

## Linear Systems replaces discontinued Siliconix 2N4117

### The LS4117 is an Ultra-High Input Impedance N-Channel JFET

The LS4117 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.

#### LS4117 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

#### LS4117 Applications:

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

#### FEATURES

DIRECT REPLACEMENT FOR SILICONIX 2N4117

LOW POWER

$I_{DSS} < 90 \mu A$

MINIMUM CIRCUIT LOADING

$I_{GSS} < 10 pA$

#### 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

#### LS4117 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
$BV_{GSS}$	Gate to Source Breakdown Voltage	-40	--	--	V	$I_G = -1 \mu A, V_{DS} = 0V$
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-0.6	--	-1.8	V	$V_{DS} = 10V, I_D = 1nA$
$I_{DSS}$	Gate to Source Saturation Current	0.03	--	0.09	mA	$V_{DS} = 10V, V_{GS} = 0V$
$I_{GSS}$	Gate Leakage Current	--	--	-10	pA	$V_{GS} = -20V, V_{DS} = 0V$
		--	--	-25		$V_{GS} = -20V, V_{DS} = 0V, 150^\circ C$
$g_{fs}$	Forward Transconductance (Note 3)	70	--	210	$\mu mho$	$V_{DS} = 10V, V_{GS} = 0V, f = 1kHz$
$g_{os}$	Output Conductance	--	--	3		
$C_{iss}$	Input Capacitance	--	--	3	pF	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$
$C_{rss}$	Reverse Transfer Capacitance	--	--	1.5		

#### NOTES

1. Absolute maximum ratings are limiting values above which LS4117 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

Available Packages:

TO-71 (Bottom View)



LS4117 in TO-71  
LS4117 in bare die.

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Please contact Micross for full package and die dimensions

