

2N4220, 2N4220A, 2N4221, 2N4221A, 2N4222, 2N4222A

N-Channel Silicon Junction Field-Effect Transistor

- Mixers
- Oscillators
- VHF Amplifiers
- Small Signal Amplifiers

Absolute maximum ratings at T_A = 25 °C

Reverse Gate Source & Reverse Gate Drain Voltage	- 30 V
Continuous Forward Gate Current	10 mA
Continuous Device Power Dissipation	300 mW
Power Derating (to 150 °C)	2 mW/°C

		2N4220 2N4220A		2N4221 2N4221A		2N4222 2N4222A			
		NJ16		NJ16		NJ32		Process	
At 25°C free air temperature:		Min	Max	Min	Max	Min	Max	Unit	Test Conditions
Gate Source Breakdown Voltage	V _{(BR)GSS}	- 30		- 30		- 30		V	I _G = - 1μA, V _{DS} = 0V
Gate Reverse Current	I _{GSS}		- 0.1		- 0.1		- 0.1	nA	V _{GS} = - 15V, V _{DS} = 0V
			- 0.1		- 0.1		- 0.1	μA	V _{GS} = - 15V, V _{DS} = 0V T _A = 150°C
Gate Source Voltage	V _{GS}	- 0.5 (50)	- 2.5 (50)	- 1 (200)	- 5 (200)	- 2 (500)	- 6 (500)	V μA	V _{DS} = 15V, I _D = ()
Gate Source Cutoff Voltage	V _{GS(OFF)}		- 4		- 6		- 8	V	V _{DS} = 15V, I _D = 0.1 nA
Drain Saturation Current (Pulsed)	I _{DSS}	0.5	3	2	6	5	15	mA	V _{DS} = 15V, V _{GS} = 0V

Dynamic Electrical Characteristics

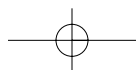
Common Source Forward Transconductance	g _{fs}	1000	4000	2000	5000	2500	6000	μS	V _{DS} = 15V, V _{GS} = 0V	f = 1 kHz
Common Source Forward Transmittance	Y _{fs}	750		750		750		μS	V _{DS} = 15V, V _{GS} = 0V	f = 100 MHz
Common Source Output Conductance	g _{os}		10		20		40	μS	V _{DS} = 15V, V _{GS} = 0V	f = 1 kHz
Common Source Input Capacitance	C _{iss}		6		6		6	pF	V _{DS} = 15V, V _{GS} = 0V	f = 1 MHz
Common Source Reverse Transfer Capacitance	C _{rss}		2		2		2	pF	V _{DS} = 15V, V _{GS} = 0V	f = 1 MHz
Noise Figure 2N4220A, 2N4221A, 2N4222A	NF		2.5		2.5		2.5	dB	V _{DS} = 15V, V _{GS} = 0V R _G = 1 MΩ	f = 100 MHz

TO-72 Package
Dimensions in Inches (mm)

Pin Configuration
1 Source, 2 Drain, 3 Gate, 4 Case

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