

## 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	$\mu\text{S}$	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$	$f = 1\ \text{kHz}$
Common Source Output Conductance	$g_{os}$		5		$\mu\text{S}$	$V_{DS} = 20\text{V}, V_{GS} = 0\text{V}$	$f = 1\ \text{kHz}$
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

