

## P-Channel JFETs

**2N5460**
**SST5460**
**2N5461**
**SST5461**
**2N5462**
**SST5462**

PRODUCT SUMMARY				
Part Number	$V_{GS(off)}$ (V)	$V_{(BR)GSS}$ Min (V)	$g_{fs}$ Min (mS)	$I_{DSS}$ Min (mA)
2N/SST5460	0.75 to 6	40	1	-1
2N/SST5461	1 to 7.5	40	1.5	-2
2N/SST5462	1.8 to 9	40	2	-4

### FEATURES

- High Input Impedance
- Very Low Noise
- High Gain:  $A_V = 80 @ 20 \mu A$
- Low Capacitance: 1.2 pF Typical

### BENEFITS

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

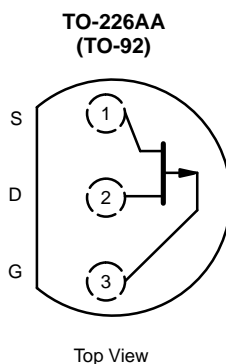
### APPLICATIONS

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

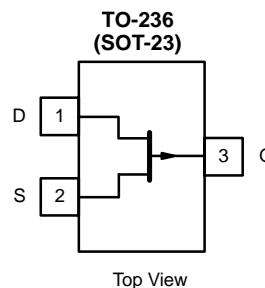
### DESCRIPTION

The 2N/SST5460 series are p-channel JFETs designed to provide all-around performance in a wide range of amplifier and analog switch applications.

The 2N series, TO-226AA (TO-92), and SST series, TO-236 (SOT-23), plastic packages provide low cost options, and are available in tape-and-reel for automated assembly, (see Packaging Information).



2N5460  
2N5461  
2N5462



SST5460 (B0)\*  
SST5461 (B1)\*  
SST5462 (B2)\*

\*Marking Code for TO-236

### ABSOLUTE MAXIMUM RATINGS

Gate-Drain Voltage	40 V
Gate-Source Voltage	40 V
Gate Current	-10 mA
Storage Temperature	-65 to 150°C
Operating Junction Temperature	-55 to 150°C

Lead Temperature ( $1/16$ " 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		
				2N/SST5460		2N/SST5461		2N/SST5462				
				Min	Max	Min	Max	Min	Max			
<b>Static</b>												
Gate-Source Breakdown Voltage	V <sub>(BR)GSS</sub>	I <sub>G</sub> = 10 μA, V <sub>DS</sub> = 0 V	55	40		40		40		V		
Gate-Source Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> = -15 V, I <sub>D</sub> = -1 μA		0.75	6	1	7.5	1.8	9			
Saturation Drain Current <sup>b</sup>	I <sub>DSS</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 0 V		-1	-5	-2	-9	-4	-16	mA		
Gate Reverse Current	I <sub>GSS</sub>	V <sub>GS</sub> = 20 V, V <sub>DS</sub> = 0 V	0.003		5		5		5	nA		
		T <sub>A</sub> = 100 °C	0.0003		1		1		1	μA		
Gate Operating Current	I <sub>G</sub>	V <sub>DG</sub> = -20 V, I <sub>D</sub> = -0.1 mA	3							pA		
Drain Cutoff Current	I <sub>D(off)</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 10 V	-5									
Gate-Source Voltage	V <sub>GS</sub>	V <sub>DS</sub> = -15 V	I <sub>D</sub> = -0.1 mA	1.3	0.5	4					V	
			I <sub>D</sub> = -0.2 mA	2.3			0.8	4.5				
			I <sub>D</sub> = -0.4 mA	3.8					1.5	6		
Gate-Source Forward Voltage	V <sub>GS(F)</sub>	I <sub>G</sub> = -1 mA, V <sub>DS</sub> = 0 V	-0.7									
<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		1	4	1.5	5	2	6	mS		
Common-Source Output Conductance	g <sub>os</sub>				75		75		75	μS		
Common-Source Reverse Transfer Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 0 V f = 1 MHz	2N	4.5		7		7		7	pF	
			SST	4.5								
Common-Source Reverse Transfer Capacitance	C <sub>rss</sub>			1.2								
			2N	1.5		2		2		2		
Common-Source Output Capacitance	C <sub>oss</sub>			1.5								
			SST	1.5								
Equivalent Input Noise Voltage	ē <sub>n</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 0 V f = 100 Hz	2N	15		115		115		115	nV/ √Hz	
			SST	15								
Noise Figure	NF		V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 0 V f = 100 Hz, R <sub>G</sub> = 1 MΩ BW = 1 Hz	2N	0.2		2.5		2.5		2.5	dB
				SST	0.2							

