

IFN147

N-Channel Silicon Junction Field-Effect Transistor

- Low-Noise Audio Amplifier
- Equivalent to Japanese 2SK147

Absolute maximum ratings at $T_A = 25^\circ\text{C}$

Reverse Gate Source & Reverse Gate Drain Voltage	- 40 V
Continuous Forward Gate Current	10 mA
Continuous Device Power Dissipation	300 mW
Power Derating	2.4 mW/°C

At 25°C free air temperature:

Static Electrical Characteristics

		IFN147			Process NJ450		
		Min	Typ	Max	Unit	Test Conditions	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	- 40			V	$I_G = -1\ \mu\text{A}$, $V_{DS} = 0\text{V}$	
Gate Reverse Current	I_{GSS}			- 1	nA	$V_{GS} = -30\text{V}$, $V_{DS} = 0\text{V}$	
				- 1	μA	$V_{GS} = -30\text{V}$, $V_{DS} = 0\text{V}$, $T_A = 150^\circ\text{C}$	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	- 0.3		- 1.2	V	$V_{DS} = 10\text{V}$, $I_D = 1\ \mu\text{A}$	
Drain Saturation Current (Pulsed)	I_{DSS}	5		30	mA	$V_{DS} = 10\text{V}$, $V_{GS} = 0\text{V}$	

Dynamic Electrical Characteristics

Common Source Forward Transconductance	g_{fs}	30	40		mS	$V_{DS} = 10\text{V}$, $V_{GS} = 0\text{V}$ $I_{DSS} = 5\ \text{mA}$	$f = 1\ \text{kHz}$
Common Source Input Capacitance	C_{iss}			75	pF	$V_{DS} = 10\text{V}$, $V_{GS} = 0\text{V}$	$f = 1\ \text{kHz}$
Common Source Reverse Transfer Capacitance	C_{rss}			15	pF	$V_{DS} = 10\text{V}$, $I_D = 0$	$f = 1\ \text{Hz}$
Noise Figure	NF		1		dB	$V_{DS} = 10\text{V}$, $I_D = 5\ \text{mA}$	$f = 1\ \text{kHz}$
				10	dB	$R_G = 100\ \Omega$	$f = 100\ \text{Hz}$

TO-18 Package

Dimensions in Inches (mm)

Pin Configuration

1 Source, 2 Gate & Case, 3 Drain



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