

## P-Channel JFETs

**J270**      **SST270**  
**J271**      **SST271**

PRODUCT SUMMARY				
Part Number	V <sub>GS(off)</sub> (V)	V <sub>(BR)GSS</sub> Min (V)	g <sub>fs</sub> Min (mS)	I <sub>DSS</sub> Min (mA)
J/SST270	0.5 to 2.0	30	6	-2
J/SST271	1.5 to 4.5	30	8	-6

### FEATURES

- Low Cutoff Voltage: J270 <2 V
- High Input Impedance
- Very Low Noise
- High Gain

### BENEFITS

- Full Performance from Low-Voltage Power Supply: Down to 2 V
- Low Signal Loss/System Error
- High System Sensitivity
- High-Quality, Low-Level Signal Amplification

### APPLICATIONS

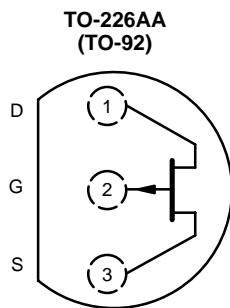
- High-Gain, Low-Noise Amplifiers
- Low-Current, Low-Voltage Battery Amplifiers
- Ultrahigh Input Impedance Pre-Amplifiers
- High-Side Switching

### DESCRIPTION

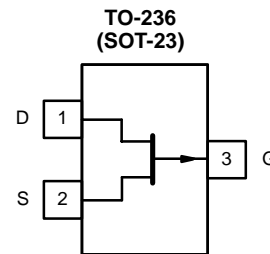
The J/SST270 series consists of all-purpose amplifiers for designs requiring p-channel operation.

The TO-226AA (TO-92) plastic package provides a low-cost option, while the 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).



Top View  
J270  
J271



Top View  
SST270 (S0)\*  
SST271 (S1)\*  
\*Marking Code for TO-236

### ABSOLUTE MAXIMUM RATINGS

Gate-Drain Voltage ..... 30 V  
 Gate-Source Voltage ..... 30 V  
 Gate Current ..... -50 mA  
 Storage Temperature ..... -55 to 150°C  
 Operating Junction Temperature ..... -55 to 150°C

Lead Temperature (<sup>1</sup>/<sub>16</sub>" from case for 10 sec.) ..... 300°C  
 Power Dissipation<sup>a</sup> ..... 350 mW

