

J212 N-CHANNEL JFET



Linear Systems replaces discontinued Siliconix J212

The J212 is a n-channel JFET General Purpose amplifier with low noise and low leakage.

The SOT-23 package is well suited for cost sensitive applications and mass production.

(See Packaging Information).

J212 Benefits:

- High gain
- Low Leakage
- Low Noise

J212 Applications:

- General Purpose Amplifiers
- UHV / VHF Amplifiers
- Mixers
- Oscillators

| FEATURES | | | | | |
|--|--------------------------------|--|--|--|--|
| DIRECT REPLACEMENT FOR SILICONIX J212 | | | | | |
| HIGH GAIN | g _{fs} = 7000μmho MIN | | | | |
| HIGH INPUT IMPEDANCE | I _{GSS} = 100pA max | | | | |
| LOW INPUT CAPACITANCE | C _{iss} = 5pF | | | | |
| ABSOLUTE MAXIMUM RATINGS @ 25°C (unless otherwise noted) | | | | | |
| Maximum Temperatures | | | | | |
| Storage Temperature | -55°C to +150°C | | | | |
| Operating Junction Temperature | -55°C to +135°C | | | | |
| Maximum Power Dissipation | | | | | |
| Continuous Power Dissipation | 360mW | | | | |
| Derating over temperature | 3.27 mW/°C | | | | |
| MAXIMUM CURRENT | | | | | |
| Gate Current (Note 1) | 10mA | | | | |
| MAXIMUM VOLTAGES | | | | | |
| Gate to Drain Voltage or Gate to Source Voltage | -25V | | | | |

J212 ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

| SYMBOL | CHARACTERISTIC | MIN | TYP. | MAX | UNITS | CONDITIONS |
|---------------------|---|-----|------|------|-------|--|
| BV_{GSS} | Gate to Source Breakdown Voltage | -25 | | | V | $V_{DS} = 0V$, $I_{G} = -1\mu A$ |
| $V_{GS(off)}$ | Gate to Source Cutoff Voltage | -4 | | -6 | | $V_{DS} = 15V, I_{D} = 1nA$ |
| I _{DSS} | Drain to Source Saturation Current (Note 2) | 15 | | 40 | mA | $V_{DS} = 15V, V_{GS} = 0V$ |
| I _{GSS} | Gate Reverse Current (Note 3) | 1 | | -100 | pА | $V_{DS} = 0V, V_{GS} = -15V$ |
| I _G | Gate Operating Current (Note 3) | - | -10 | | pА | $V_{DS} = 10V, I_{D} = 1mA$ |
| r _{DS(on)} | Drain to Source On Resistance | | | 50 | Ω | $I_G = 1 \text{mA}, \ V_{DS} = 0 \text{V}$ |

J212 DYNAMIC ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

| SYMBOL | CHARACTERISTIC | MIN | TYP. | MAX | UNITS | CONDITIONS |
|------------------|------------------------------|------|------|----------------------|---------------------|---|
| g _{fs} | Forward Transconductance | 7000 | | 12 <mark>00</mark> 0 | μ <mark>mh</mark> o | $V_{DS} = 15V, V_{GS} = 0V, f = 1kHz$ |
| g os | Output Conductance | | | 200 | | |
| C _{iss} | Input Capacitance | - | 4 |) | pF | $V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$ |
| C_{rss} | Reverse Transfer Capacitance | | 1 | | | |
| e _n | Equivalent Noise Voltage | | 10 | | nV/√Hz | $V_{DS} = 15V$, $V_{GS} = 0V$, $f = 1kHz$ |

J212 SWITCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

| SYMBOL | CHARACTERISTIC | | UNITS | CONDITIONS |
|---------------------|--------------------|----|-------|--------------------------|
| t _{d(on)} | Turn On Time | 2 | | V _{DD} = 10V |
| t _r | Turn On Rise Time | 2 | nc | V _{GS} (H) = 0V |
| t _{d(off)} | Turn Off Time | 6 | ns | See Switching Circuit |
| t _f | Turn Off Fall Time | 15 | | · · |

Note 1 - Absolute maximum ratings are limiting values above which J212 serviceability may be impaired.

Note 2 - Pulse test duration = 2ms

Note 3 – Approximately doubles for every 10°C increase in T_A

Micross Components Europe

micross

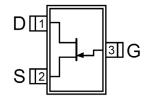
Tel: +44 1603 788967

Email: chipcomponents@micross.com Web: http://www.micross.com/distribution Available Packages:

J212 in SOT-23 J212 in bare die.

Please contact Micross for full package and die dimensions

SOT-23 (Top View)



Information furnished by Linear Integrated Systems and Micross Components is believed to be accurate and reliable. However, no responsibility is assumed for its use; nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Linear Integrated Systems.