



N-Channel JFETs

J201 SST201
J202 SST202
J204 SST204

PRODUCT SUMMARY				
Part Number	V_{GS(off)} (V)	V_{(BR)GSS} Min (V)	g_{fs} Min (mS)	I_{DSS} Min (mA)
J/SST201	-0.3 to -1.5	-40	0.5	0.2
J/SST202	-0.8 to -4	-40	1	0.9
J/SST204	-0.3 to -2	-25	0.5	0.2

FEATURES

- Low Cutoff Voltage: J201 <1.5 V
- High Input Impedance
- Very Low Noise
- High Gain: A_v = 80 @ 20 μA

BENEFITS

- Full Performance from Low Voltage Power Supply: Down to 1.5 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
- Ultra High Input Impedance Pre-Amplifiers

DESCRIPTION

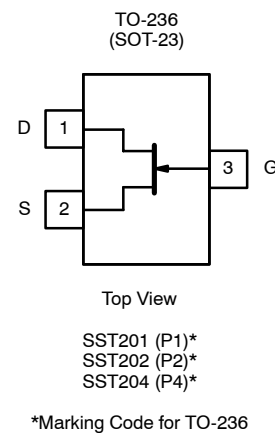
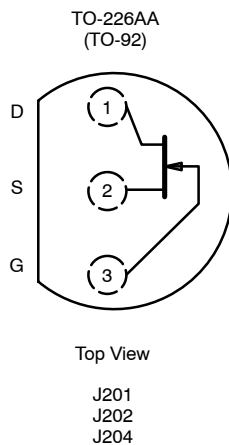
The J/SST201 series features low leakage, very low noise, and low cutoff voltage for use with low-level power supplies. The J/SST201 is excellent for battery powered equipment and low current amplifiers.

The J series, TO-226 (TO-92) plastic package, provides low cost, while the SST series, TO-236 (SOT-23) package, provides surface-mount capability. Both the J and SST series

are available in tape-and-reel for automated assembly (see Packaging Information).

For similar products in TO-206AA (TO-18) packaging, see the 2N4338/4339/4340/4341 data sheet.

For applications information see AN102 and AN106.





ABSOLUTE MAXIMUM RATINGS

Gate-Drain, Gate-Source Voltage -40 V
 Gate Current 50 mA
 Lead Temperature (t_{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

