

### PN4117 N-CHANNEL JFET



# Linear Systems replaces discontinued Siliconix PN4117

## The PN4117 is an Ultra-High Input Impedance N-Channel JFET

The PN4117 provides ultra-high input impedance. The device is specified with a 10-pA limit and is ideal for use as a high-impedance sensitive front-end amplifier.

#### PN4117 Benefits:

- Insignificant Signal Loss/Error Voltage with High-Impedance Source
- Low Power Consumption (Battery)
- Maximum Signal Output, Low Noise
- High Sensitivity to Low-Level Signals

#### **PN4117 Applications:**

- High-Impedance Transducer
- Smoke Detector Input
- Infrared Detector Amplifier
- Precision Test Equipment

FEATURES						
DIRECT REPLACEMENT FOR SILICONIX PN4117						
LOW POWER	I <sub>DSS</sub> <90 μA					
MINIMUM CIRCUIT LOADING	I <sub>GSS</sub> <10 pA					
ABSOLUTE MAXIMUM RATINGS						
@ 25°C (unless otherwise noted)						
Maximum Temperatures						
Storage Temperature	-65°C to +175°C					
Operating Junction Temperature	-55°C to +150°C					
Maximum Power Dissipation						
Continuous Power Dissipation	300mW					
MAXIMUM CURRENT						
Gate Current (Note 1)	50mA					
MAXIMUM VOLTAGES						
Gate to Drain or Gate to Source (Note 2)	-40V					

#### PN4117 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
BV <sub>GSS</sub>	Gate to Source Breakdown Voltage	-40		1.	V	$I_{G} = -1\mu A$ , $V_{DS} = 0V$
V <sub>GS(off)</sub>	Gate to Source Cutoff Voltage	-0.6		-1.8	V	$V_{DS} = 10V, I_{D} = 1nA$
I <sub>DSS</sub>	Gate to Sou <mark>rc</mark> e Saturation Current	0.03		0.09	mA	$V_{DS} = 10V, V_{GS} = 0V$
I <sub>GSS</sub>	Gåte Leakage Current	1		-10	pA	$V_{GS} = -20V, V_{DS} = 0V$
				-25		$V_{GS} = -20V, V_{DS} = 0V, 150^{\circ}C$
<b>g</b> fs	Forward Transconductance(Note 3)	70		210	μmho	$V_{DS} = 10V$ , $V_{GS} = 0V$ , $f = 1kHz$
g <sub>os</sub>	Output Conductance			3		
C <sub>iss</sub>	Input Capacitance			3	pF	$V_{DS} = 10V$ , $V_{GS} = 0V$ , $f = 1MHz$
C <sub>rss</sub>	Reverse Transfer Capacitance			1.5		

NOTES

- 1 . Absolute maximum ratings are limiting values above which PN4117 serviceability may be impaired.
- 2. Due to symmetrical geometry, these units may be operated with source and drain leads interchanged
- 3. This parameter is measured during a 2ms interval 100ms after power is applied. (Not a JEDEC condition.)

Micross Components Europe



Tel: +44 1603 788967

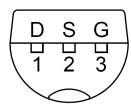
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Available Packages:

PN4117 in TO-92 PN4117 in bare die.

Please contact Micross for full package and die dimensions

TO-92 (Bottom View)



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