

2N4867, 2N4867A, 2N4868, 2N4868A, 2N4869, 2N4869A

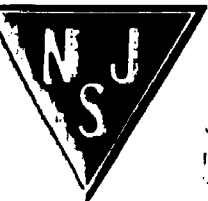
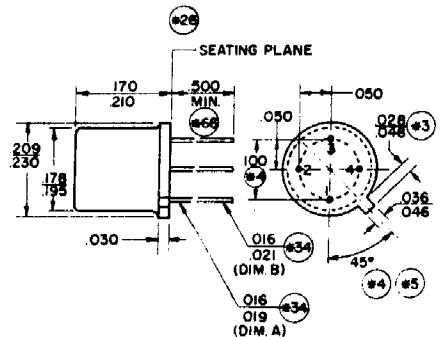
N-Channel Silicon Junction Field-Effect Transistor

Audio Amplifiers

Absolute maximum ratings at $T_A = 25^\circ\text{C}$
 Reverse Gate Source & Reverse Gate Drain Voltage - 40 V
 Gate Current 50 mA
 Continuous Device Power Dissipation 300mW
 Power Derating 1.7 mW/ $^\circ\text{C}$
 Storage Temperature Range - 65 $^\circ\text{C}$ to + 200 $^\circ\text{C}$

At 25 $^\circ\text{C}$ free air temperature: Static Electrical Characteristics		2N4867 2N4867A		2N4868 2N4868A		2N4869 2N4869A		Process NJ16	
		Min	Max	Min	Max	Min	Max	Unit	Test Conditions
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	- 40		- 40		- 40		V	$I_G = - 1\mu\text{A}, V_{DS} = 0\text{V}$
Gate Reverse Current	I_{GSS}		- 0.25		- 0.25		- 0.25	nA	$V_{GS} = - 30\text{V}, V_{DS} = 0\text{V}$
			- 0.25		- 0.25		- 0.25	μA	$V_{GS} = - 30\text{V}, V_{DS} = 0\text{V}$ $T_A = 150^\circ\text{C}$
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	- 0.7	- 2	- 1	- 3	- 1.8	- 5	V	$V_{DS} = 20\text{V}, I_D = 1\mu\text{A}$
Drain Saturation Current (Pulsed)	I_{DSS}	0.4	1.2	1	3	2.5	7.5	mA	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$

Dynamic Electrical Characteristics		2N4867 2N4867A		2N4868 2N4868A		2N4869 2N4869A		Process NJ16	
Common Source Forward Transconductance	g_{fs}	700	2000	1000	3000	1300	4000	μS	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$ $f = 1\text{kHz}$
Common Source Output Conductance	g_{os}		1.5		4		10	μS	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$ $f = 1\text{kHz}$
Common Source Input Capacitance	C_{iss}		25		25		25	pF	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$ $f = 1\text{MHz}$
Common Source Reverse Transfer Capacitance	C_{rss}		5		5		5	pF	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$ $f = 1\text{MHz}$
Equivalent Short Circuit Input Noise Voltage	\hat{e}_N		20		20		20	nV/ $\sqrt{\text{HZ}}$	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$ $f = 10\text{Hz}$
			10		10		10	nV/ $\sqrt{\text{HZ}}$	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$ $f = 1\text{kHz}$
Noise Figure	NF		1		1		1	dB	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$ $f = 1\text{kHz}$ (2N4867, 68, 69) $R_G = 20\text{k}\Omega$ (2N4867A, 68A, 69A) $R_G = 5\text{k}\Omega$



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