



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

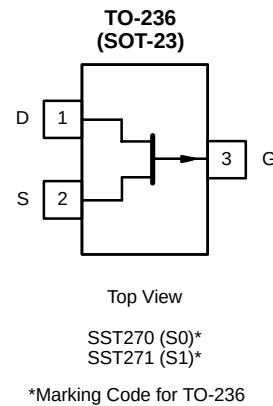
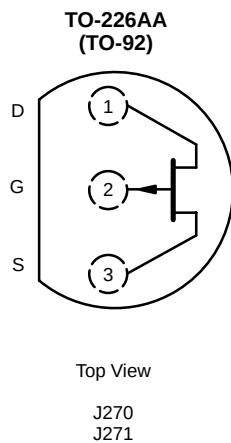
- High-Gain, Low-Noise Amplifiers
- Low-Current, Low-Voltage Battery Amplifiers
- Ultrahigh Input Impedance Pre-Amplifiers
- High-Side Switching

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).



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

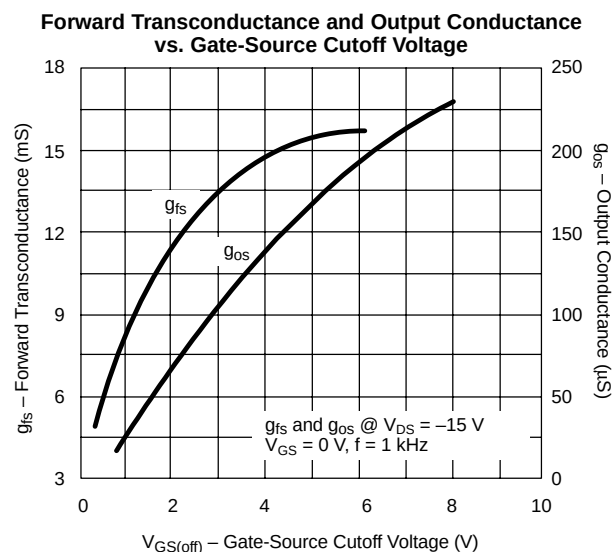
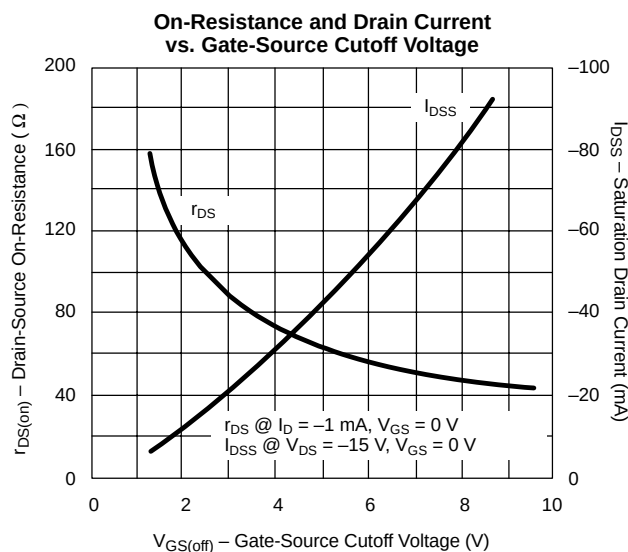
SPECIFICATIONS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

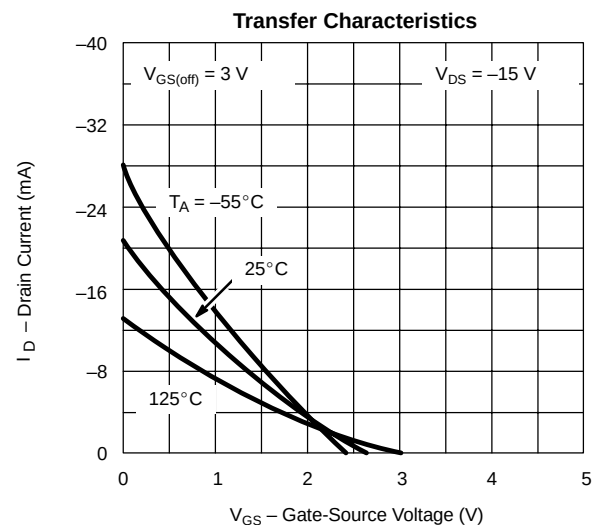
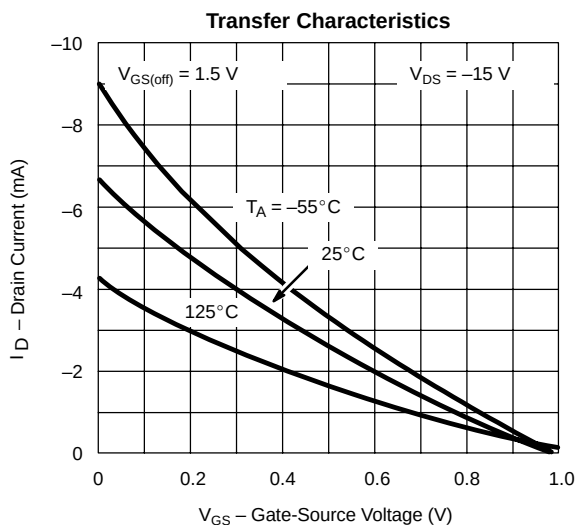
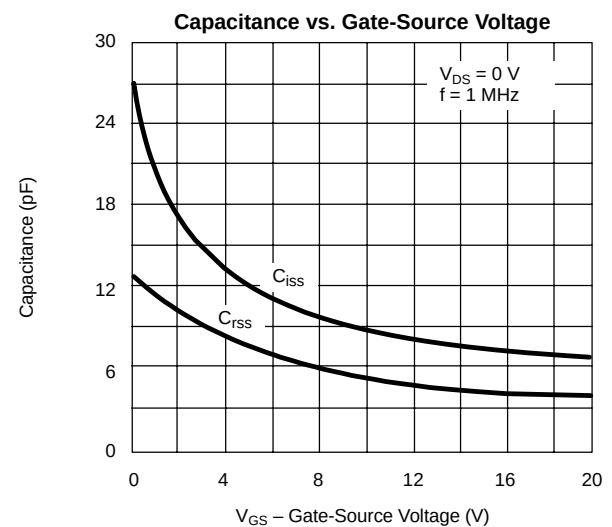
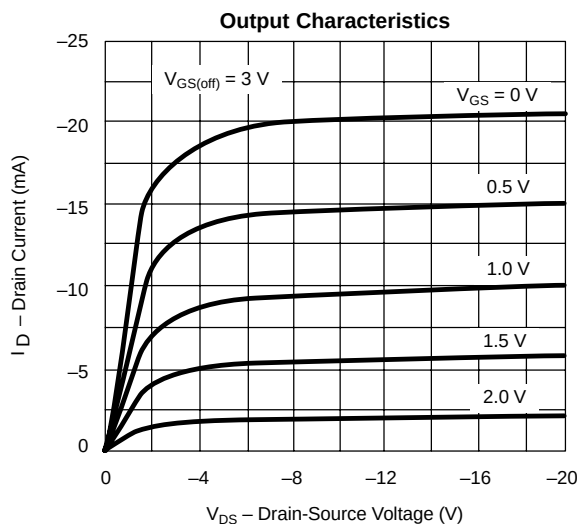
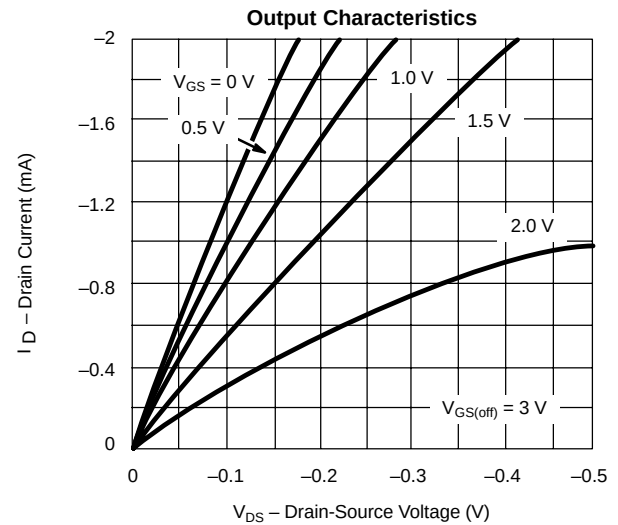
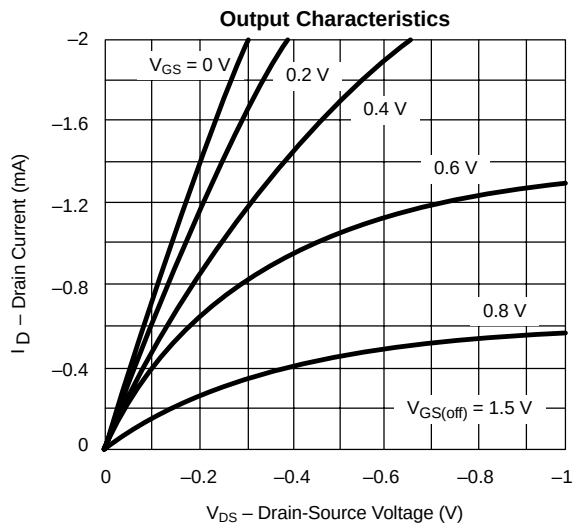
Parameter	Symbol	Test Conditions	Typ ^a	Limits				Unit
				J/SST270		J/SST271		
				Min	Max	Min	Max	
Static								
Gate-Source Breakdown Voltage	V _{(BR)GSS}	I _G = 1 μA , V _{DS} = 0 V	45	30		30		V
Gate-Source Cutoff Voltage	V _{GS(off)}	V _{DS} = −15 V, I _D = −1 nA		0.5	2.0	1.5	4.5	
Saturation Drain Current ^b	I _{DSS}	V _{DS} = −15 V, V _{GS} = 0 V		−2	−15	−6	−50	mA
Gate Reverse Current	I _{GSS}	V _{GS} = 20 V, V _{DS} = 0 V	10		200		200	pA
		T _A = 125°C	5					nA
Gate Operating Current	I _G	V _{DG} = −15 V, I _D = −1 mA	10					pA
Drain Cutoff Current	I _{D(off)}	V _{DS} = −15 V, V _{GS} = 10 V	−10					
Gate-Source Forward Voltage	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		6	15	8	18	mS
Common-Source Output Conductance	g _{os}				200		500	μS
Common-Source Input Capacitance	C _{iss}	V _{DS} = −15 V, V _{GS} = 0 V f = 1 MHz	20					pF
Common-Source Reverse Transfer Capacitance	C _{rss}		4					
Equivalent Input Noise Voltage	ē _n	V _{DG} = −10 V, V _{GS} = 0 V f = 1 kHz	20					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 $\leq 3\%$.

PSCIA

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

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