.model nmos nmos level = 54

+version	= 4.0	binunit	= 1	paramch	k=	1	mobmod	=	0
+capmod	= 2	igcmod	= 1	igbmod			geomod	=	1
+diomod	= 1	-	= 0	rbodymod			rgatemo	d =	1
+permod	= 1	acnqsmod	= 0	trnqsmod			J		
	_	a c q s c a		cqsc.	-				
+tnom	= 27	toxe	= 1.7e-9	toxp	=	1e-9	toxm	=	1.7e-9
+dtox	= 0		= 3.9	wint		5e-009	lint		1.6e-008
+11	= 0	•	= 0	lln		1	wln		1
+lw	= 0		= 0	lwn		1	wwn		1
+lwl	= 0		= 0	xpart		0	toxref		1.7e-9
11W1	- 0	WWI	- 0	Apai c	_	· ·	COXICI	_	1.70 3
+vth0	= 0.22	k1	= 0.43	k2	=	0.01	k3	=	0
+k3b	= 0		= 2.5e-006	dvt0		3.5	dvt1		0.55
+dvt2	= -0.032		= 0	dvt1w		0	dvt2w		0
+dsub	= 1		= 0.05	voffl		0	dvtp0		1.2e-008
+dvtp1	= 0.1		= 5.75e-008	lpeb		2.3e-010	хj		2.5e-008
+ngate	= 5e+020	•	= 2.6e+018	nsd		1e+020	phin		0
+cdsc	= 0.0002	•	= 0	cdscd		0	cit		0
+voff	= -0.15		= 2	eta0		0.24	etab		0
+vfb	= -0.55		= 0.06	ua		1e-010	ub		1e-017
+uc	= -3e-011		= 1.2e+005	a0		1.5	ags		1e-020
+a1	= 0		= 1.261003	b0		-1e-020	b1		0
+keta	= 0.04		= 0	dwb		0	pclm		0.12
+pdiblc1		pdiblc2		pdiblcb			drout		0.5
+pulbici +pvag	= 1e-020	•	= 0.02 = 0.01	•		8.14e+008	pscbe2		1e-007
+fprout			= 0.2	pditsd		0.23	pscbez		2.3e+006
+rprout	= 5	•	= 160	rsw		150	rdw		150
+rdswmin	_		= 100	rswmin		0			0
+prwb	= 6.8e-011		= 0 = 1	alpha0		0.074	prwg alpha1		0.005
+beta0	= 30		=			2.1e+009			0.0002
		agidl	= 0.0002	bgidl	=	2.16+009	cgidl	=	0.0002
+egidl	= 0.8								
+aigbacc	- 0 012	highacc	= 0.0028	cigbacc	_	0 002			
+nigbacc				bigbinv			cigbinv	_	0 004
_		aigbinv nigbinv		_					
+eigbinv		0		aigc		0.012	bigc		0.0028
+cigc	= 0.002	_	= 0.012	bigsd		0.0028	cigsd		0.002
+nigc	= 1	poxedge	= 1	pigcd	=	1	ntox	=	1
+xrcrg1	= 12	xrcrg2	= 5						
+cgso	= 5.458e-010	_	= 5.458e-010	cgbo	_	2.56e-011	cgdl	_	2.653e-10
+cgsl	= 2.653e-10	ckappas		ckappad			acde		1
+moin	= 15		= 0.9	voffcv					_
+kt1	= -0.11	kt1l	= 0	kt2	=	0.022	ute	=	-1.5
+ua1	= 4.31e-009		= 7.61e-018	uc1		-5.6e-011	prt		0
+at	= 33000						•		
+fnoimod	= 1	tnoimod	= 0						
				·					_
+jss	= 0.0001	_	= 1e-011	jswgs		1e-010	njs		1
+ijthsfw		ijthsrev		bvs		10	xjbvs		1
+jsd	= 0.0001		= 1e-011	jswgd		1e-010	njd		1
+ijthdfw		ijthdrev		bvd		10	xjbvd		1
+pbs	= 1	-	= 0.0005	mjs		0.5	pbsws		1
+cjsws	= 5e-010		= 0.33	pbswgs		1	cjswgs		3e-010
+mjswgs	= 0.33		= 1	cjd		0.0005	mjd		0.5
+pbswd	= 1		= 5e-010	mjswd		0.33	pbswgd		1
+cjswgd	= 5e-010		= 0.33	tpb		0.005	tcj		0.001
+tpbsw	= 0.005	•	= 0.001	tpbswg	=	0.005	tcjswg	=	0.001
+xtis	= 3	xtid	= 3						
	0- 006	J •	0- 005	alore 1		0 - 000	J •		0- 007
+dmcg	= 0e-006		= 0e-006	dmdg		0e-006	dmcgt	=	0e-007
+dmcg +dwj	= 0e-006 = 0.0e-008		= 0e-006 = 0e-007	dmdg xgl		0e-006 0e-008	dmcgt	=	0e-007
+dwj	= 0.0e-008	xgw	= 0e-007	xgl	=	0e-008	_		
_		xgw gbmin		_	=		dmcgt rbpd ngcon	=	0e-007 15 1

