

阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .



N-Channel JFETs

PRODUCT SUMMARY				
Part Number	V _{GS(off)} (V)	V _{(BR)GSS} Min (V)	g _{fs} Min (mS)	I _{DSS} Max (mA)
2N4338	-0.3 to -1	-50	0.6	0.6
2N4339	-0.6 to -1.8	-50	0.8	1.5
2N4340	-1 to -3	-50	1.3	3.6
2N4341	-2 to -6	-50	2	9

FEATURES

- Low Cutoff Voltage: 2N4338 <1 V
- High Input Impedance
- Very Low Noise
- High Gain: A_V = 80 @ 20 μA

BENEFITS

- Full Performance from Low-Voltage Power Supply: Down to 1 V
- Low Signal Loss/System Error
- High System Sensitivity
- High-Quality Low-Level Signal Amplification

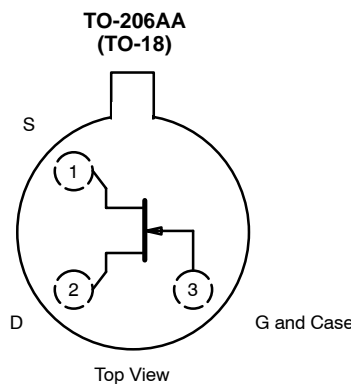
APPLICATIONS

- High-Gain, Low-Noise Amplifiers
- Low-Current, Low-Voltage Battery-Powered Amplifiers
- Infrared Detector Amplifiers
- Ultrahigh Input Impedance Pre-Amplifiers

DESCRIPTION

The 2N4338/4339/4340/4341 n-channel JFETs are designed for sensitive amplifier stages at low- to mid-frequencies. Low cut-off voltages accommodate low-level power supplies and low leakage for improved system accuracy.

The TO-206AA (TO-18) package is hermetically sealed and suitable for military processing (see Military Information). For similar products in TO-226AA (TO-92) and TO-236 (SOT-23) packages, see the J/SST201 series data sheet.



ABSOLUTE MAXIMUM RATINGS

Gate-Source/Gate-Drain Voltage -50 V
 Forward Gate Current 50 mA
 Storage Temperature -65 to 200°C
 Operating Junction Temperature -55 to 175°C

Lead Temperature (¹/₁₆" from case for 10 sec.) 300°C
 Power Dissipation^a 300 mW

Notes
 a. Derate 2 mW/°C above 25°C

For applications information see AN102 and AN106.



SPECIFICATIONS FOR 2N4338 AND 2N4339 (T _A = 25 °C UNLESS OTHERWISE NOTED)								
Parameter	Symbol	Test Conditions	Typ ^a	Limits				Unit
				2N4338		2N4339		
				Min	Max	Min	Max	
Static								
Gate-Source Breakdown Voltage	V _{(BR)GSS}	I _G = -1 μA, V _{DS} = 0 V	-57	-50		-50		V
Gate-Source Cutoff Voltage	V _{GS(off)}	V _{DS} = 15 V, I _D = 0.1 μA		-0.3	-1	-0.6	-1.8	
Saturation Drain Current ^b	I _{DSS}	V _{DS} = 15 V, V _{GS} = 0 V		0.2	0.6	0.5	1.5	mA
Gate Reverse Current	I _{GSS}	V _{GS} = -30 V, V _{DS} = 0 V T _A = 150 °C	-2		-100		-100	pA
			-4		-100		-100	nA
Gate Operating Current ^b	I _G	V _{DG} = 15 V, I _D = 0.1 mA	-2					pA
Drain Cutoff Current	I _{D(off)}	V _{DS} = 15 V, V _{GS} = -5 V	2		50		50	
Gate-Source Forward Voltage ^c	V _{GS(F)}	I _G = 1 mA, V _{DS} = 0 V	0.7					V
Dynamic								
Common-Source Forward Transconductance	g _{fs}	V _{DS} = 15 V, V _{GS} = 0 V, f = 1 kHz		0.6	1.8	0.8	2.4	mS
Common-Source Output Conductance	g _{os}					5		15
Drain-Source On-Resistance	r _{ds(on)}	V _{DS} = 0 V, V _{GS} = 0 V, f = 1 kHz			2500		1700	Ω
Common-Source Input Capacitance	C _{iss}	V _{DS} = 15 V, V _{GS} = 0 V, f = 1 MHz	5		7		7	pF
Common-Source Reverse Transfer Capacitance	C _{rss}		1.5		3		3	
Equivalent Input Noise Voltage ^c	e _n	V _{DS} = 10 V, V _{GS} = 0 V, f = 1 kHz	6					nV/ √Hz
Noise Figure	NF	V _{DS} = 15 V, V _{GS} = 0 V f = 1 kHz, R _G = 1 MΩ			1		1	dB