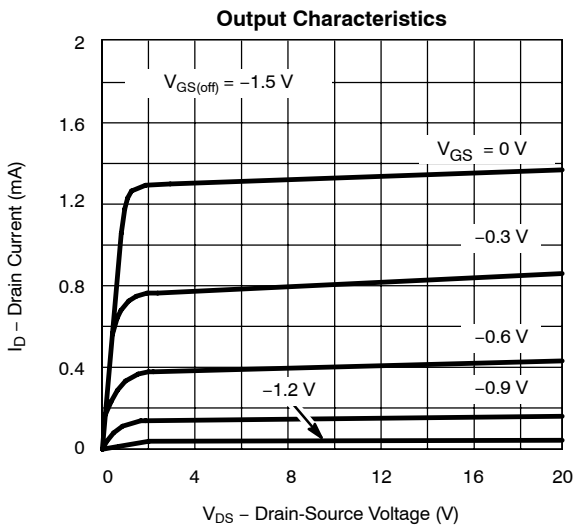
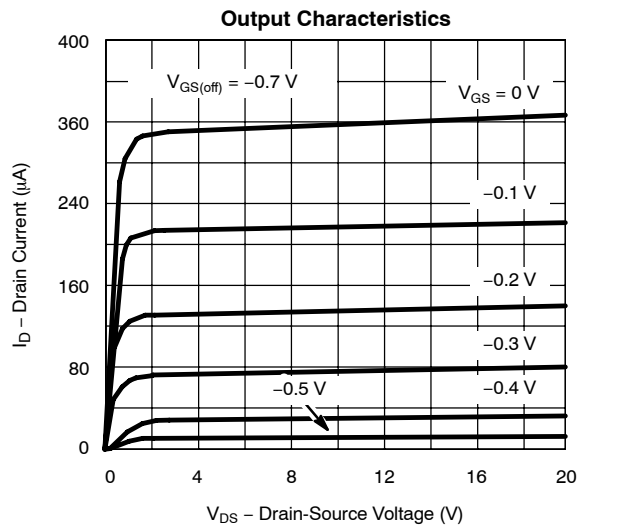
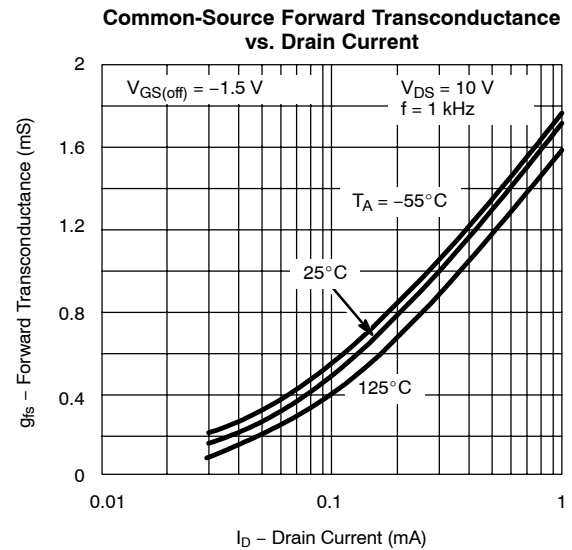
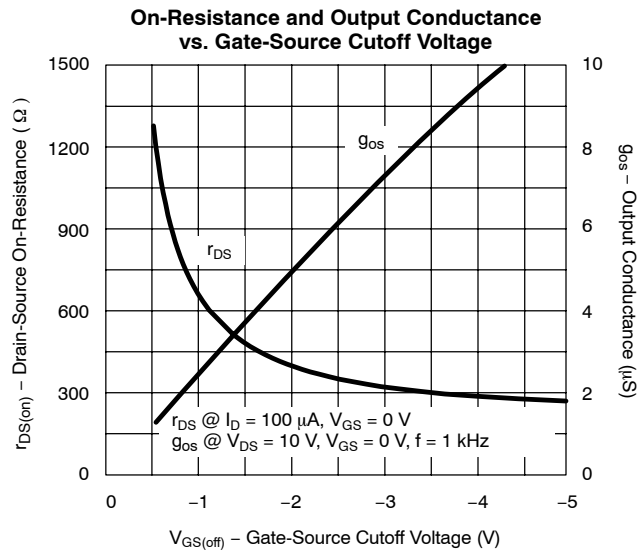
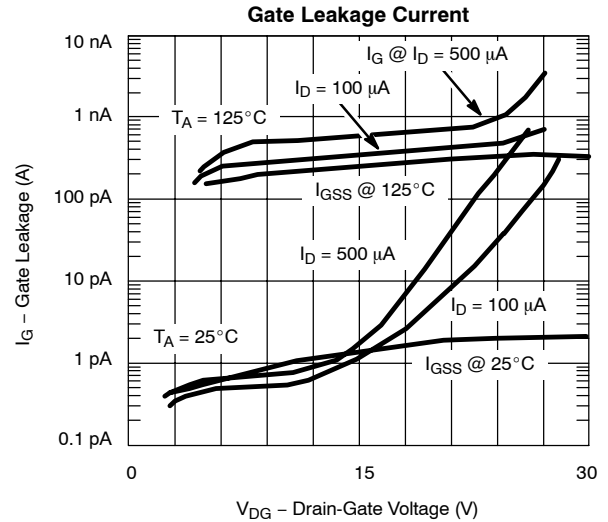
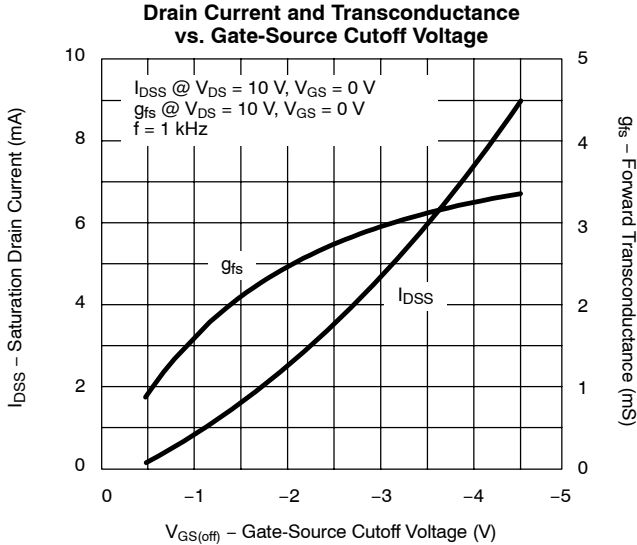
SPECIFICATIONS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)										
Parameter	Symbol	Test Conditions	Typ ^a	Limits						Unit
				J/SST201		J/SST202		J/SST204 ^c		
				Min	Max	Min	Max	Min	Max	
Static										
Gate-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G = -1\ \mu\text{A}, V_{DS} = 0\ \text{V}$		-40		-40		-25		V
Gate-Source Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 15\ \text{V}, I_D = 10\ \text{nA}$		-0.3	-1.5	-0.8	-4	-0.3	-2	
Saturation Drain Current ^b	I_{DSS}	$V_{DS} = 15\ \text{V}, V_{GS} = 0\ \text{V}$		0.2	1	0.9	4.5	0.2	3	mA
