

N-Channel JFETs

PRODUCT SUMMARY			
$V_{GS(off)}$ (V)	$V_{(BR)GSS}$ Min (V)	g_{fs} Min (mS)	I_{DSS} Min (mA)
-0.3 to -0.9	-25	0.25	0.7

FEATURES

- Low Cutoff Voltage: <math><0.9\text{ V}</math>
- High Input Impedance
- Very Low Noise
- High Gain: $A_V = 80 @ 20\ \mu\text{A}$

BENEFITS

- High Quality Low-Level Signal Amplification
- Low Signal Loss/System Error
- High System Sensitivity

APPLICATIONS

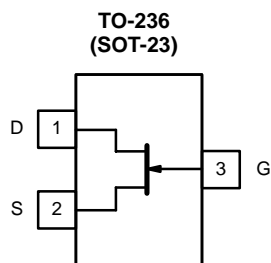
- Mini-Microphones
- Hearing Aids
- High-Gain, Low-Noise Amplifiers
- Low-Current, Low-Voltage Battery-Powered Amplifiers
- Ultra High Input Impedance Pre-Amplifiers

DESCRIPTION

The SST200/200A features low leakage, very low noise and low cutoff voltage for use with low-level power supplies. The SST200/200A is excellent for battery powered equipment and low current amplifiers such as mini-microphones.

The TO-236 (SOT-23) and SOT-323 (SC-70 3-leads) packages, provide surface-mount capability and is available in tape-and-reel for automated assembly.

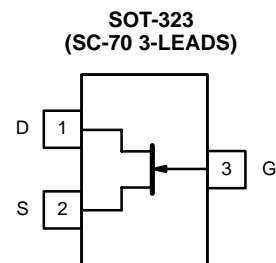
For applications information see AN102 and AN106.



Top View

SST200 (P0)*

*Marking Code for TO-236



Top View

SST200A (C)*

*Marking Code for SOT-323



ABSOLUTE MAXIMUM RATINGS

Gate-Drain, Gate-Source Voltage	40 V
Gate Current	10 mA
Lead Temperature (1/16" from case for 10 sec.)	300°C
Storage Temperature	-55 to 150°C
Operating Junction Temperature	-55 to 150°C

Power Dissipation	
To-236 (SOT-23) ^a	350 mW
SC-70 ^b	150 mW

Notes

- Derate 2.8 mW/°C above 25°C
- Derate 1.2 mW/°C above 25°C

SPECIFICATIONS (T _A = 25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ ^a	Max	
Static						
Gate-Source Breakdown Voltage	V _{(BR)GSS}	I _G = -1 μA, V _{DS} = 0 V	-25			V
Gate-Source Cutoff Voltage	V _{GS(off)}	V _{DS} = 15 V, I _D = 10 μA	-0.3		-0.9	
Saturation Drain Current ^b	I _{DSS}	V _{DS} = 15 V, V _{GS} = 0 V	0.15		0.7	mA
Gate Reverse Current	I _{GSS}	V _{GS} = -20 V, V _{DS} = 0 V		-2	-100	pA
		T _A = 125°C		-1		nA
Gate Operating Current	I _G	V _{DG} = 10 V, I _D = 0.1 mA		-2		pA
Drain Cutoff Current	I _{D(off)}	V _{DS} = 15 V, V _{GS} = -5 V		2		
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	0.25	0.7		mS
Common-Source Input Capacitance	C _{iss}	V _{DS} = 15 V, V _{GS} = 0 V f = 1 MHz		4.5		pF
Common-Source Reverse Transfer Capacitance	C _{rss}			1.3		
Equivalent Input Noise Voltage	\bar{e}_n	V _{DS} = 10 V, V _{GS} = 0 V f = 1 kHz		6		nV/ √Hz

Notes

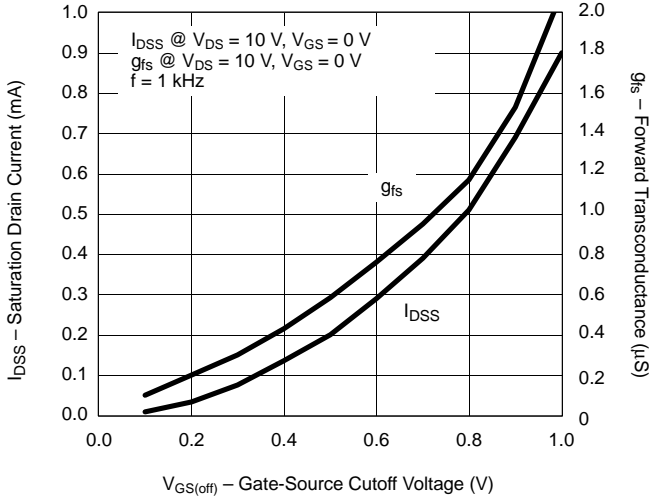
- Typical values are for DESIGN AID ONLY, not guaranteed nor subject to production testing.
- Pulse test: PW ≤ 300 μs duty cycle ≤ 3%.

