Siliconix incorporated

J230 SERIES

N-Channel JFETs

The J230 Series of popular, low-cost JFETs offers high performance in a wide range of applications. It features low leakage, noise and cutoff voltage for use with low level power supplies. Its TO-92 package offers both value and compatibility with automated assembly.

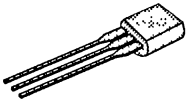
For further design information please consult the typical performance curves NPA which are located in Section 7.

PART NUMBER	$V_{GS(OFF)}$ MAX (V)	$V_{(BR)GSS}$ MIN (V)	g_{fs} MIN (mS)	I_{DSS} MAX (mA)
J230	-3	-40	1	3
J231	-5	-40	1.5	6
J232	-6	-40	2.5	10

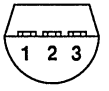
SIMILAR PRODUCTS

- TO-18, See 2N4338 Series
- SOT-23, See SST201 Series
- Chips, Order J23XCHP

TO-92



BOTTOM VIEW



1 DRAIN
2 SOURCE
3 GATE

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMIT	UNITS
Gate-Drain Voltage	V_{GD}	-40	V
Gate-Source Voltage	V_{GS}	-40	
Gate Current	I_G	50	mA
Power Dissipation	P_D	360	mW
Power Derating		3.27	mW/°C
Operating Junction Temperature	T_J	-55 to 135	°C
Storage Temperature	T_{stg}	-55 to 150	
Lead Temperature (1/16" from case for 10 seconds)	T_L	300	

4

ELECTRICAL CHARACTERISTICS [1]			LIMITS							
				J230		J231		J232		
PARAMETER	SYMBOL	TEST CONDITIONS	TYP [2]	MIN	MAX	MIN	MAX	MIN	MAX	UNIT
STATIC										
Gate-Source Breakdown Voltage	$V_{(BR)GSS}$	I_G = -1 µA, V_{DS} = 0 V	-57	-40		-40		-40		V
Gate-Source Cutoff Voltage	$V_{GS(OFF)}$	V_{DS} = 20 V, I_D = 1 µA		-0.5	-3	-1.5	-5	-3	-6	
Saturation Drain Current [3]	I_{DSS}	V_{DS} = 20 V, V_{GS} = 0 V		0.7	3	2	6	5	10	mA
Gate Reverse Current	I_{GSS}	V_{GS} = -30 V, V_{DS} = 0 V	-2		-250		-250		-250	pA
		T_A = 125°C	-1							nA
Gate Operating Current	I_G	V_{DG} = 10 V, I_D = 0.5 mA	-1							pA
Drain Cutoff Current	$I_{D(OFF)}$	V_{DS} = 15 V, V_{GS} = -10 V	2							
Gate-Source Forward Voltage	$V_{GS(F)}$	I_G = 1 mA, V_{DS} = 0 V	0.7							V
DYNAMIC										
Common-Source Forward Transconductance	g_{fs}	V_{DS} = 20 V, V_{GS} = 0 V, f = 1 kHz		1	3.5	1.5	4	2.5	5	mS
Common-Source Input Capacitance	C_{iss}	V_{DS} = 20 V, V_{GS} = 0 V, f = 1 MHz	4.5							pF
Common-Source Reverse Transfer Capacitance	C_{rss}		1.3							
Equivalent Input Noise Voltage	$\bar{e}_n$	V_{DS} = 10 V, V_{GS} = 0 V, f = 10 Hz	14		30		30		30	$nV/\sqrt{Hz}$

NOTES: 1. T_A = 25 °C unless otherwise noted.
2. For design aid only, not subject to production testing.
3. Pulse test; PW = 300 µs, duty cycle ≤ 3%.