n-channel JFETs *designed for . . .*

Siliconix

Performance Curves NT
See Section 4

■ Ultra-High Input Impedance Amplifiers

Electrometers
pH Meters
Smoke Detectors

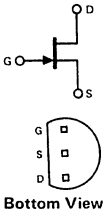
BENEFITS

- Low Power
  $I_{DSS} < 90\ \mu A$ (PN4117)
- Minimum Circuit Loading
  $I_{GSS} < 1$ pA (PN4117A Series)

ABSOLUTE MAXIMUM RATINGS (25°C)

Reverse Gate-Drain or Gate-Source Voltage . . . . . -40 V
Gate Current . . . . . 10 mA
Total Device Dissipation at 25°C Ambient
(Derate 3.27 mW/°C) . . . . . 360 mW
Operating Temperature Range . . . . . –55 to 135°C
Storage Temperature Range . . . . . –55 to 150°C
Lead Temperature Range
(1/16" from case for 10 seconds) . . . . . 300°C

TO-92
See Section 6



Bottom View

Plastic

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		PN4117 PN4117A Min	Typ	Max	PN4118 PN4118A Min	Typ	Max	PN4119 PN4119A Min	Typ	Max	PN4120 PN4120A Min	Typ	Max	Unit	Test Conditions	
1	STATIC	I_{GSS}	Gate Reverse Current PN4117 Series Only			-10			-10			-10			-20	pA	V_{GS} = -20 V, V_{DS} = 0	
2						-25			-25			-25			-50	nA		100°C
3		I_{GSS}	Gate Reverse Current PN4117A Series Only		-1			-1			-1			-5		pA	V_{GS} = -20 V, V_{DS} = 0	
4						-2 5			-2 5			-2 5			-10	nA		100°C
5		BV_{GSS}	Gate-Source Breakdown Voltage	-40			-40			-40					-40	V	I_G = -1 μA, V_{DS} = 0	
6		$V_{GS(off)}$	Gate-Source Cutoff Voltage	-0 6		-1 8	-1		-3	-2		-6	-0 6		3		V_{DS} = 10 V, I_D = 1 nA	
7		I_{DSS}	Saturation Drain Current (Note 2)	0 03		0 09	0.08		0.24	0 20		0 60	0 03		0 3	mA	V_{DS} = 10 V, V_{GS} = 0	
8	DYNAMIC	g_{fs}	Common-Source Forward Transconductance (Note 2)	70		210	80		250	100		330	70		300	μmho	V_{DS} = 10 V, V_{GS} = 0	f = 1 kHz
9		g_{os}	Common-Source Output Conductance			3			5			10			20			
10		C_{iss}	Common-Source Input Capacitance			3			3			3			3	pF		f = 1 MHz
11		C_{rss}	Common-Source Reverse Transfer Capacitance			1 5			1 5			1 5			1 5			

NT

NOTES:
1. Due to symmetrical geometry, these units may be operated with source and drain leads interchanged.
2. This parameter is measured during a 2 ms interval 100 ms after power is applied.

3