New Jersey Semi-Conductor Products, Inc.

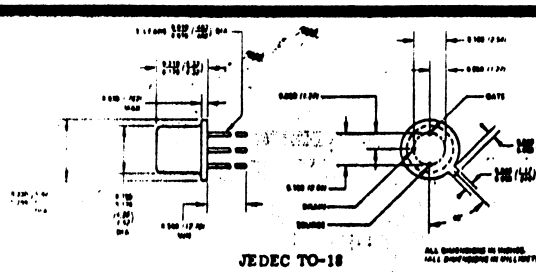
20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

2N3458
2N3459
2N3460

N-CHANNEL SILICON JUNCTION FIELD-EFFECT TRANSISTORS

FOR SMALL-SIGNAL LOW-NOISE APPLICATIONS



JEDEC TO-18
Gate is in electrical contact with case.

PRODUCT CONDITIONING

Units receive the following treatment before final electrical tests:

High Temp Storage: 24 Hours at 150°C
Thermal Shock: +100 to 0°C for 5 Cycles
25,000g Acceleration/Impact in the Y_1 Plane
Helium and/or Gross Leak Tests for Hermeti

*ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage (Note 1) ..... -5
Gate Current 10
Total Device Dissipation at (or below) 25°C Free-Air Temperature (Note 2) 300
Storage Temperature Range ..... -65 to +20

*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

	Characteristic	Test Conditions		2N3458		2N3459		2N3460		Un
				Min	Max	Min	Max	Min	Max	
I_{GSS}	Gate Reverse Current	V_{GS} = -30 V, V_{DS} = 0	25°C		-0.25		-0.25		-0.25	nA
			150°C		-0.5		-0.5		-0.5	μA
BV_{DGO}	Drain-Gate Breakdown Voltage	I_D = 1 μA, I_S = 0		-50		-50		-50		V
$I_{D(OFF)}$	Drain Cutoff Current	V_{DS} = 20 V, V_{GS} = ( )			1 (-8)		1 (-4)		1 (-2)	nA (V)
V_P	Gate-Source Pinch-Off Voltage	V_{DS} = 20 V, I_D = 1 μA			-7.8		-3.4		-1.8	V
I_{DSS}	Drain Current at Zero Gate Voltage	V_{DS} = 20 V, V_{GS} = 0		3.0	15.0	0.8	4.0	0.2	1.0	mA
g_{fs}	Common-Source Forward Transconductance	V_{DS} = 20 V, V_{GS} = 0, f = 1 kHz		2500	10,000	1500	6000	800	4500	μmho
g_{oss}	Common-Source Output Conductance (Input Shorted)	V_{DS} = 30 V, V_{GS} = 0, f = 1 MHz			35		20		5	μmho
C_{oss}	Common-Source Output Capacitance (Input Shorted)	V_{DS} = 30 V, V_{GS} = 0, f = 1 MHz			5		5		5	pF
C_{iss}	Common-Source Input Capacitance (Output Shorted)	V_{GS} = 0, V_{DS} = ( ), f = 1 MHz			18 (10)		18 (6)		18 (4)	pF (V)
NF	Noise Figure	V_{DS} = 10 V, V_{GS} = 0, f = 20 Hz, R_{gen} = 1 meg, BW = 6 Hz			6		4		4	dB

NOTES:

1. Due to symmetrical geometry, these units may be operated with source and drain leads interchanged.
2. Derate linearly to 200°C free-air temperature at rate of 1.7 mW/°C.

*JEDEC registered data.