

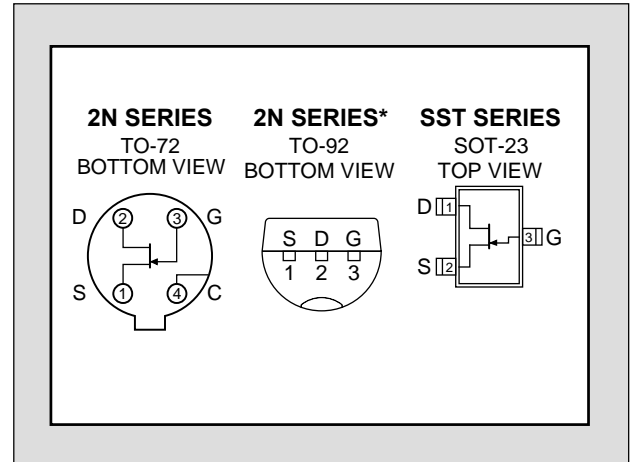
LINEAR SYSTEMS

Linear Integrated Systems

2N/SST4416 2N4416A

**N-CHANNEL JFET
HIGH FREQUENCY AMPLIFIER**

| FEATURES | |
|--|----------------|
| Direct Replacement For SILICONIX 2N/SST4416 & 2N4416A | |
| VERY LOW NOISE FIGURE (400 MHz) | 4 dB (max) |
| EXCEPTIONAL GAIN (400 MHz) | 10 dB (min) |
| ABSOLUTE MAXIMUM RATINGS ¹ @ 25 °C (unless otherwise stated) | |
| Maximum Temperatures | |
| Storage Temperature | -65 to +200 °C |
| Operating Junction Temperature | -55 to +135 °C |
| Maximum Power Dissipation | |
| Continuous Power Dissipation | 300mW |
| Maximum Currents | |
| Gate Current | 10mA |
| Maximum Voltages | |
| Gate to Drain or Gate to Source LS4416 | -30V |
| Gate to Drain or Gate to Source LS4416A | -35V |



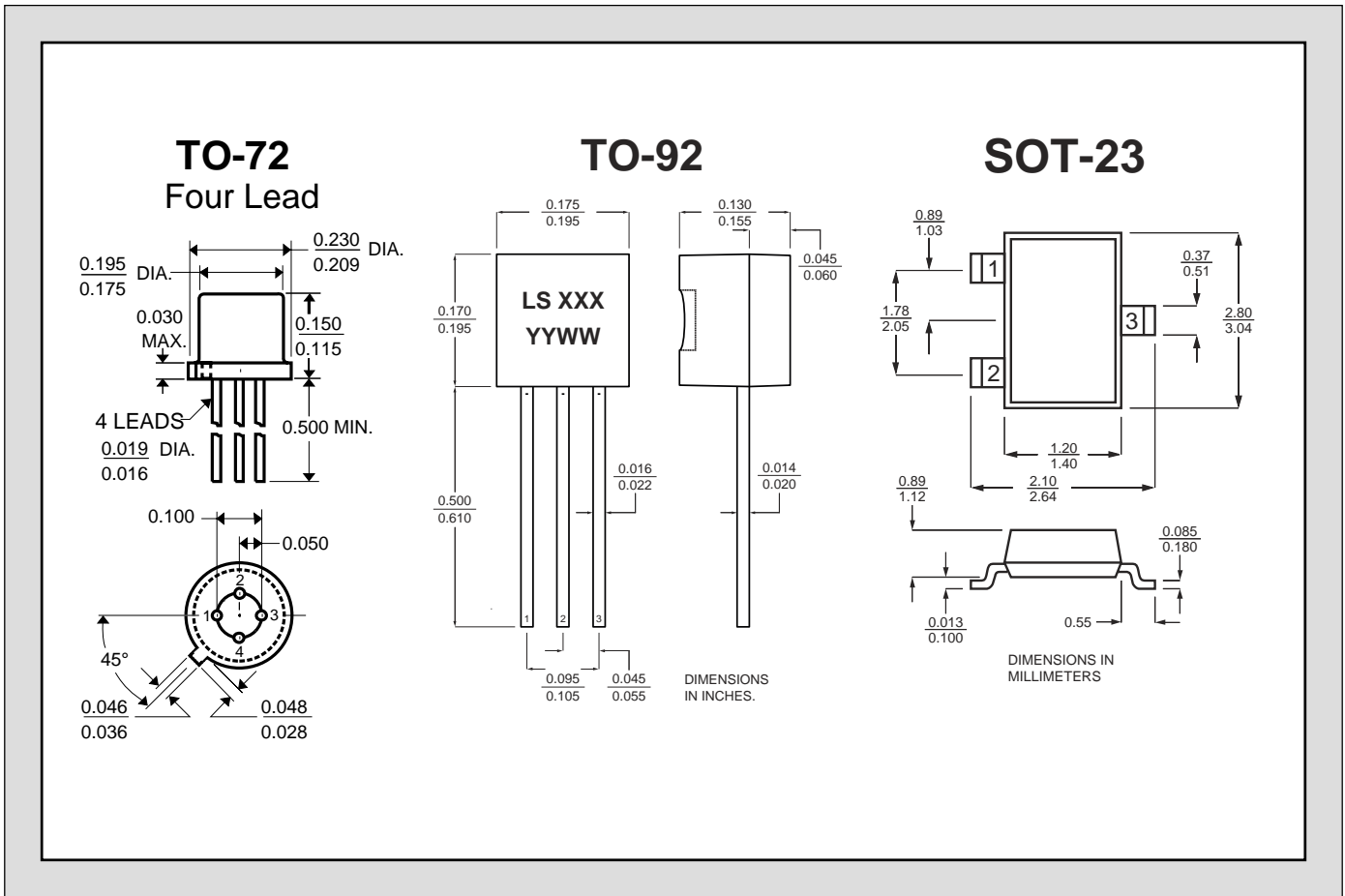
*Optional Package For 2N4416

ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

| SYMBOL | CHARACTERISTIC | MIN | TYP | MAX | UNITS | CONDITIONS | |
|----------------------|---|------------|------|------|--------|---|--|
| BV _{GSS} | Gate to Source Breakdown Voltage | 2N/SST4416 | -30 | | | V | I _G = -1μA, V _{DS} = 0V |
| | | 2N4416A | -35 | | | | |
| V _{GS(off)} | Gate to Source Cutoff Voltage | 2N/SST4416 | | -6 | | V | V _{DS} = 15V, I _D = 1nA |
| | | 2N4416A | -2.5 | -6 | | | |
| I _{DSS} | Gate to Source Saturation Current | 5 | | 15 | mA | V _{DS} = 15V, V _{GS} = 0V | |
| I _{GSS} | Gate Leakage Current | 2N | | -0.1 | | nA | V _{GS} = -20V, V _{DS} = 0V |
| | | SST | | -1.0 | | | V _{GS} = -15V, V _{DS} = 0V |
| g _{fs} | Forward Transconductance | 4500 | | 7500 | μS | V _{DS} = 15V, V _{GS} = 0V, f = 1kHz | |
| g _{os} | Output Conductance | | | 50 | μS | | |
| C _{iss} | Input Capacitance ² | | | 0.8 | pF | V _{DS} = 15V, V _{GS} = 0V, f = 1MHz | |
| C _{rss} | Reverse Transfer Capacitance ² | | | 4 | | | |
| C _{oss} | Output Capacitance ² | | | 2 | | | |
| e _n | Equivalent Input Noise Voltage | | 6 | | nV/√Hz | V _{DS} = 10V, V _{GS} = 0V, f = 1kHz | |

HIGH FREQUENCY ELECTRICAL CHARACTERISTICS @ 25 °C (unless otherwise stated)

| SYMBOL | CHARACTERISTIC | 100 MHz | | 400 MHz | | UNITS | CONDITIONS |
|-----------|---------------------------------|---------|------|---------|-------|---------|---|
| | | MIN | MAX | MIN | MAX | | |
| g_{iss} | Input Conductance | | 100 | | 1000 | μS | $V_{DS} = 15V, V_{GS} = 0V$ |
| b_{iss} | Input Susceptance ² | | 2500 | | 10000 | | |
| g_{oss} | Output Conductance | | 75 | | 100 | | |
| b_{oss} | Output Susceptance ² | | 1000 | | 4000 | | |
| G_{fs} | Forward Transconductance | | | 4000 | | | |
| G_{ps} | Power Gain ² | 18 | | 10 | | dB | $V_{DS} = 15V, I_D = 5mA$ |
| NF | Noise Figure ² | | 2 | | 4 | | $V_{DS} = 15V, I_D = 5mA, R_G = 1k\Omega$ |



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

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