Notes  
 a. Derate 2.8 mW/°C above 25°C



### SPECIFICATIONS (T<sub>A</sub> = 25 °C UNLESS OTHERWISE NOTED)

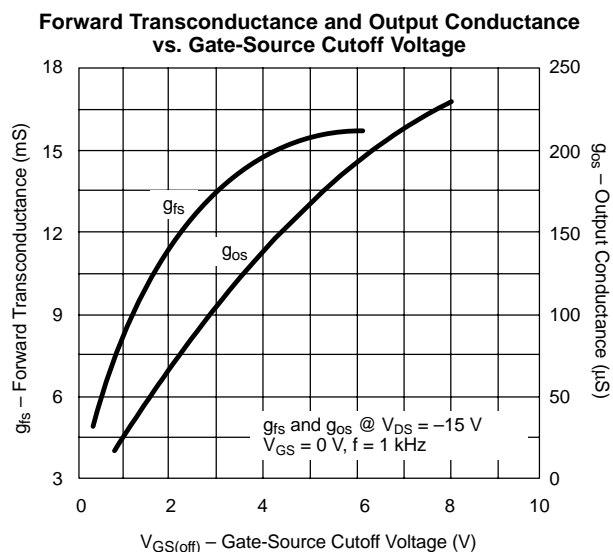
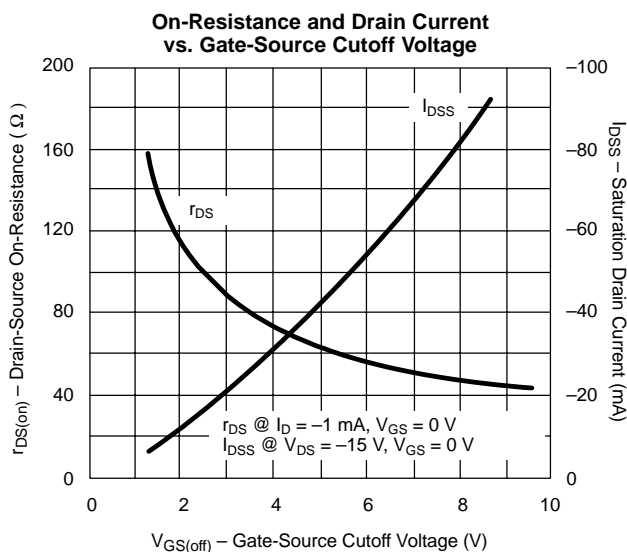
Parameter	Symbol	Test Conditions	Typ <sup>a</sup>	Limits				Unit
				J/SST270		J/SST271		
				Min	Max	Min	Max	
<b>Static</b>								
Gate-Source Breakdown Voltage	V <sub>(BR)GSS</sub>	I <sub>G</sub> = 1 μA, V <sub>DS</sub> = 0 V	45	30		30		V
Gate-Source Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> = -15 V, I <sub>D</sub> = -1 nA		0.5	2.0	1.5	4.5	
Saturation Drain Current <sup>b</sup>	I <sub>DSS</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 0 V		-2	-15	-6	-50	mA
Gate Reverse Current	I <sub>GSS</sub>	V <sub>GS</sub> = 20 V, V <sub>DS</sub> = 0 V	10		200		200	pA
		T <sub>A</sub> = 125 °C	5					nA
Gate Operating Current	I <sub>G</sub>	V <sub>DG</sub> = -15 V, I <sub>D</sub> = -1 mA	10					pA
Drain Cutoff Current	I <sub>D(off)</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 10 V	-10					
Gate-Source Forward Voltage	V <sub>GS(F)</sub>	I <sub>G</sub> = -1 mA, V <sub>DS</sub> = 0 V	-0.7					V
<b>Dynamic</b>								
Common-Source Forward Transconductance	g <sub>fs</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 0 V f = 1 kHz		6	15	8	18	mS
Common-Source Output Conductance	g <sub>os</sub>					200		500
Common-Source Input Capacitance	C <sub>iSS</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 0 V f = 1 MHz	20					pF
Common-Source Reverse Transfer Capacitance	C <sub>rSS</sub>		4					
Equivalent Input Noise Voltage	e <sub>n</sub>	V <sub>DG</sub> = -10 V, V <sub>GS</sub> = 0 V f = 1 kHz	20					nV/ √Hz