SPECIFICATIONS FOR 2N4340 AND 2N4341 (T _A = 25 °C UNLESS OTHERWISE NOTED)								
Parameter	Symbol	Test Conditions	Typ ^a	Limits				Unit
				2N4340		2N4341		
				Min	Max	Min	Max	
Static								
Gate-Source Breakdown Voltage	V _{(BR)GSS}	I _G = -1 μA, V _{DS} = 0 V	-57	-50		-50		V
Gate-Source Cutoff Voltage	V _{GS(off)}	V _{DS} = 15 V, I _D = 0.1 μA		-1	-3	-2	-6	
Saturation Drain Current ^b	I _{DSS}	V _{DS} = 15 V, V _{GS} = 0 V		1.2	3.6	3	9	mA
Gate Reverse Current	I _{GSS}	V _{GS} = -30 V, V _{DS} = 0 V T _A = 150 °C	-2		-100		-100	pA
			-4		-100		-100	nA
Gate Operating Current ^b	I _G	V _{DG} = 15 V, I _D = 0.1 mA	-2					pA
Drain Cutoff Current	I _{D(off)}	V _{DS} = 15 V	V _{GS} = -5 V	2		50		
			V _{GS} = -10 V	3			70	
Gate-Source Forward Voltage	V _{GS(F)}	I _G = 1 mA, V _{DS} = 0 V	0.7					V



SPECIFICATIONS FOR 2N4340 AND 2N4341 (T_A = 25 °C UNLESS OTHERWISE NOTED)

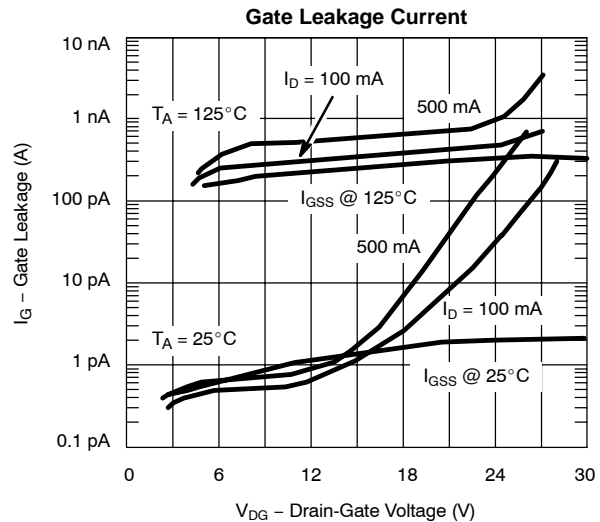
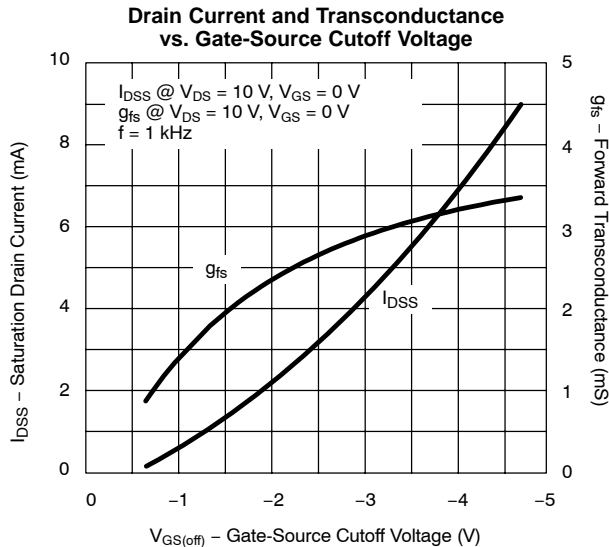
Parameter	Symbol	Test Conditions	Typ ^a	Limits				Unit
				2N4340		2N4341		
				Min	Max	Min	Max	
Dynamic								
Common-Source Forward Transconductance	g_{fs}	$V_{DS} = 15\text{ V}, V_{GS} = 0\text{ V}, f = 1\text{ kHz}$		1.3	3	2	4	mS
Common-Source Output Conductance	g_{os}				30		60	μS
Drain-Source On-Resistance	$r_{ds(on)}$	$V_{DS} = 0\text{ V}, V_{GS} = 0\text{ V}, f = 1\text{ kHz}$			1500		800	Ω
Common-Source Input Capacitance	C_{iss}	$V_{DS} = 15\text{ V}, V_{GS} = 0\text{ V}, f = 1\text{ MHz}$	5		7		7	pF
Common-Source Reverse Transfer Capacitance	C_{rss}		1.5		3		3	
Equivalent Input Noise Voltage ^c	\bar{e}_n	$V_{DS} = 10\text{ V}, V_{GS} = 0\text{ V}, f = 1\text{ kHz}$	6					nV/ $\sqrt{\text{Hz}}$
Noise Figure	NF	$V_{DS} = 15\text{ V}, V_{GS} = 0\text{ V}$ $f = 1\text{ kHz}, R_G = 1\text{ M}\Omega$			1		1	dB

