

## Linear Systems replaces discontinued Siliconix 2N4117

The 2N4117 is an Ultra-High Input Impedance N-Channel JFET

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| The 2N4117 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.   |
| <b>2N4117 Benefits:</b> <ul style="list-style-type: none"> <li>Insignificant Signal Loss/Error Voltage with High-Impedance Source</li> <li>Low Power Consumption (Battery)</li> <li>Maximum Signal Output, Low Noise</li> <li>High Sensitivity to Low-Level Signals</li> </ul> |
| <b>2N4117 Applications:</b> <ul style="list-style-type: none"> <li>High-Impedance Transducer</li> <li>Smoke Detector Input</li> <li>Infrared Detector Amplifier</li> <li>Precision Test Equipment</li> </ul>   |

| FEATURES  |                      |
|---|----------------------|
| DIRECT REPLACEMENT FOR SILICONIX 2N4117                     |                      |
| LOW POWER   | $I_{DSS} < 90 \mu A$ |
| MINIMUM CIRCUIT LOADING                                     | $I_{GSS} < 10 pA$    |
| ABSOLUTE MAXIMUM RATINGS<br>@ 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                 |

### 2N4117 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        | $V_{GS} = -20V, V_{DS} = 0V$              |
| $g_{fs}$      | Forward Transconductance(Note 3)  | 70   | --   | 210  | $\mu mho$ | $V_{GS} = -20V, V_{DS} = 0V, 150^\circ C$ |
| $g_{os}$      | Output Conductance                | --   | --   | 3    |           | $V_{DS} = 10V, V_{GS} = 0V, f = 1kHz$     |
| $C_{iss}$     | Input Capacitance                 | --   | --   | 3    | pF        | $V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$     |
| $C_{rss}$     | Reverse Transfer Capacitance      | --   | --   | 1.5  |           |   |

| NOTES | <ol style="list-style-type: none"> <li>Absolute maximum ratings are limiting values above which 2N4117 serviceability may be impaired.</li> <li>Due to symmetrical geometry, these units may be operated with source and drain leads interchanged</li> <li>This parameter is measured during a 2ms interval 100ms after power is applied. (Not a JEDEC condition.)</li> </ol> |
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Micross Components Europe

Available Packages:

TO-71 (Bottom View)



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2N4117 in TO-71  
2N4117 in bare die.

Please contact Micross for full package and die dimensions