#### Notes

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

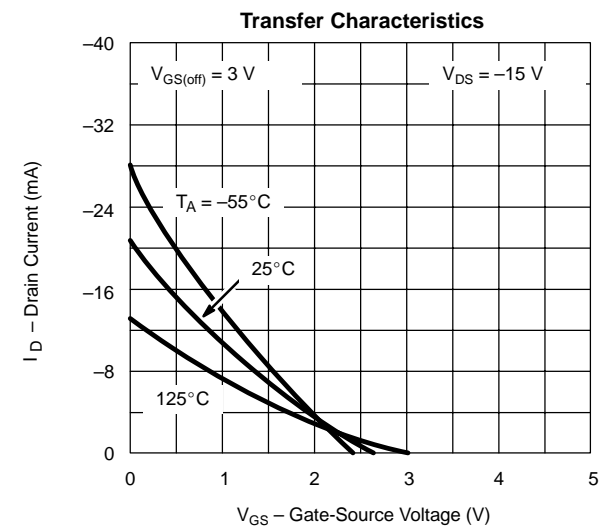
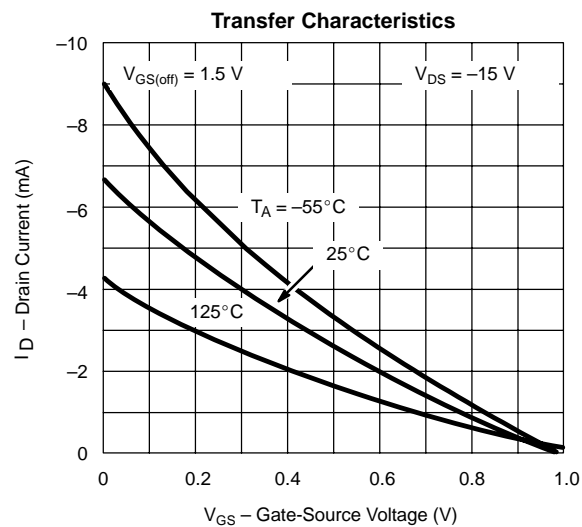
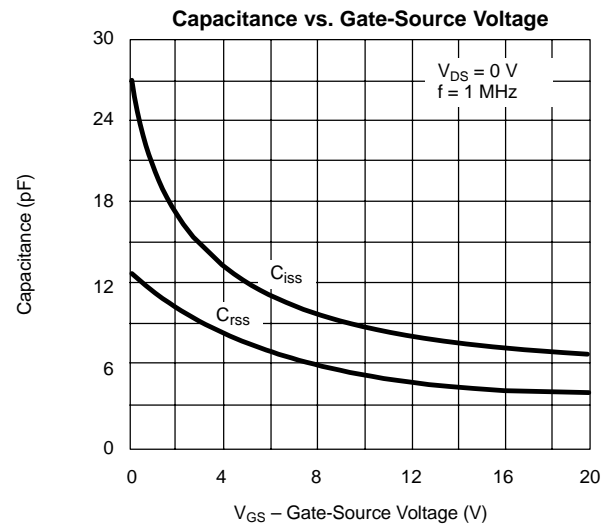
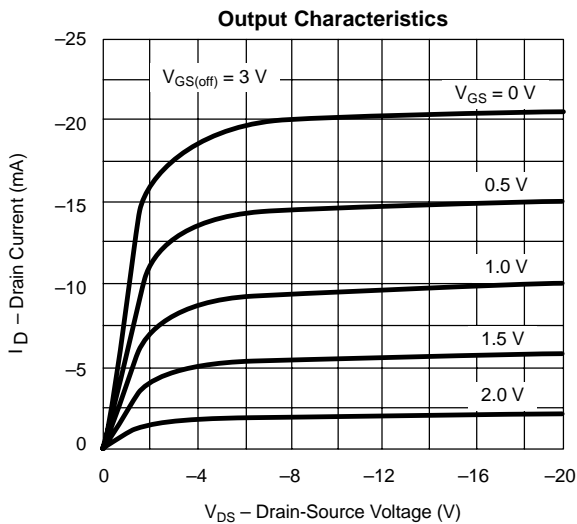