Notes

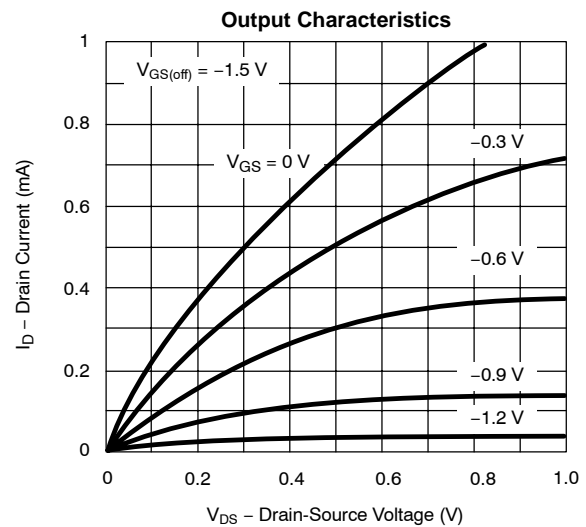
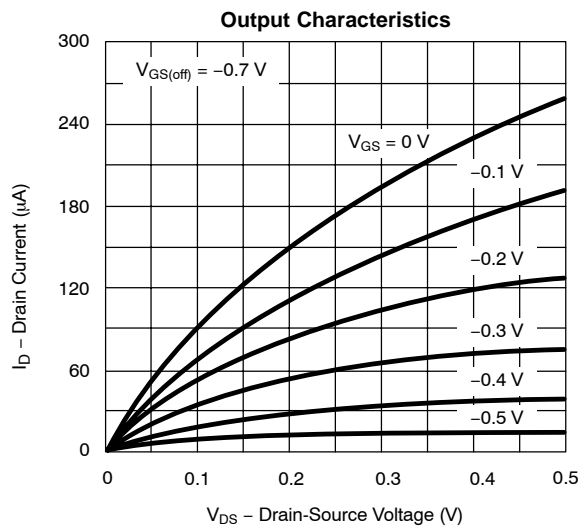
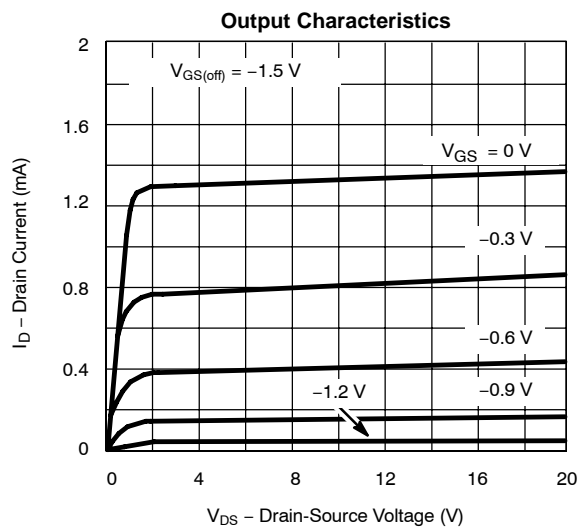
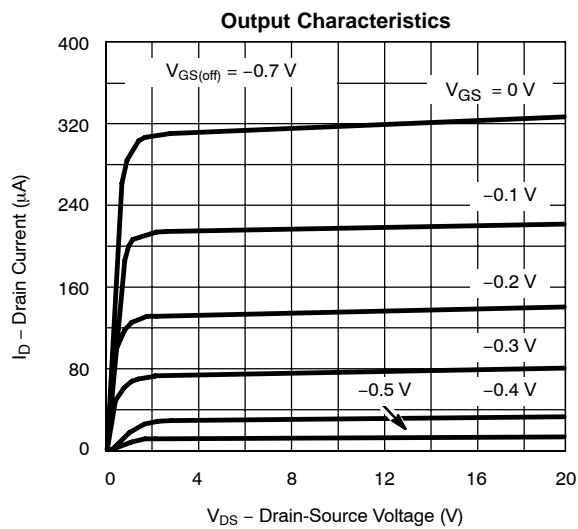
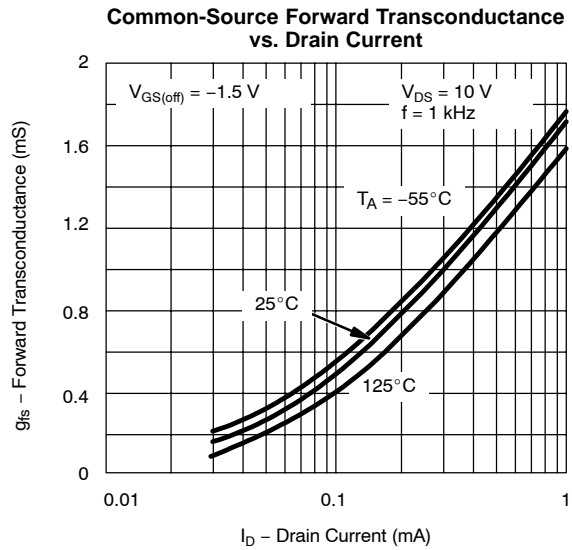
