



cmos028fdsoi Technology

SG DK 1.1 RF_mmW models

LVT

Comparison with RVT model(s)

Standard report

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General information on SG DK 1.1 RF_mmW models

- Maximum supply voltage is - V.
- Validity domain is defined as follows:
 - ✓ Drawn gate length varies from 30nm to 10um.
 - ✓ Drawn transistor width varies from 80nm to 10um.
 - ✓ Device temperature varies from -40 °C to 125 °C.

Output parameters definitions

- Model(s): lvtnfet_acc, lvtpfet_acc

- ✓ Vt_lin : Threshold voltage defined as Vgs value for which drain current is $ivt * M * 1 * W / (1 * L + 0 + 1 * p_{la})$ at $Vds = 0.05V$.
- ✓ Ig_on : Gate current at $Vds = 0V$ and $Vgs = 1V$.
- ✓ Gm_c : Drain transconductance at $Vgs = Vt_{lin} + 0.2$, $Vds = Vdd/2V$, $f = 100kHz$.
- ✓ Gd_c : Drain conductance at $Vgs = Vt_{lin} + 0.2$, $Vds = Vdd/2V$, $f = 100kHz$.
- ✓ Logioff : $\log_{10}(I_{offsat})$.
- ✓ Gain_c : Voltage gain defined as Gm_c / Gd_c .
- ✓ Ilin : Drain current at $Vgs = 1V$, $Vds = 0.05V$.
- ✓ Dibl : $Vt_{lin} - Vt_{sat}$.
- ✓ Cbd_off : Bulk-to-Drain capacitance at $Vgs = 0V$, $Vds = 0V$, $f = 100kHz$.
- ✓ Cgg_inv : Total gate capacitance at $Vgs = 1V$, $Vds = 0V$, $f = 100kHz$.
- ✓ Ioff_g : Gate current at $Vgs = 0V$, $Vds = vds_{satV}$.
- ✓ Vt_sat : Threshold voltage defined as Vgs value for which drain current is $ivt * M * 1 * W / (1 * L + 0 + 1 * p_{la})$ at $Vds = vds_{satV}$.
- ✓ Ieff : Average drain current ($I_{low} + I_{high}$) / 2.
- ✓ Cggmean : Average total gate capacitance for Vgs values between 0V and 1, $Vds = 0V$, $f = 100kHz$.
- ✓ Slp_sat : Sub-threshold slope at $Vds = vds_{satV}$, extracted from drain current vs. Vgs curve between its minimum and $ivt * M * W / L$.
- ✓ Isat : Drain current at $Vgs = 1V$, $Vds = VddV$.
- ✓ Slp_lin : Sub-threshold slope at $Vds = 0.05V$, extracted from drain current vs. Vgs curve between its minimum and $ivt * M * W / L$.
- ✓ Cgd_0v : Gate-to-Drain capacitance at $Vgs = 0V$, $Vds = 0V$, $f = 100kHz$.

- ✓ $V_{tgmm\max}$: Threshold voltage at $V_{ds} = 0.05$ derived from Gm max method.

lvtnfet_acc

Electrical characteristics per geometry

**lvtnfet_acc wrt nfet_acc @ w=1e-6, l=1e-6, swshe=0, pre_layout_local=1, p_la=0,
sa=2.325e-06, sb=2.325e-06, sd=1.140e-07, pcpastrx_top=3.2e-07,
pcpastrx_bot=3.2e-07, devtype=PT, as=2.325e-12, ad=2.325e-12, ps=6.65e-06,
pd=6.65e-06, vbs=0, vdd=1, temp=25.0**

LVT wrt RVT

	SSF	SS	TT	FF	FFF
Vt_lin [mV]	452.2 -69.4mV	425.1 -63.1mV	418.3 -60.1mV	410.7 -58.3mV	386.3 -59.4mV
Ilin [μA]	12.27 14.5%	13.38 13.1%	14.12 11.3%	14.91 9.7%	15.88 10.0%
Slp_lin [mV/dec]	66.98 0.1%	66.63 0.1%	66.24 0.1%	65.9 0.0%	65.87 -0.0%
VtGmmax [mV]	482 -68.5mV	456.2 -63.0mV	450.6 -59.7mV	444.6 -57.1mV	422.2 -57.6mV
DIBL [mV]	8.94 -0.3mV	8.88 -0.3mV	8.67 -0.2mV	8.43 -0.2mV	8.33 -0.2mV
Vt_sat [mV]	443.2 -69.1mV	416.2 -62.8mV	409.6 -59.9mV	402.3 -58.1mV	378 -59.2mV
Isat [μA]	64.66 29.0%	73.25 25.6%	78.62 22.9%	84.5 20.6%	93.01 20.5%
Slp_sat [mV/dec]	65.29 0.3%	64.88 0.2%	64.7 0.1%	64.6 0.1%	64.67 -0.0%
LogIoff [log(A)]	-13.12 -2.5%	-12.75 -2.9%	-12.59 1.7%	-12.13 5.2%	-11.8 5.1%
Ieff [μA]	32.32 29.8%	36.74 26.7%	39.41 24.0%	42.34 21.7%	46.81 22.0%
Ig_on [nA]	0.24 -6.0%	0.39 -4.4%	1.42 -10.7%	9.77 -16.4%	7.27 -15.1%
Ioff_g [fA]	-3.28 -88.0%	-6.63 -87.9%	-57.1 -85.6%	-493 -83.0%	-989.9 -82.9%
Gm_c [μS]	80.79 -1.4%	83.36 -0.0%	87.34 -0.8%	91.35 -1.9%	92.73 -1.6%
Gd_c [nS]	140.4 24.7%	140.7 30.8%	164.2 30.3%	189.7 28.4%	192.1 27.8%
Gain_c []	575.3 -20.9%	592.5 -23.6%	531.8 -23.9%	481.6 -23.6%	482.8 -22.9%
CGd_0V [aF]	205.9 2.1%	208.7 0.6%	216.3 1.9%	224.4 3.4%	230.9 2.4%

Cgg_inv [fF]	16.98 -1.0%	17.31 -0.2%	18.21 -1.1%	19.21 -1.9%	19.48 -1.2%
Cggmean [fF]	8.84 8.7%	9.46 8.6%	9.93 7.1%	10.43 5.7%	10.92 6.1%
Cbd_off [fF]	2.58 -2.9%	2.55 -2.8%	2.48 -2.8%	2.42 -2.7%	2.39 -2.6%

lvtnfet_acc wrt nfet_acc @ w=0.21e-6, l=0.03e-6, swshe=0, pre_layout_local=1, p_la=0, sa=1.588e-06, sb=1.588e-06, sd=1.140e-07, pcpastrx_top=3.2e-07, pcpastrx_bot=3.2e-07, devtype=PT, as=3.3348e-13, ad=3.3348e-13, ps=3.596e-06, pd=3.596e-06, vbs=0, vdd=1, temp=25.0

LVT wrt RVT

	SSF	SS	TT	FF	FFF
Vt_lin [mV]	395.8 -64.7mV	375.6 -61.1mV	362.9 -55.7mV	350.9 -51.0mV	328.9 -53.7mV
Ilin [μA]	24.82 11.5%	28.69 15.7%	30.7 11.6%	32.99 7.8%	37.5 11.1%
Slp_lin [mV/dec]	90.13 2.8%	89.62 2.5%	91.62 3.6%	94.4 4.8%	94.6 5.0%
VtGmmax [mV]	345.9 -65.1mV	334.4 -57.7mV	326.2 -54.6mV	318.9 -52.5mV	303 -54.2mV
DIBL [mV]	75.92 1.5mV	74.88 0.9mV	87.52 0.8mV	104.4 0.4mV	107 0.6mV
Vt_sat [mV]	319.8 -66.2mV	300.7 -62.0mV	275.4 -56.4mV	246.4 -51.4mV	221.8 -54.3mV
Isat [μA]	164.8 10.2%	176.7 15.4%	193.2 10.0%	208.9 4.9%	223.8 8.2%
Slp_sat [mV/dec]	77.8 0.2%	77.36 0.4%	80.01 0.7%	83.72 1.0%	84.78 1.2%
LogIoff [log(A)]	-9.41 -9.2%	-9.18 -8.9%	-8.78 -8.5%	-8.33 -8.1%	-8.04 -8.5%
Ieff [μA]	84.85 17.2%	94.27 22.2%	105.1 16.7%	116.5 11.4%	129 14.6%
Ig_on [pA]	2.19 7.3%	2.7 -1.0%	7.66 -23.0%	41.81 -38.8%	28.5 -39.9%
Ioff_g [fA]	-0.72 -83.4%	-1.5 -83.0%	-13.17 -80.9%	-114.9 -78.7%	-238 -78.1%
Gm_c [μS]	247 -5.7%	267.3 1.4%	288.1 -1.3%	307.6 -4.1%	323.7 -1.5%
Gd_c [μS]	19.24 -7.0%	20.78 0.7%	26.43 -1.9%	33.35 -4.5%	35.64 -1.9%
Gain_c []	12.84 1.4%	12.86 0.7%	10.9 0.6%	9.22 0.4%	9.08 0.3%
CGd_0V [aF]	50.67 2.2%	52.38 2.6%	54.25 2.0%	56.27 1.5%	58.8 2.4%

Cgg_inv [aF]	202.9 0.3%	205.5 2.4%	206.9 0.2%	209.7 -1.9%	218.7 -0.1%
Cggmean [aF]	162.5 3.6%	167 4.9%	169.2 2.5%	172.2 0.3%	180.6 1.7%
Cbd_off [aF]	370.3 -2.8%	365.4 -2.8%	356.2 -2.7%	347.4 -2.7%	343.1 -2.6%

lvtnfet_acc wrt nfet_acc @ w=0.21e-6, l=0.03e-6, swshe=0, pre_layout_local=1, p_la=0, sa=1.588e-06, sb=1.588e-06, sd=1.140e-07, pcpastrx_top=3.2e-07, pcpastrx_bot=3.2e-07, devtype=PT, as=3.3348e-13, ad=3.3348e-13, ps=3.596e-06, pd=3.596e-06, vbs=0, vdd=1, temp=125.0

LVT wrt RVT

	SSF	SS	TT	FF	FFF
Vt_lin [mV]	342.1 -56.8mV	319.6 -55.5mV	305.4 -50.1mV	291.9 -45.4mV	269.1 -48.4mV
Ilin [μA]	21.81 9.7%	25.41 14.3%	27.27 10.3%	29.3 6.4%	33.04 9.5%
Slp_lin [mV/dec]	122.8 2.3%	120.9 1.4%	123.5 2.8%	127.2 4.4%	127.5 4.7%
VtGmmax [mV]	281.5 -56.7mV	270.4 -51.0mV	262.1 -48.3mV	254.6 -46.5mV	238.9 -48.1mV
DIBL [mV]	85.77 -3.7mV	84.12 -4.5mV	96.52 -5.4mV	113.3 -6.7mV	115.8 -6.6mV
Vt_sat [mV]	256.3 -53.0mV	235.5 -51.0mV	208.8 -44.7mV	178.6 -38.8mV	153.3 -41.8mV
Isat [μA]	150.9 8.7%	161.8 14.5%	177 9.3%	191.8 4.5%	205 8.2%
Slp_sat [mV/dec]	102.4 -0.8%	101.8 -0.6%	105.2 -0.5%	109.8 -0.4%	111.2 -0.3%
LogIoff [log(A)]	-7.9 -6.6%	-7.72 -6.5%	-7.42 -5.9%	-7.1 -5.4%	-6.88 -5.8%
Ieff [μA]	80.94 13.2%	90.27 18.5%	100.4 13.0%	110.9 7.8%	121.9 11.0%
Ig_on [pA]	3.88 -5.8%	4.8 -13.1%	13.56 -32.4%	73.58 -46.2%	50.23 -47.1%
Ioff_g [fA]	-1.44 -83.2%	-3 -82.8%	-26.18 -80.9%	-229.1 -78.8%	-472.8 -78.2%
Gm_c [μS]	194.4 -5.9%	210.3 0.4%	226.6 -2.4%	242.3 -5.2%	253.7 -2.9%
Gd_c [μS]	14.54 -15.0%	15.53 -9.3%	19.76 -12.1%	25.11 -14.8%	26.77 -12.7%
Gain_c []	13.37 10.7%	13.54 10.7%	11.47 11.1%	9.65 11.3%	9.48 11.2%
CGd_0V [aF]	51.56 3.1%	53.28 3.3%	55.23 2.8%	57.35 2.3%	60.08 3.4%

Cgg_inv [aF]	201.3 0.2%	204 2.3%	205.3 0.1%	208.1 -2.0%	217 -0.2%
Cggmean [aF]	163.4 2.3%	167.8 3.5%	169.8 1.1%	172.6 -1.1%	180.9 0.4%
Cbd_off [aF]	370.4 -2.8%	365.5 -2.8%	356.3 -2.7%	347.4 -2.6%	343.3 -2.6%

lvtpfet_acc

Electrical characteristics per geometry

**lvtpfet_acc wrt pfet_acc @ w=1e-6, l=1e-6, swshe=0, pre_layout_local=1, p_la=0,
 sa=2.325e-06, sb=2.325e-06, sd=1.140e-07, pcpastrx_top=3.2e-07,
 pcpastrx_bot=3.2e-07, devtype=PT, as=2.325e-12, ad=2.325e-12, ps=6.65e-06,
 pd=6.65e-06, vdd=1, temp=25.0
 vbs=1 wrt vbs=0**