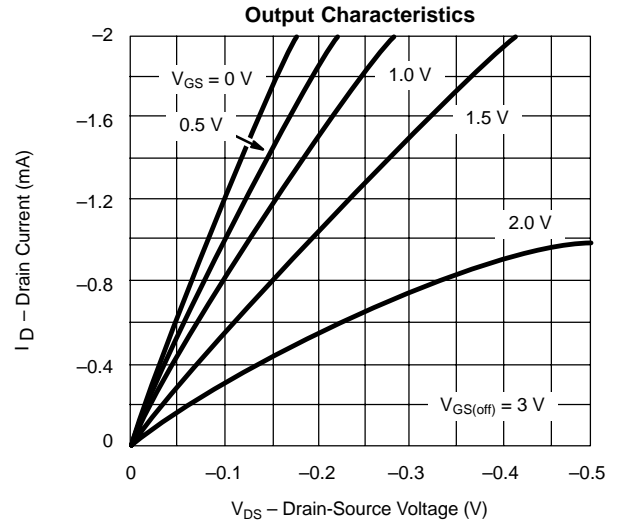
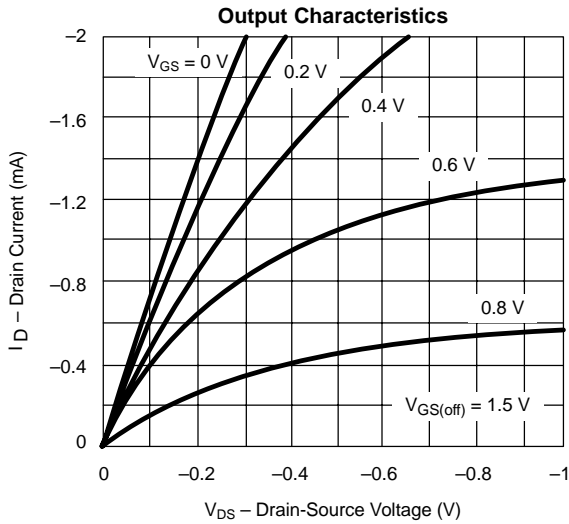
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### TYPICAL CHARACTERISTICS (T<sub>A</sub> = 25 °C UNLESS OTHERWISE NOTED)