**Notes**

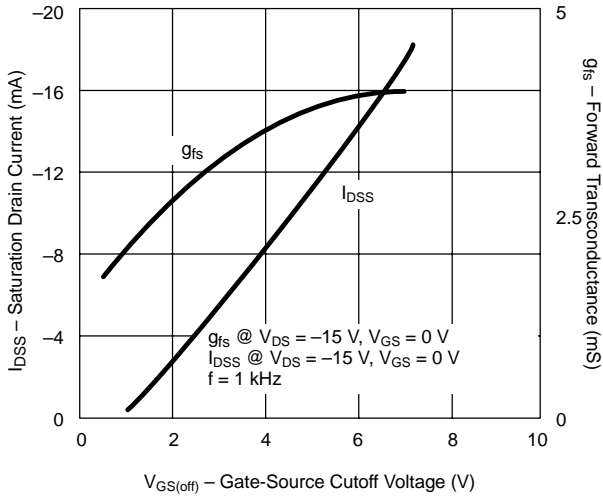
- a. Typical values are for DESIGN AID ONLY, not guaranteed nor subject to production testing.
- b. Pulse test: PW ≤ 300 μs duty cycle ≤ 2%.

PSCIB

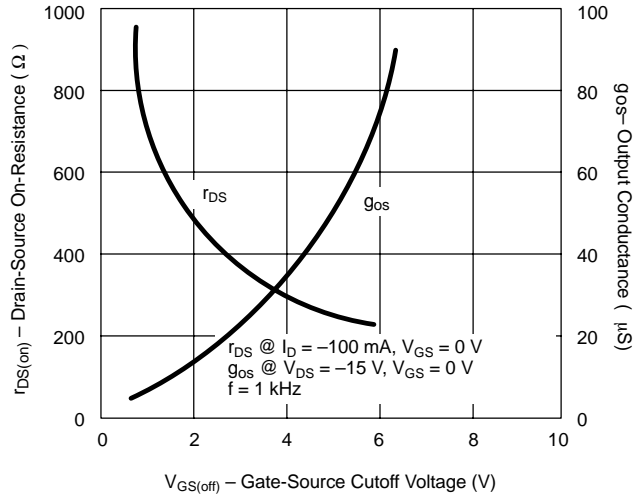


**TYPICAL CHARACTERISTICS (T<sub>A</sub> = 25°C UNLESS OTHERWISE NOTED)**

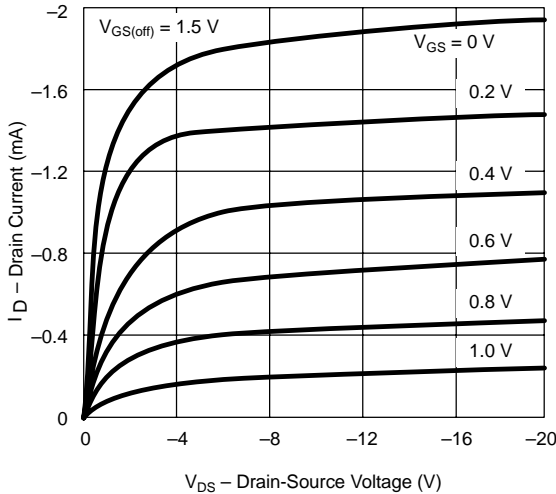
**Drain Current and Transconductance vs. Gate-Source Cutoff Voltage**