LVT wrt RVT

	SSF	SS	TT	FF	FFF
Vt_lin [mV]	453 -138.5mV	420.2 -152.6mV	422.3 -144.6mV	416.6 -137.5mV	392.3 -152.3mV
Ilin [μA]	3.47 46.1%	3.9 54.7%	4 49.6%	4.16 43.8%	4.59 55.3%
Slp_lin [mV/dec]	68.51 0.7%	68.55 0.7%	68.24 1.0%	68.02 1.4%	68.05 1.3%
VtGmmax [mV]	503.3 -123.8mV	475.6 -131.8mV	478 -123.2mV	473.5 -114.0mV	455.3 -122.3mV
DIBL [mV]	9.96 0.0mV	9.78 -0.0mV	9.64 0.2mV	9.54 0.4mV	9.4 0.3mV
Vt_sat [mV]	443 -138.6mV	410.4 -152.5mV	412.6 -144.8mV	407 -137.9mV	382.9 -152.5mV
Isat [μA]	17.84 88.2%	21.24 101.9%	21.8 90.5%	22.86 77.4%	26.32 96.0%
Slp_sat [mV/dec]	66.05 1.2%	66.26 1.4%	66.19 1.6%	66.31 2.5%	66.71 2.4%
Logloff [log(A)]	-12.46 2.1%	-12.26 2.7%	-11.71 5.8%	-10.97 8.9%	-10.55 10.0%
Ieff [μA]	8.86 88.8%	10.57 103.1%	10.83 91.6%	11.35 78.7%	13.09 97.8%
Ig_on [pA]	33.34 -64.8%	42.84 -64.1%	144.3 -64.7%	935.9 -65.4%	619.8 -64.6%
Ioff_g [pA]	-0.3 -32.0%	-0.41 -31.6%	-1.16 -36.6%	-3.29 -41.4%	-4.46 -41.0%
Gm_c [μS]	21.44 2.0%	22.27 4.6%	23.12 2.5%	23.84 -0.6%	24.59 2.7%
Gd_c [nS]	45.62 -2.3%	47.37 -1.8%	55.02 -4.2%	63.06 -7.8%	64.51 -6.3%
Gain_c []	470 4.3%	470 6.5%	420.2 7.0%	378.1 7.8%	381.1 9.6%

CGd_0V [aF]	220.1 10.4%	226.7 9.2%	233.7 10.0%	242 11.0%	248 9.8%
Cgg_inv [fF]	16.59 -1.5%	16.63 -1.0%	17.26 -1.9%	17.97 -2.7%	18.03 -2.1%
Cggmean [fF]	8.52 17.2%	8.77 17.6%	8.95 15.2%	9.21 12.4%	9.39 13.4%
Cbd_off [fF]	2.58 3.1%	2.55 3.1%	2.48 3.0%	2.42 3.0%	2.39 3.0%

**lvtpfet_acc wrt pfet_acc @ w=0.3e-6, l=0.03e-6, swshe=0, pre_layout_local=1,
p_la=0, sa=1.588e-06, sb=1.588e-06, sd=1.140e-07, pcpastrx_top=3.2e-07,
pcpastrx_bot=3.2e-07, devtype=PT, as=4.764e-13, ad=4.764e-13, ps=3.776e-06,
pd=3.776e-06, vdd=1, temp=25.0
vbs=1 wrt vbs=0**

LVT wrt RVT

	SSF	SS	TT	FF	FFF
Vt_lin [mV]	382 -137.0mV	364.3 -138.7mV	348.3 -134.4mV	328.6 -124.7mV	312.8 -131.6mV
Ilin [μ A]	14.93 41.4%	16.31 34.4%	17.4 30.5%	18.39 24.3%	20.31 24.7%
Slp_lin [mV/dec]	104.4 -1.0%	106.6 -0.7%	115.8 4.4%	127.6 8.5%	130.4 10.2%
VtGmax [mV]	378.3 -123.3mV	368.7 -126.6mV	359.8 -120.7mV	348.2 -109.7mV	345.7 -111.4mV
DIBL [mV]	103.6 3.9mV	107.8 2.5mV	136.8 17.7mV	174.7 32.9mV	182.4 38.5mV
Vt_sat [mV]	278.4 -140.9mV	256.5 -141.2mV	211.6 -152.1mV	153.9 -157.6mV	130.4 -170.2mV
Isat [μ A]	111.9 40.3%	123.3 49.4%	133.8 37.3%	143.1 23.6%	160.7 38.4%
Slp_sat [mV/dec]	81.75 1.6%	82.86 1.0%	87.14 2.6%	92.75 2.7%	95.14 3.3%
LogIoff [log(A)]	-9.16 -16.0%	-8.85 -16.2%	-8.24 -18.2%	-7.57 -19.0%	-7.31 -20.3%
Ieff [μ A]	52.68 58.8%	57.73 63.2%	64.19 54.4%	71.32 42.6%	78.34 52.4%
Ig_on [pA]	0.29 -74.3%	0.37 -72.1%	1.06 -75.8%	5.82 -78.5%	3.88 -78.2%
Ioff_g [pA]	-8.07e-02 -38.7%	-0.11 -37.4%	-0.31 -42.9%	-0.89 -48.0%	-1.22 -46.9%
Gm_c [μ S]	139.3 8.4%	135.5 3.8%	145 -0.1%	152.3 -4.6%	149.3 -5.5%
Gd_c [μ S]	14.08 1.2%	13.87 -6.1%	18.82 -0.4%	25.07 1.2%	25.06 1.4%
Gain_c []	9.89 7.1%	9.77 10.6%	7.7 0.3%	6.08 -5.7%	5.96 -6.9%

CGd_0V [aF]	73.74 8.9%	75.61 8.7%	77.8 8.3%	80.31 8.0%	82.29 7.8%
Cgg_inv [aF]	273.7 2.8%	282.5 6.0%	274.4 1.8%	269.9 -0.5%	276.3 0.6%
Cggmean [aF]	217.6 7.2%	224.3 8.9%	220.5 4.5%	218.7 1.2%	223.8 1.4%
Cbd_off [aF]	529.4 3.2%	522.6 3.2%	509.3 3.1%	496.7 3.0%	490.7 3.0%

**lvtpfet_acc wrt pfet_acc @ w=0.3e-6, l=0.03e-6, swshe=0, pre_layout_local=1,
p_la=0, sa=1.588e-06, sb=1.588e-06, sd=1.140e-07, pcpastrx_top=3.2e-07,
pcpastrx_bot=3.2e-07, devtype=PT, as=4.764e-13, ad=4.764e-13, ps=3.776e-06,
pd=3.776e-06, vdd=1, temp=125.0
vbs=1 wrt vbs=0**

LVT wrt RVT

	SSF	SS	TT	FF	FFF
Vt_lin [mV]	299.6 -126.8mV	284.5 -125.9mV	266 -122.5mV	244 -112.7mV	230.5 -118.7mV
Ilin [μ A]	13.65 37.9%	14.74 28.1%	15.79 25.2%	16.69 19.7%	18.28 16.8%
Slp_lin [mV/dec]	136.1 -0.9%	139.3 -0.7%	150.2 3.5%	164.3 6.4%	168.2 7.9%
VtGmax [mV]	296.6 -107.6mV	289 -111.5mV	280 -106.3mV	268.6 -95.7mV	268.6 -100.1mV
DIBL [mV]	111.7 1.5mV	115.8 -0.2mV	143.4 13.8mV	179.1 26.8mV	186.3 31.8mV
Vt_sat [mV]	187.8 -128.3mV	168.7 -125.7mV	122.6 -136.3mV	64.92 -139.5mV	44.2 -150.5mV
Isat [μ A]	114 41.2%	121 41.9%	133.2 34.2%	144.8 24.7%	156.1 30.7%
Slp_sat [mV/dec]	106.7 0.3%	108.1 -0.4%	113.5 0.3%	121 -0.7%	124.5 -0.7%
LogIoff [log(A)]	-7.66 -13.3%	-7.46 -13.1%	-7.04 -14.5%	-6.59 -14.5%	-6.44 -15.4%
Ieff [μ A]	55.48 54.3%	58.77 50.5%	65.71 44.8%	73.15 35.8%	77.94 38.4%
Ig_on [pA]	0.4 -85.9%	0.52 -84.6%	1.44 -86.8%	7.73 -88.4%	5.16 -88.3%
Ioff_g [pA]	-0.11 -66.8%	-0.15 -66.1%	-0.44 -69.0%	-1.27 -71.7%	-1.73 -71.1%
Gm_c [μ S]	107.7 7.8%	103.3 0.8%	110.3 -2.0%	115.9 -5.1%	112.3 -8.3%
Gd_c [μ S]	10.34 1.7%	10.14 -7.7%	13.64 -1.3%	18.13 1.6%	18.01 -0.6%
Gain_c []	10.41 6.0%	10.19 9.1%	8.09 -0.8%	6.39 -6.5%	6.24 -7.8%

CGd_0V [aF]	75.83 11.6%	78.2 12.0%	80.39 11.5%	82.78 10.9%	84.85 10.8%
Cgg_inv [aF]	272.7 2.9%	281.4 6.1%	273 1.7%	268.1 -0.6%	274.5 0.4%
Cggmean [aF]	220.9 6.8%	227.8 8.6%	222.9 3.9%	220.2 0.5%	225.2 0.7%
Cbd_off [aF]	529.6 3.2%	522.9 3.2%	509.6 3.1%	497 3.1%	491 3.1%

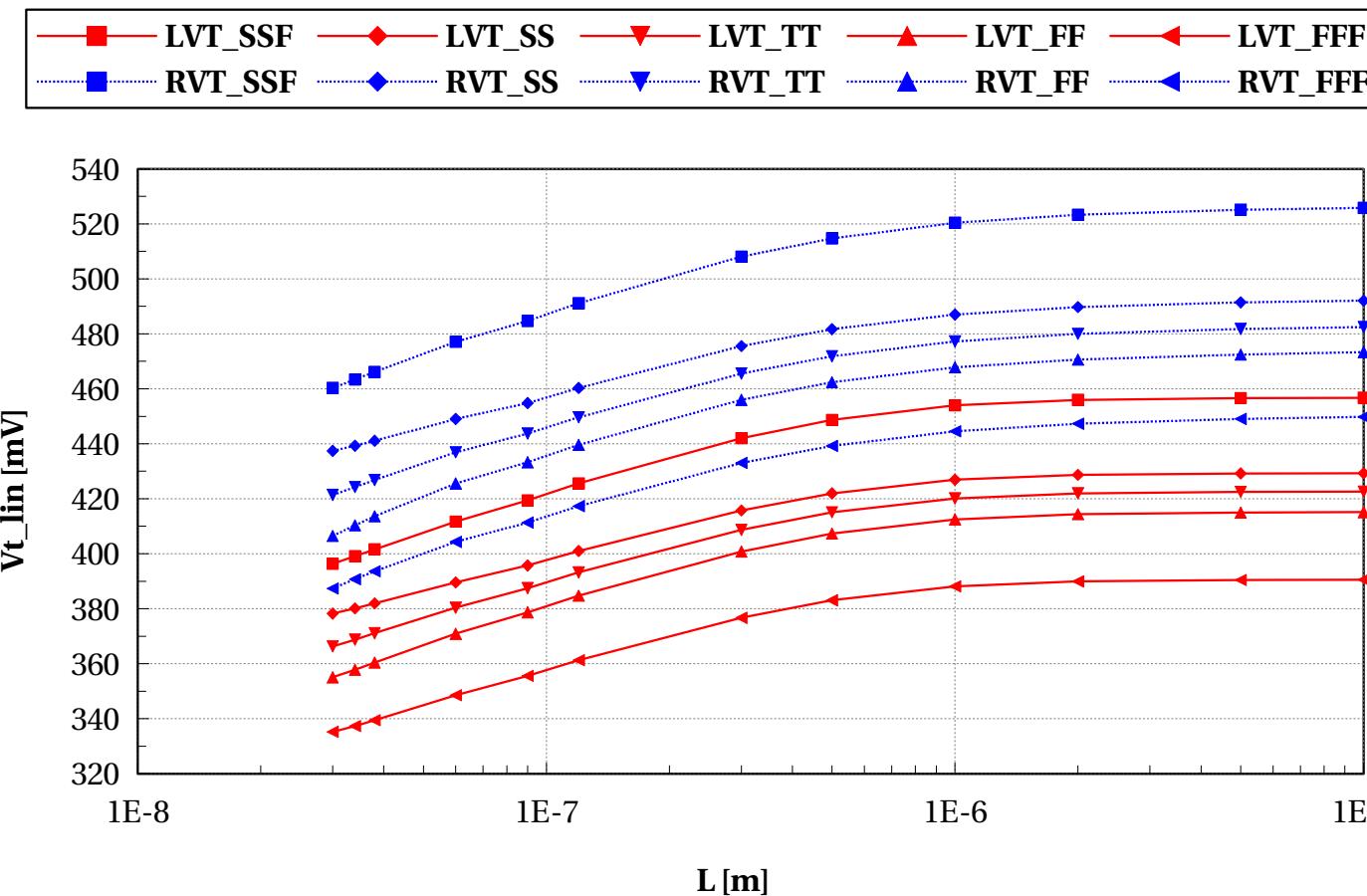
lvtnfet_acc

Electrical characteristics scaling

Scaling versus Length ($W=1\text{ }\mu\text{m}$)

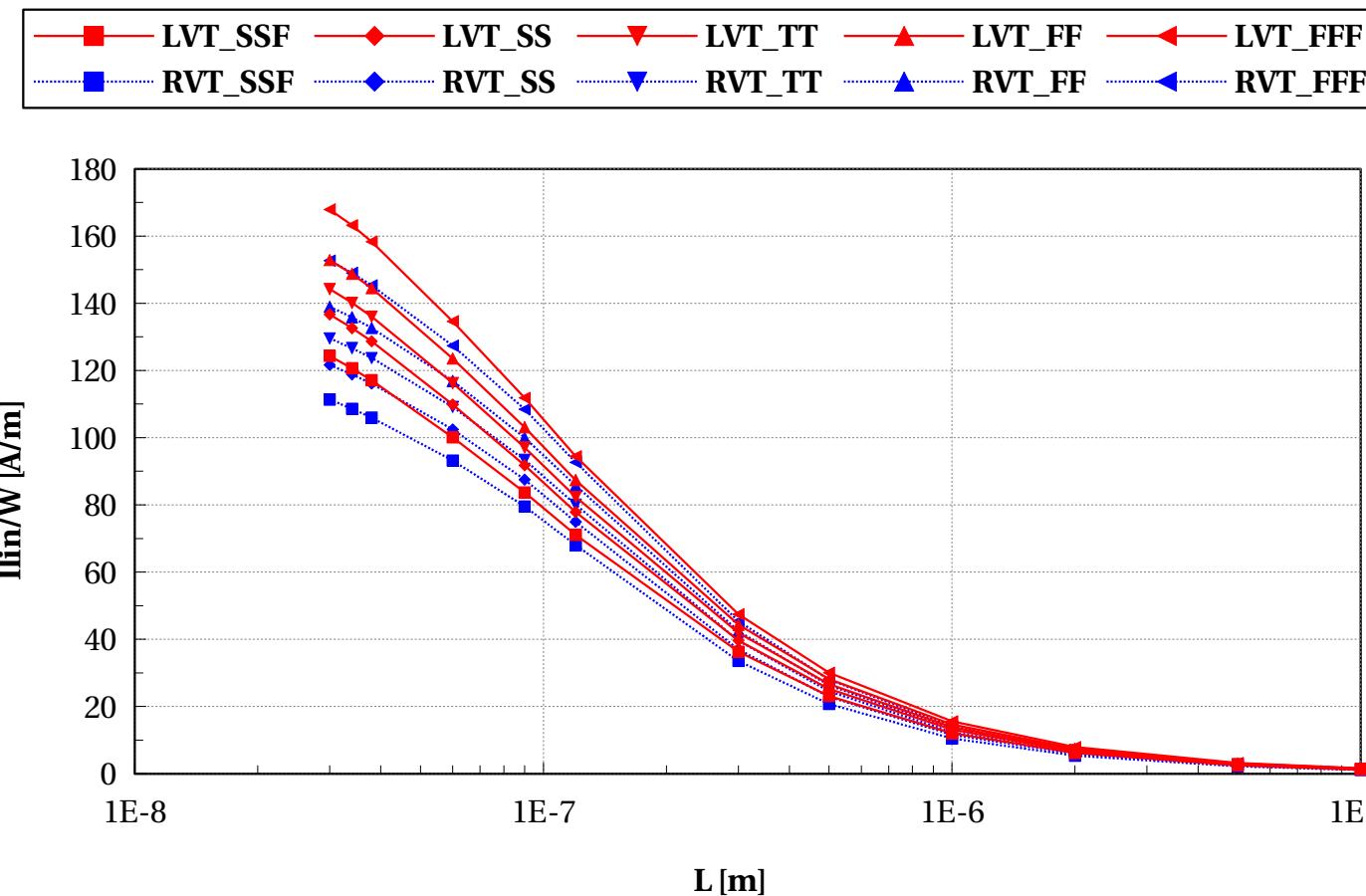
lvtnfet_acc, Vt_lin [mV] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



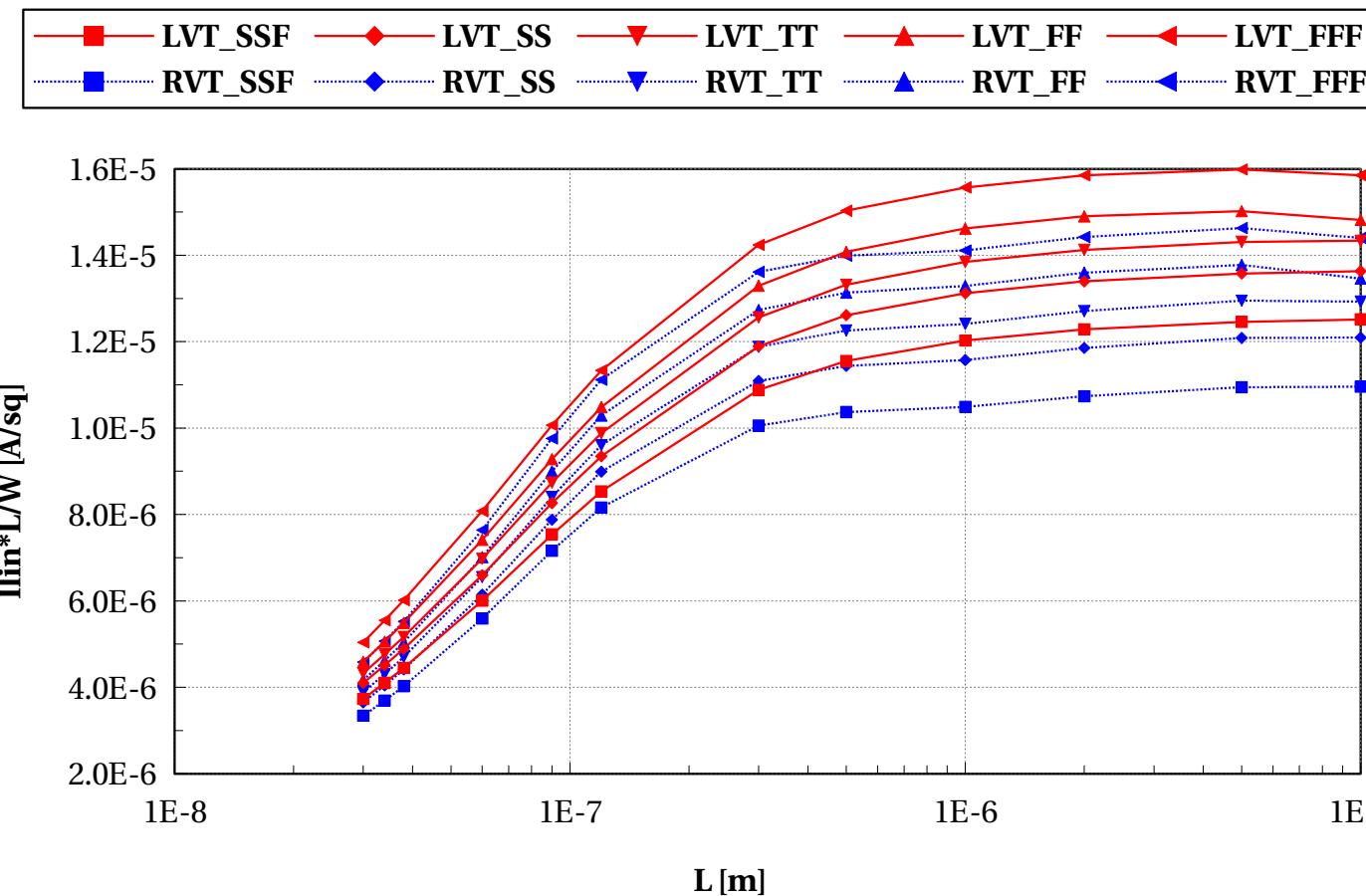
lvtnfet_acc, Ilin/W [A/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



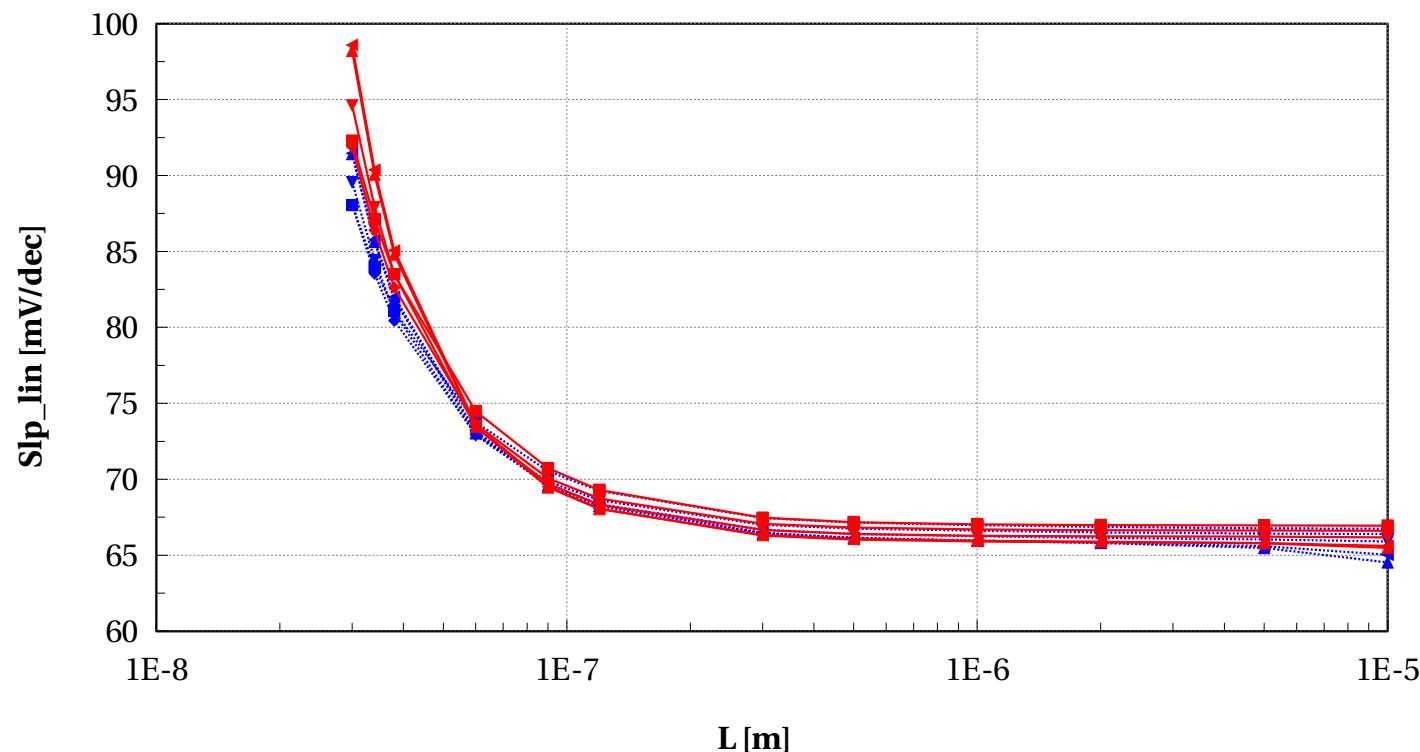
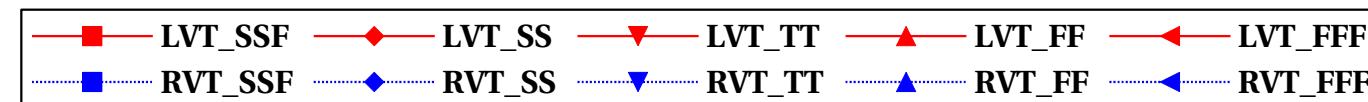
lvtnfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



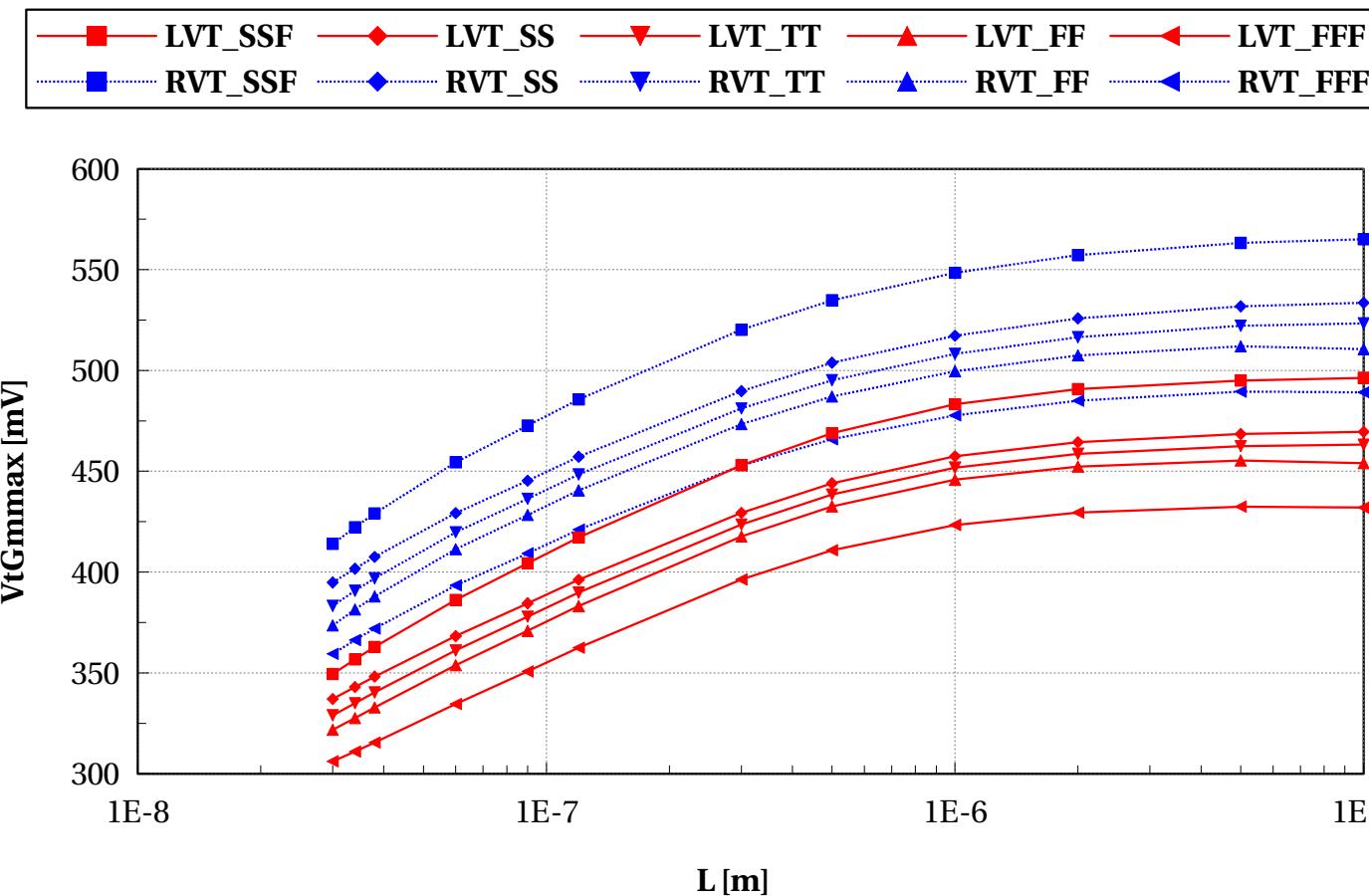
lvtnfet_acc, Slp_lin [mV/dec] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



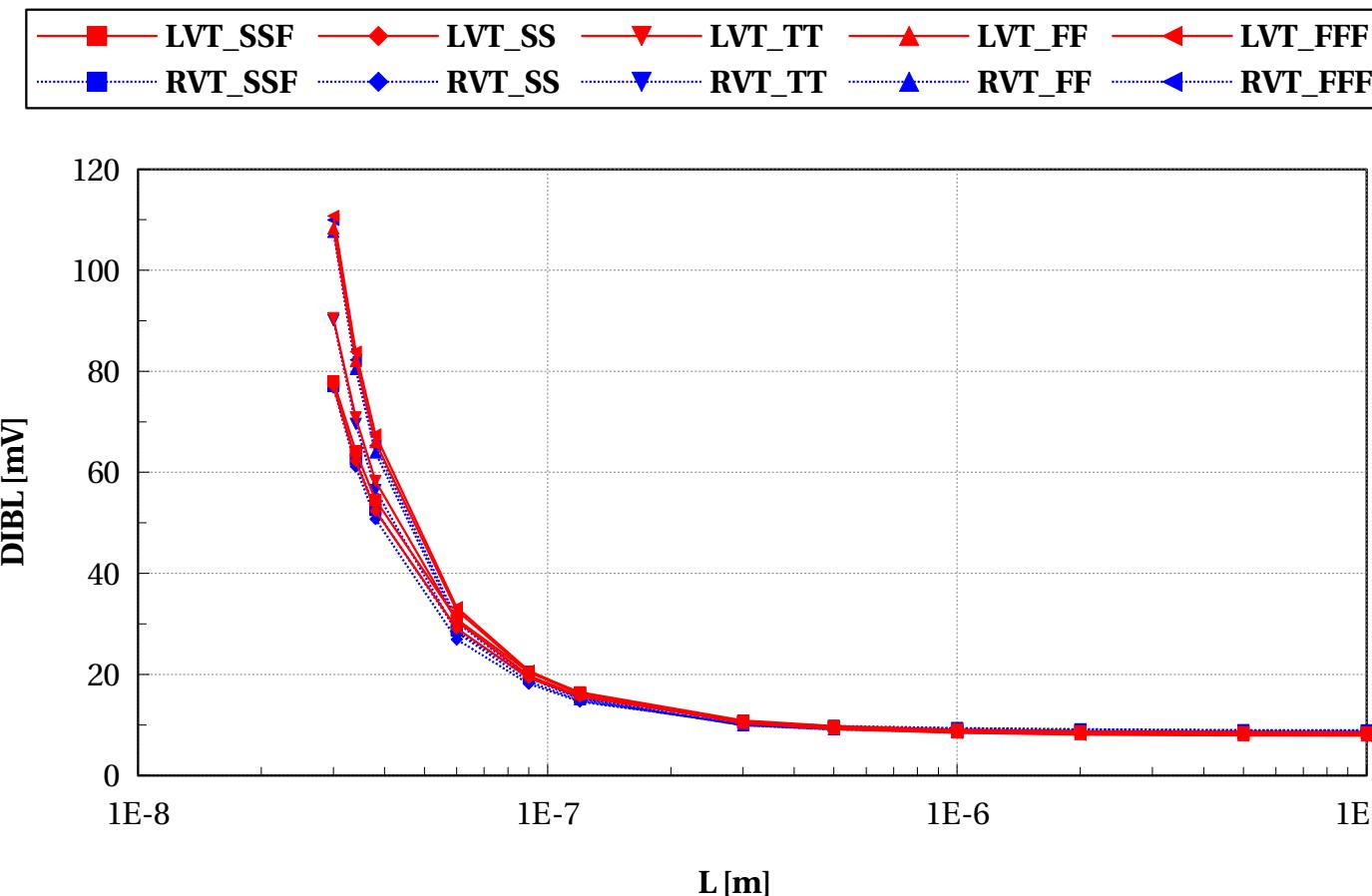
lvtnfet_acc, VtGmmax [mV] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



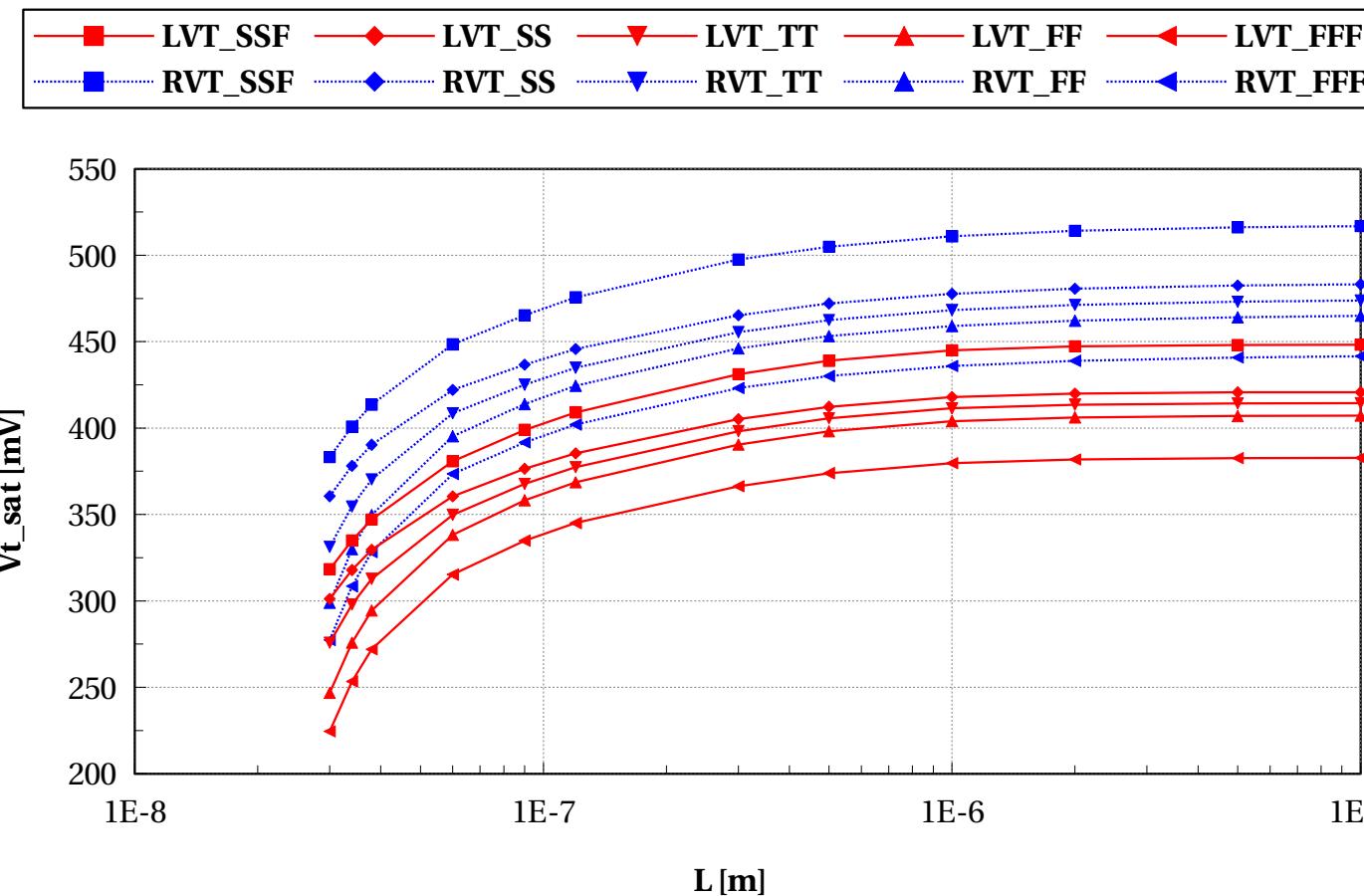
lvtnfet_acc, DIBL [mV] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



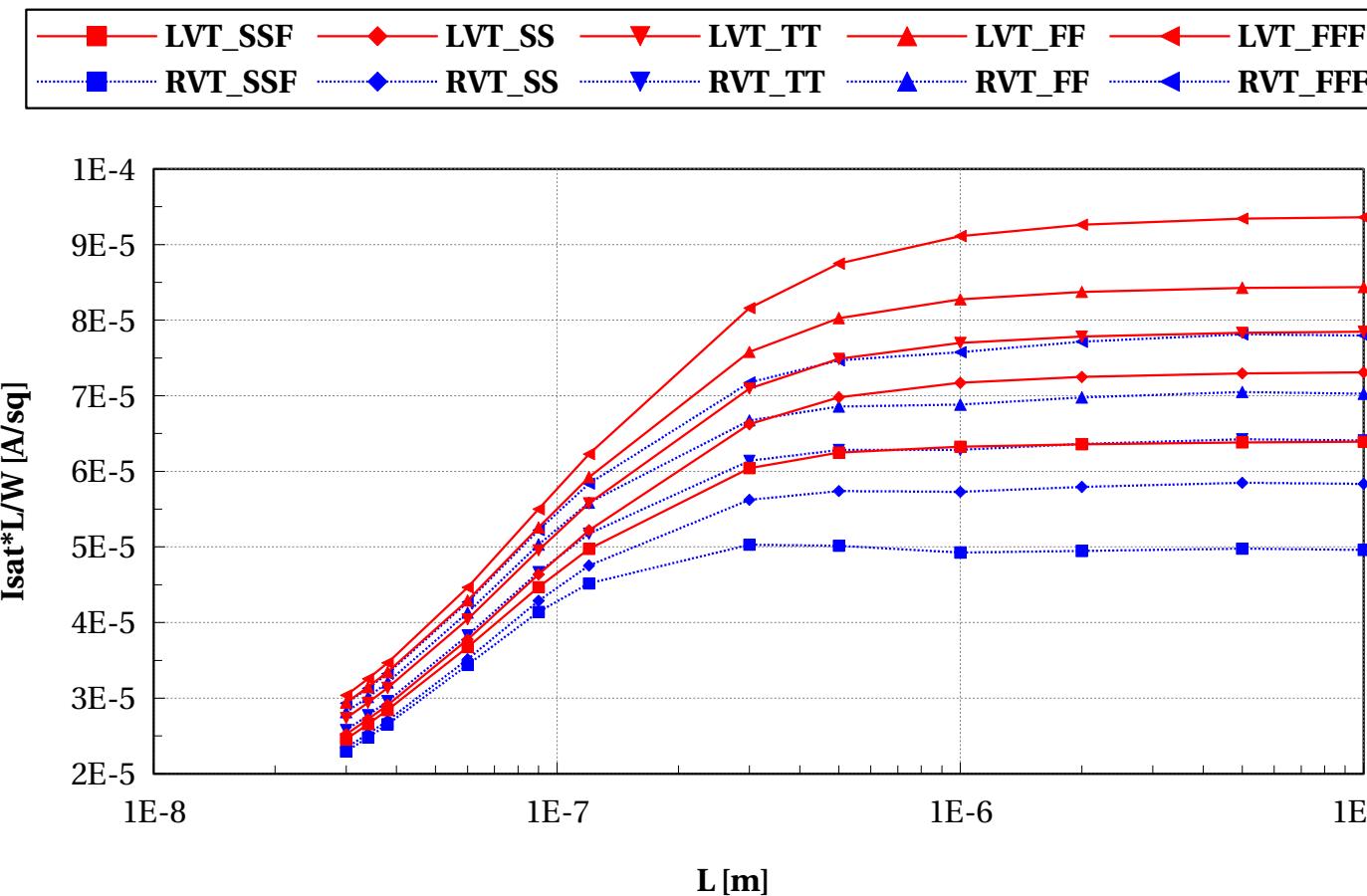
lvtnfet_acc, Vt_sat [mV] vs L [m]

