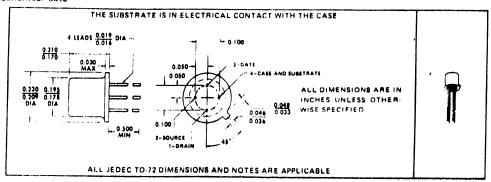
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TYPE 3N128 N-CHANNEL INSULATED-GATE DEPLETION-TYPE FIELD-EFFECT TRANSISTOR

*mechanical data



handling precautions

Curve-tracer testing and static-charge buildup are common causes of damage to insulated-gate devices. Permanent damage may result if either gate-voltage rating is exceeded even for extremely short time periods. Each transistor is protected during shipment by a gate-shorting device, which should be removed only during testing and after permanent mounting of the transistor. Personnel and equipment, including soldering irons, should be grounded

*absolute maximum ratings at 25°C free-air temperature (unless otherwise noted)

Drain Gate Voltage	 20 V
Drain Source Voltage (See Note 1)	
Forward Gate Source Voltage	1 V
Reverse Gate-Source Voltage	-8 V
Peak Drain Current (See Note 2)	. 50 mA
Continuous Device Dissipation at for below) 25°C Free Air Temperature (See Note 3)	330 mW
Storage Temperature Range	-65°C to 175°C
	265°C

 $NOTES = 1. \ \ \, This rating applies when the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the source of the substrate is at the same potential as the substrate is at the substrate$

This value applies for t_W < 20 μs, duty cycle < 1%.
 Derate linearly to 175°C free-air temperature at the rate of 2.2 mW/ C

*electrical characteristics at 25"C free-air temperature (unless otherwise noted)

	PARAMETER	TEST CONDITIONS!	MIN	MAX	UNIT
GSSF	Forward Gate Terminal Current	VGS = 1 V. VDS = 0	1	50	ρA
[†] GSSR	Reverse Gate-Terminal Current	VGS8 V. VDS - 0		-50	pΑ
		VGS8 V. VDS - 0. TA - 125°C		5	nA
VGS(off)	Gate-Source Cutoff Current	Vos = 15 V. 10 = 50 µA	0.E	8	V
10 5\$	Zero-Gate-Voltage Drain Current	VDS = 15 V. VGS · D. See Note 4	5	25	mA
Mis	Small-Signal Common-Source Forward Transfer Admittance	VDS = 15 V, 10 = 5 mA, 1 = 1 kHz	5	12	mmho
C,59	Common-Source Short-Circuit Input Capacitance	VDS * 15 V, ID * 5 mA, 1 = 0 1 to 1 MHz		7	pF
Crss	Common-Source Short-Circuit Reverse Transfer Capacitance	VDS = 15 V. 1p = 5 mA = 1 = 0.1 to 1 MHz	0.16	0.36	ρF
915	Small Signal Common-Source Input Conductance	VDS = 15 V, 1D = 5 mA, 1 = 200 MHz		800	μmho
901	Small-Signal Common Source Output Conductance	VDS * 16 V. ID = 5 mA, 1 - 200 MHz		500	umho

*operating characteristics at 25°C free-air temperature

	PARAMETER	TEST CONDITIONS!	MIN	MAX	UNIT
F	Common Source Spot Noise Eigure	VDS = 15 V, In - 5 mA (- 200 MHz See Figure 1		5	₫₿
Gps	Signal Signal Common Source I sention Power Gain	VDD 4 16 V. 1 × 200 MHz. See Figure 1	13.5	21	υB
8	Bandwidth (6 dB)		10	15	MHz

asurements are made with the substrate connected to the source

This parameter must be measured using pulse techniques, to, < 20 ms, duty cycle is 15%



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders