

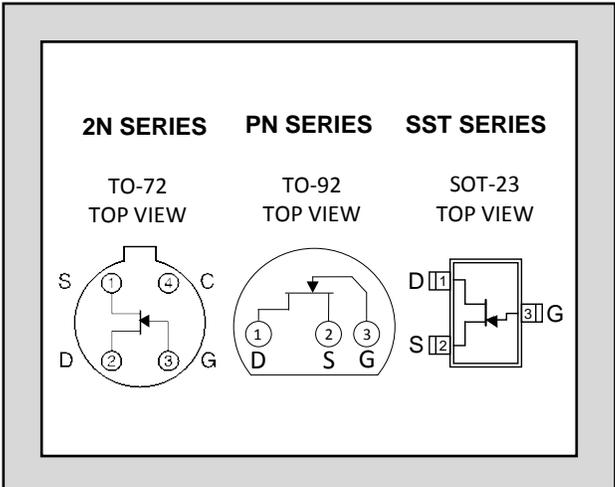
LINEAR SYSTEMS

Improved Standard Products®

2N/PN/SST 4117, 4118, 4119

ULTRA-HIGH INPUT IMPEDANCE N-CHANNEL JFET AMPLIFIER

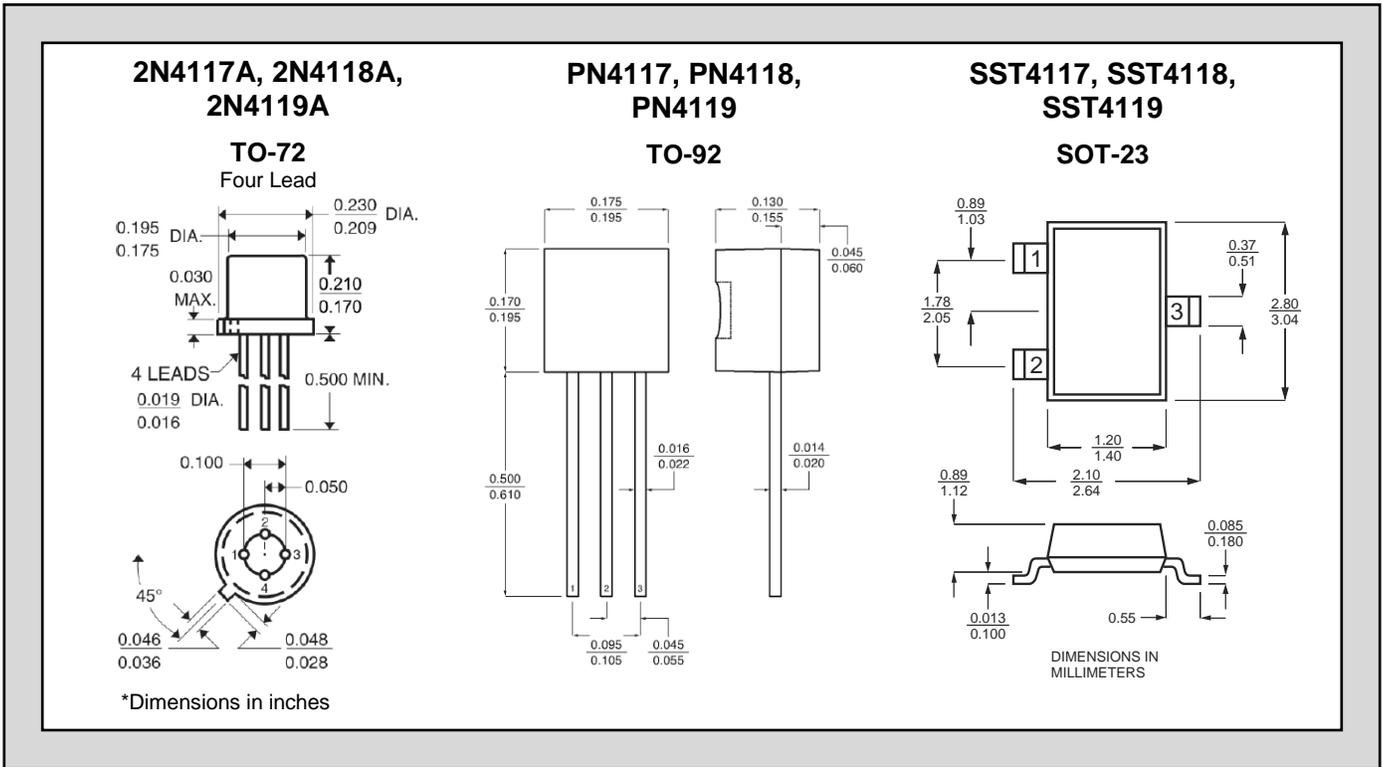
| FEATURES | |
|--|---|
| LOW POWER | $I_{DSS} < 600 \mu A$ (2N4117A) |
| MINIMUM CIRCUIT LOADING | $I_{DSS} < 1 \text{ pA}$ (2N4117A Series) |
| ABSOLUTE MAXIMUM RATINGS (NOTE 3) @ 25°C (unless otherwise noted) | |
| Gate-Source or Gate-Drain Voltage | -40V |
| Gate-Current | 50mA |
| Total Device Dissipation (Derate 2mW/°C above 25°C) | 300mW |
| Storage Temperature Range | -55°C to +150°C |
| Lead Temperature (1/16" from case for 10 seconds) | 300°C |



ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

| SYMBOL | CHARACTERISTIC | 4117 | | 4118 | | 4119 | | UNITS | CONDITIONS | |
|---------------|---|------|------|------|------|------|------|---------|-------------------------------|--------|
| | | MIN | MAX | MIN | MAX | MIN | MAX | | | |
| BV_{GSS} | Gate-Source Breakdown Voltage | -40 | -- | -40 | -- | -40 | -- | V | $I_G = -1 \mu A$ $V_{DS} = 0$ | |
| $V_{GS(off)}$ | Gate-Source Cutoff Voltage | -0.6 | -1.8 | -1 | -3 | -2 | -6 | | $V_{DS} = 10V$ $I_D = 1nA$ | |
| I_{DSS} | Saturation Drain Current (NOTE 2) | 0.03 | 0.60 | 0.08 | 0.60 | 0.20 | 0.80 | mA | $V_{DS} = 10V$ $V_{GS} = 0$ | |
| I_{GSS} | Gate Reverse Current 2N4117A, 2N4118A, 2N4119A | -- | -1 | -- | -1 | -- | -1 | pA | $V_{GS} = -20V$ $V_{DS} = 0$ | 150°C |
| | | -- | -2.5 | -- | -2.5 | -- | -2.5 | nA | | |
| | PN4117, PN4118, PN4119 SST4117, SST4118, SST4119 | -- | -10 | -- | -10 | -- | -10 | pA | $V_{GS} = -10V$ $V_{DS} = 0$ | 150°C |
| | | -- | -25 | -- | -25 | -- | -25 | nA | | |
| g_{fs} | Common-Source Forward Transconductance | 70 | 450 | 80 | 650 | 100 | 700 | μS | $V_{DS} = 10V$ $V_{GS} = 0$ | f=1kHz |
| g_{os} | Common-Source Output Conductance | -- | 3 | -- | 5 | -- | 10 | | | |
| C_{iss} | Common-Source Input Capacitance (NOTE 4) | -- | 3 | -- | 3 | -- | 3 | pF | $V_{DS} = 10V$ $V_{GS} = 0$ | f=1MHz |
| C_{rss} | Common-Source Reverse Transfer Capacitance (NOTE 4) | -- | 1.5 | -- | 1.5 | -- | 1.5 | | | |

STANDARD PACKAGE DIMENSIONS:



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.)
3. Absolute maximum ratings are limiting values above which serviceability may be impaired.
4. Not production tested, guaranteed by design.

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