LINEAR SYSTEMS

J210
N-CHANNEL JFET

micross

Linear Systems replaces discontinued Siliconix J210

The J210 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).

J210 Benefits:

- High gain
- Low Leakage
- Low Noise

J210 Applications:

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

FEATURES	
DIRECT REPLACEMENT FOR SILICONIX J210	
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

J210 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 = -1µA
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-1	--	-3		V_{DS} = 15V, I_D = 1nA
I_{DSS}	Drain to Source Saturation Current (Note 2)	2	--	15	mA	V_{DS} = 15V, V_{GS} = 0V
I_{GSS}	Gate Reverse Current (Note 3)	--	--	-100	pA	V_{DS} = 0V, V_{GS} = -15V
I_G	Gate Operating Current (Note 3)	--	-10	--	pA	V_{DS} = 10V, I_D = 1mA
$r_{DS(on)}$	Drain to Source On Resistance	--	--	50	Ω	I_G = 1mA, V_{DS} = 0V

J210 DYNAMIC ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN	TYP.	MAX	UNITS	CONDITIONS
g_{fs}	Forward Transconductance	4000	--	12000	µmho	V_{DS} = 15V, V_{GS} = 0V , f = 1kHz
g_{os}	Output Conductance	--	--	150		
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

J210 SWITCHING CHARACTERISTICS @ 25°C (unless otherwise noted)

SYMBOL	CHARACTERISTIC		UNITS	CONDITIONS
$t_{d(on)}$	Turn On Time	2	ns	V_{DD} = 10V V_{GS}(H) = 0V See Switching Circuit
t_r	Turn On Rise Time	2		
$t_{d(off)}$	Turn Off Time	6		
t_f	Turn Off Fall Time	15		

Note 1 - Absolute maximum ratings are limiting values above which J210 serviceability may be impaired.
Note 2 - Pulse test duration = 2ms
Note 3 – Approximately doubles for every 10°C increase in T_A

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Available Packages:

J210 in SOT-23
J210 in bare die.

Please contact Micross for full package and die dimensions

SOT-23 (Top View)