Gate Reverse Current	I_{GSS}	$V_{GS} = -20\ \text{V}, V_{DS} = 0\ \text{V}$ $T_A = 125^\circ\text{C}$	-2		-100		-100		-100	pA
			-1						nA	
Gate Operating Current	I_G	$V_{DG} = 10\ \text{V}, I_D = 0.1\ \text{mA}$	-2							pA
Drain Cutoff Current	$I_{D(off)}$	$V_{DS} = 15\ \text{V}, V_{GS} = -5\ \text{V}$	2							
Gate-Source Forward Voltage	$V_{GS(F)}$	$I_G = 1\ \text{mA}, V_{DS} = 0\ \text{V}$	0.7							V
Dynamic										
Common-Source Forward Transconductance	g_{fs}	$V_{DS} = 15\ \text{V}, V_{GS} = 0\ \text{V}$ $f = 1\ \text{kHz}$		0.5		1		0.5		mS
Common-Source Input Capacitance	C_{iss}	$V_{DS} = 15\ \text{V}, V_{GS} = 0\ \text{V}$ $f = 1\ \text{MHz}$	4.5							pF
Common-Source Reverse Transfer Capacitance	C_{rss}		1.3							
Equivalent Input Noise Voltage	\bar{e}_n	$V_{DS} = 10\ \text{V}, V_{GS} = 0\ \text{V}$ $f = 1\ \text{kHz}$	6							nV/ √Hz

