

N-Channel JFETs

J210 **SSTJ211**
J211 **SSTJ212**
J212

PRODUCT SUMMARY				
Part Number	$V_{GS(off)}$ (V)	$V_{(BR)GSS}$ Min (V)	g_{fs} Min (mS)	I_{DSS} Min (mA)
J210	-1 to -3	-25	4	2
J/SSTJ211	-2.5 to -4.5	-25	6	7
J/SSTJ212	-4 to -6	-25	7	15

FEATURES

- Excellent High Frequency Gain: J211/212, Gps 12 dB (typ) @ 400 MHz
- Very Low Noise: 3 dB (typ) @ 400 MHz
- Very Low Distortion
- High ac/dc Switch Off-Isolation
- High Gain: $A_V = 35$ @ 100 μ A

BENEFITS

- Wideband High Gain
- Very High System Sensitivity
- High Quality of Amplification
- High-Speed Switching Capability
- High-Quality Low-Level Signal Amplification

APPLICATIONS

- High-Frequency Amplifier/Mixer
- Oscillator
- Sample-and-Hold
- Very Low Capacitance Switches

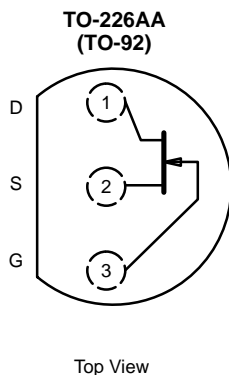
DESCRIPTION

The J/SSTJ210 Series n-channel JFETs are general-purpose and high-frequency amplifiers for a wide range of applications. These devices feature low leakage ($I_{GSS} < 100$ pA).

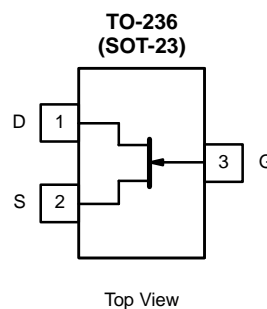
capability. The J/SSTJ210 Series is available in tape-and-reel for automated assembly (see Packaging Information).

The TO-226AA (TO-92) plastic package, provides low cost while the TO-236 (SOT-23) package provides surface-mount

For similar dual products, see the 2N5911/5912 and U440/441 data sheets.



J210
J211
J212



SSTJ211 (Z1)*
SSTJ212 (Z2)*
*Marking Code for TO-236

For applications information see AN104.



ABSOLUTE MAXIMUM RATINGS

Gate-Drain, Gate-Source Voltage -25 V
 Gate Current 10 mA
 Lead Temperature (1/16" from case for 10 sec.) 300°C
 Storage Temperature -55 to 150°C

Operating Junction Temperature -55 to 150°C
 Power Dissipation^a 350 mW

Notes

a. Derate 2.8 mW/°C above 25°C

SPECIFICATIONS (T _A = 25°C UNLESS OTHERWISE NOTED)										
Parameter	Symbol	Test Conditions	Typ ^a	Limits						Unit
				J210		J/SSTJ211		J/SSTJ212		
				Min	Max	Min	Max	Min	Max	
Static										
Gate-Source Breakdown Voltage	V _{(BR)GSS}	I _G = -1 μA, V _{DS} = 0 V	-35	-25		-25		-25		V
Gate-Source Cutoff Voltage	V _{GS(off)}	V _{DS} = 15 V, I _D = 1 nA		-1	-3	-2.5	-4.5	-4	-6	
Saturation Drain Current ^b	I _{DSS}	V _{DS} = 15 V, V _{GS} = 0 V		2	15	7	20	15	40	mA
Gate Reverse Current	I _{GSS}	V _{GS} = -15 V, V _{DS} = 0 V	-1		-100		-100		-100	pA
		T _A = 125°C	-0.5							nA
Gate Operating Current ^a	I _G	V _{DG} = 10 V, I _D = 1 mA	-1							pA
Drain Cutoff Current	I _{D(off)}	V _{DS} = 10 V, V _{GS} = -8 V	1							
Gate-Source Forward Voltage	V _{GS(F)}	I _G = 1 mA, V _{DS} = 0 V	0.7							V
Dynamic										
Common-Source Forward Transconductance ^b	g _{fs}	V _{DS} = 15 V, V _{GS} = 0 V f = 1 kHz		4	12	6	12	7	12	mS
Common-Source Output Conductance	g _{os}				150		200		200	μS
Common-Source Input Capacitance	C _{iss}	V _{DS} = 15 V, V _{GS} = 0 V f = 1 MHz	4							pF
Common-Source Reverse Transfer Capacitance	C _{rss}		1.5							
Equivalent Input Noise Voltage	e _n	V _{DS} = 15 V, V _{GS} = 0 V f = 1 kHz	5							nV/ √Hz