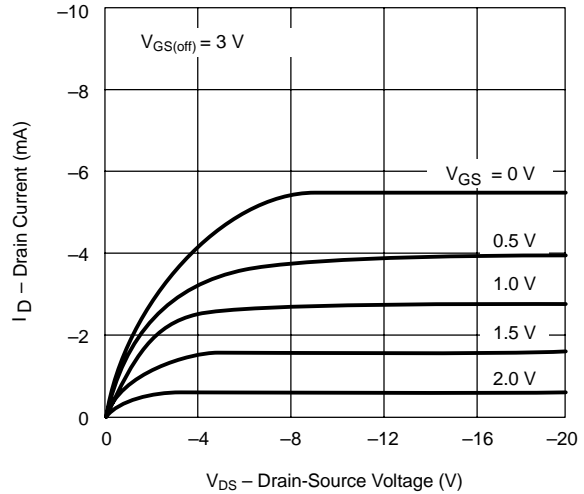
**On-Resistance and Output Conductance vs. Gate-Source Cutoff Voltage**



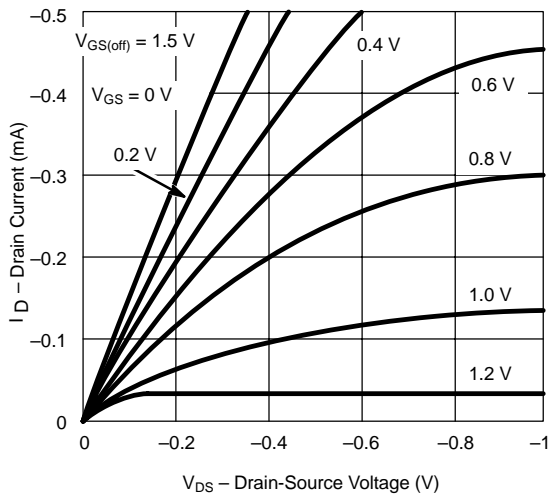
**Output Characteristics**



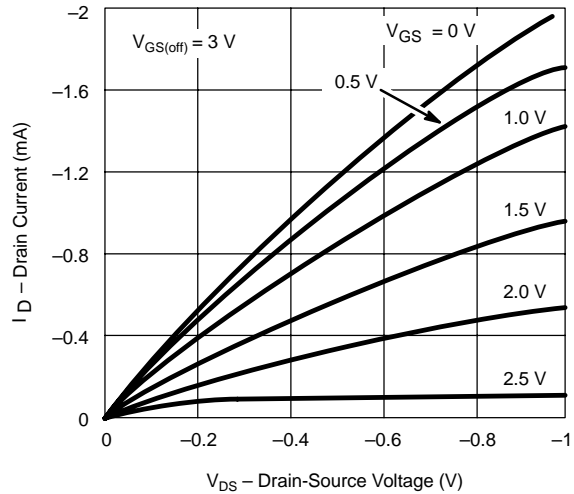
