NJ1800D Process

Silicon Junction Field-Effect Transistor

- **Ultra Low-Noise Pre-Amplifier**

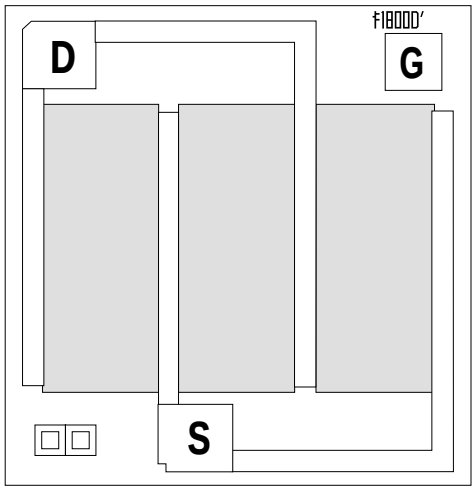
Absolute maximum ratings at TA = 25°C

Gate Current, Ig	10 mA
Operating Junction Temperature, Tj	+150°C
Storage Temperature, Ts	– 65°C to +175°C

Devices in this Databook based on the NJ1800D Process.

Datasheet

U290, U291



Die Size = 0.052" X 0.052"
All Bond Pads ≥ 0.004" Sq.
Substrate is also Gate.

At 25°C free air temperature:		NJ1800D Process					
Static Electrical Characteristics		**Min**	**Typ**	**Max**	**Unit**	**Test Conditions**	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	– 20	– 30		V	I_G = – 1 µA, V_{DS} = ØV	
Reverse Gate Leakage Current	I_{GSS}		– 30	– 100	pA	V_{GS} = – 10V, V_{DS} = ØV	
Drain Saturation Current (Pulsed)	I_{DSS}	50		1000	mA	V_{DS} = 10V, V_{GS} = ØV	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	– 0.1		– 7	V	V_{DS} = 10V, I_D = 1 nA	
Dynamic Electrical Characteristics							
Forward Transconductance (Pulsed)	g_{fs}		350		mS	V_{DS} = 10V, V_{GS} = ØV	f = 1 kHz
Drain Source ON Resistance	$r_{ds(on)}$	2		7	Ω	I_D = 1 mA, V_{GS} = ØV	f = 1 kHz
Input Capacitance	C_{iss}		100		pF	V_{DS} = 10V, V_{GS} = ØV	f = 1 MHz
Feedback Capacitance	C_{rss}		50		pF	V_{DS} = 10V, V_{GS} = ØV	f = 1 MHz

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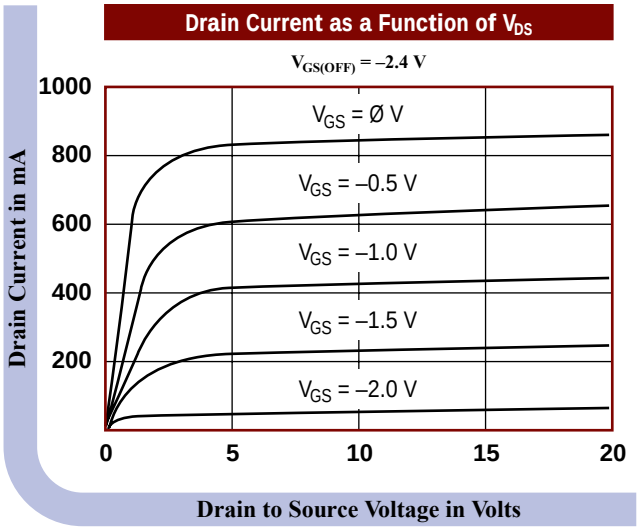
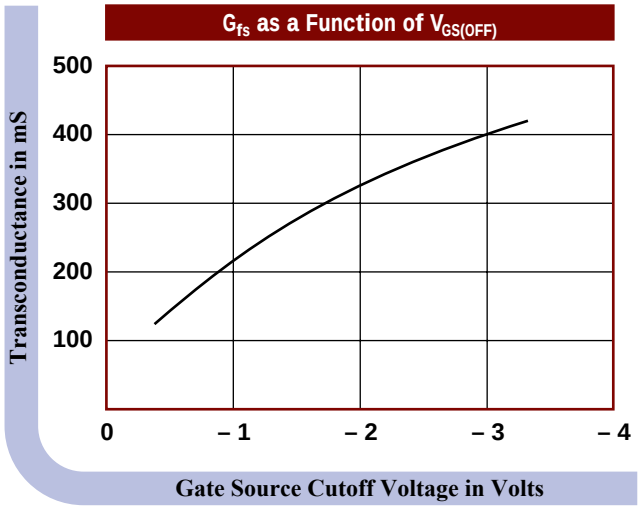
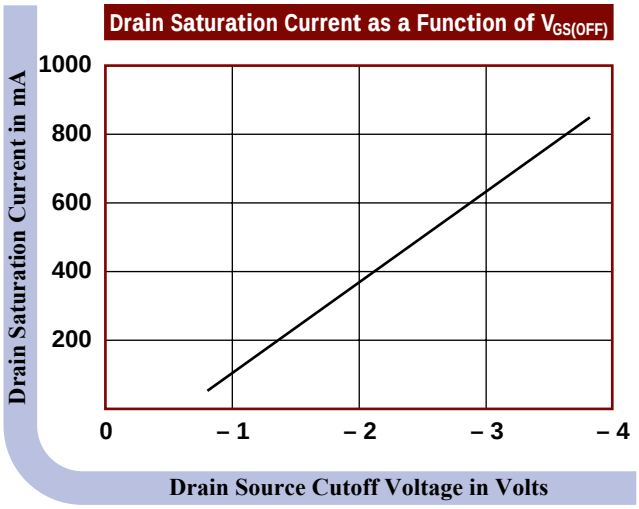
Drain Current as a Function of V_{DS}