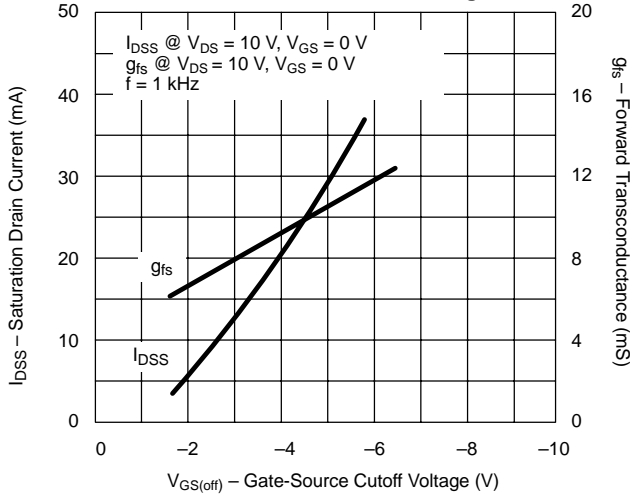
Notes

- a. Typical values are for DESIGN AID ONLY, not guaranteed nor subject to production testing.
- b. Pulse test: PW ≤ 300 μs duty cycle ≤ 3%.

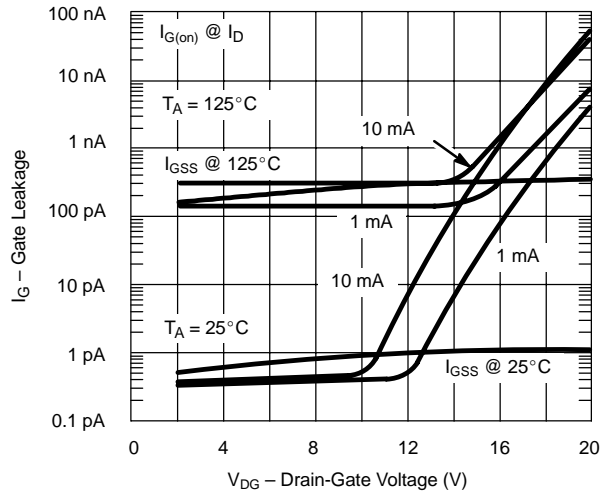
NZF

TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

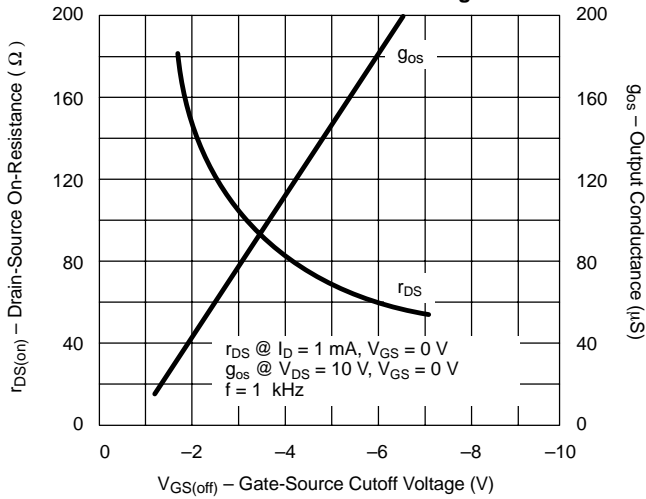
Drain Current and Transconductance vs. Gate-Source Cutoff Voltage



