

P-Channel JFETs

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

PRODUCT SUMMARY				
Part Number	V _{GS(off)} (V)	V _{(BR)GSS} Min (V)	g _{fs} Min (mS)	I _{DSS} 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

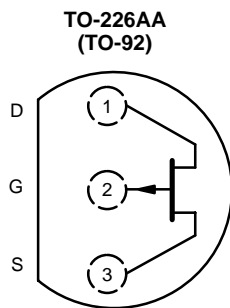
- High-Gain, Low-Noise Amplifiers
- Low-Current, Low-Voltage Battery Amplifiers
- Ultrahigh Input Impedance Pre-Amplifiers
- High-Side Switching

DESCRIPTION

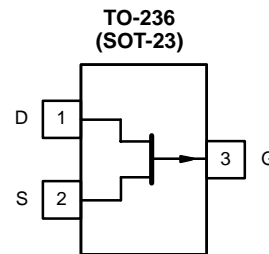
The J/SST270 series consists of all-purpose amplifiers for designs requiring p-channel operation.

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 (¹ / ₁₆ " from case for 10 sec.)	300°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)

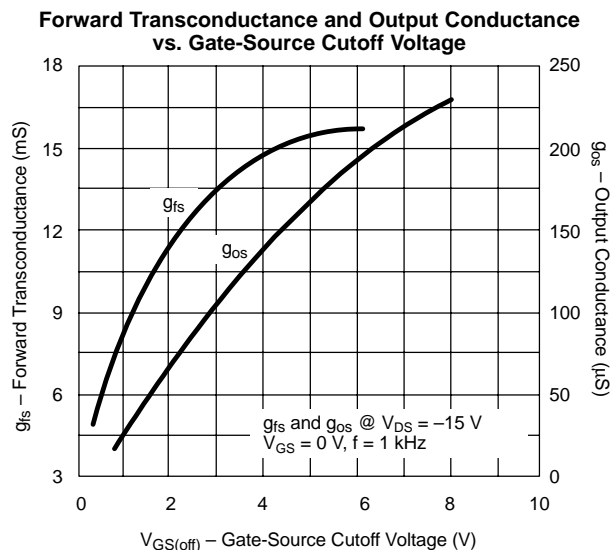
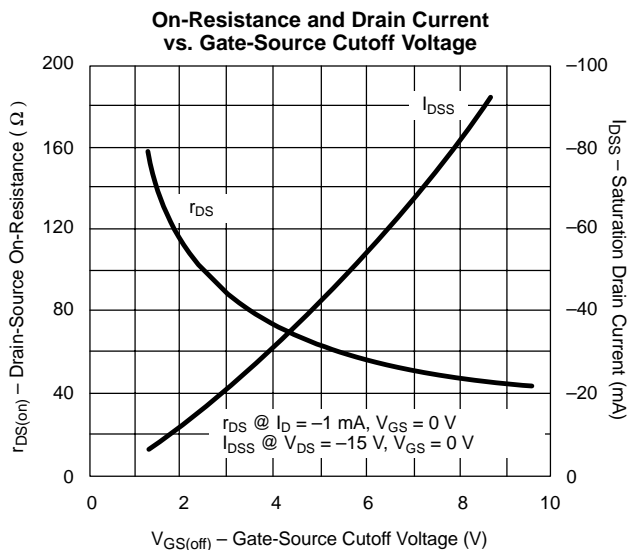
Parameter	Symbol	Test Conditions	Typ ^a	Limits				Unit
				J/SST270		J/SST271		
				Min	Max	Min	Max	
Static								
Gate-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G = 1\ \mu\text{A}$, $V_{DS} = 0\ \text{V}$	45	30		30		V
Gate-Source Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -15\ \text{V}$, $I_D = -1\ \text{nA}$		0.5	2.0	1.5	4.5	
Saturation Drain Current ^b	I_{DSS}	$V_{DS} = -15\ \text{V}$, $V_{GS} = 0\ \text{V}$		-2	-15	-6	-50	mA
Gate Reverse Current	I_{GSS}	$V_{GS} = 20\ \text{V}$, $V_{DS} = 0\ \text{V}$	10		200		200	pA
		$T_A = 125^\circ\text{C}$	5					nA
Gate Operating Current	I_G	$V_{DG} = -15\ \text{V}$, $I_D = -1\ \text{mA}$	10					pA
Drain Cutoff Current	$I_{D(off)}$	$V_{DS} = -15\ \text{V}$, $V_{GS} = 10\ \text{V}$	-10					
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}	$V_{DS} = -15\ \text{V}$, $V_{GS} = 0\ \text{V}$ $f = 1\ \text{kHz}$		6	15	8	18	mS
Common-Source Output Conductance	g_{os}					200		500
Common-Source Input Capacitance	C_{iss}	$V_{DS} = -15\ \text{V}$, $V_{GS} = 0\ \text{V}$ $f = 1\ \text{MHz}$	20					pF
Common-Source Reverse Transfer Capacitance	C_{rss}		4					
Equivalent Input Noise Voltage	\bar{e}_n	$V_{DG} = -10\ \text{V}$, $V_{GS} = 0\ \text{V}$ $f = 1\ \text{kHz}$	20					nV/ $\sqrt{\text{Hz}}$