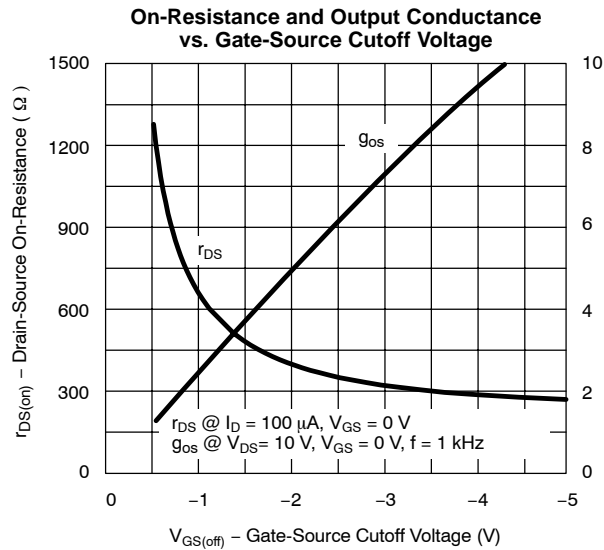
- a. Typical values are for DESIGN AID ONLY, not guaranteed nor subject to production testing.
- b. Pulse test: PW \leq 300 μs , duty cycle \leq 3%.
- c. This parameter not registered with JEDEC.