- Notes
 a. Typical values are for DESIGN AID ONLY, not guaranteed nor subject to production testing.
 b. Pulse test: $PW \leq 300\ \mu\text{s}$ duty cycle $\leq 3\%$.
 c. See 2N/SST5484 Series for J204 and SST204 typical characteristic curves.

NPA, NH

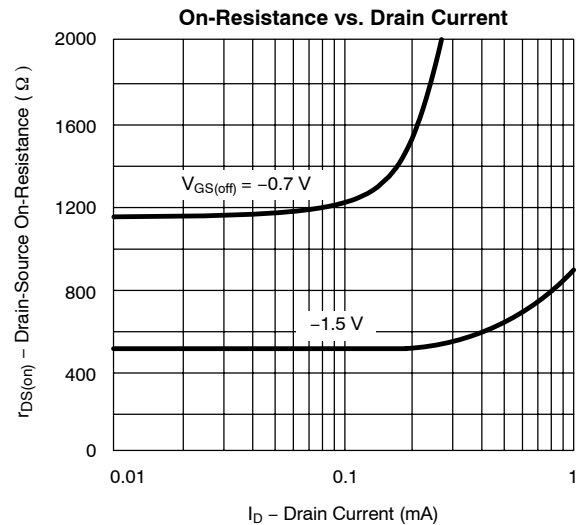
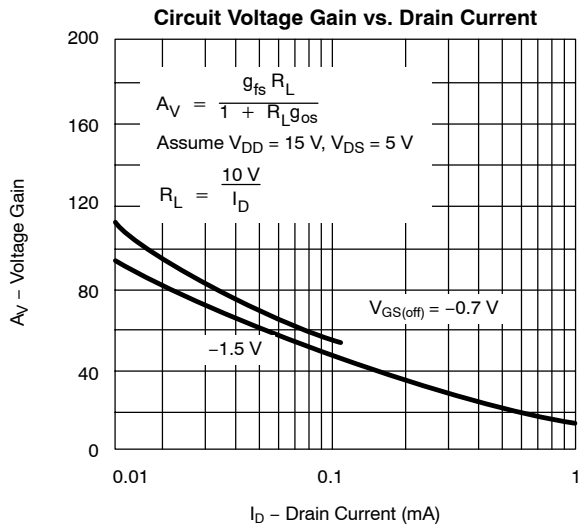
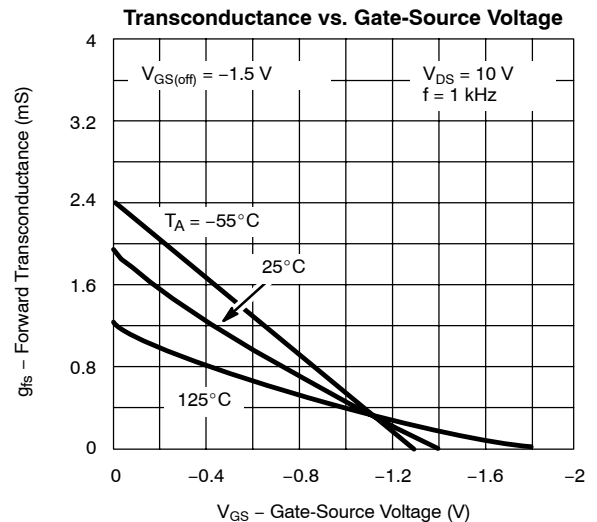
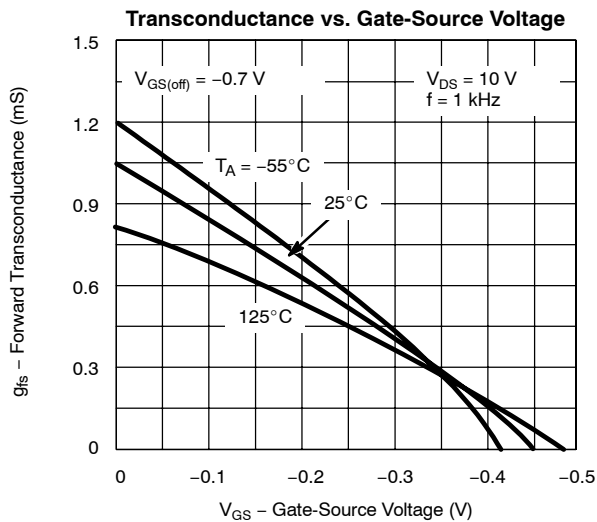
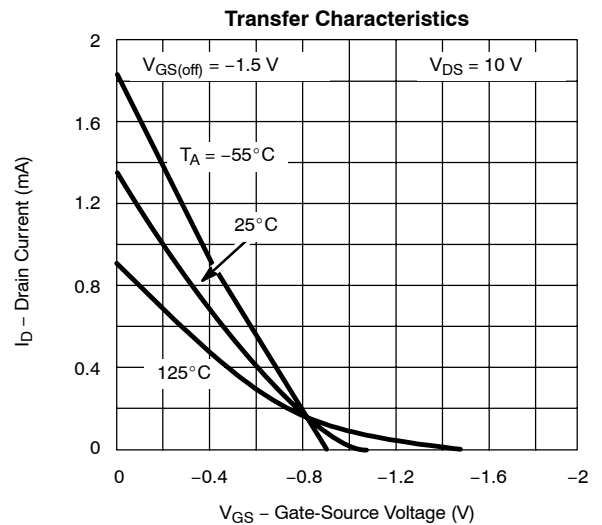
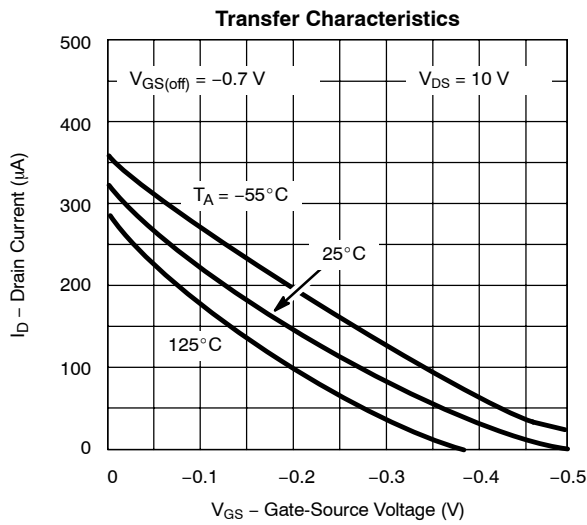


TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)





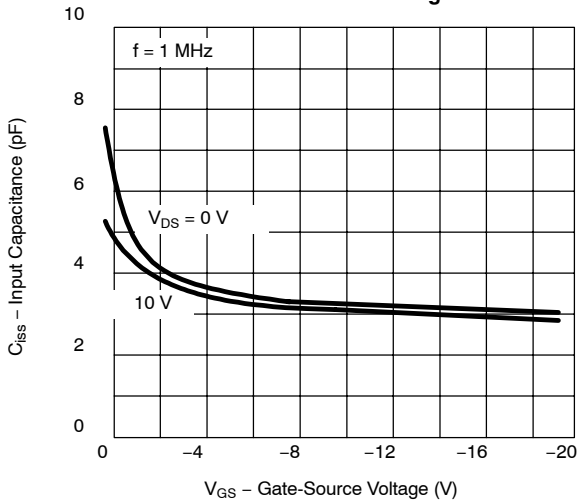
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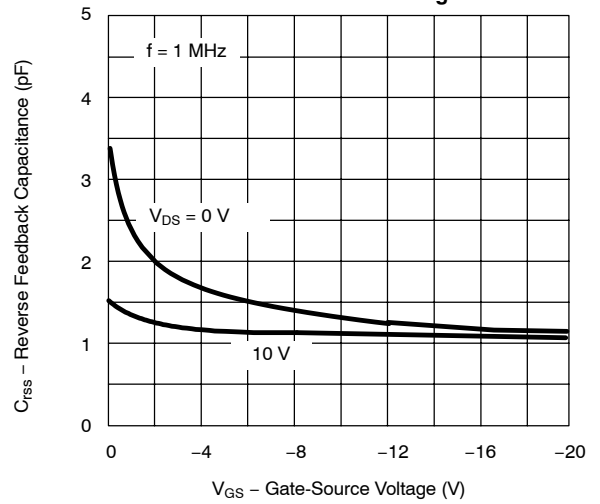


