IF142

N-Channel Silicon Junction Field-Effect Transistor

- **Low-Noise, High Gain Amplifier**

Absolute maximum ratings at T_A = 25°C

Reverse Gate Source & Reverse Gate Drain Voltage	– 20 V
Continuous Forward Gate Current	10 mA
Continuous Device Power Dissipation	375 mW
Power Derating	3 mW/°C
Storage Temperature Range	– 65°C to 200°C

At 25°C free air temperature:		IF142		Process NJ14AL		
Static Electrical Characteristics		**Min**	**Max**	**Unit**	**Test Conditions**	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	– 25		V	I_G = – 1 µA, V_{DS} = ØV	
Gate Reverse Current	I_{GSS}		– 0.1	nA	V_{GS} = – 15V, V_{DS} = ØV	
			– 0.2	nA	V_{GS} = – 15V, V_{DS} = ØV	T_A = 150°C
Gate Source Cutoff Voltage	$V_{GS(OFF)}$		– 6	V	V_{DS} = 15V, I_D = 5 nA	
Gate Source Voltage	V_{GS}		– 5	V	V_{DS} = 15V, I_D = 50 µA	
Gate Source Forward Voltage	$V_{GS(F)}$		1	V	V_{DS} = Ø, I_G = 1 mA	
Drain Saturation Current (Pulsed)	I_{DSS}	5	15	mA	V_{DS} = 15V, V_{GS} = ØV	
Dynamic Electrical Characteristics						
Common Source Forward Transmittance	Y_{fs}	3.5		mS	V_{DS} = 15V, V_{GS} = ØV	f = 1 kHz
Common Source Output Conductance	Y_{os}		0.05	µS	V_{DS} = 15V, V_{GS} = ØV	f = 1 kHz
Common Source Input Capacitance	C_{iss}		3	pF	V_{DS} = 15V, V_{GS} = ØV	f = 1 MHz
Common Source Reverse Transfer Capacitance	C_{rss}		0.6	pF	V_{DS} = 15V, V_{GS} = ØV	f = 1 MHz
		Typ				
Equivalent Short Circuit Input Noise Voltage	$\bar{e}_N$	4		nV/√Hz	V_{DS} = 12V, V_{GS} = ØV	f = 10 Hz

TO-236AB Package
Dimensions in Inches (mm)

Pin Configuration
1 Drain, 2 Source, 3 Gate

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