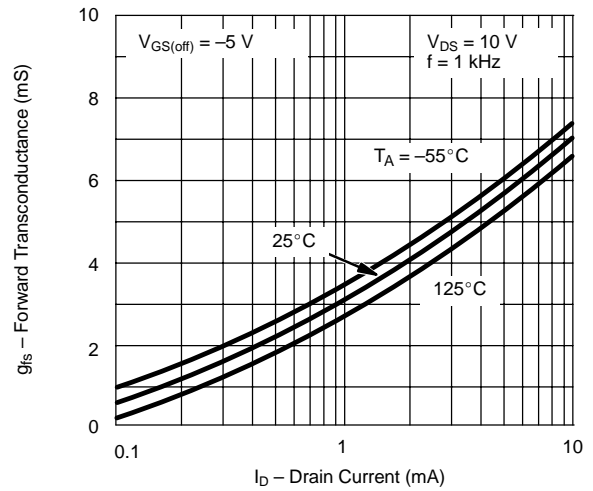
Gate Leakage Current



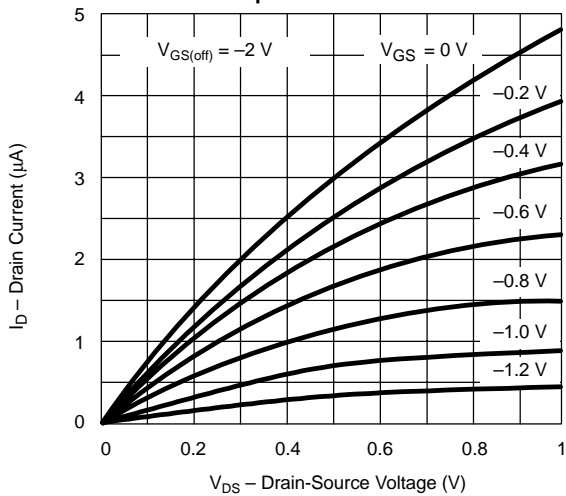
On-Resistance and Output Conductance vs. Gate-Source Cutoff Voltage



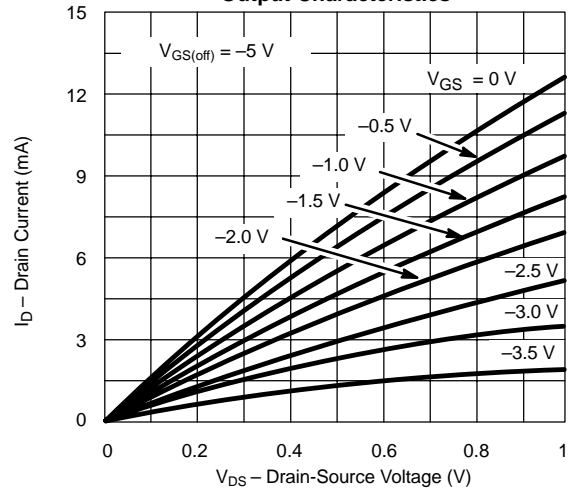
Common-Source Forward Transconductance vs. Drain Current