**Output Characteristics**



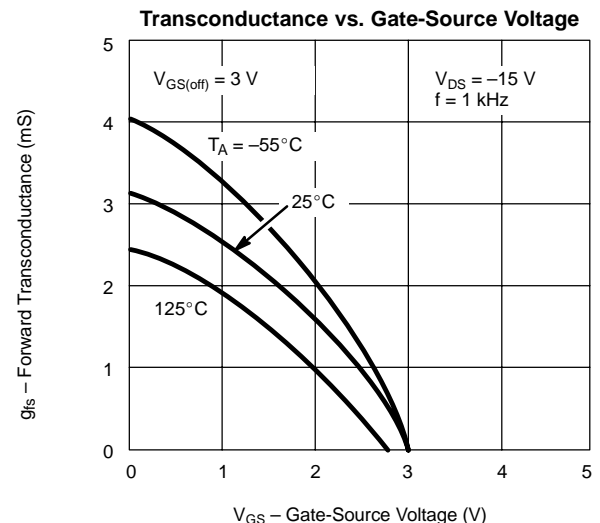
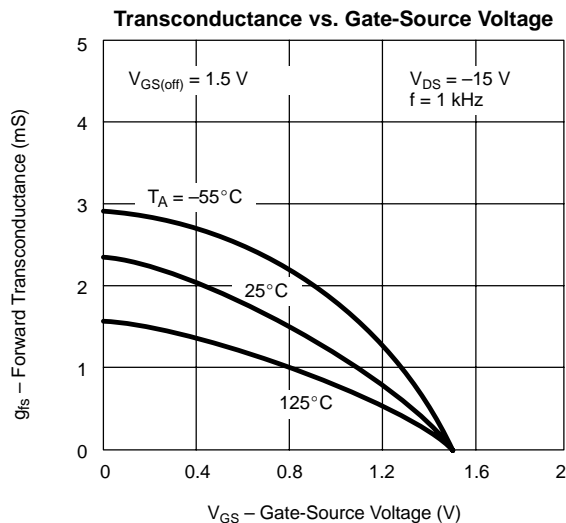
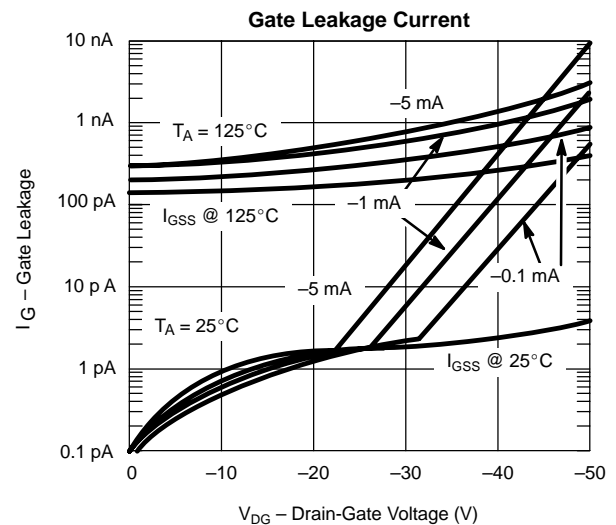
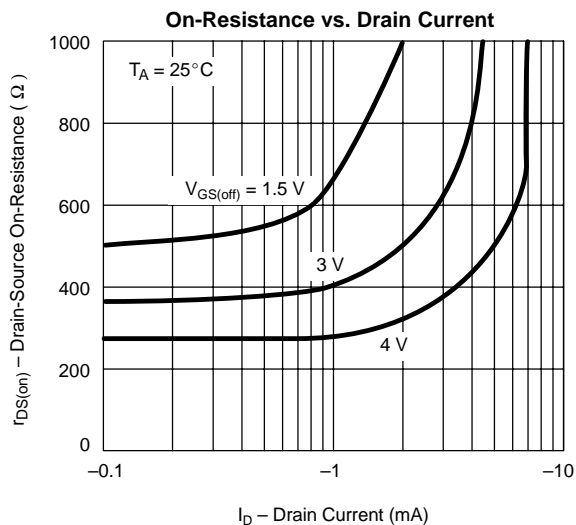
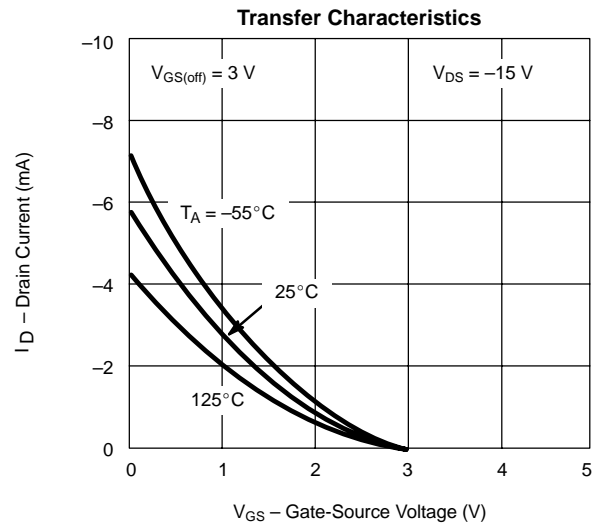