NPA

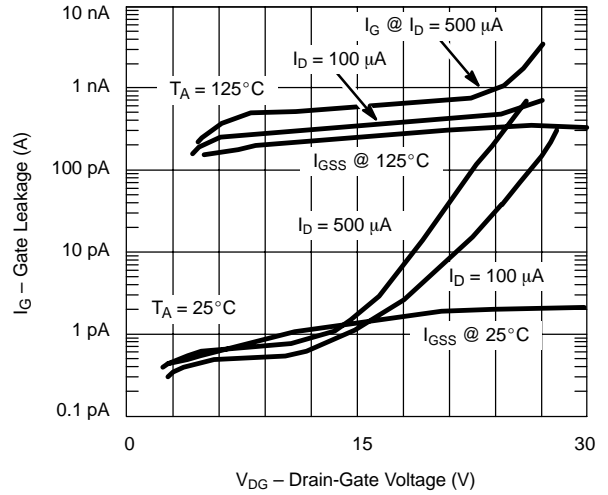


TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

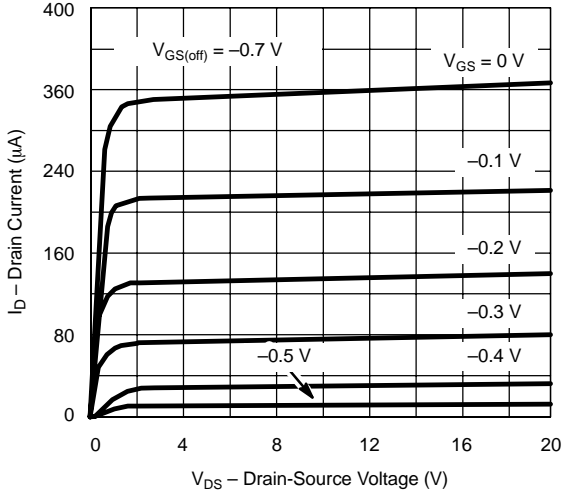
Drain Current and Transconductance vs. Gate-Source Cutoff Voltage



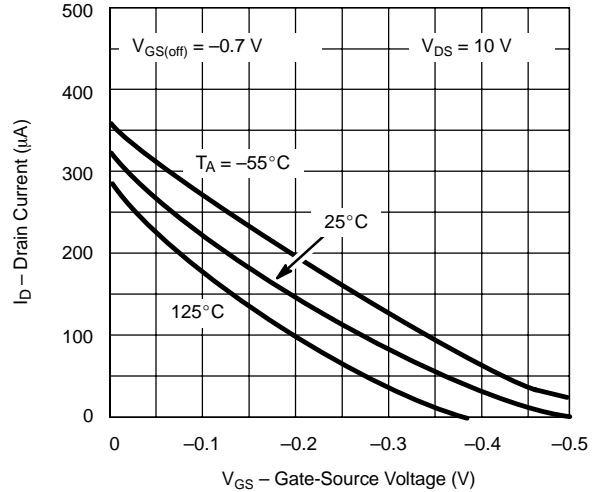
Gate Leakage Current



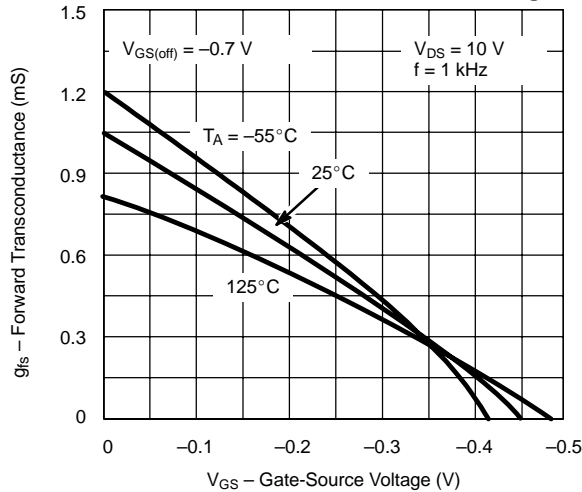
Output Characteristics



Transfer Characteristics



Transconductance vs. Gate-Source Voltage



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