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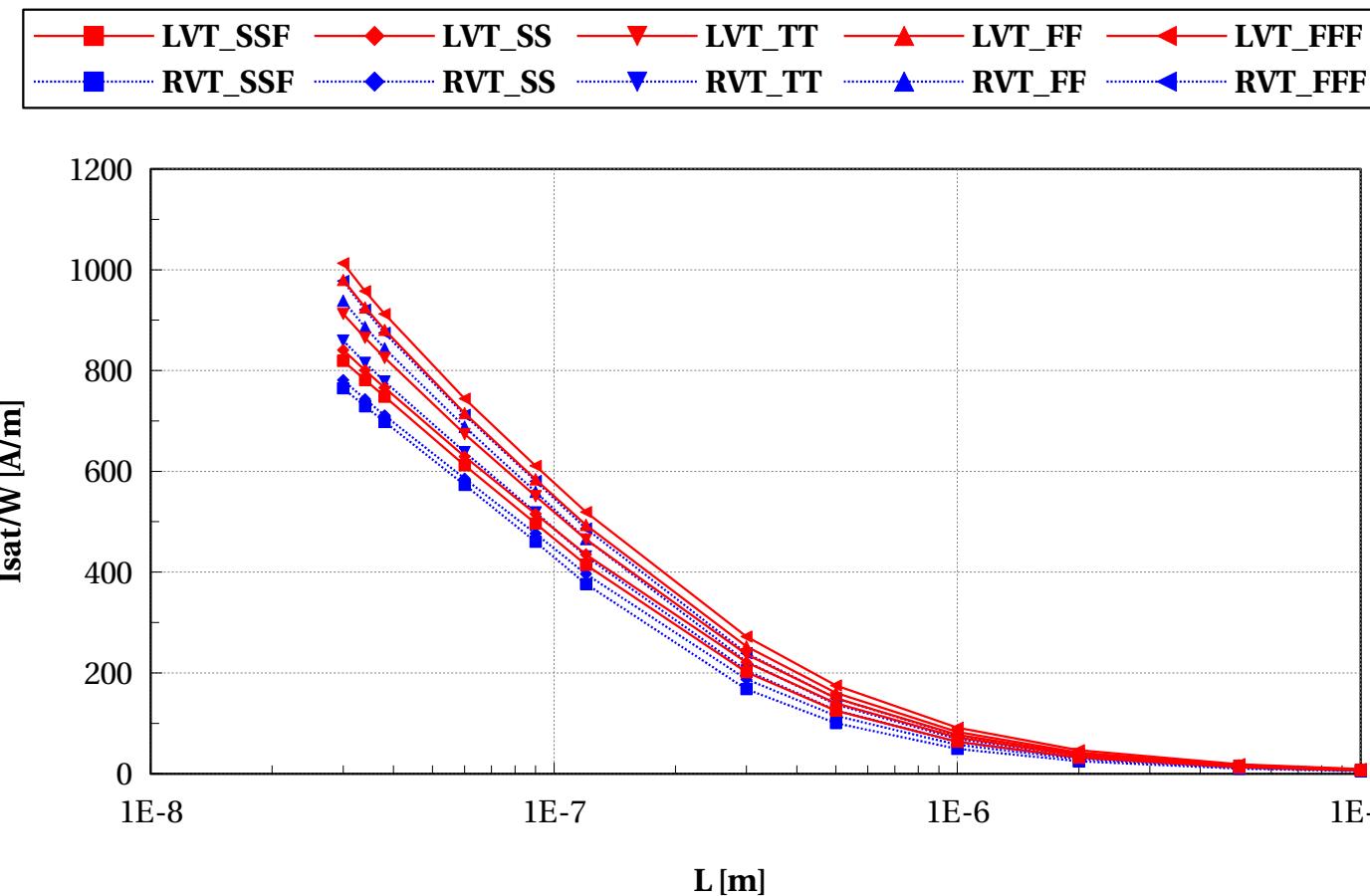
lvtnfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs L [m]

$w==1e-6$ and $Temp==25$ and $p_la==0$ and $devType=="PCELLwoWPE"$



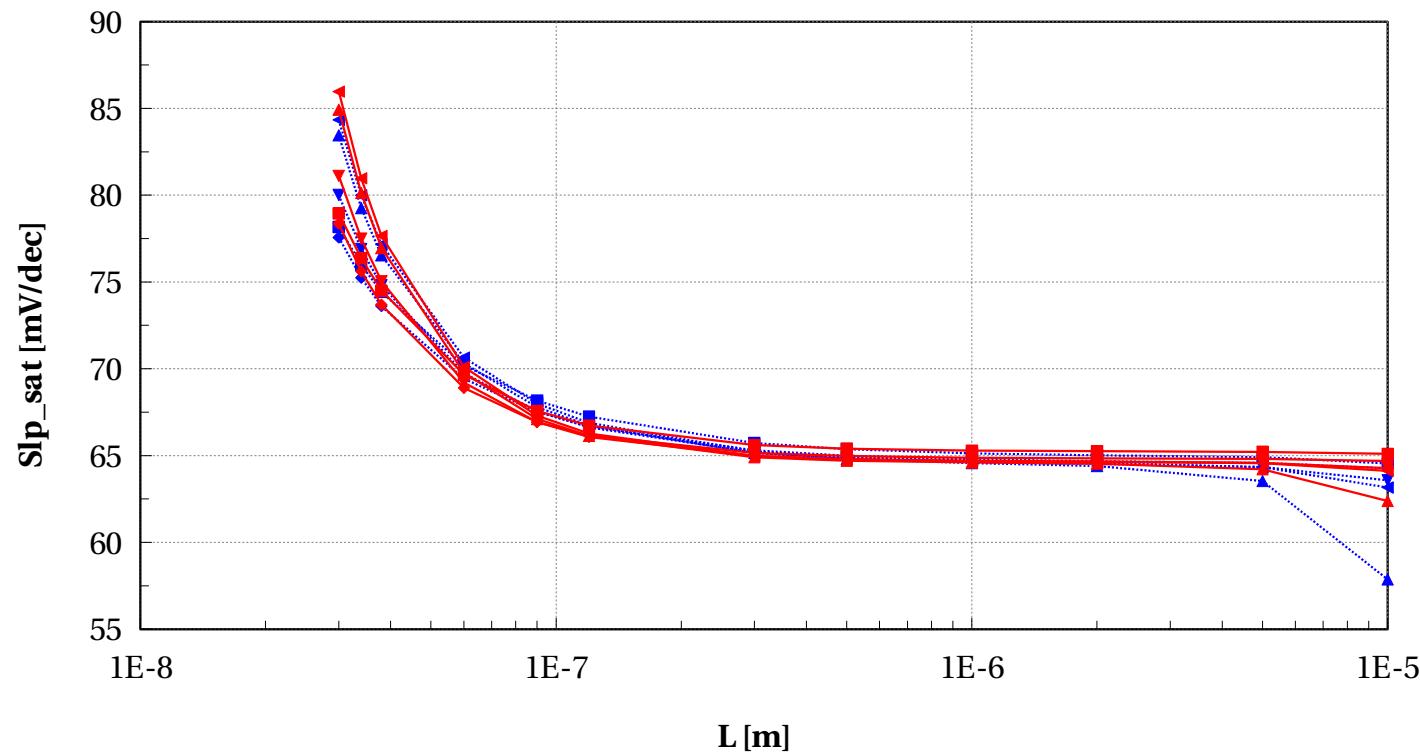
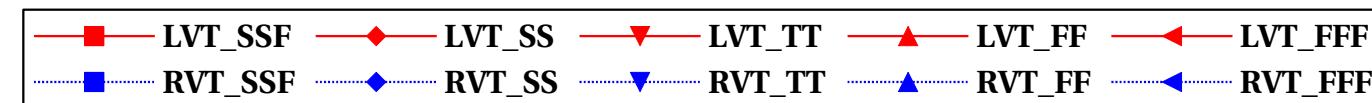
lvtnfet_acc, Isat/W [A/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



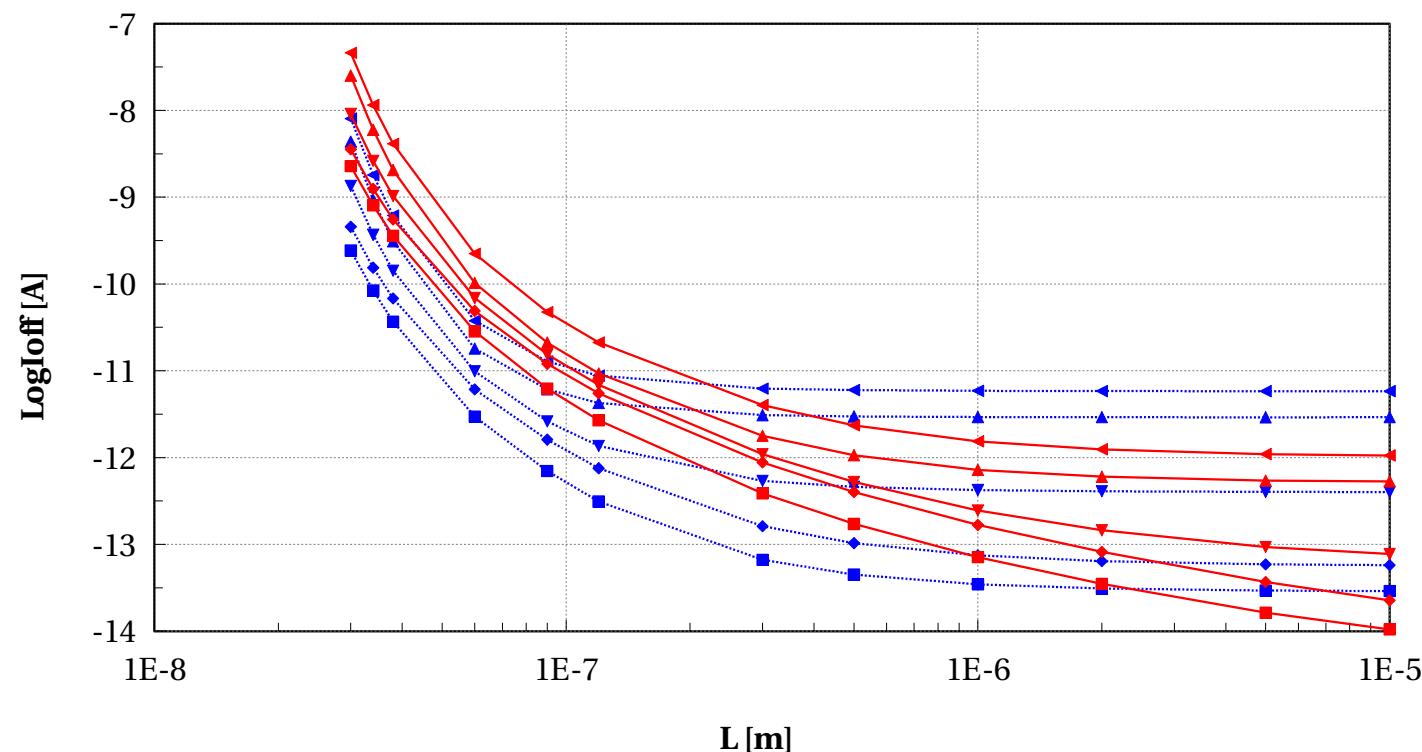
lvtnfet_acc, Slp_sat [mV/dec] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