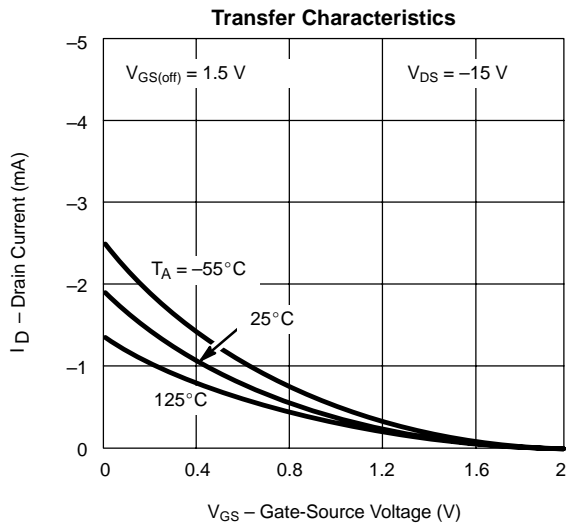
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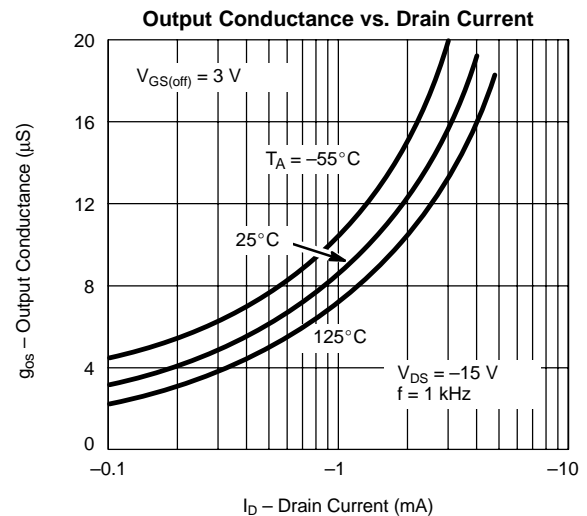
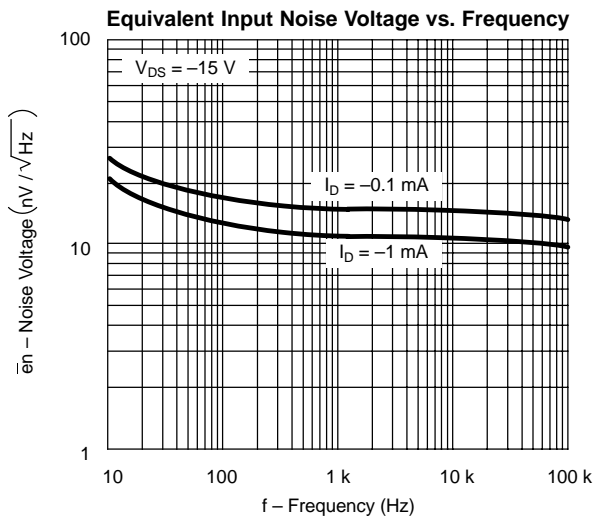
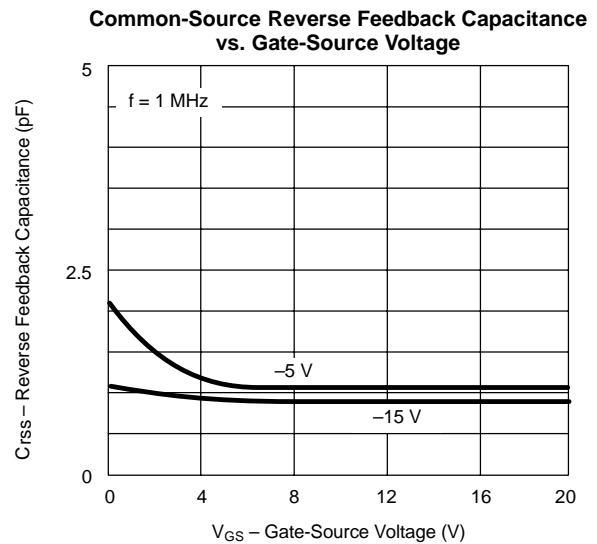
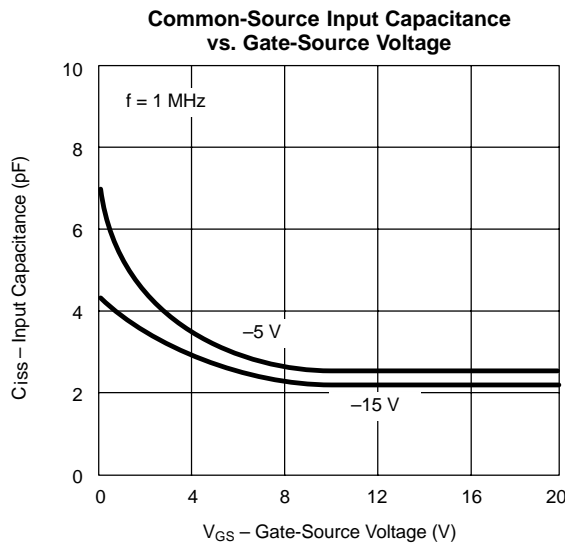
