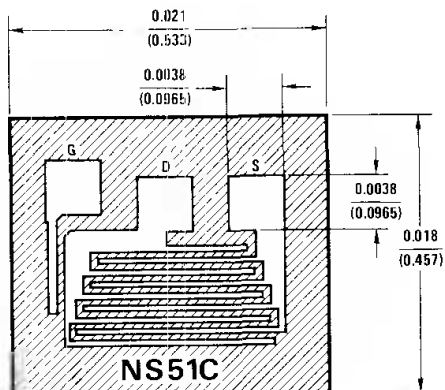




Process 51 N-Channel JFET

Process 51



GATE IS ALSO BACKSIDE CONTACT

DESCRIPTION

Process 51 is designed primarily for electronic switching applications such as low ON resistance analog switching. It features excellent C_{iss} $R_{DS(ON)}$ time constant. The inherent zero offset voltage and low leakage current make these devices excellent for chopper stabilized amplifiers, sample and hold circuits, and reset switches. Low feed-through capacitance also allows them to handle video signals to 100 MHz.

CHARACTERISTIC	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Gate-Source Breakdown Voltage	$8V_{GSS}$	$V_{DS} = 0V, I_G = -1 \mu A$	-30	-50		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0$ Pulse Test	5.0	65	170	mA
Reverse Gate Leakage	I_{GSS}	$V_{GS} = -20V, V_{DS} = 0$		-15	-200	pA
"ON" Resistance	r_{DS}	$V_{DS} = 100 mV, V_{GS} = 0$	20	35	100	Ω
Forward Transconductance	g_{fs}	$V_{DG} = 15V, I_D = 2 mA$		8.5		mmhos
Pinch Off Voltage	$V_{GS(OFF)}$	$V_{DS} = 20V, I_D = 1 nA$	-0.5	-4.5	-9.0	V
Drain "OFF" Current	$I_{D(OFF)}$	$V_{DS} = 20V, V_{GS} = -10V$		15	200	pA
Feedback Capacitance	C_{rss}	$V_{DG} = 15V, I_D = 5 mA, f = 1 MHz$		3.5	4.0	pF
Input Capacitance	C_{iss}	$V_{DS} = 15V, I_D = 5 mA, f = 1 MHz$		12	16	pF
Noise Voltage	e_n	$V_{DG} = 15V, I_D = 1 mA, f = 100 Hz$		6.0		nV/\sqrt{Hz}
Turn-On Time	t_{on}	$V_{DD} = 10V, I_D = 6.6 mA$		12	20	ns
Turn-Off Time	t_{off}	$V_{DD} = 10V, I_D = 6.6 mA$		40	80	ns

This process is available in the following device types. *Denotes preferred parts.

TO-18 (CASE 02)

2N3970
2N3971
2N3972
*2N4091
*2N4092
*2N4093
*2N4391
*2N4392
*2N4393
*2N4856
2N4856A
*2N4857
2N4857A
*2N485B
2N4858A
2N4859
2N4859A
2N4860
2N4860A

2N4861
2N4861A

TO-72 (CASE 25)

*NF5101
*NF5102
*NF5103

TO-92 (CASE 72)

*2N5638
*2N5639
*2N5640
2N5653
2N5654
*J111
*J112
*J113
*PF5101
*PF5102
*PF5103
*PN4091

*PN4092
*PN4093
*PN4391
*PN4392
*PN4393
*PN4856
*PN4857
*PN4858
*PN4859
*PN4860
*PN4861
U1B97E
U1898E
U1899E

TO-92 (CASE 74)

BF246A
BF246B
BF246C

TO-92 (CASE 77)

BF247A
BF247B
8F247C
TIS73
TIS74
TIS75

QUALIFIED PER MIL-S-19500

2N4091 JAN, JANTX
2N4092 JAN, JANTX
2N4093 JAN, JANTX, JANTXV
2N4856 JAN, JANTX, JANTXV
2N4857 JAN, JANTX, JANTXV
2N4858 JAN, JANTX, JANTXV
2N4859 JAN, JANTX, JANTXV
2N4860 JAN, JANTX, JANTXV
2N4861 JAN, JANTX, JANTXV