

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

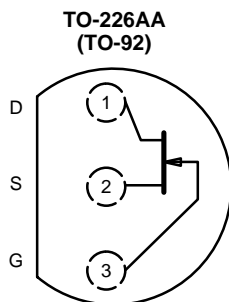
DESCRIPTION

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).

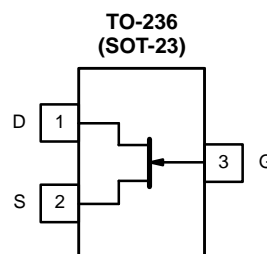
The TO-226AA (TO-92) plastic package, provides low cost while the TO-236 (SOT-23) package provides surface-mount

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



Top View

J210
J211
J212



Top View

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

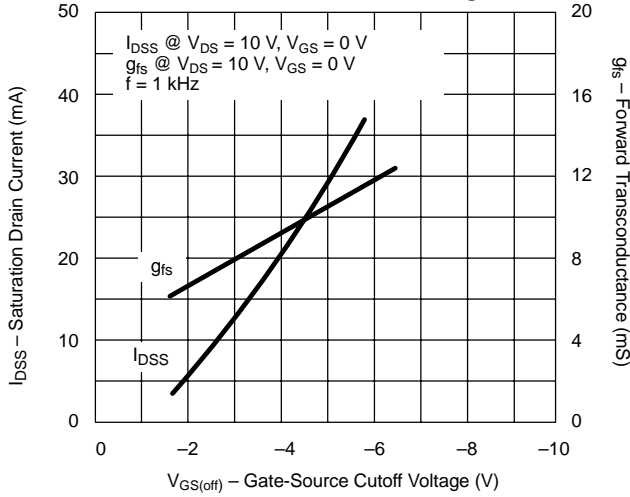
Notes

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

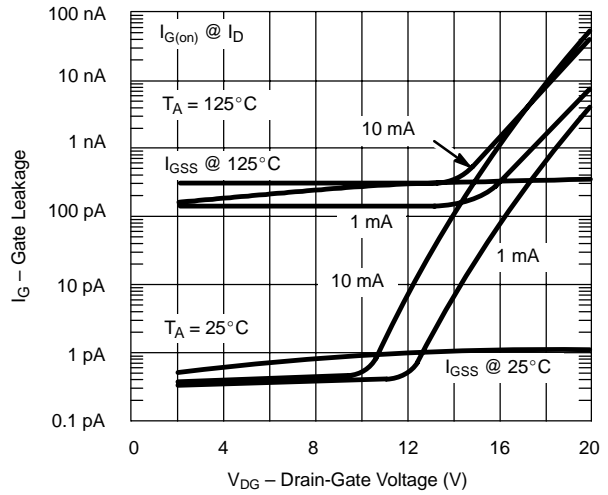
NZF

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

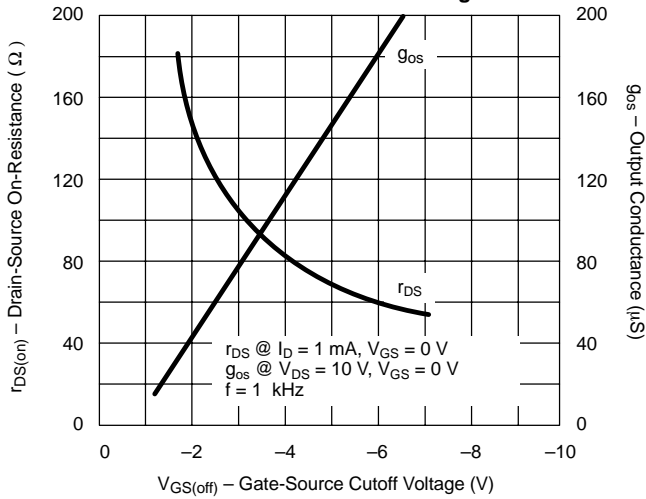
Drain Current and Transconductance vs. Gate-Source Cutoff Voltage



