

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

### N-Channel Silicon Junction Field-Effect Transistor

- Audio Amplifiers
- Ultra-High Input Impedance Amplifiers

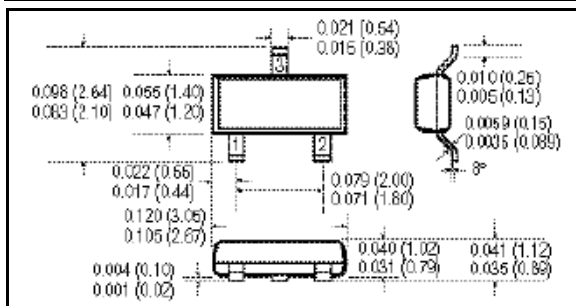
#### Absolute maximum ratings at $T_A = 25^\circ\text{C}$

Reverse Gate Source & Gate Drain Voltage	-40V
Continuous Forward Gate Current	50 mA
Continuous Device Power Dissipation	300 mW
Power Derating	2 mW/ $^\circ\text{C}$
Operating Temperature Range	-55 $^\circ\text{C}$ to +125 $^\circ\text{C}$
Storage Temperature Range	-65 $^\circ\text{C}$ to +150 $^\circ\text{C}$

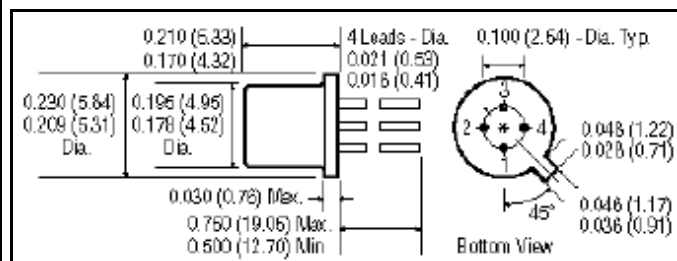
At 25 $^\circ\text{C}$ free air temperature Static Electrical Characteristics		2N4117 2N4117A		2N4118 2N4118A		2N4119 2N4119A		Process NJ01	
		Min	Max	Min	Max	Min	Max	Unit	Test Conditions
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	-40		-40		-40		V	$I_G = -1 \mu\text{A}$ , $V_{DS} = 0 \text{ V}$
Gate Reverse Current 2N4117, 2N4118, 2N4119 2N4117A, 2N4118A, 2N4119A	$I_{GSS}$		-10 -1		-10 -1		-10 -1	pA	$V_{GS} = -20 \text{ V}$ , $V_{DS} = 0 \text{ V}$
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	$I_{DSS}$	0.03 0.015	0.09 0.09	0.08 0.08	0.24 0.24	0.2 0.2	0.6 0.6	mA	$V_{DS} = 10 \text{ V}$ , $V_{GS} = 0 \text{ V}$

#### Dynamic Electrical Characteristics

Common-Source Forward Transconductance	$g_{fs}$	70	210	80	250	100	330	$\mu\text{S}$	$V_{GS} = 0 \text{ V}$ , $V_{DS} = 10 \text{ V}$	f = 1 kHz
Common-Source Output Conductance	$g_{os}$		3		5		10	$\mu\text{S}$	$V_{DS} = 10 \text{ V}$ , $V_{GS} = 0 \text{ V}$	f = 1 kHz
Common-Source Input Capacitance	$C_{iss}$		3		3		3	pF	$V_{DS} = 10 \text{ V}$ , $V_{GS} = 0 \text{ V}$	f = 1 MHz
Common-Source Reverse Transfer Capacitance	$C_{rss}$		1.5		1.5		1.5	pF	$V_{DS} = 10 \text{ V}$ , $V_{GS} = 0 \text{ V}$	f = 1 MHz



**SOT-23:** SMP4117, SMP4117A, SMP4118,  
SMP4118A, SMP4119, SMP4119A  
1-Source, 2-Drain, 3-Gate



**TO-92:** 2N4117, 2N4117A, 2N4118,  
2N4118A, 2N4119, 2N4119A  
1-Source, 2-Drain, 3-Gate, 4- Case

Dimensions  
in Inches  
(mm)

**TO-92:** PN4117, PN4117A, PN4118,  
PN4118A, PN4119, PN4119A  
1-Source, 2-Drain, 3-Gate



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