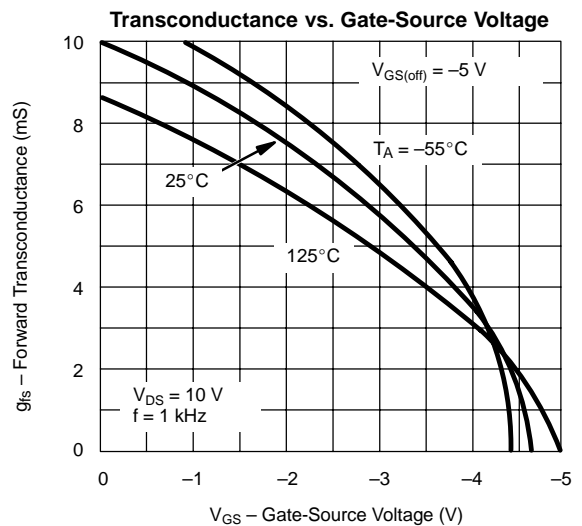
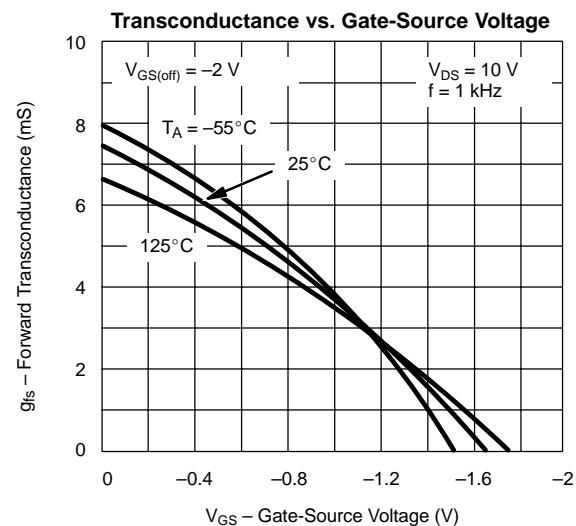
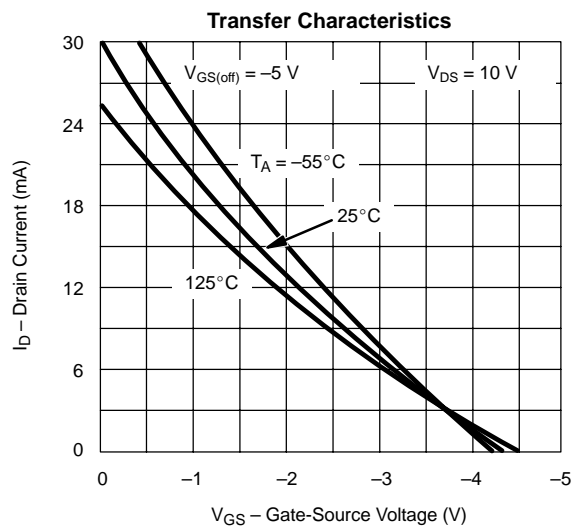
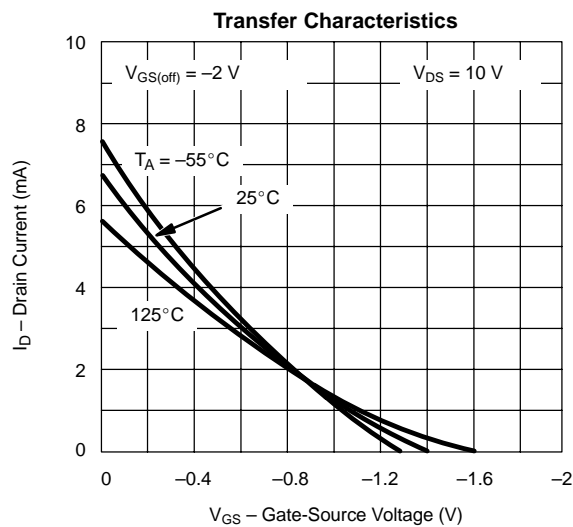
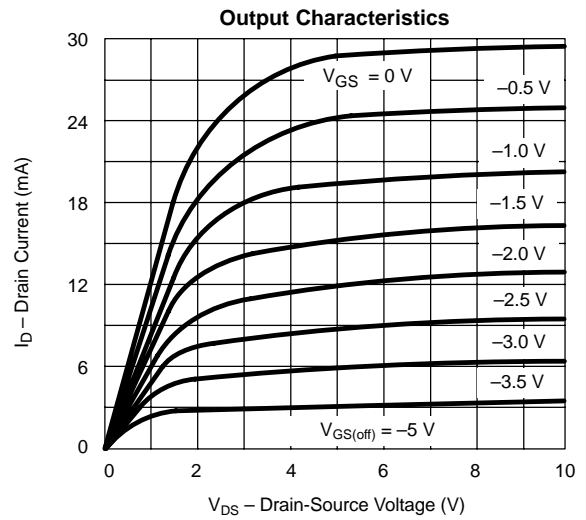
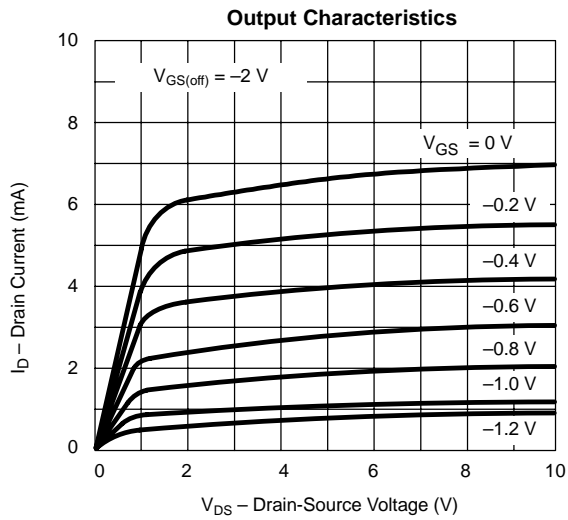
Output Characteristics