.model pmos pmos level = 54

+version	= 4.0	binunit = 1	paramchk= 1	mobmod = 0
+capmod	= 2	igcmod = 1	igbmod = 1	geomod = 1
+diomod	= 1	rdsmod = 0	rbodymod= 1	rgatemod= 1
+permod	= 1	acnqsmod= 0	trnqsmod= 0	8
· p c · c	_	a 2q20 a	cqsss.	
+tnom	= 27	toxe = 1.7e-009	toxp = 1e-009	toxm = 1.7e-009
+dtox	= 0	epsrox = 3.9	wint = 5e-009	lint = 1.6e-008
+11	= 0	w1 = 0	lln = 1	wln = 1
+lw	= 0		lwn = 1	wwn = 1
	= 0			toxref = 1.7e-009
+lwl	= 0	WWI = 0	xpart = 0	toxi'ei = 1.7e-009
.v.+b0	_ a aa	k1 – 0.42	k2 - 0.01	1/3 - 0
+vth0	= -0.22	k1 = 0.43	k2 = -0.01	k3 = 0
+k3b	= 0	w0 = 2.5e-006	dvt0 = 3.68	dvt1 = 0.53
+dvt2	= -0.032	dvt0w = 0	dvt1w = 0	dvt2w = 0
+dsub	= 0.8	minv = 0.05	voff1 = 0	dvtp0 = 1e-008
+dvtp1	= 0.05	lpe0 = 5.75e-008	lpeb = 2.3e-010	xj = 2.5e-008
+ngate	= 5e+020	ndep = 2.6e+018	nsd = 1e+020	phin = 0
+cdsc	= 0.000258	cdscb = 0	cdscd = 6.1e-008	cit = 0
+voff	= -0.15	nfactor = 2	eta0 = 0.2	etab = 0
+vfb	= 0.55	u0 = 0.014	ua = 1.8e-009	ub = 6e-018
+uc	= -3e-011	vsat = 90000	a0 = 1.2	ags = 1e-020
+a1	= 0	a2 = 1	b0 = -1e-020	b1 = 0
+keta	= -0.047	dwg = 0	dwb = 0	pclm = 0.55
+pdiblc1		pdiblc2 = 0.0075	pdiblcb = 3.4e-008	drout = 0.56
+pvag	= 1e-020	delta = 0.014	pscbe1 = 8.14e+008	pscbe2 = 9.58e-007
+fprout	= 0.2	pdits = 0.2	pditsd = 0.23	pditsl = 2.3e+006
+rsh	= 5	rdsw = 280	rsw = 160	rdw = 160
+rdswmin	= 0	rdwmin = 0	rswmin = 0	prwg = 3.22e-008
+prwb	= 6.8e-011	wr = 1	alpha0 = 0.074	alpha1 = 0.005
+beta0	= 30	agid1 = 0.0002	bgidl = 2.1e+009	cgidl = 0.0002
+egidl	= 0.8			
+aigbacc	= 0.012	bigbacc = 0.0028	cigbacc = 0.002	
+nigbacc	= 1	aigbinv = 0.014	bigbinv = 0.004	cigbinv = 0.004
+eigbinv	= 1.1	nigbinv = 3	aigc = 0.69	bigc = 0.0012
+cigc	= 0.0008	aigsd = 0.0087	bigsd = 0.0012	cigsd = 0.0008
+nigc	= 1	poxedge = 1	pigcd = 1	ntox = 1
J			. 0	
+xrcrg1	= 12	xrcrg2 = 5		
+cgso	= 5.458e-010	cgdo = 5.458e-010	cgbo = 2.56e-011	cgdl = 2.653e-10
+cgsl	= 2.653e-10	ckappas = 0.03	ckappad = 0.03	acde = 1
+moin	= 15	noff = 0.9	voffcv = 0.02	
+kt1	= -0.11	kt11 = 0	kt2 = 0.022	ute = -1.5
+ua1	= 4.31e-009	ub1 = 7.61e-018	uc1 = -5.6e-011	prt = 0
+at	= 33000			
+fnoimod	= 1	tnoimod = 0		
				_
+jss	= 0.0001	jsws = 1e-011	jswgs = 1e-010	njs = 1
+ijthsfw		ijthsrev= 0.001	bvs = 10	xjbvs = 1
+jsd	= 0.0001	jswd = 1e-011	jswgd = 1e-010	njd = 1
+ijthdfw	d= 0.01	ijthdrev= 0.001	bvd = 10	xjbvd = 1
+pbs	= 1	cjs = 0.0005	mjs = 0.5	pbsws = 1
+cjsws	= 5e-010	mjsws = 0.33	pbswgs = 1	cjswgs = 3e-010
+mjswgs		pbd = 1	cjd = 0.0005	mjd = 0.5
+pbswd	= 1	cjswd = 5e-010	mjswd = 0.33	pbswgd = 1
+cjswgd	= 5e-010	mjswgd = 0.33	tpb = 0.005	tcj = 0.001
+tpbsw	= 0.005	tcjsw = 0.001	tpbswg = 0.005	tcjswg = 0.001
+xtis	= 3	xtid = 3		
+dmcg	= 0e-006	dmci = 0e-006	dmdg = 0e-006	dmcgt = 0e-007
+dwj	= 0.0e-008	xgw = 0e-007	xgl = 0e-008	
+rshg	= 0.4	gbmin = 1e-010	rbpb = 5	rbpd = 15
+rbps	= 15	rbdb = 15	rbsb = 15	ngcon = 1