NPA

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



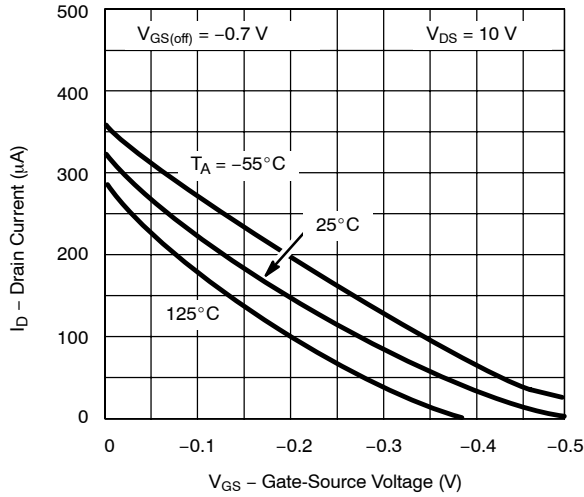
TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)



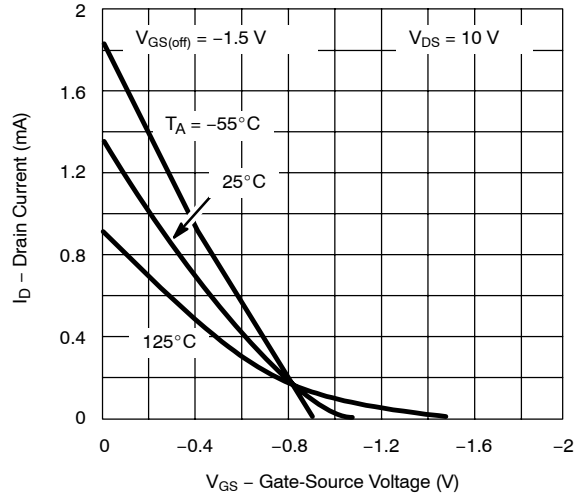


TYPICAL CHARACTERISTICS (T_A = 25°C UNLESS OTHERWISE NOTED)

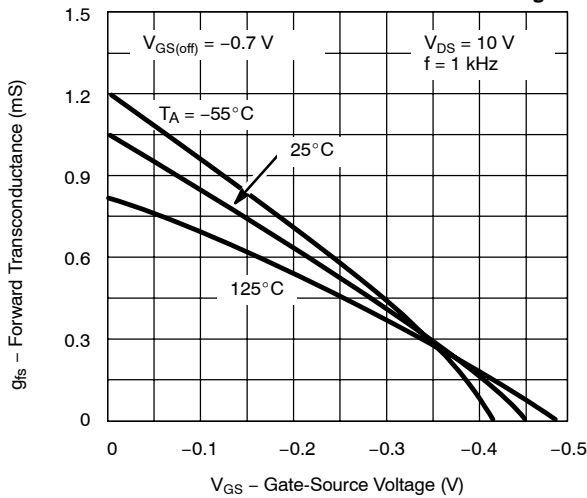
Transfer Characteristics



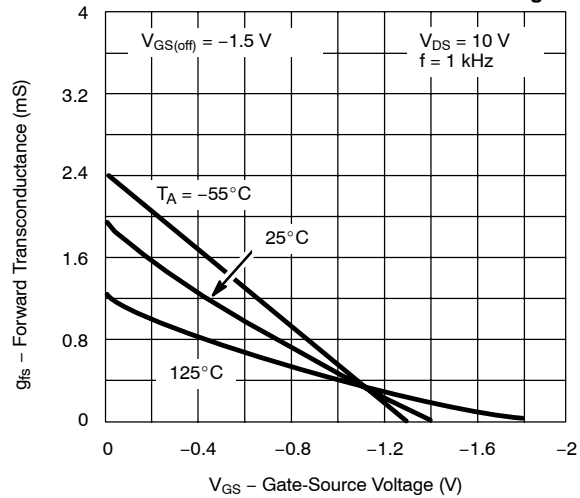
Transfer Characteristics



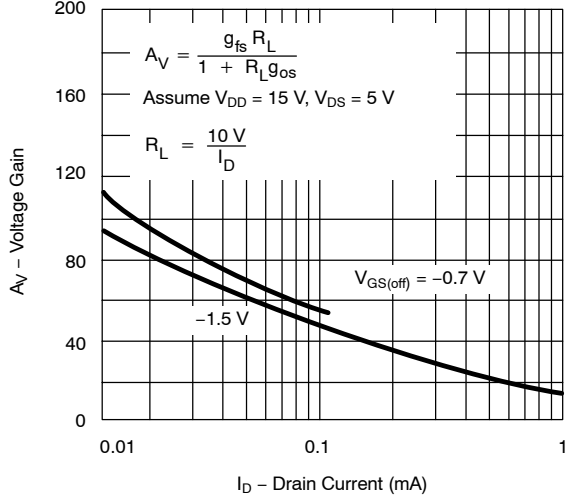
Transconductance vs. Gate-Source Voltage



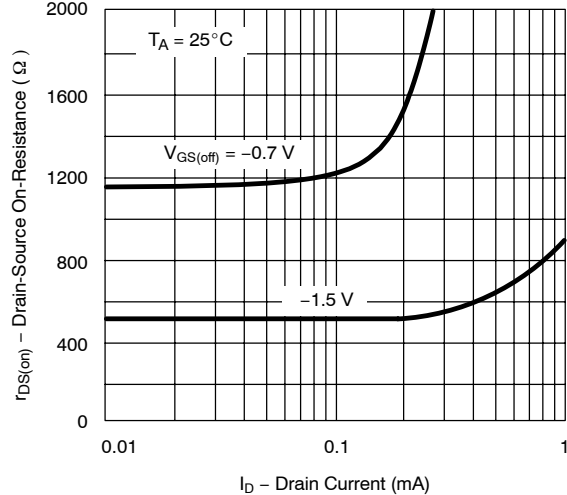
Transconductance vs. Gate-Source Voltage