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 $\leq 3\%$.

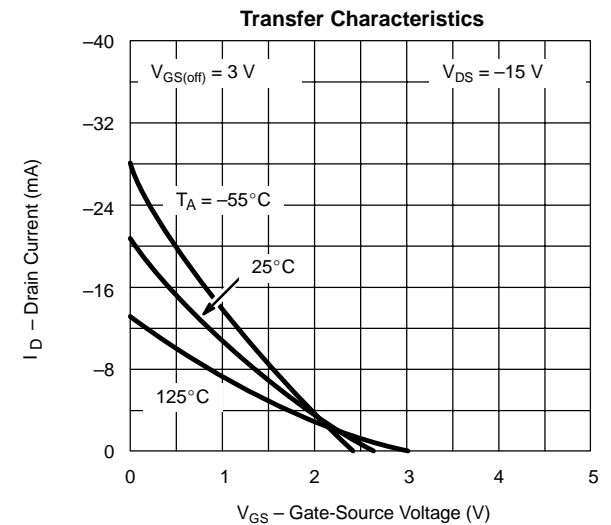
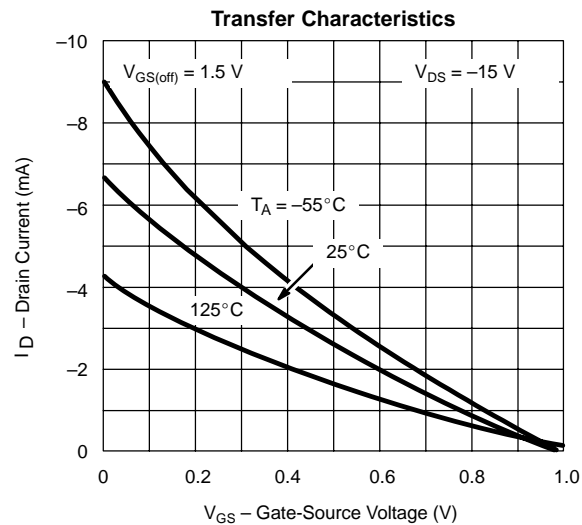
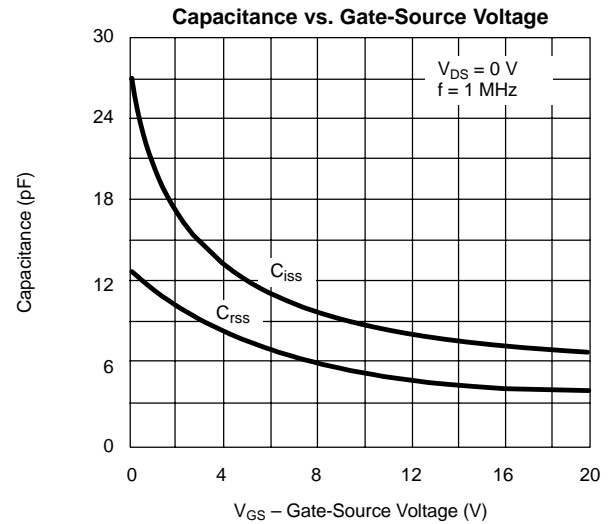
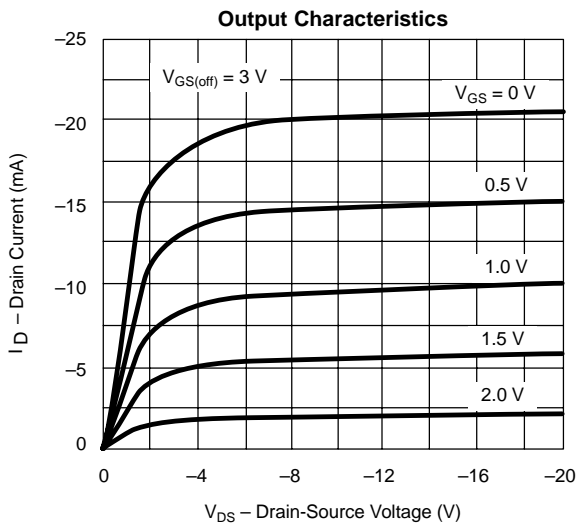