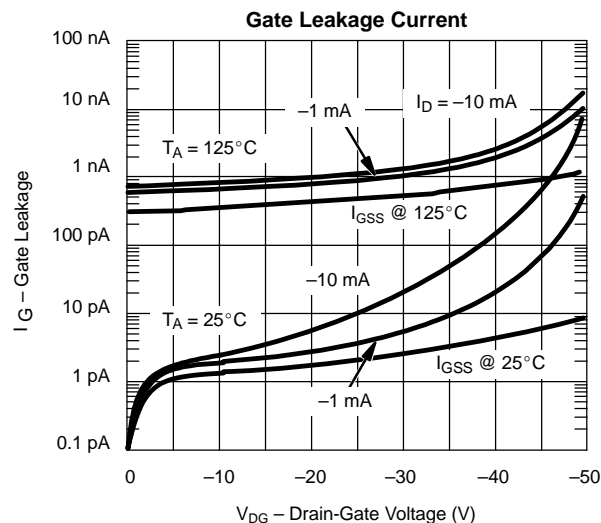
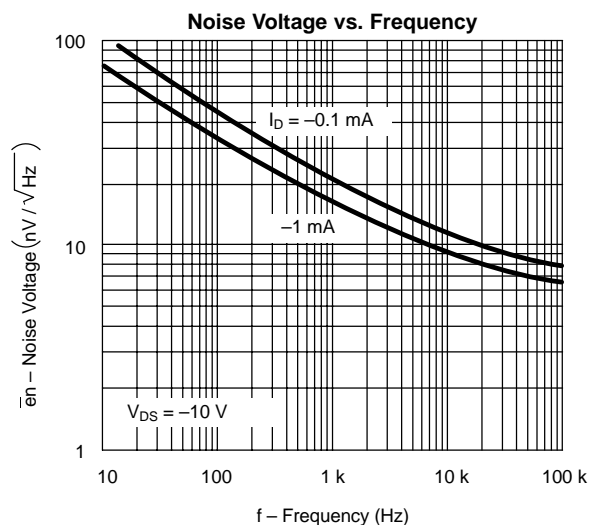
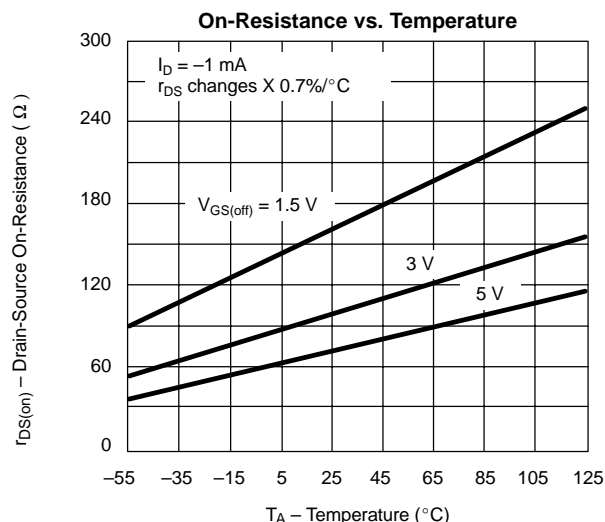
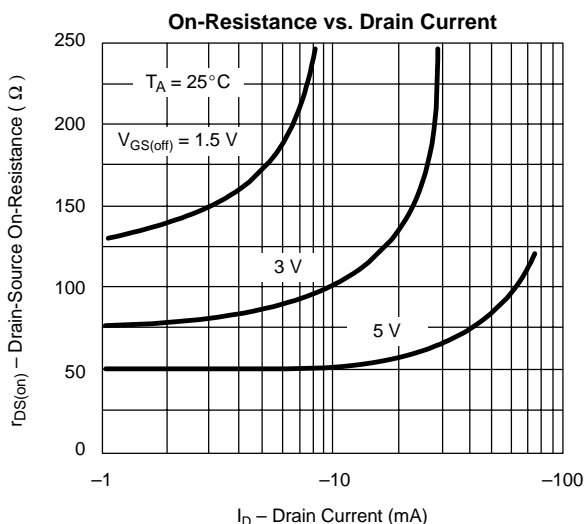
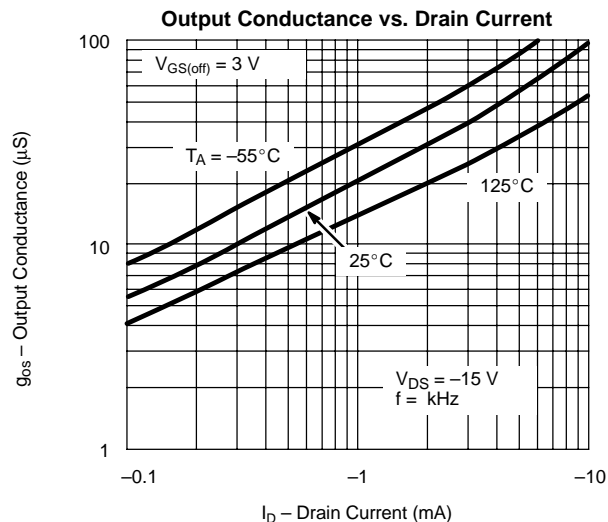
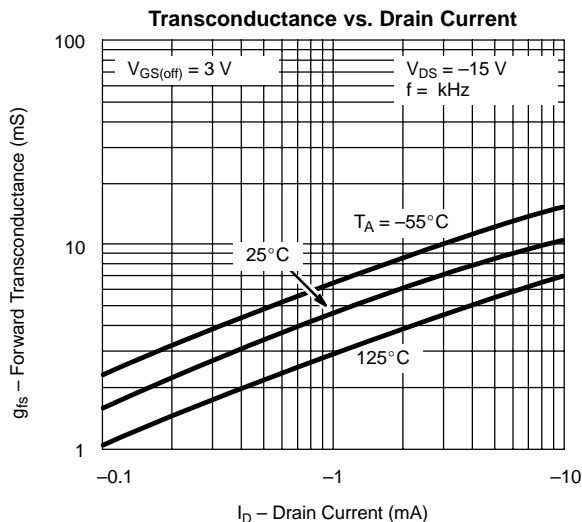




**TYPICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$  UNLESS OTHERWISE NOTED)**



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