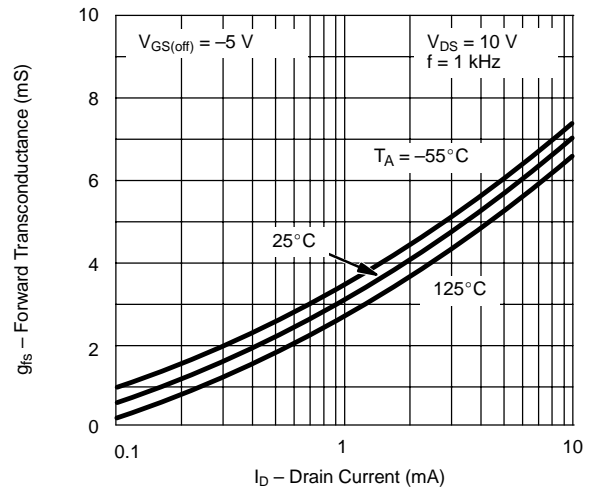
Gate Leakage Current



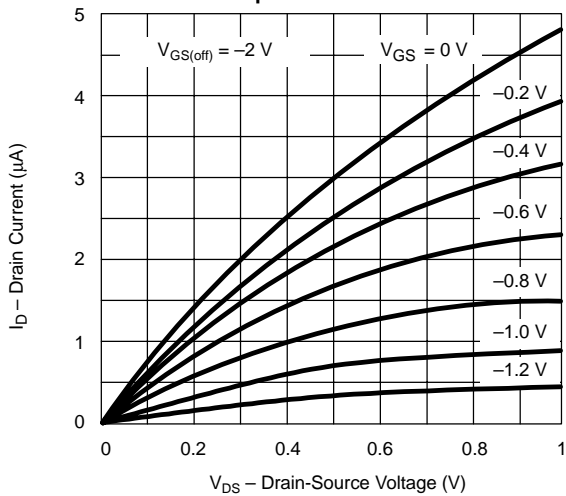
On-Resistance and Output Conductance vs. Gate-Source Cutoff Voltage



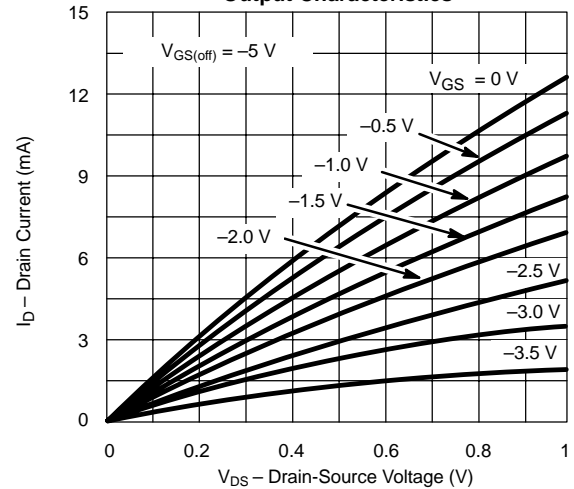
Common-Source Forward Transconductance vs. Drain Current