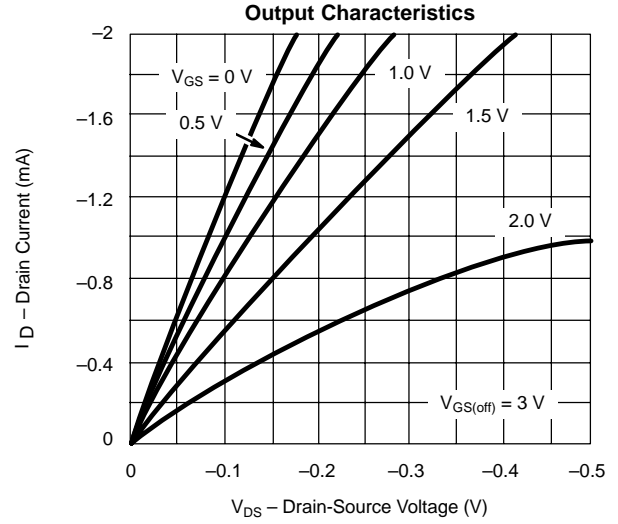
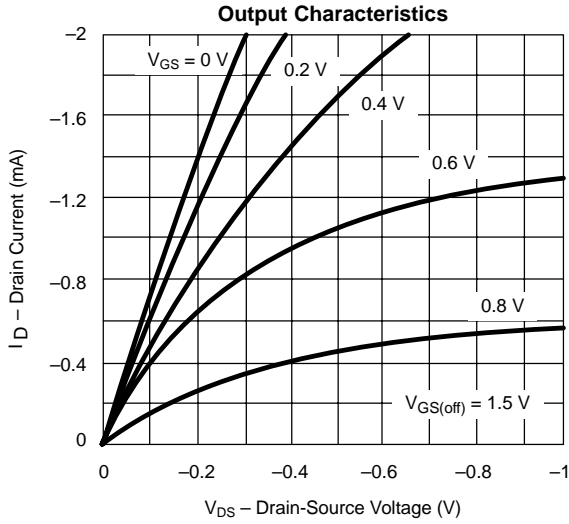
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TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

