

N-Channel Silicon Junction Field-Effect Transistor

• Audio Amplifier

Absolute maximum ratings at $T_A = 25^\circ\text{C}$

Reverse Gate Source & Reverse Gate Drain Voltage	- 40 V
Continuous Forward Gate Current	50 mA
Continuous Device Power Dissipation	360 mW
Power Derating	3.27 mW/°C

At 25°C free air temperature:

Static Electrical Characteristics

		J232			Unit	Process NJ16	
		Min	Typ	Max		Test Conditions	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	- 40			V	$I_G = -1\ \mu\text{A}, V_{DS} = 0\text{V}$	
Gate Reverse Current	I_{GSS}			- 250	pA	$V_{GS} = -30\text{V}, V_{DS} = 0\text{V}$	
Gate Operating Current	I_G		- 2		pA	$V_{DS} = 20\text{V}, I_D = 0\text{V}$	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	- 3		- 6	V	$V_{DS} = 20\text{V}, I_D = 1\ \mu\text{A}$	
Drain Saturation Current (Pulsed)	I_{DSS}	5		10	mA	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$	

Dynamic Electrical Characteristics

Common Source Forward Transconductance	g_{fs}	2500		5000	μS	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$	$f = 1\ \text{kHz}$
Common Source Output Conductance	g_{os}		5		μS	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$	$f = 1\ \text{kHz}$
Common Source Input Capacitance	C_{iss}		4		pF	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$	$f = 1\ \text{MHz}$
Common Source Reverse Transfer Capacitance	C_{rss}		1		pF	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$	$f = 1\ \text{MHz}$
Equivalent Short Circuit Input Noise Voltage	\bar{e}_N		20	30	nV/ $\sqrt{\text{Hz}}$	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$	$f = 10\ \text{Hz}$
			6		nV/ $\sqrt{\text{Hz}}$	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V}$	$f = 1\ \text{kHz}$

TO-226AA Package

Dimensions in Inches (mm)

Pin Configuration

1 Drain, 2 Source, 3 Gate

Surface Mount

SMPJ232