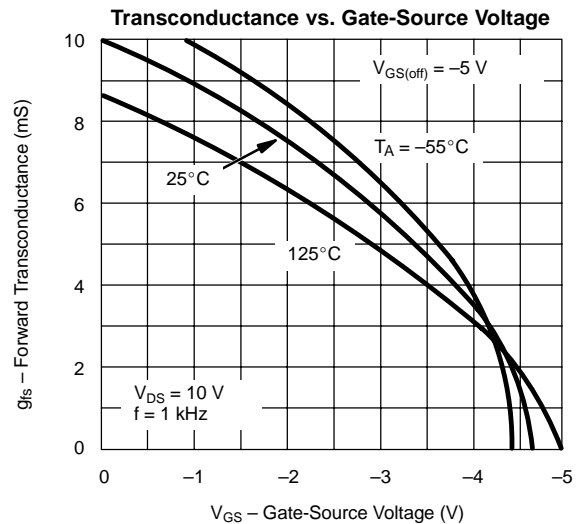
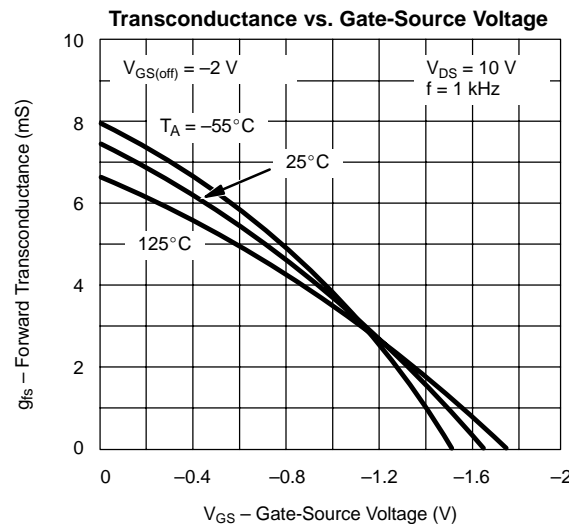
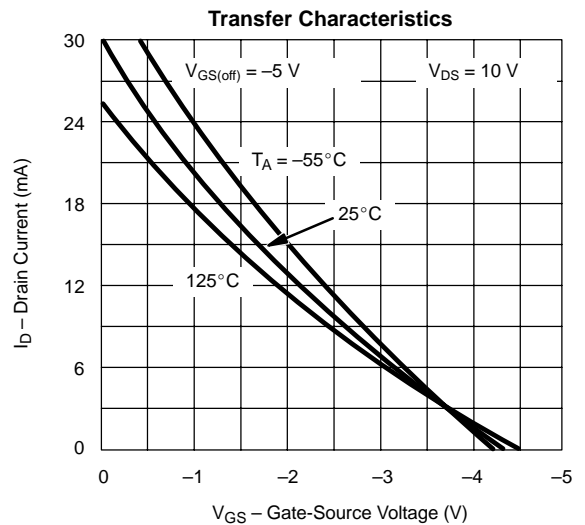
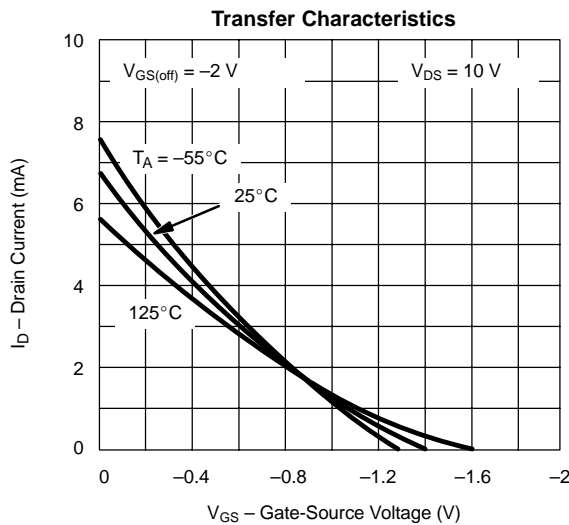
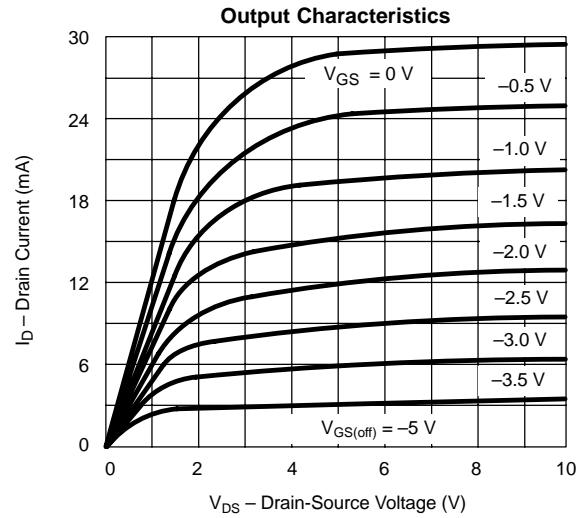
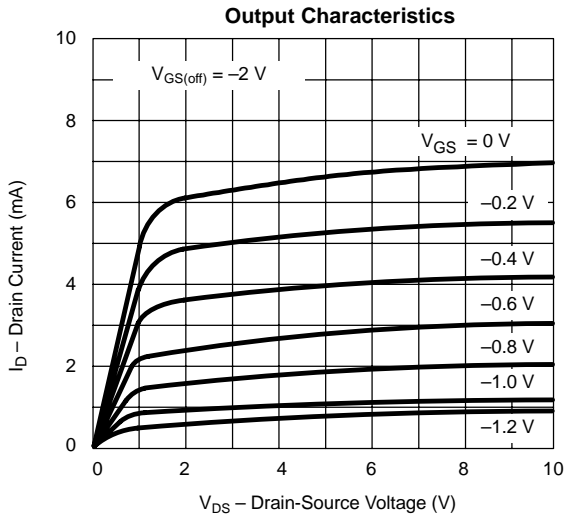
Output Characteristics