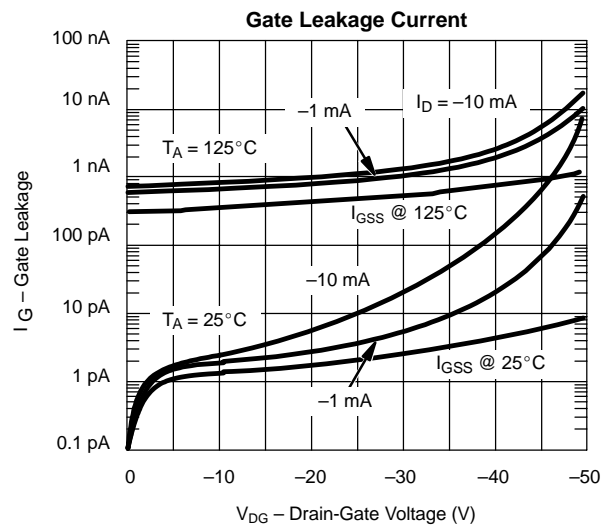
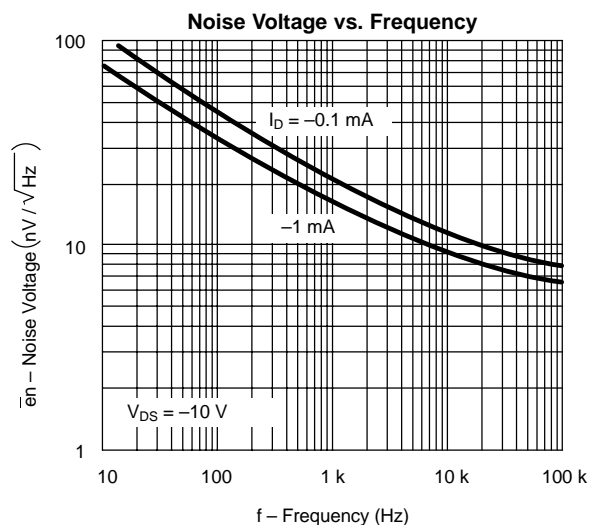
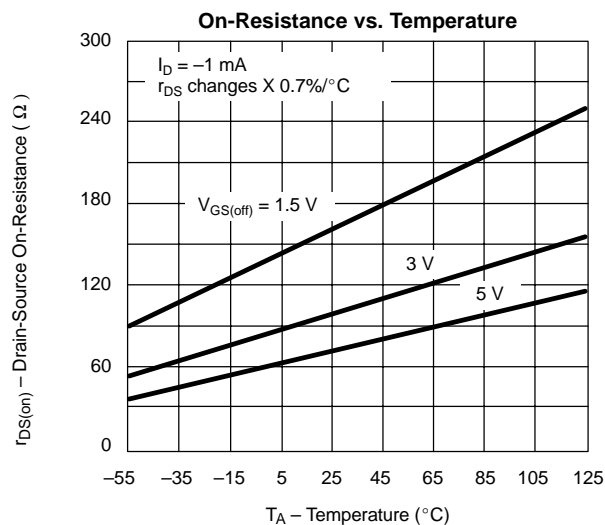
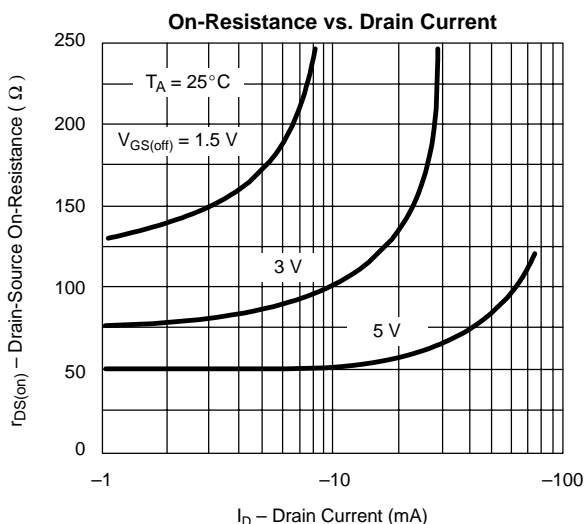
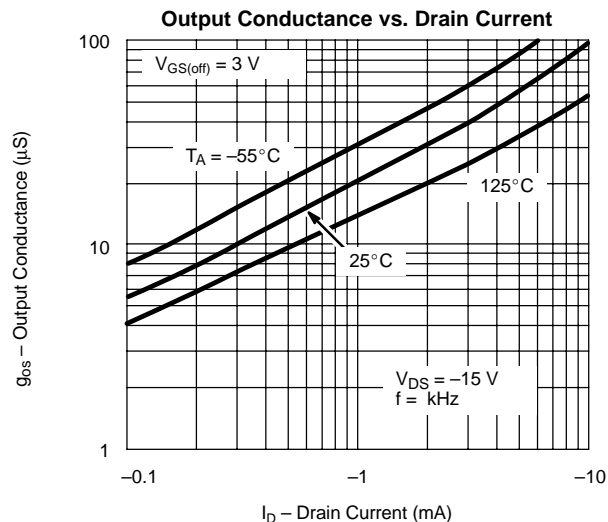
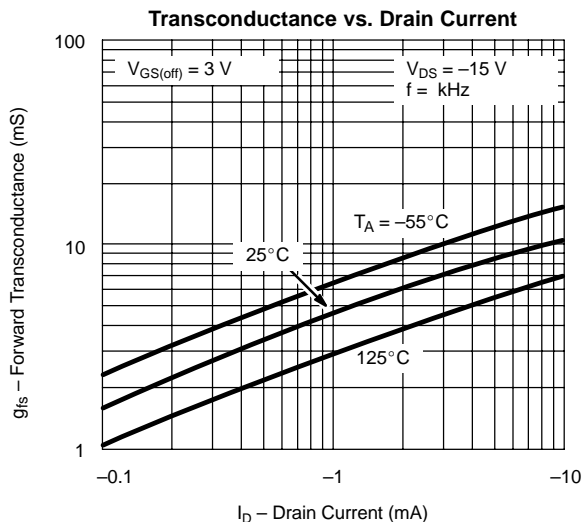




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