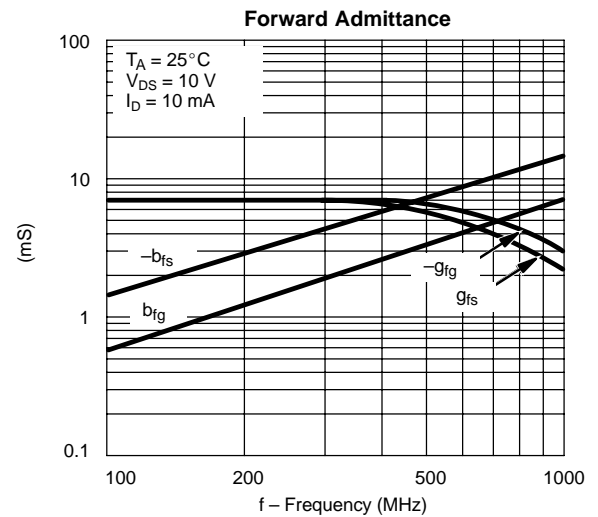
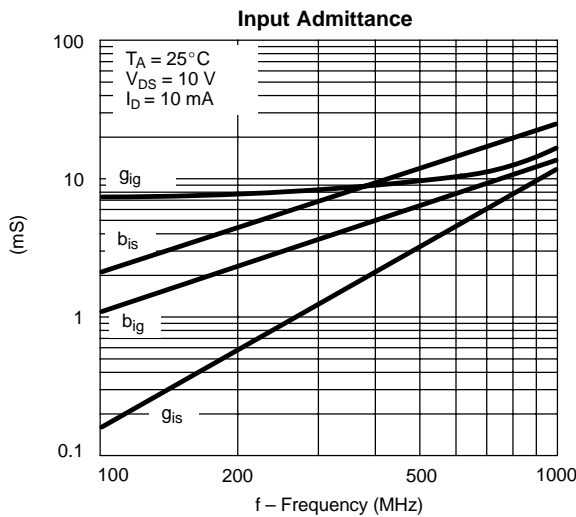
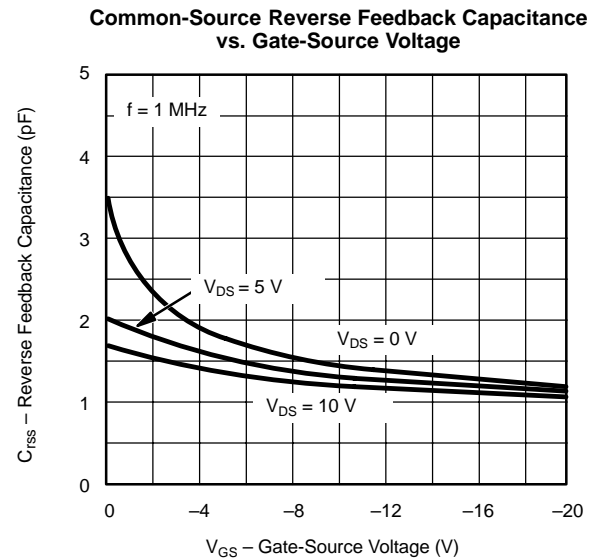
