



**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Drain-Source Voltage	V <sub>DS</sub>	25 20	V <sub>dc</sub>
Gate-Source Voltage	V <sub>GS</sub>	± 10	V <sub>dc</sub>
Drain Current	I <sub>D</sub>	20	mA <sub>dc</sub>
Total Device Dissipation @ T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	200 114	mW mW/°C
Junction Temperature Range	T <sub>J</sub>	- 175	°C
Storage Channel Temperature Range	T <sub>stg</sub>	- 65 to + 200	°C

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted.)**

Characteristic	Symbol	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>					
Drain-Source Breakdown Voltage (V <sub>GS</sub> = - 4.0 V, I <sub>D</sub> = 5.0 μA) (V <sub>GS</sub> = - 7.0 V, I <sub>D</sub> = 5.0 μA)	V <sub>(BR)DSX</sub>	25 20	30 25	—	V <sub>dc</sub>
Gate Reverse Current(1) (V <sub>GS</sub> = - 10 V, V <sub>DS</sub> = 0) (V <sub>GS</sub> = - 10 V, V <sub>DS</sub> = 0, T <sub>A</sub> = 150°C)	I <sub>GSS</sub>	—	—	1.0 200	pA <sub>dc</sub>
Gate Source Cutoff Voltage (I <sub>D</sub> = 0.5 μA, V <sub>DS</sub> = 10 V) (I <sub>D</sub> = 2.0 μA, V <sub>DS</sub> = 10 V)	V <sub>GS(off)</sub>	—	3.0 5.0	- 4.0 - 7.0	V <sub>dc</sub>
Drain-Gate Reverse Current(1) (V <sub>DG</sub> = 10 V, I <sub>S</sub> = 0)	I <sub>DGO</sub>	—	—	1.0	pA <sub>dc</sub>
<b>ON CHARACTERISTICS</b>					
Zero-Gate-Voltage Drain Current (V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0)	I <sub>DSS</sub>	0.5 2.0	1.5 2.9	3.0 6.0	mA <sub>dc</sub>
On-State Drain Current (V <sub>DS</sub> = 10 V, V <sub>GS</sub> = + 3.5 V)	I <sub>D(on)</sub>	7.0 9.0	8.3 14	14 18	mA <sub>dc</sub>
<b>SMALL-SIGNAL CHARACTERISTICS</b>					
Forward Transfer Admittance (V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0, f = 1.0 kHz)	Y <sub>fs</sub>	900 1500	1200 2300	1800 3000	μmhos
(V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0, f = 1.0 MHz)		900 1500	— —	— —	
Output Admittance (V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0, f = 1.0 kHz)	Y <sub>os</sub>	—	12 27	25 60	μmhos
Input Capacitance (V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0, f = 1.0 MHz)	C <sub>iss</sub>	—	5.0 6.0	7.0 8.0	pF
Reverse Transfer Capacitance (V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0, f = 1.0 MHz)	C <sub>rss</sub>	—	0.5	0.8	pF
<b>FUNCTIONAL CHARACTERISTICS</b>					
Noise Figure (V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0, f = 1.0 kHz, R <sub>S</sub> = 3 megohms)	NF	—	3.8	—	dB

(1) This value of current includes both the FET leakage current as well as the leakage current associated with the test socket and fixture when measured under best attainable conditions.