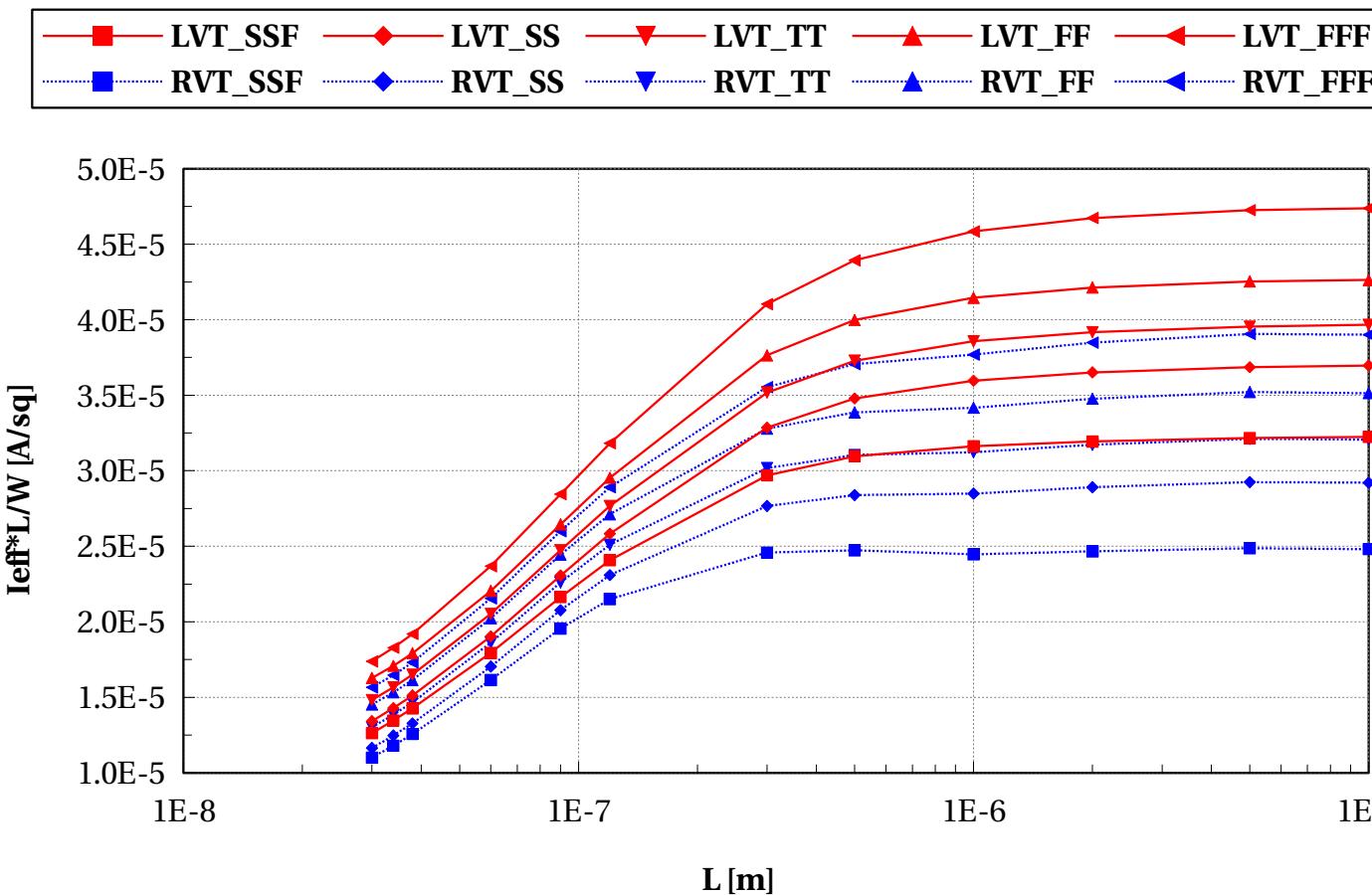
lvtnfet_acc, LogIoff [A] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



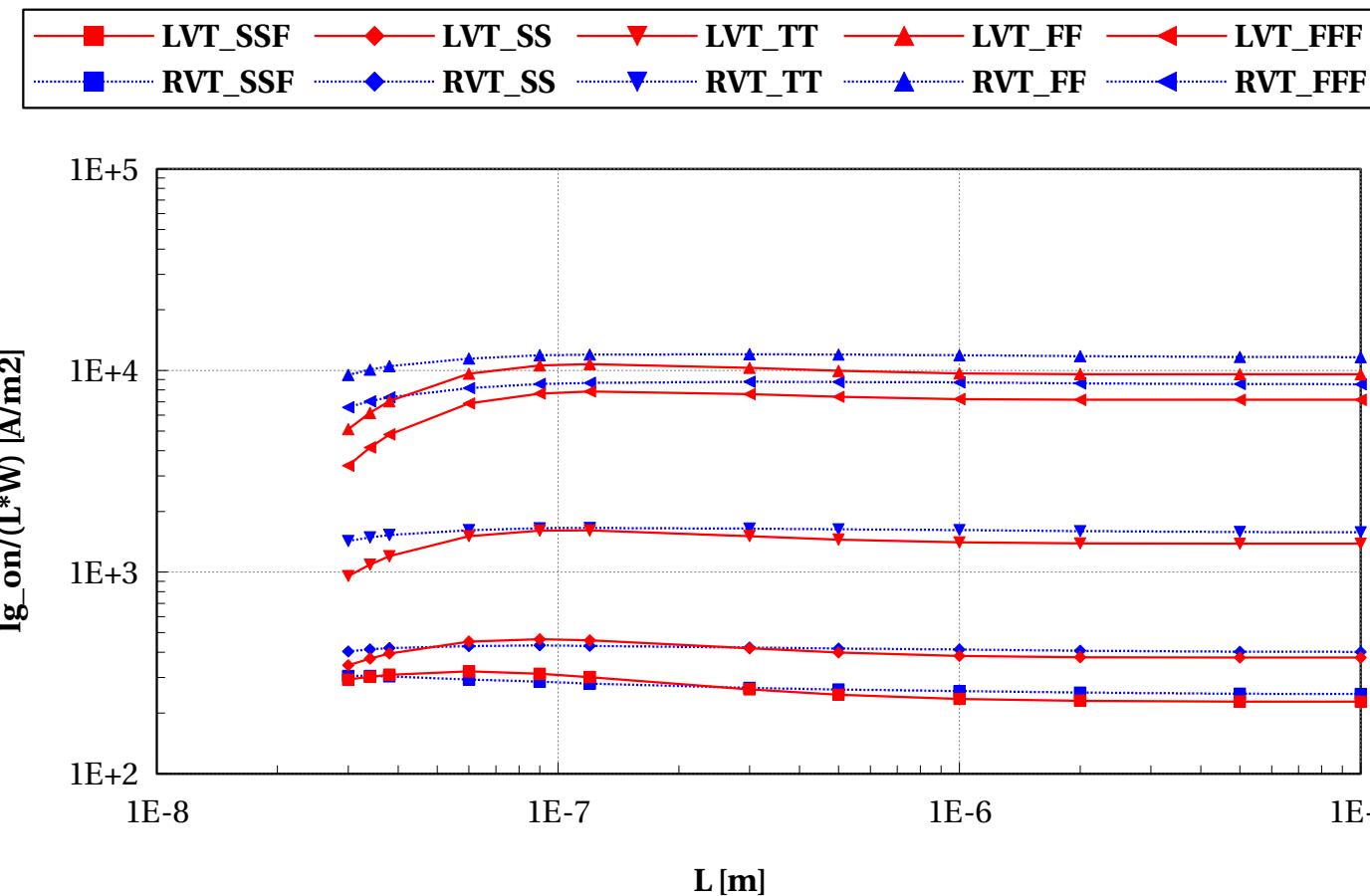
lvtnfet_acc, Ieff*L/W [A/sq] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



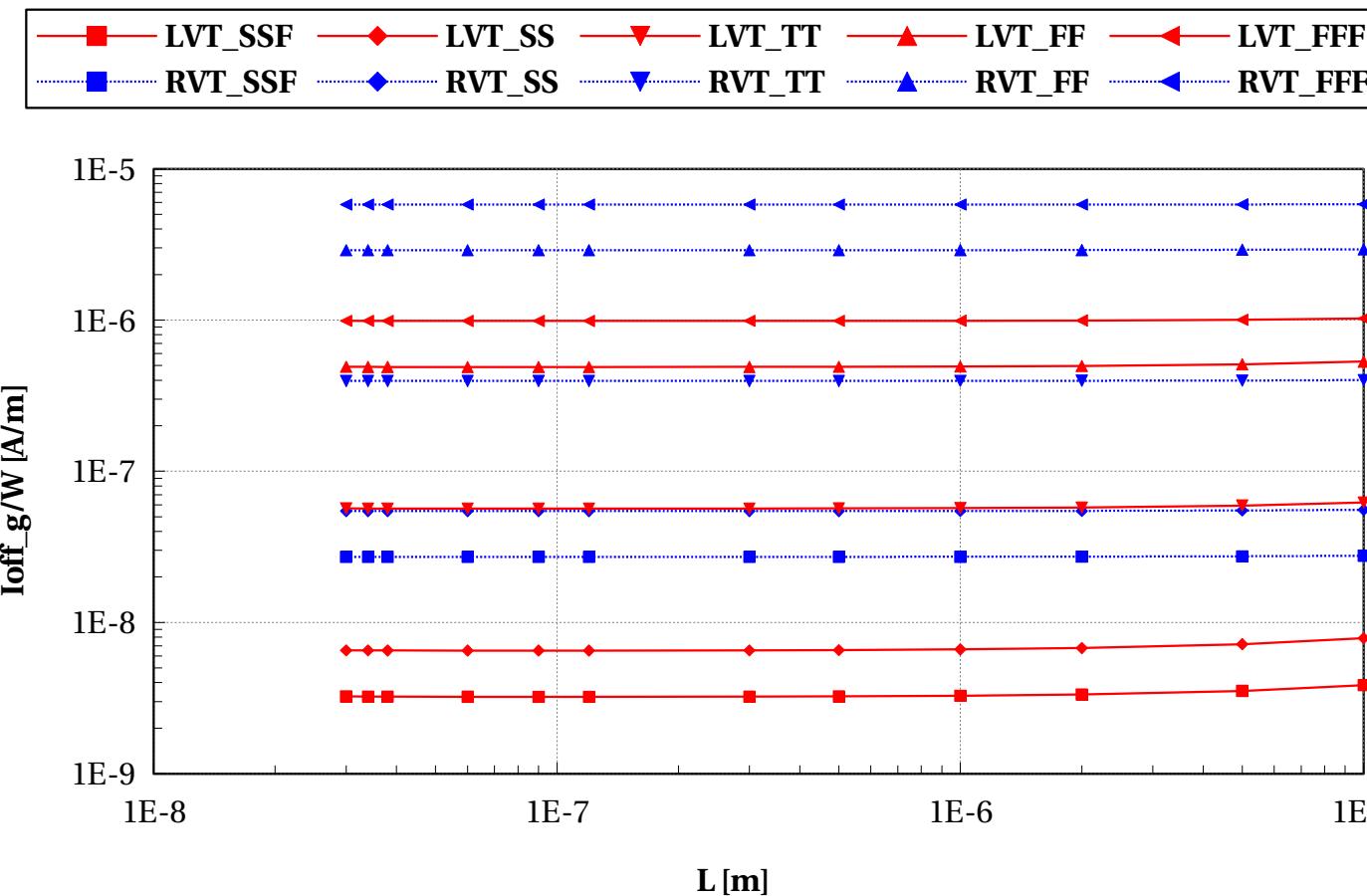
lvtnfet_acc, Ig_on/(L*W) [A/m2] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



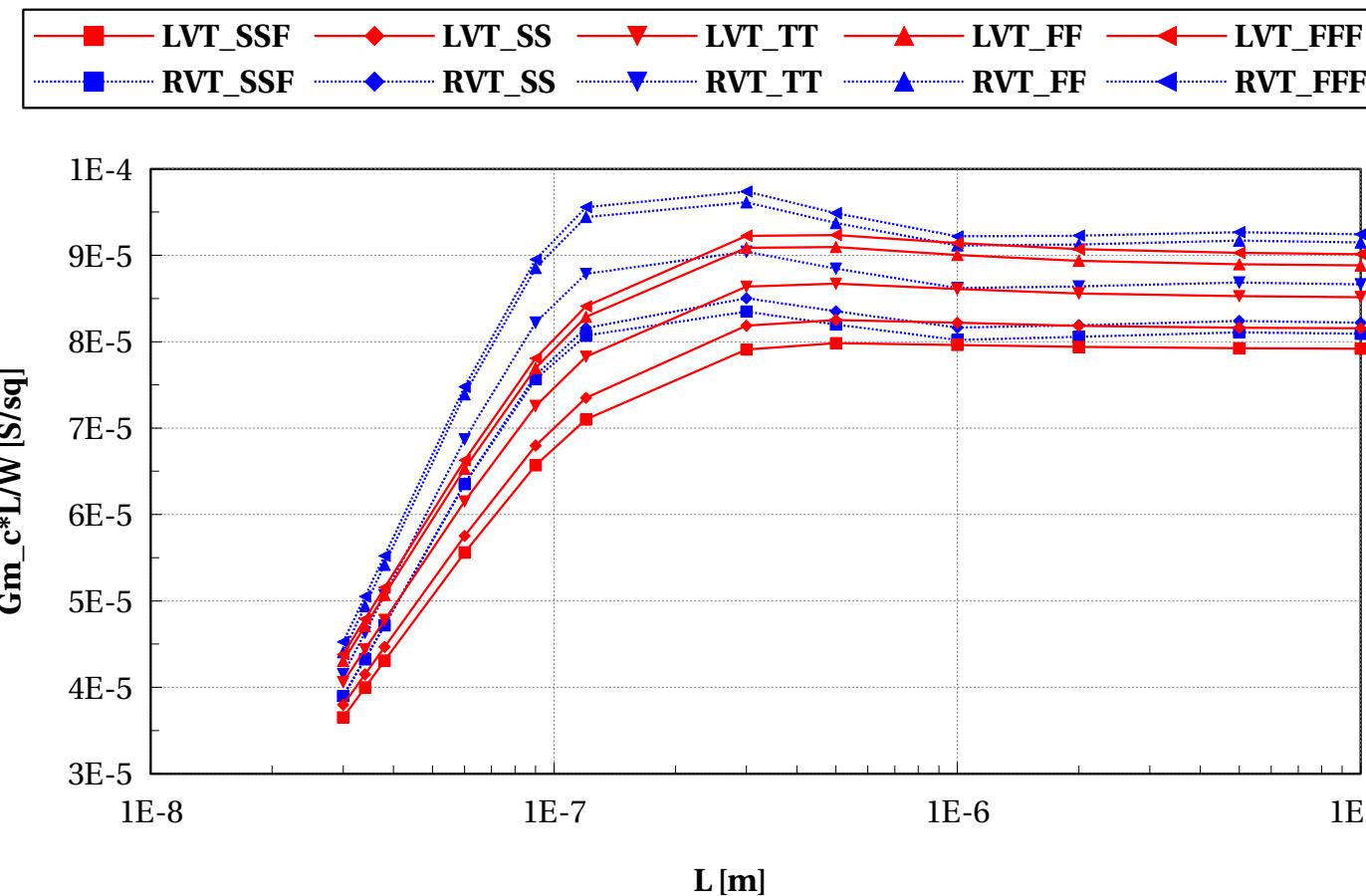
lvtnfet_acc, Ioff_g/W [A/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