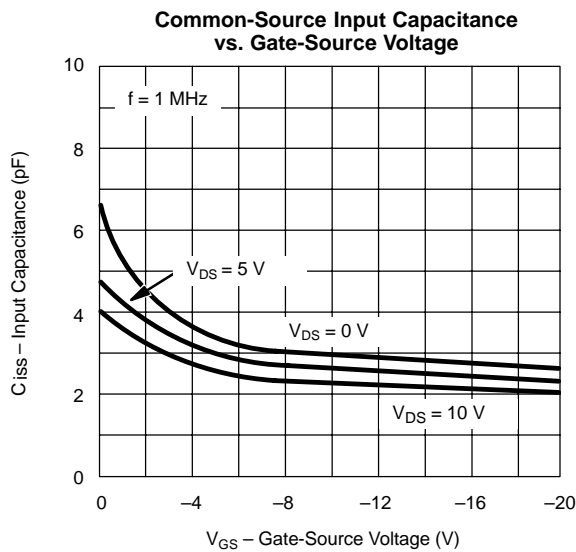
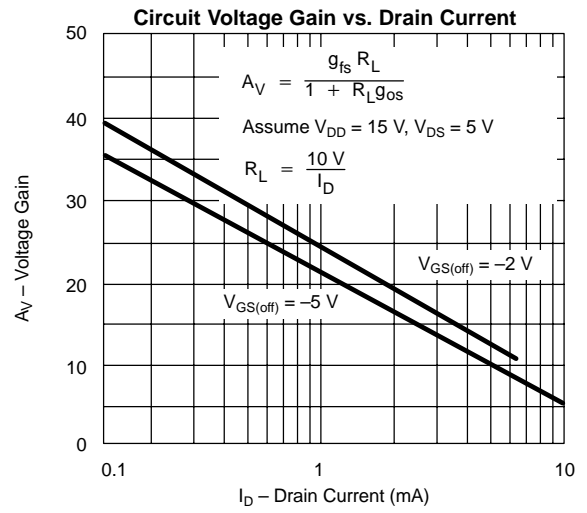
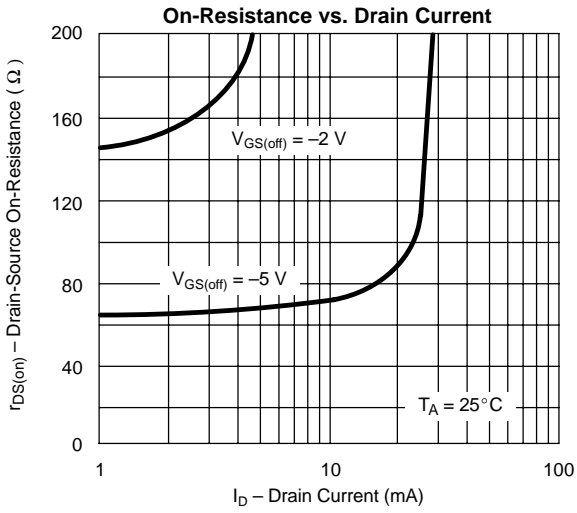
Output Characteristics



