

New Jersey Semi-Conductor Products, Inc.

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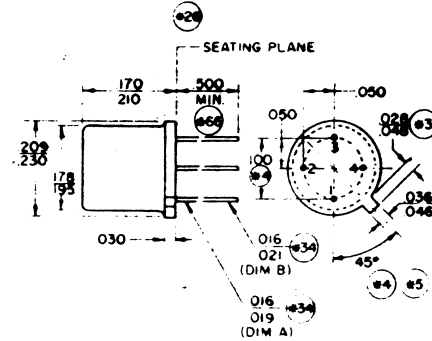
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MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	Vdc
Drain-Gate Voltage	V_{DG}	60	Vdc
Reverse Gate-Source Voltage	$V_{GS(r)}$	60	Vdc
Drain Current	I_D	20	mAdc
Gate Current-forward	$I_{G(f)}$	10	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300 2.0	mW mW/°C
Storage Temperature Range	T_{stg}	-85 to +200	°C
Operating Junction Temperature Range	T_J	-85 to +175	°C

TO-72



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Gate-Source Breakdown Voltage ($I_G = 10 \mu\text{Adc}$, $V_{DS} = 0$)	$V_{(BR)GSS}$	60	-	Vdc
Gate-Source Cutoff Voltage ($V_{DS} = 15 \text{ Vdc}$, $I_D = 1.0 \mu\text{Adc}$)	$V_{GS(off)}$	-	3.0 6.0 8.0	Vdc
Gate Reverse Current ($V_{GS} = 30 \text{ Vdc}$, $V_{DS} = 0$) ($V_{GS} = 30 \text{ Vdc}$, $V_{DS} = 0$, $T_A = 150^\circ\text{C}$)	I_{GSS}	-	2.0 2.0	nAdc μAdc

ON CHARACTERISTICS

Zero-Gate Voltage Drain Current ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$)	I_{DSS}	0.5 0.8 1.5 2.5 4.0 7.0	1.0 1.6 3.0 5.0 8.0 14	mAdc
Gate-Source Voltage ($V_{DS} = 15 \text{ Vdc}$, $I_D = 0.05 \text{ mAdc}$)	V_{GS}	0.3	1.5	Vdc
($V_{DS} = 15 \text{ Vdc}$, $I_D = 0.08 \text{ mAdc}$)		0.4	2.0	
($V_{DS} = 15 \text{ Vdc}$, $I_D = 0.15 \text{ mAdc}$)		1.0	4.0	
($V_{DS} = 15 \text{ Vdc}$, $I_D = 0.25 \text{ mAdc}$)		1.0	4.0	
($V_{DS} = 15 \text{ Vdc}$, $I_D = 0.4 \text{ mAdc}$)		2.0	6.0	
($V_{DS} = 15 \text{ Vdc}$, $I_D = 0.7 \text{ mAdc}$)		2.0	6.0	

SMALL-SIGNAL CHARACTERISTICS

Forward Transadmittance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$)	$ y_{fs} $	900 1000 1500 2000 2200 2500	2700 3000 3500 4000 4500 5000	μmhos
Forward Transconductance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 100 \text{ MHz}$)	$\text{Re}(y_{fs})$	800 900 1400 1700 1900 2100	- - - - -	μmhos
Output Admittance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$)	y_{os}	-	75	μmhos
Input Capacitance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{iss}	-	7.0	pF
Reverse Transfer Capacitance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{rss}	-	2.0	pF
Common-Source Noise Figure ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $R_G = 1.0 \text{ M ohm}$, $f = 100 \text{ Hz}$, $\text{BW} = 1.0 \text{ Hz}$)	NF	-	2.5	dB
Equivalent Short-Circuit Input Noise Voltage ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 100 \text{ Hz}$, $\text{BW} = 1.0 \text{ Hz}$)	e_n	-	115	nV $\sqrt{\text{Hz}}$