

3875081 G E SOLID STATE

01E 11010 D

T-31-27

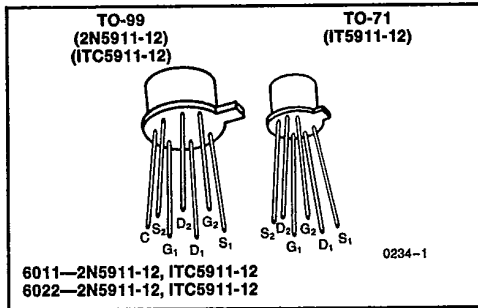


2N5911, 2N5912, ITC5911, ITC5912, IT5911, IT5912
Dual N-Channel JFET
High Frequency Amplifier

FEATURES

- Tight Tracking
- Low Insertion Loss
- Good Matching

PIN CONFIGURATION



6011—2N5911-12, ITC5911-12
 6022—2N5911-12, ITC5911-12

ABSOLUTE MAXIMUM RATINGS

($T_A = 25^\circ\text{C}$ unless otherwise noted)
 Gate-Drain or Gate-Source Voltage -25V
 Gate Current 50mA
 Storage Temperature Range -65°C to $+200^\circ\text{C}$
 Operating Temperature Range -55°C to $+150^\circ\text{C}$
 Lead Temperature (Soldering, 10sec) $+300^\circ\text{C}$

	TO-71		TO-99	
	One Side	Both Sides	One Side	Both Sides

Power
 Dissipation 200mW 400mW 367mW 500mW
 Derate above
 25°C 1.6mW/ $^\circ\text{C}$ 3.2mW/ $^\circ\text{C}$ 3.0mW/ $^\circ\text{C}$ 4.0mW/ $^\circ\text{C}$

NOTE: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ORDERING INFORMATION

TO-71	TO-99	Wafer	Dice
IT5911	2N5911	2N5911/W	2N5911/D
IT5912	2N5912	2N5912/W	2N5912/D

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min	Max	Units	
I_{GSS}	Gate Reverse Current	$V_{GS} = -15V, V_{DS} = 0$		-100	pA	
		$T_A = 150^\circ\text{C}$		-250	nA	
BV_{GSS}	Gate Reverse Breakdown Voltage	$I_G = -1\mu A, V_{DS} = 0$	-25		V	
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 10V, I_D = 1nA$	-1	-5		
V_{GS}	Gate-Source Voltage	$V_{DG} = 10V, I_D = 5mA$	-0.3	-4	pA	
I_G	Gate Operating Current	$T_A = 150^\circ\text{C}$		-100		
I_{DSS}	Saturation Drain Current (Pulsewidth 300 μ s, duty cycle $\leq 3\%$)	$V_{DS} = 10V, V_{GS} = 0V$	7	40	mA	
g_{fs}	Common-Source Forward Transconductance	$V_{DG} = 10V, I_D = 5mA$	$f = 1kHz$	5000	10,000	μ s
g_{fs}	Common-Source Forward Transconductance (Note 1)		$f = 100MHz$	5000	10,000	
g_{os}	Common-Source Output Conductance		$f = 1kHz$		100	
g_{oss}	Common-Source Output Conductance (Note 1)		$f = 100MHz$		150	
C_{iss}	Common-Source Input Capacitance (Note 1)		$f = 1MHz$		5	pF
C_{rss}	Common-Source Reverse Transfer Capacitance (Note 1)				1.2	
e_n	Equivalent Short Circuit Input Noise Voltage (Note 1)		$f = 10kHz$		20	$\frac{nV}{\sqrt{Hz}}$
NF	Spot Noise Figure (Note 1)	$f = 10kHz$ $R_G = 100k\Omega$		1	dB	

INTERMIL'S SOLE AND EXCLUSIVE WARRANTY OBLIGATION WITH RESPECT TO THIS PRODUCT SHALL BE THAT STATED IN THE WARRANTY ARTICLE OF THE CONDITION OF SALE. THE WARRANTY SHALL BE EXCLUSIVE AND SHALL BE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE.

NOTE: All typical values have been characterized but are not tested.

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IT5911, IT5912**



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2N5911, 2N5912, ITC5911, ITC5912, IT5911, IT5912

ELECTRICAL CHARACTERISTICS (Continued) ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	IT, 2N5911		IT, 2N5912		Units	
			Min	Max	Min	Max		
$ I_{G1}-I_{G2} $	Differential Gate Current	$V_{DG} = 10V, I_D = 5mA, T_A = 125^\circ\text{C}$		20		20	nA	
$\frac{I_{DSS1}}{I_{DSS2}}$	Saturation Drain Current Ratio	$V_{DS} = 10V, V_{GS} = 0$ (Pulsewidth 300 μs , duty cycle $\leq 3\%$)	0.95	1	0.95	1		
$ V_{GS1}-V_{GS2} $	Differential Gate-Source Voltage	$V_{DG} = 10V, I_D = 5mA$		10		15	mV	
$\frac{\Delta V_{GS1}-V_{GS2} }{\Delta T}$	Gate-Source Voltage Differential Drift (Measured at end points, T_A and T_B)		$T_A = 25^\circ\text{C}$ $T_B = 125^\circ\text{C}$		20		40	$\mu\text{V}/^\circ\text{C}$
			$T_A = -55^\circ\text{C}$ $T_B = 25^\circ\text{C}$		20		40	
$\frac{g_{fs1}}{g_{fs2}}$	Transconductance Ratio		$f = 1\text{kHz}$	0.95	1	0.95	1	

NOTE 1: For design reference only, not 100% tested.

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