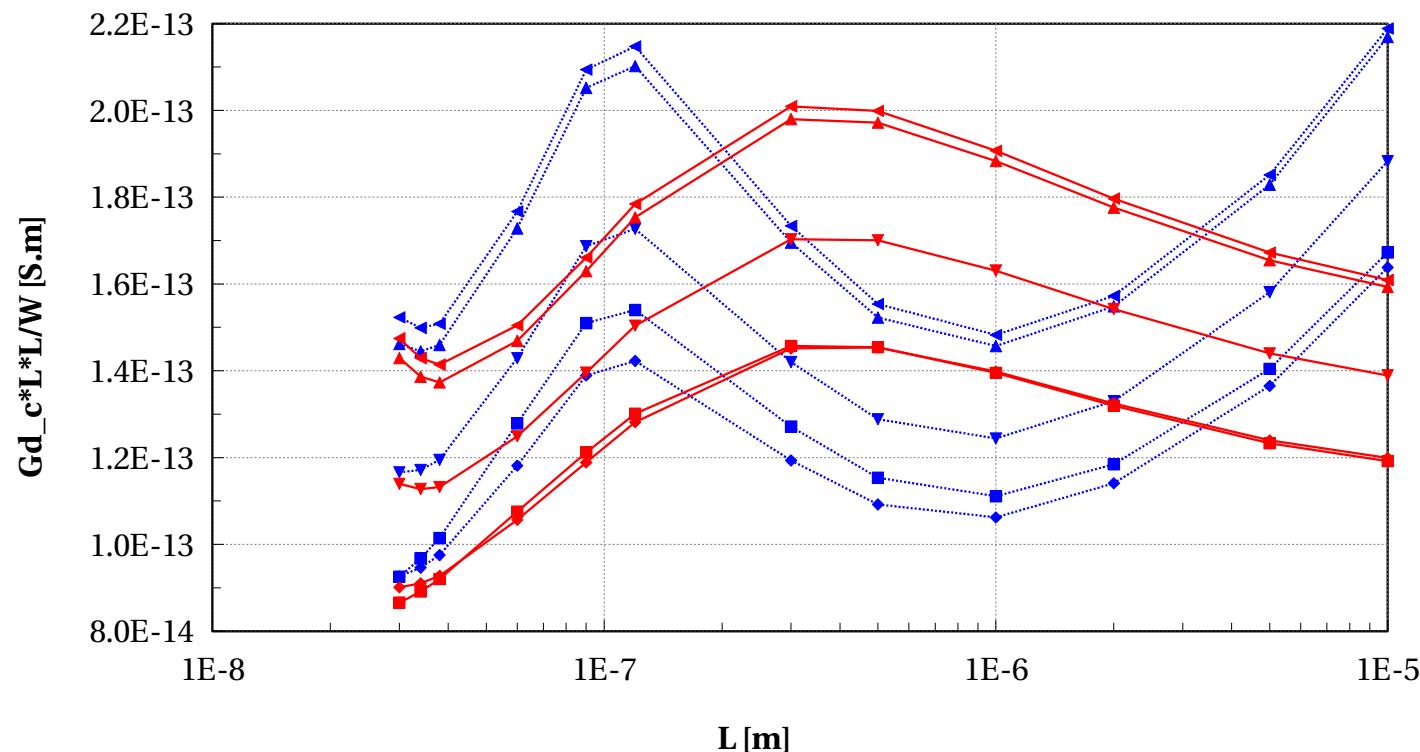
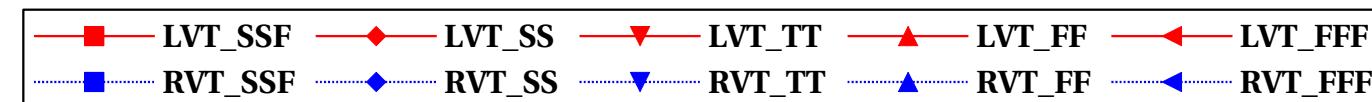
lvtnfet_acc, $Gm_c \cdot L/W$ [S/sq] vs L [m]

$w==1e-6$ and $Temp==25$ and $p_la==0$ and $devType=="PCELLwoWPE"$



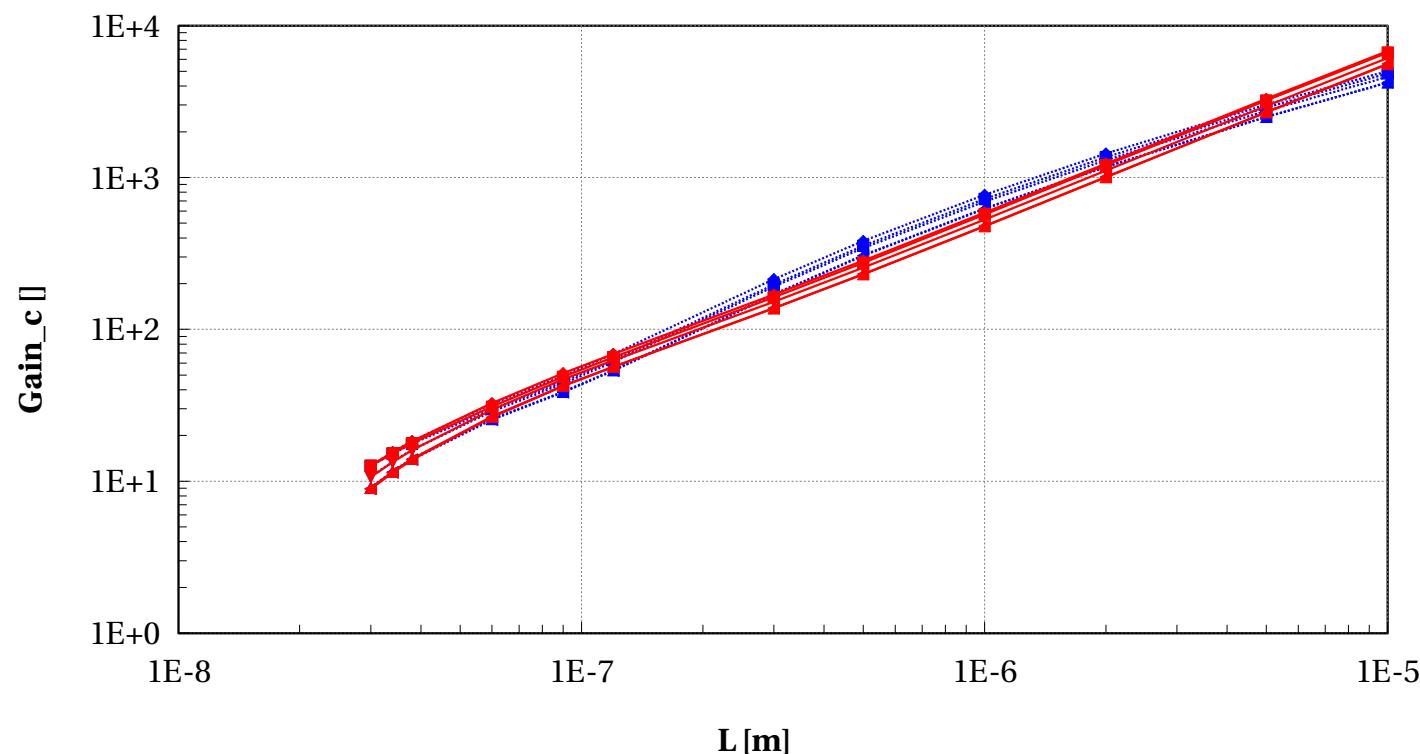
lvtnfet_acc, Gd_c*L*L/W [S.m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



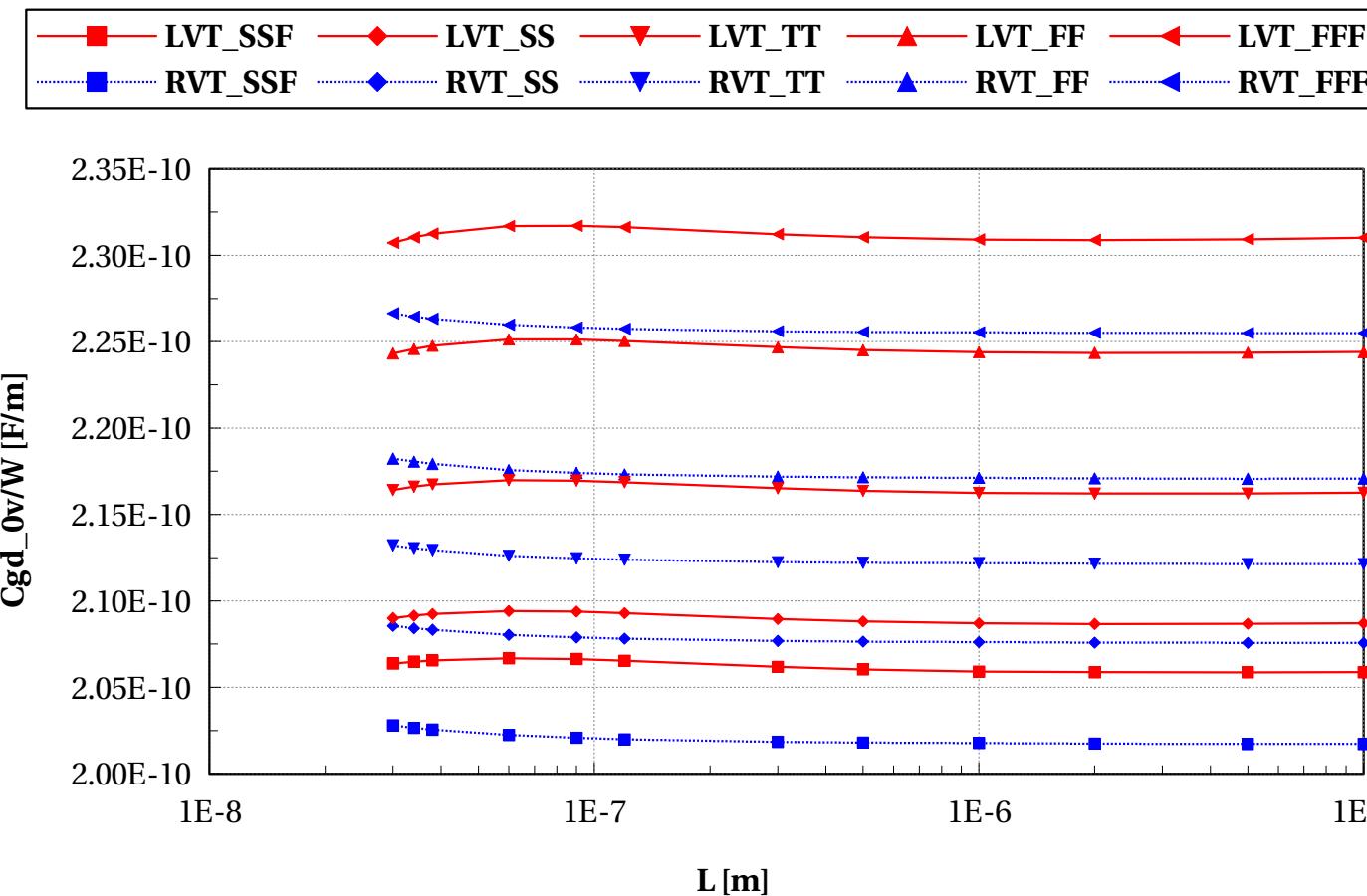
lvtnfet_acc, Gain_c [] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



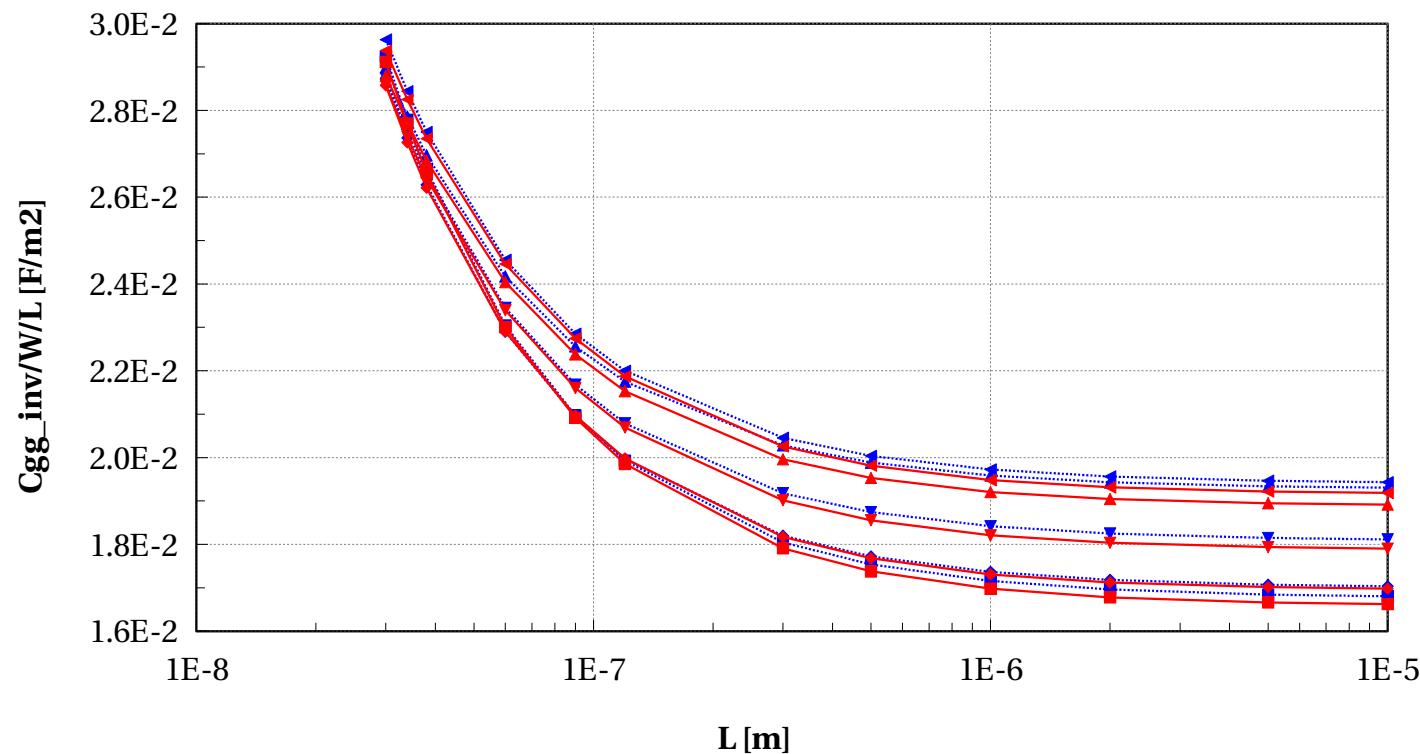
lvtnfet_acc, Cgd_0v/W [F/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