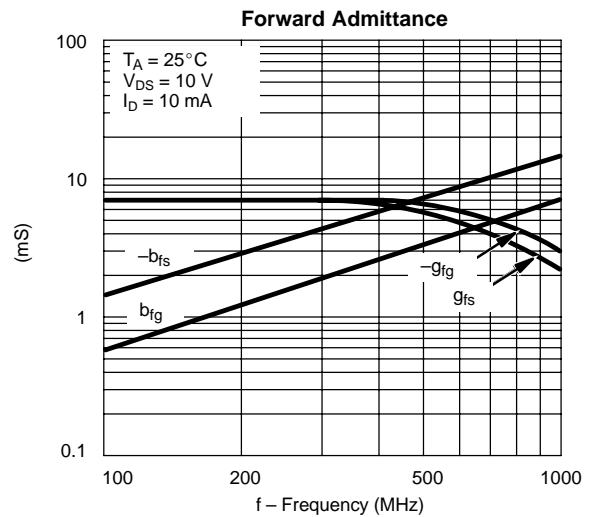
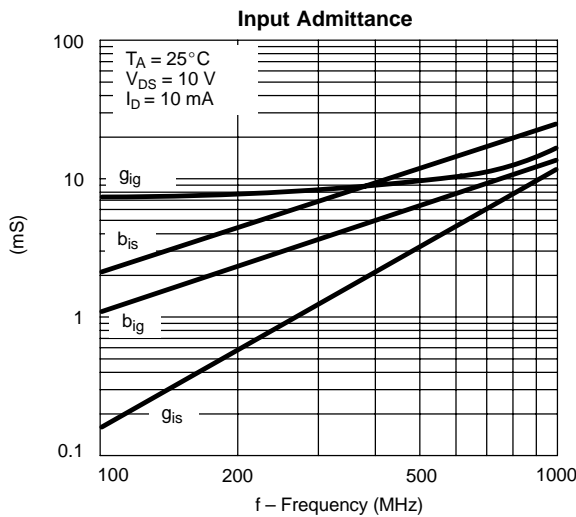
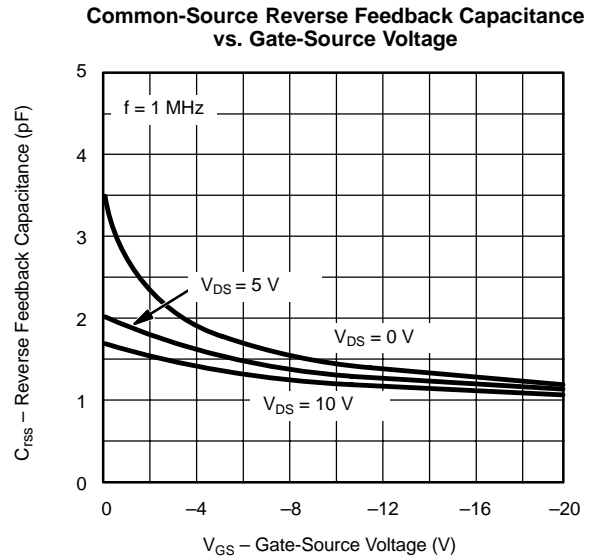
