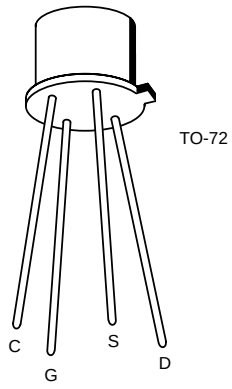
calogic CORPORATION

IT1700

FEATURES

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

PIN CONFIGURATION



1503

ABSOLUTE MAXIMUM RATINGS

(T_A = 25°C unless otherwise specified)

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

Part	Package	Temperature Range
IT1700	Hermetic TO-72	-55°C to +150°C
XIT1700	Sorted Chips in Carriers	-55°C to +150°C

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

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
BV_{DSS}	Drain to Source Breakdown Voltage	-40		V	V_{GS} = 0, I_D = -10µA
BV_{SDS}	Source to Drain Breakdown Voltage	-40		V	V_{GS} = 0, I_D = -10µA
I_{GSS}	Gate Leakage Current	(See note 2)			
I_{DSS}	Drain to Source Leakage Current		200	pA	V_{GS} = 0, V_{DS} = -20V
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	-2	-5	V	V_{GS} = V_{DS}, I_D = -10µA
$r_{DS(on)}$	Static Drain to Source "on" Resistance		400	ohms	V_{GS} = -10V, V_{DS} = 0
$I_{DS(on)}$	Drain to Source "on" Current	2		mA	V_{GS} = -10V, V_{DS} = -15V
g_{fs}	Forward Transconductance Common Source	2000	4000	µS	V_{DS} = -15V, I_D = -10mA, f = 1kHz
C_{iss}	Small Signal, Short Circuit, Common Source, Input Capacitance		5	pF	V_{DS} = -15V, I_D = -10mA f = 1MHz (Note 3)
C_{rss}	Small Signal, Short Circuit, Common Source, Reverse Transfer Capacitance		1.2	pF	V_{DG} = -15V, I_D = 0 f = 1MHz (Note 3)
C_{oss}	Small Signal, Short Circuit, Common Source, Output Capacitance		3.5	pF	V_{DS} = -15V, I_D = -10mA f = 1MHz (Note 3)

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.

littlediode
COMPONENTS FOR ALL

Littlediode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.