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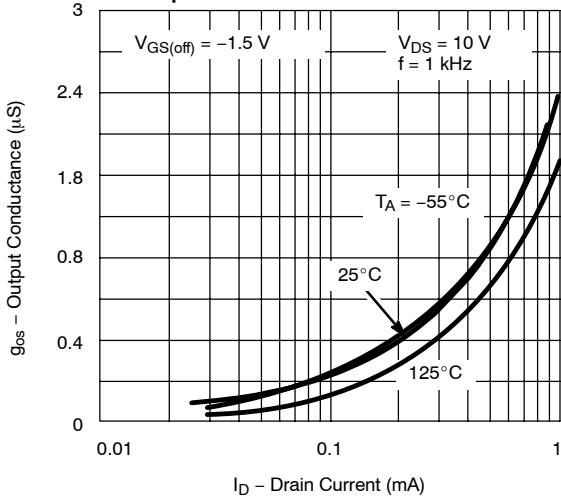
Common-Source Input Capacitance vs. Gate-Source Voltage



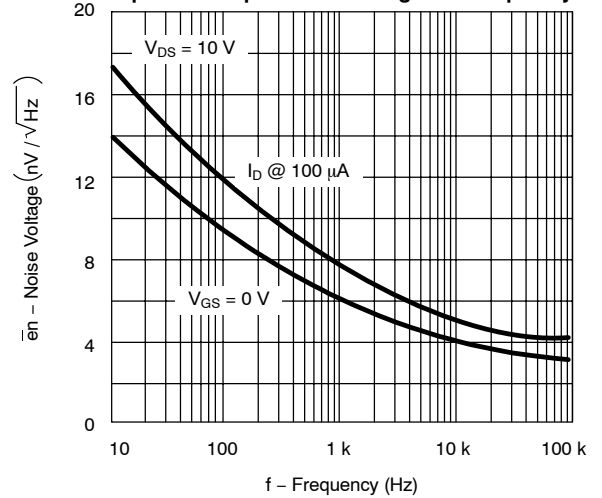
Common-Source Reverse Feedback Capacitance vs. Gate-Source Voltage



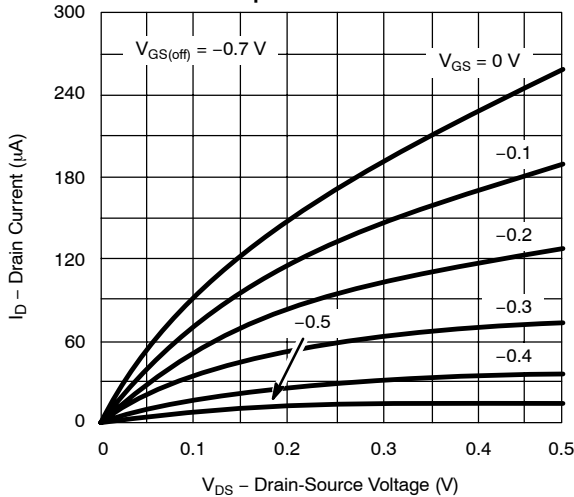
Output Conductance vs. Drain Current



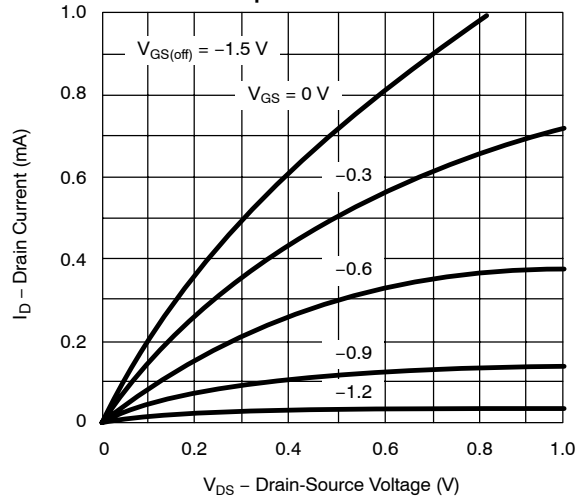
Equivalent Input Noise Voltage vs. Frequency



Output Characteristics



Output Characteristics





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

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