NJ132 Process

Silicon Junction Field-Effect Transistor

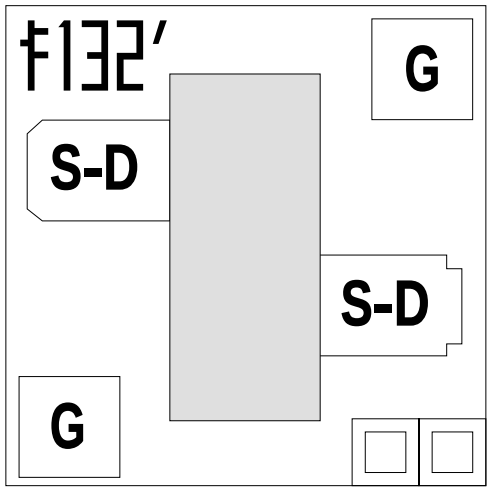
- High Speed Switch
- Low-Noise Amplifier

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 NJ132 Process.

Datasheet	Datasheet
2N4391, 2N4392	2SK113
2N4393	IFN113
2N4856, 2N4857	2N4860A, 2N4861A
2N4858, 2N4859	J111, J112
2N4860, 2N4861	J113
2N4856A, 2N4857A	
2N4858A, 2N4859A	



Die Size = 0.022" X 0.022"
All Bond Pads = 0.004" Sq.
Substrate is also Gate.

At 25°C free air temperature:		NJ132 Process					
Static Electrical Characteristics		**Min**	**Typ**	**Max**	**Unit**	**Test Conditions**	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	– 30	– 45		V	I_G = – 1 µA, V_{DS} = ØV	
Reverse Gate Leakage Current	I_{GSS}		– 10	– 100	pA	V_{GS} = – 20V, V_{DS} = ØV	
Drain Saturation Current (Pulsed)	I_{DSS}	10		150	mA	V_{DS} = 20V, V_{GS} = ØV	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	– 0.5		– 7	V	V_{DS} = 20V, I_D = 1 nA	
Dynamic Electrical Characteristics							
Drain Source ON Resistance	$r_{ds(on)}$		25		Ω	I_D = 1 mA, V_{GSS} = ØV	f = 1 kHz
Input Capacitance	C_{iss}		12		pF	V_{DS} = 20V, V_{GS} = ØV	f = 1 MHz
Feedback Capacitance	C_{iss}		2.5		pF	V_{DS} = ØV, V_{GS} = – 10V	f = 1 MHz
Turn On Delay Time	$t_{d(on)}$		6		ns	V_{DD} = – 10V, I_D = 10 mA R_L = 10V, $V_{GS(ON)}$ = ØV $V_{GS(OFF)}$ = – 6V	
Rise Time	t_r		5		ns		
Turn Off Delay Time	$t_{d(off)}$		50		ns		

