

# Main MOS Spice Parameters

Parameter Name	Symbol	SPICE Name	Units	Default Value
SPICE Model Index		LEVEL	-	1
Zero-Bias Threshold Voltage	VT0	VT0	V	0
Process Transconductance	k'	KP	A/V <sup>2</sup>	2.E-5
Body-Bias Parameter	g	GAMMA	V0.5	0
Channel Modulation	l	LAMBDA	1/V	0
Oxide Thickness	tox	TOX	m	1.0E-7
Lateral Diffusion	xd	LD	m	0
Metallurgical Junction Depth	xj	XJ	m	0
Surface Inversion Potential	2  $\phi$ F	PHI	V	0.6
Substrate Doping	NA,ND	NSUB	cm <sup>-3</sup>	0
Surface State Density	Qss/q	NSS	cm <sup>-3</sup>	0
Fast Surface State Density		NFS	cm <sup>-3</sup>	0
Total Channel Charge Coefficient		NEFF	-	1
Type of Gate Material		TPG	-	1
Surface Mobility	m0	U0	cm <sup>2</sup> /V-sec	600
Maximum Drift Velocity	umax	VMAX	m/s	0
Mobility Critical Field	xcrit	UCRIT	V/cm	1.0E4
Critical Field Exponent in Mobility Degradation		UEXP	-	0
Transverse Field Exponent (mobility)		UTRA	-	0

# SPICE Parameters for Parasitics

Parameter Name	Symbol	SPICE Name	Units	Default Value
Source resistance	$R_S$	RS	$\Omega$	0
Drain resistance	$R_D$	RD	$\Omega$	0
Sheet resistance (Source/Drain)	$R_o$	RSH	$\Omega/\square$	0
Zero Bias Bulk Junction Cap	$C_{j0}$	CJ	F/m <sup>2</sup>	0
Bulk Junction Grading Coeff.	$m$	MJ	-	0.5
Zero Bias Side Wall Junction Cap	$C_{jsw0}$	CJSW	F/m	0
Side Wall Grading Coeff.	$m_{sw}$	MJSW	-	0.3
Gate-Bulk Overlap Capacitance	$C_{gb0}$	CGBO	F/m	0
Gate-Source Overlap Capacitance	$C_{gs0}$	CGSO	F/m	0
Gate-Drain Overlap Capacitance	$C_{gd0}$	CGDO	F/m	0
Bulk Junction Leakage Current	$I_S$	IS	A	0
Bulk Junction Leakage Current Density	$J_S$	JS	A/m <sup>2</sup>	1E-8
Bulk Junction Potential	$\phi_0$	PB	V	0.8