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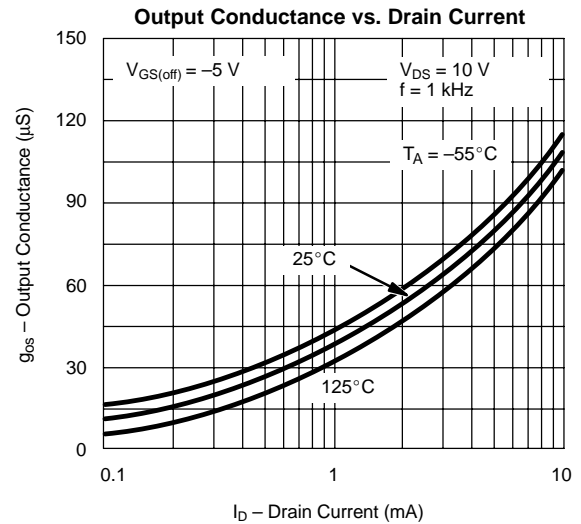
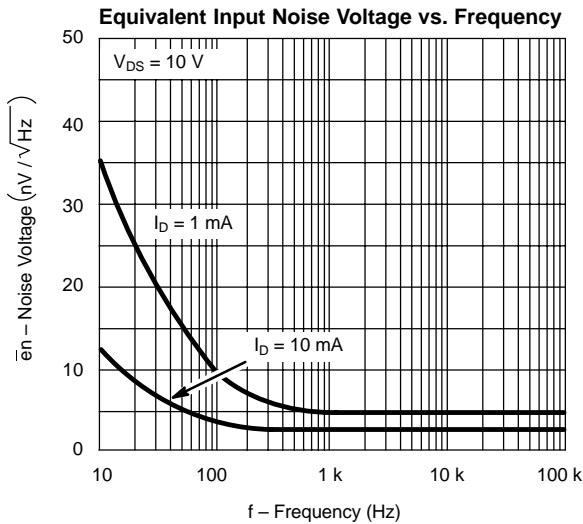
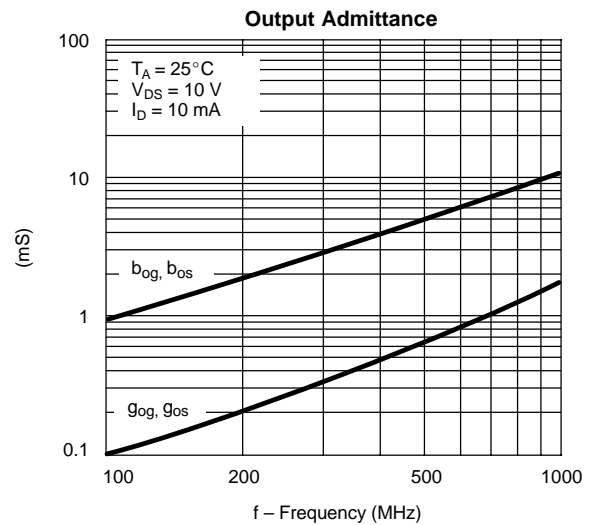
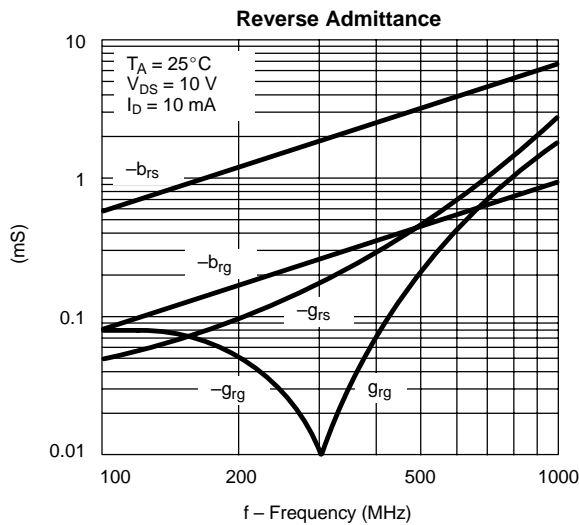


TYPICAL CHARACTERISTICS (T_A = 25°C UNLESS OTHERWISE NOTED)





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