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NTE489
Silicon P–Channel JFET Transistor
General Purpose AF Amplifier
TO92 Type Package

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

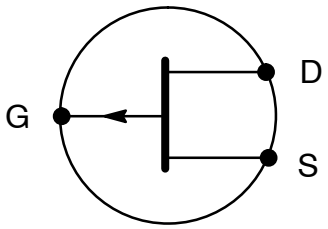
Gate–Drain Voltage (Note 1), V_{GD} 30V
Gate–Source Voltage (Note 1), V_{GS} 30V
Gate Current, I_G . . . . . –50mA
Total Device Dissipation (T_A = +25°C), P_D 360mW
Derate Above 25°C . . . . . 3.27mW/°C
Operating Junction Temperature Range, T_J . . . . . –55° to +135°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C
Lead Temperature (During Soldering, 1/16" from case for 10sec), T_L . . . . . +300°C

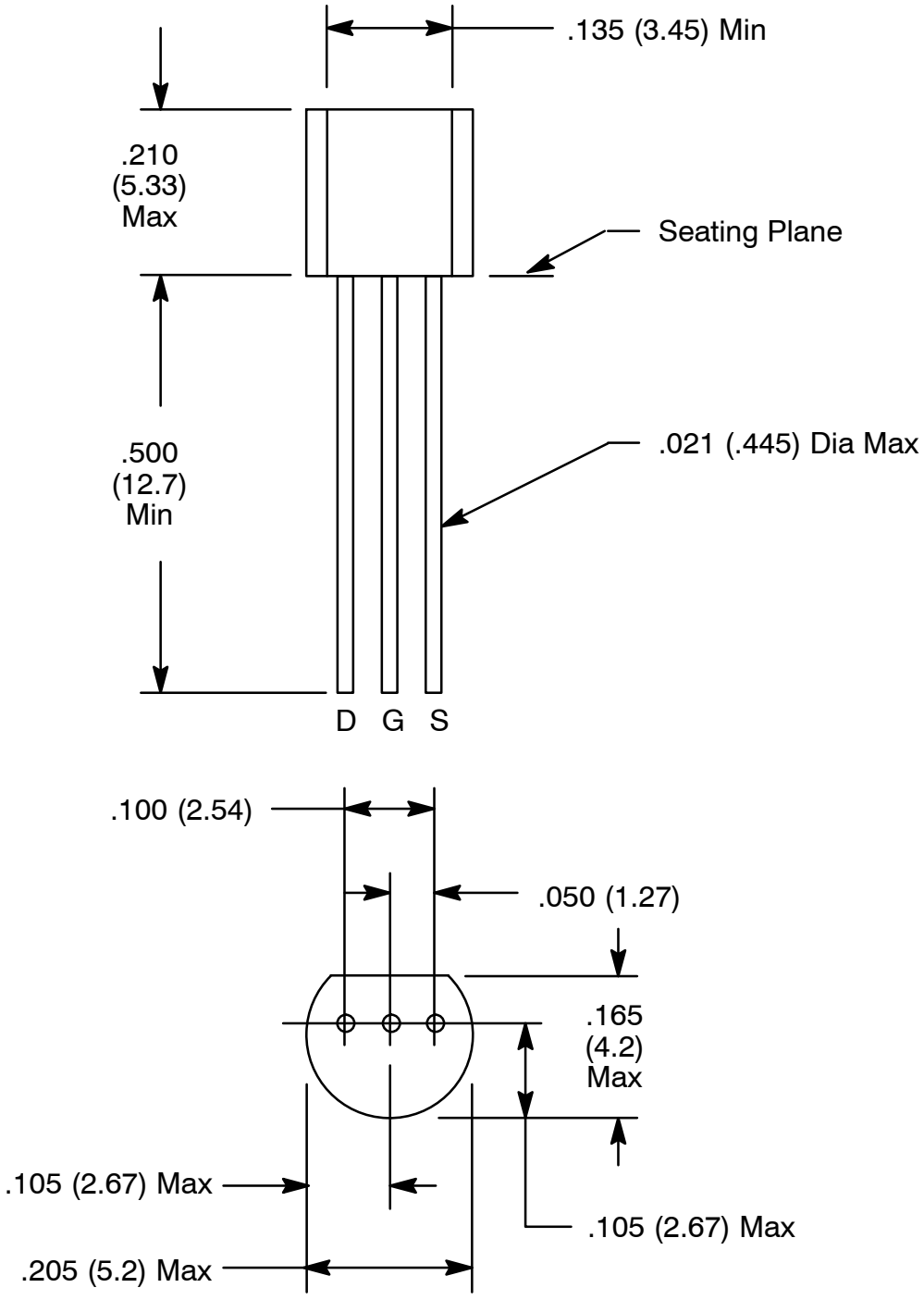
Note 1. Geometry is symmetrical. Units may be operated with source and drain leads interchanged.

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Gate–Source Breakdown Voltage	$V_{(BR)GSS}$	I_G = 1° A, V_{DS} = 0	30	–	–	V
Gate Reverse Current	I_{GSS}	V_{GS} = 20V, V_{DS} = 0, Note 2	–	–	200	pA
Gate–Source Cutoff Voltage	$V_{GS(off)}$	I_D = –1nA, V_{DS} = –15V	0.5	–	2.0	V
Gate Current	I_G	I_D = –2mA, V_{DG} = –15V, Note 2	–	15	–	pA
Saturation Drain Current	I_{DSS}	V_{DS} = –15V, V_{GS} = 0	–2	–	–15	mA
Dynamic Characteristics						
Common–Source Forward Transconductance	g_{fs}	V_{DS} = –15V, V_{GS} = 0, f = 1kHz, Note 3	6000	–	15000	° mho
Common–Source Output Conductance	g_{os}	V_{DS} = –15V, V_{GS} = 0, f = 1kHz	–	–	200	° mho
Common–Source Input Capacitance	C_{iss}	V_{DS} = –15V, V_{GS} = 0, f = 1MHz	–	32	–	pF
Common–Source Reverse Transfer Capacitance	C_{rss}	V_{DS} = –15V, V_{GS} = 0, f = 1MHz	–	4	–	pF
Equivalent Short–Circuit Input Noise Voltage	e_n	V_{DS} = –10V, I_D = –2mA, f = 1kHz	–	6	–	$\frac{nV}{\sqrt{Hz}}$

Note 2. Approximately doubles for every 10°C increase in T_A.
Note 3. Pulse test duration = 2ms.


G
D
S


.135 (3.45) Min
.210
(5.33)
Max
Seating Plane
.500
(12.7)
Min
.021 (.445) Dia Max
D G S
.100 (2.54)
.050 (1.27)
.165
(4.2)
Max
.105 (2.67) Max
.105 (2.67) Max
.205 (5.2) Max