Circuit Voltage Gain vs. Drain Current

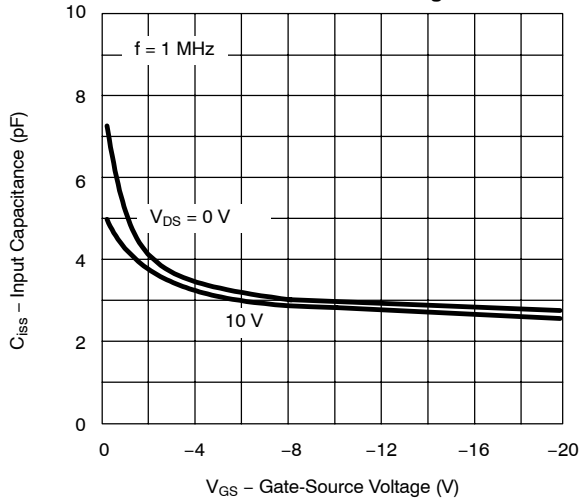


On-Resistance vs. Drain Current

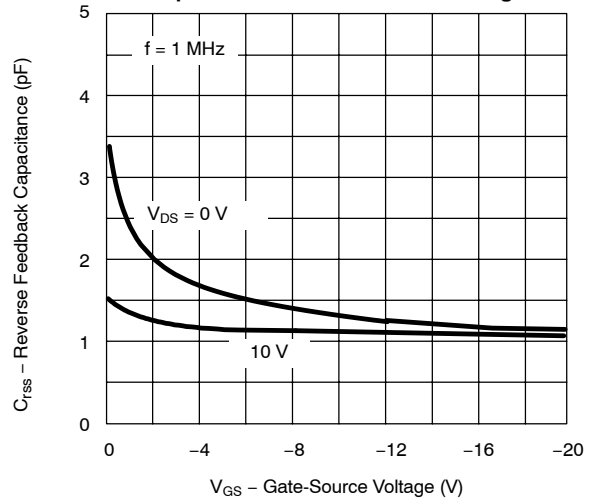


TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

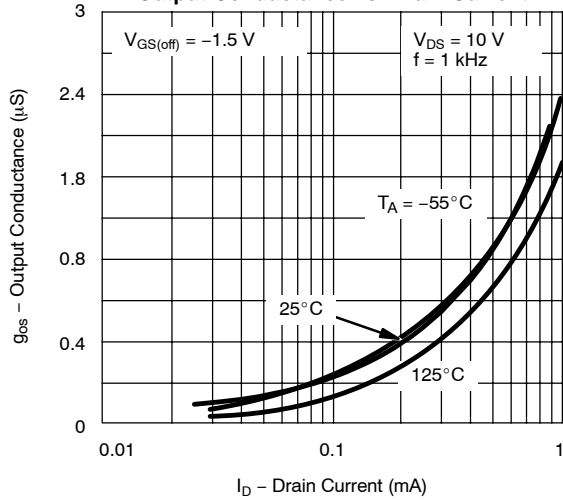
Common-Source Input Capacitance vs. Gate-Source Voltage



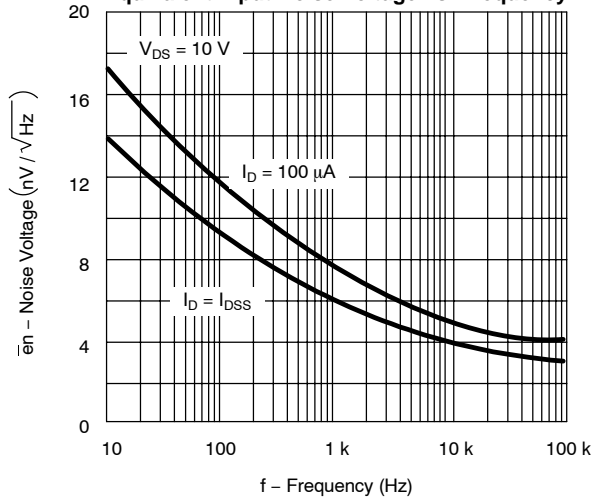
Common-Source Reverse Feedback Capacitance vs. Gate-Source Voltage



Output Conductance vs. Drain Current



Equivalent Input Noise Voltage vs. Frequency





Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.