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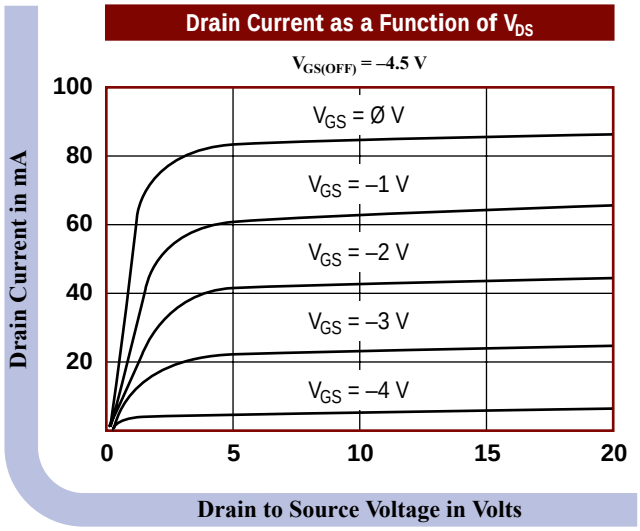
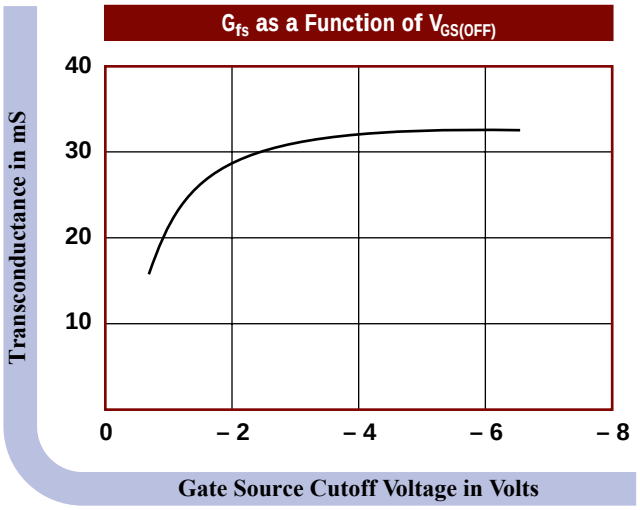
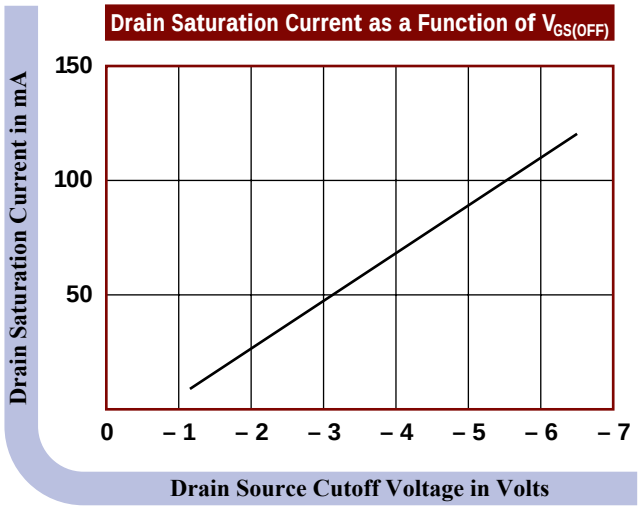
Drain Current as a Function of V_{DS}



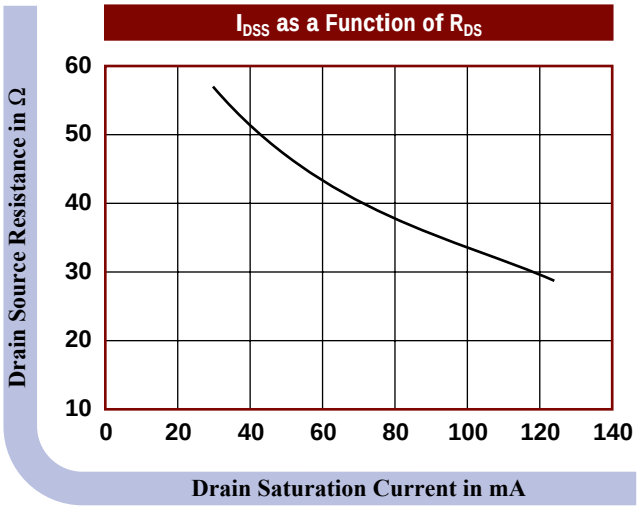
G_{fs} as a Function of $V_{GS(OFF)}$



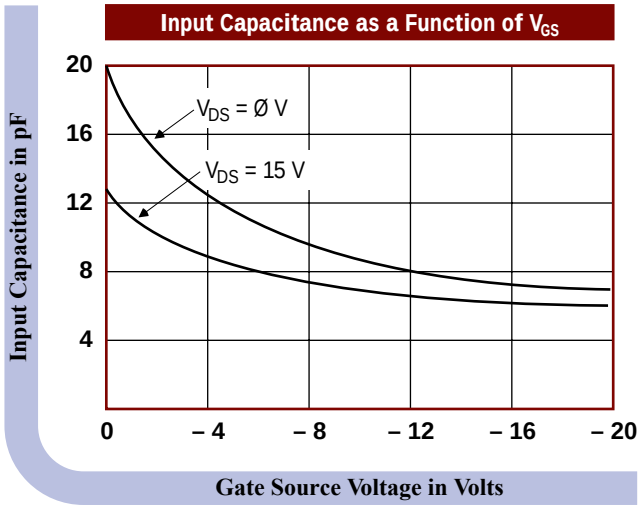
Drain Saturation Current as a Function of $V_{GS(OFF)}$



I_{DSS} as a Function of R_{DS}



Input Capacitance as a Function of V_{GS}



Feedback Capacitance as a Function of V_{GS}