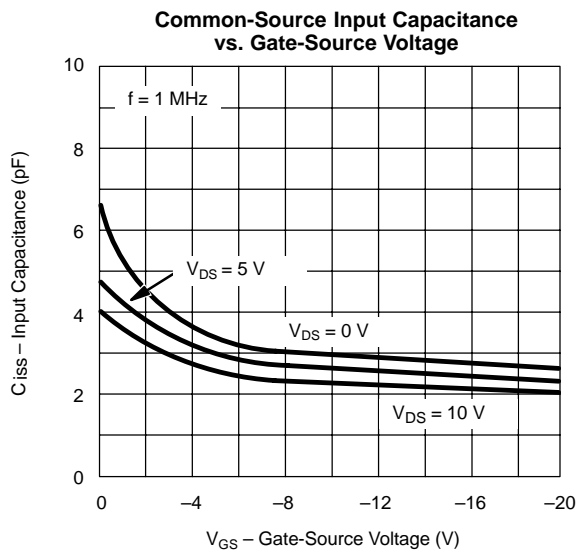
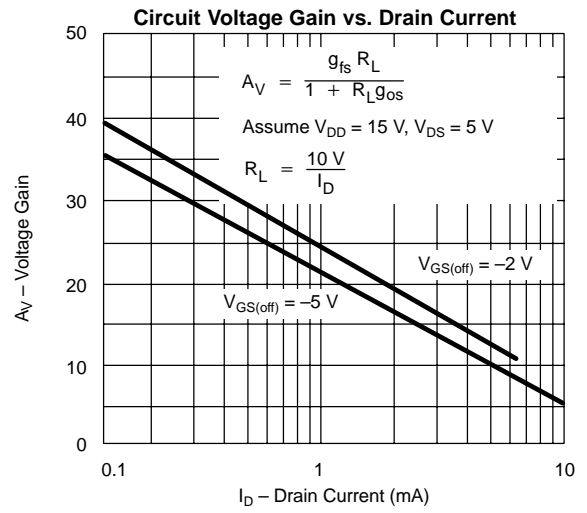
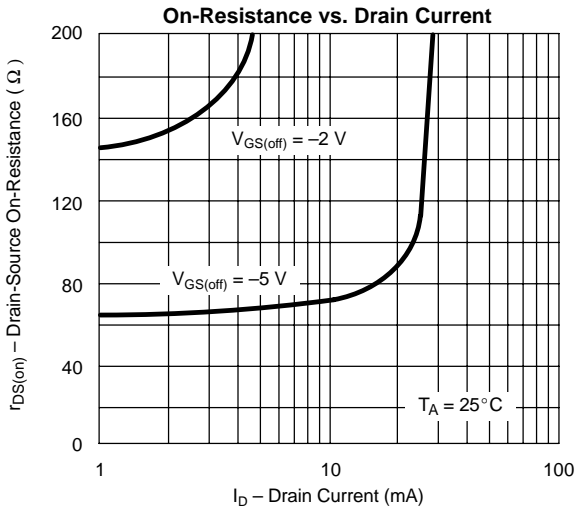
Output Characteristics