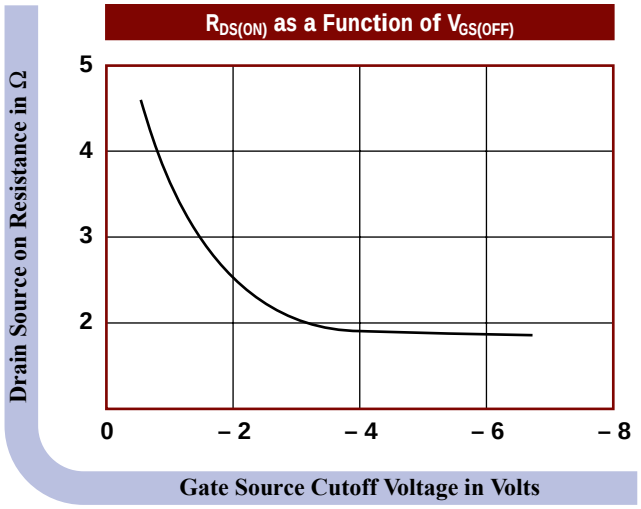
G_{fs} as a Function of $V_{GS(OFF)}$



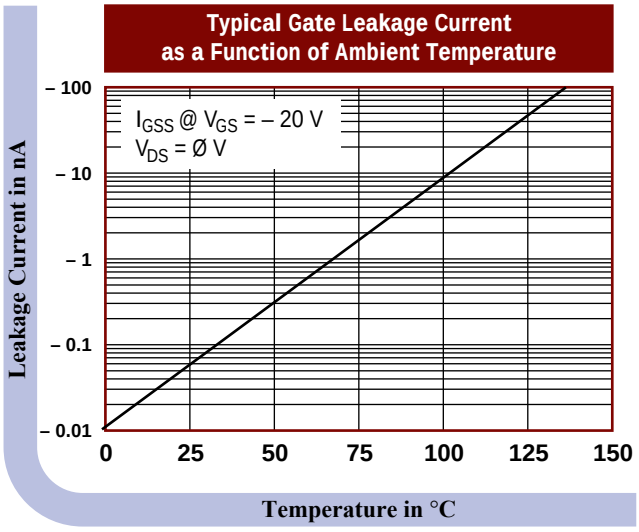
Drain Saturation Current as a Function of $V_{GS(OFF)}$



$R_{DS(ON)}$ as a Function of $V_{GS(OFF)}$



Typical Gate Leakage Current as a Function of Ambient Temperature



Input Capacitance as a Function of V_{GS}