n-channel JFETs *designed for . . .*

Siliconix

Performance Curves NT
See Section 4

■ Ultra-High Input Impedance Amplifiers

Electrometers
pH Meters
Smoke Detectors
Intrusion Alarms

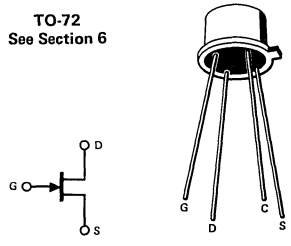
BENEFITS

- Low Power
  $I_{DSS} < 90\ \mu A$ (2N4117)
- Minimum Circuit Loading
  $I_{GSS} < 1$ pA (2N4117A Series)

*ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage (Note 1) ..... -40 V
Gate-Current ..... 50 mA
Total Device Dissipation
(Derate 2 mW/°C to 175°C) ..... 300 mW
Storage Temperature Range..... -65 to +175°C
Lead Temperature
(1/16" from case for 10 seconds)..... 255°C

TO-72
See Section 6



*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		2N4117/A FN4117/A Min	2N4117/A FN4117/A Max	2N4118 2N4118A Min	2N4118 2N4118A Max	2N4119 2N4119A Min	2N4119 2N4119A Max	Unit	Test Conditions	
1	STATIC	I_{GSS}	Gate Reverse Current 2N4117 Series Only		-10		-10		-10	pA	V_{GS} = -20 V, V_{DS} = 0	
2			FN4117		-25		-25		-25	nA		150°C
3		I_{GSS}	Gate Reverse Current 2N4117A Series Only		-1		-1		-1	pA	V_{GS} = -20 V, V_{DS} = 0	
4			FN4117A		-2.5		-2.5		-2 5	nA		150°C
5		BV_{GSS}	Gate-Source Breakdown Voltage	-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		V_{DS} = 10 V, I_D = 1 nA	
7		I_{DSS}	Saturation Drain Current (Note 2) FN4117/A	0.03 0.015	0.09	0 08	0.24	0.20	0 60	mA	V_{DS} = 10 V, V_{GS} = 0	
8	DYNAMIC	g_{fs}	Common-Source Forward Transconductance (Note 2)	70	210	80	250	100	330	μmho	V_{DS} = 10 V, V_{GS} = 0	f = 1 kHz
9		g_{os}	Common-Source Output Conductance		3		5		10			
10		C_{iss}	Common-Source Input Capacitance		3		3		3	pF		f = 1 MHz
11		C_{rss}	Common-Source Reverse Transfer Capacitance		1.5		1.5		1.5			

NT

*JEDEC registered data.

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. (Not a JEDEC condition.)