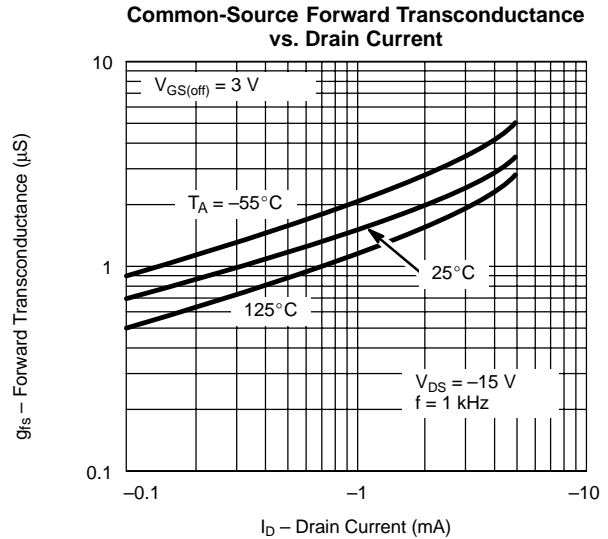
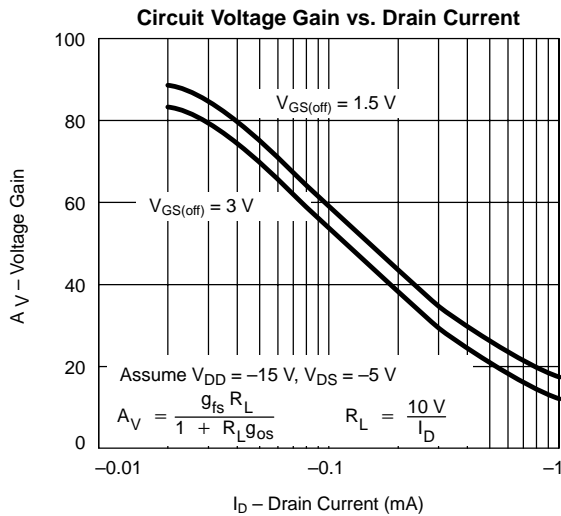
**Output Characteristics**



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



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