

2N4117, 2N4117A, 2N4118, 2N4118A, 2N4119, 2N4119A

N-Channel Silicon Junction Field-Effect Transistor

- Audio Amplifiers
- Ultra-High Input Impedance Amplifiers

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

300 mW

Power Derating (to 175°C)2 mW/ $^\circ\text{C}$

At 25°C free air temperature:

Static Electrical Characteristics

		2N4117 2N4117A		2N4118 2N4118A		2N4119 2N4119A		Process NJ01	
		Min	Max	Min	Max	Min	Max	Unit	Test Conditions
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	– 40		– 40		– 40		V	$I_G = -1\mu\text{A}$, $V_{DS} = \emptyset\text{V}$
Gate Reverse Current 2N4117, 2N4118, 2N4119 2N4117A, 2N4118A, 2N4119A	I_{GSS}		– 10		– 10		– 10	pA	$V_{GS} = -20\text{V}$, $V_{DS} = \emptyset\text{V}$
			– 1		– 1		– 1	pA	$V_{GS} = -20\text{V}$, $V_{DS} = \emptyset\text{V}$
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	– 0.6	– 1.8	– 1	– 3	– 2	– 6	V	$V_{DS} = 10\text{V}$, $I_D = 1\text{nA}$
Drain Saturation Current (Pulsed) 2N4117, 2N4118, 2N4119 2N4117A, 2N4118A, 2N4119A	I_{GSS}	0.03	0.09	0.08	0.24	0.2	0.6	mA	$V_{DS} = 10\text{V}$, $V_{GS} = \emptyset\text{V}$
		0.015	0.09	0.08	0.24	0.2	0.6	mA	$V_{DS} = 10\text{V}$, $V_{GS} = \emptyset\text{V}$

Dynamic Electrical Characteristics

Common Source Forward Transconductance	g_{fs}	70	210	80	250	100	330	μS	$V_{DS} = 10\text{V}$, $V_{GS} = \emptyset\text{V}$	$f = 1\text{ kHz}$
Common Source Output Conductance	g_{os}		3		5		10	μS	$V_{DS} = 10\text{V}$, $V_{GS} = \emptyset\text{V}$	$f = 1\text{ kHz}$
Common Source Input Capacitance	C_{iss}		3		3		3	pF	$V_{DS} = 10\text{V}$, $V_{GS} = \emptyset\text{V}$	$f = 1\text{ MHz}$
Common Source Reverse Transfer Capacitance	C_{rss}		1.5		1.5		1.5	pF	$V_{DS} = 10\text{V}$, $V_{GS} = \emptyset\text{V}$	$f = 1\text{ MHz}$

TO-72 Package

Dimensions in Inches (mm)

Pin Configuration

1 Source, 2 Drain, 3 Gate, 4 Case