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

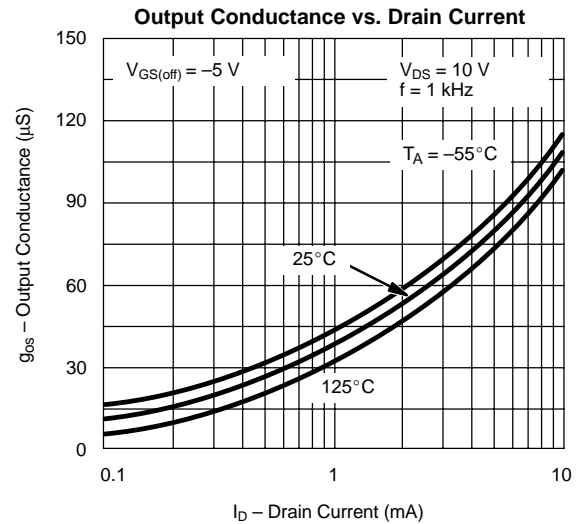
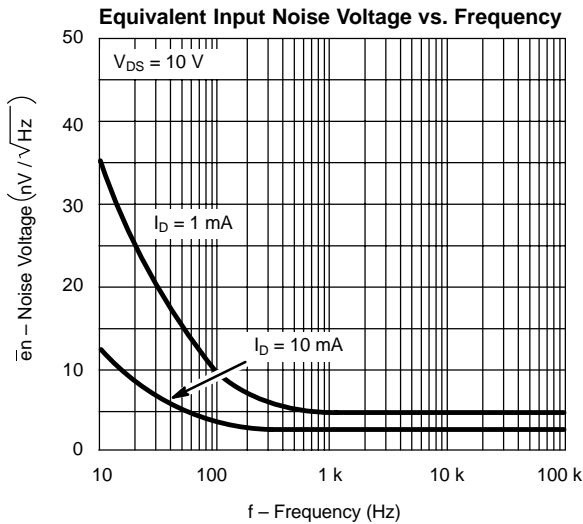
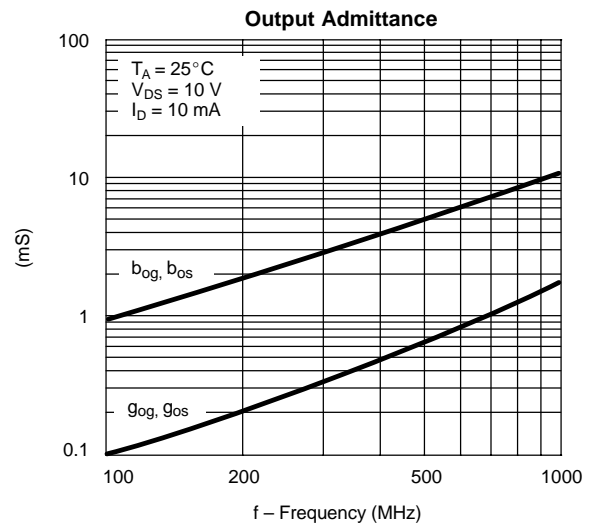
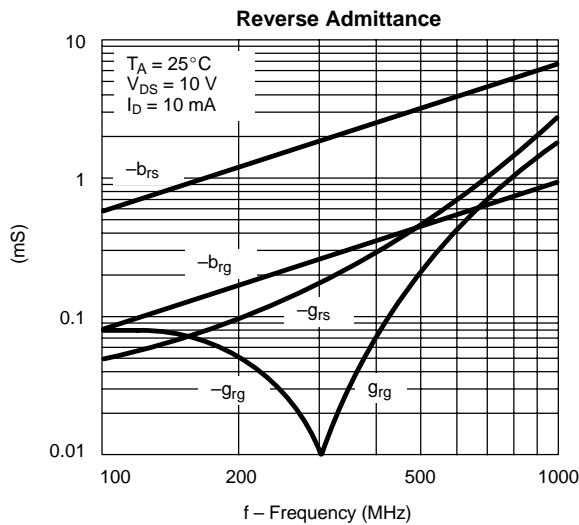


TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)





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





Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.