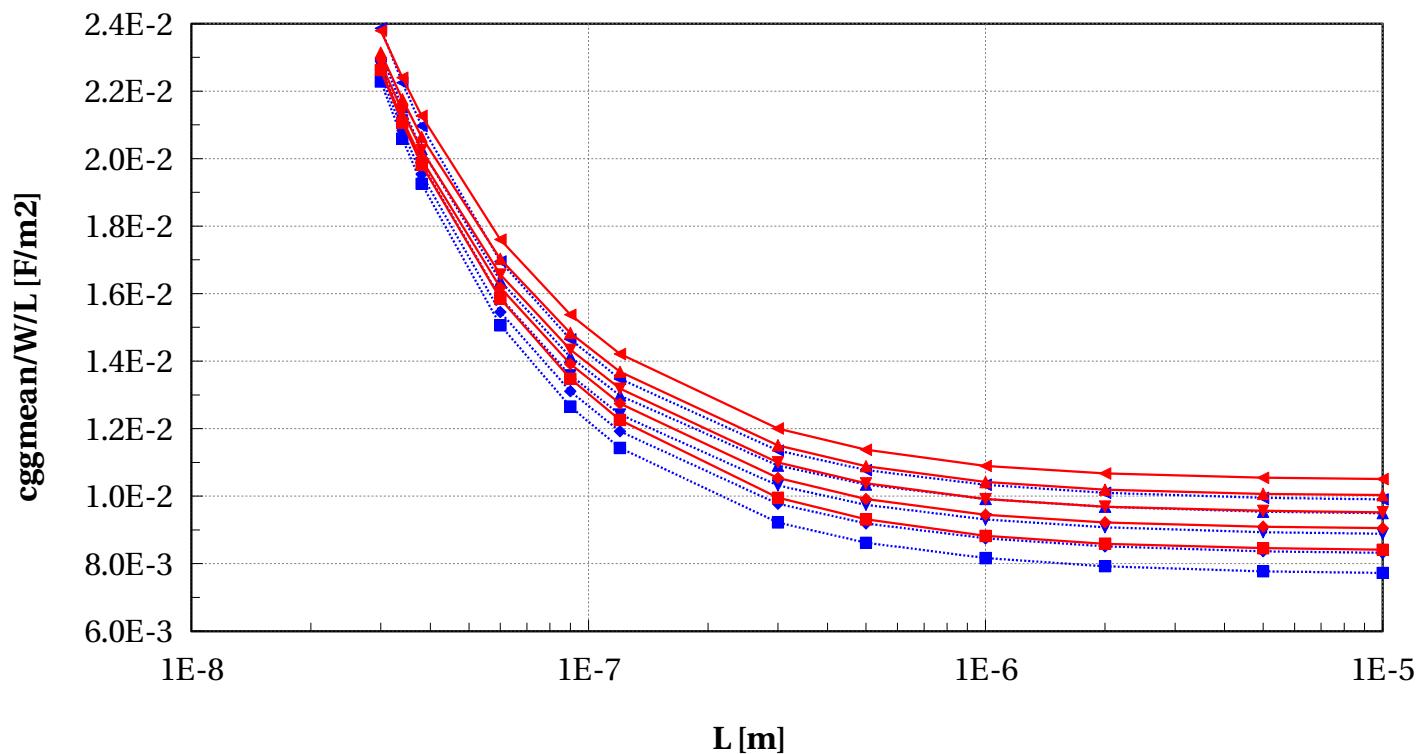
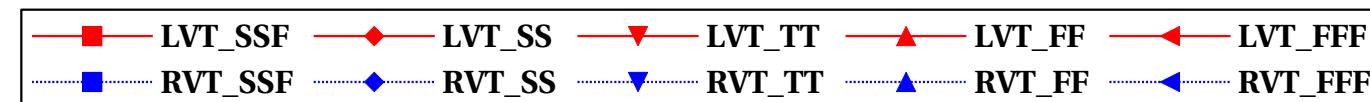
lvtnfet_acc, C_{gg}_inv/W/L [F/m²] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



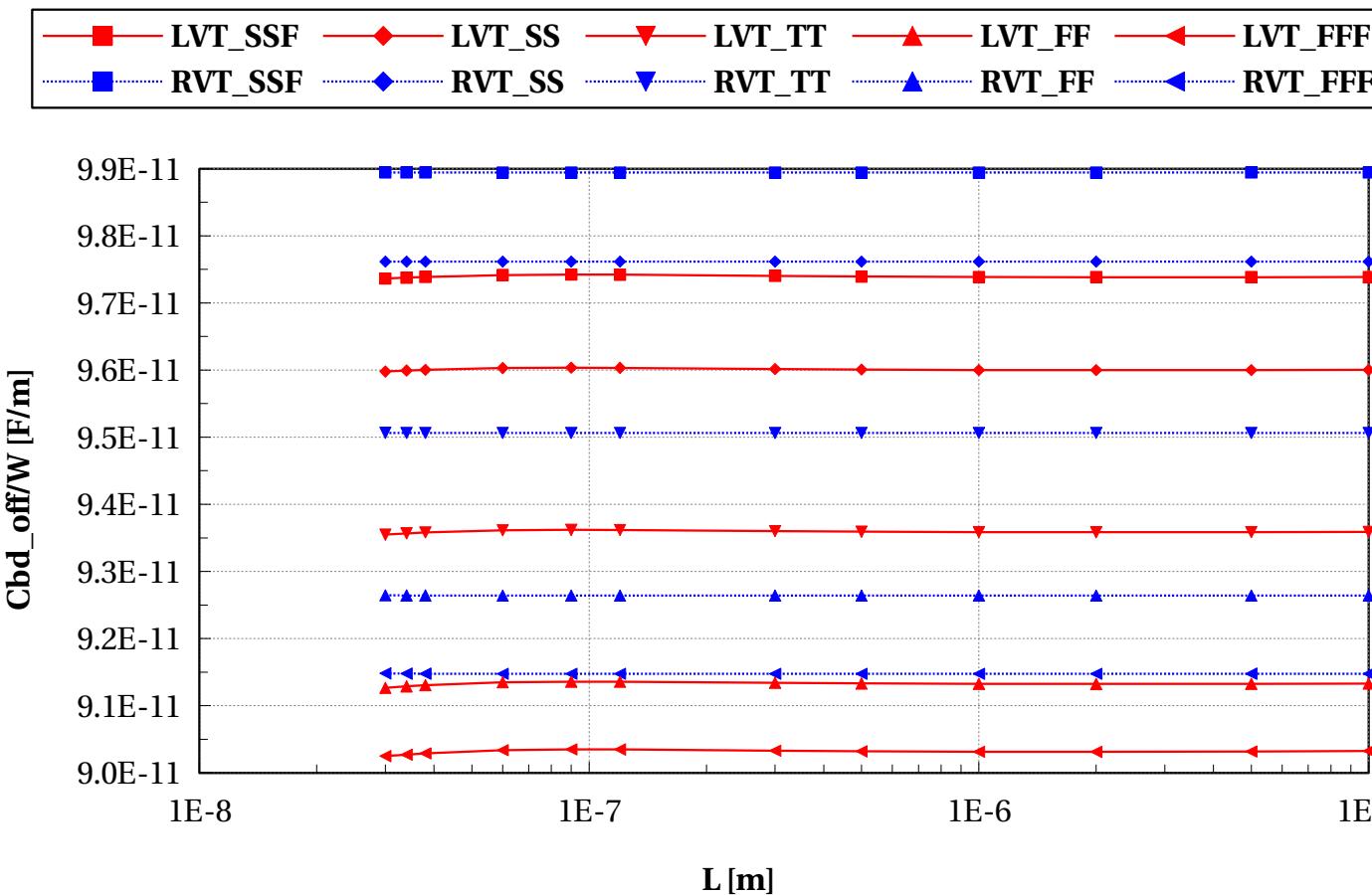
lvtnfet_acc, cggmean/W/L [F/m²] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



lvtnfet_acc, Cbd_off/W [F/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"

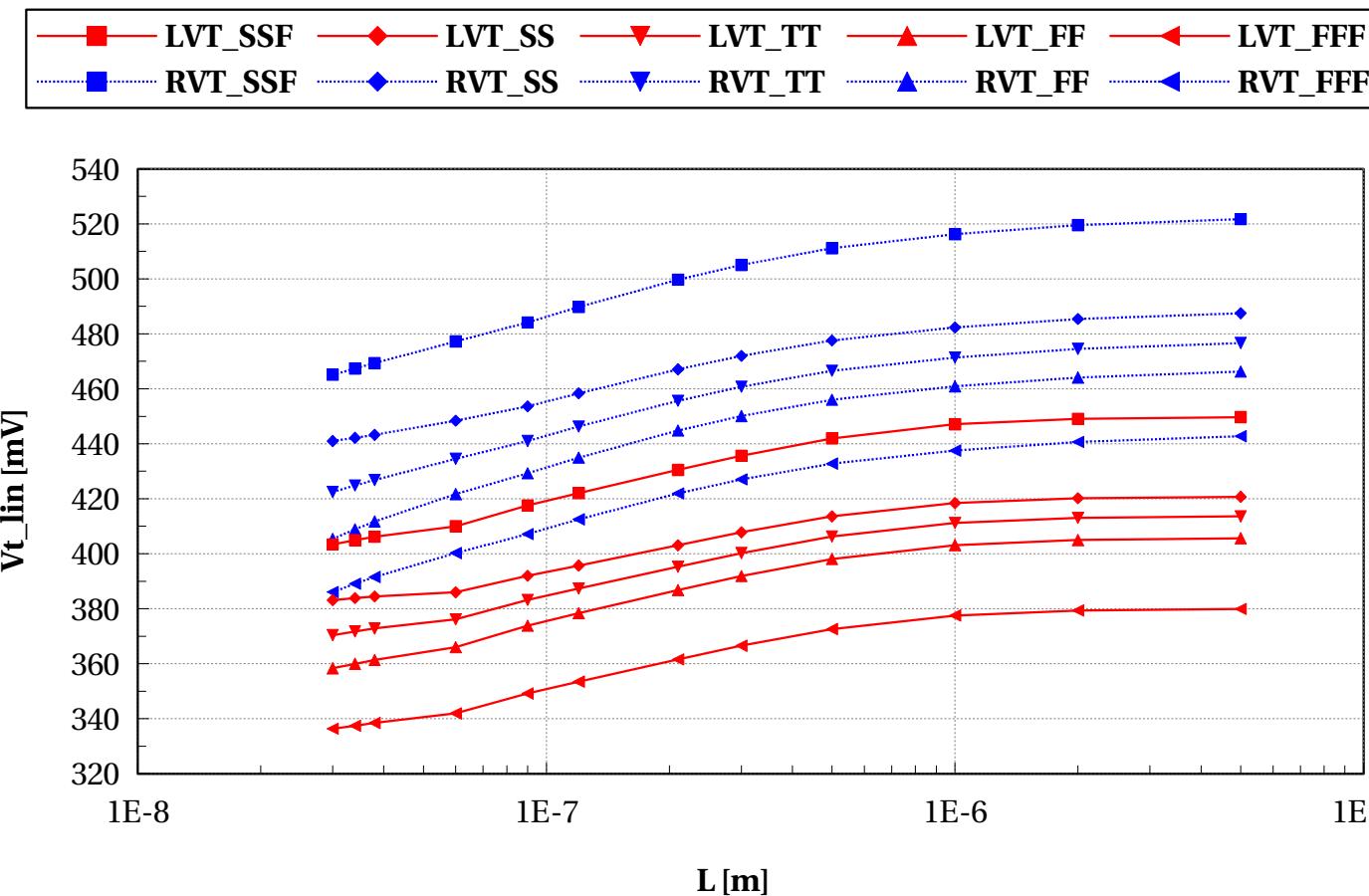


Scaling versus Length (W=210nm)

Scaling versus Length (W=210nm)

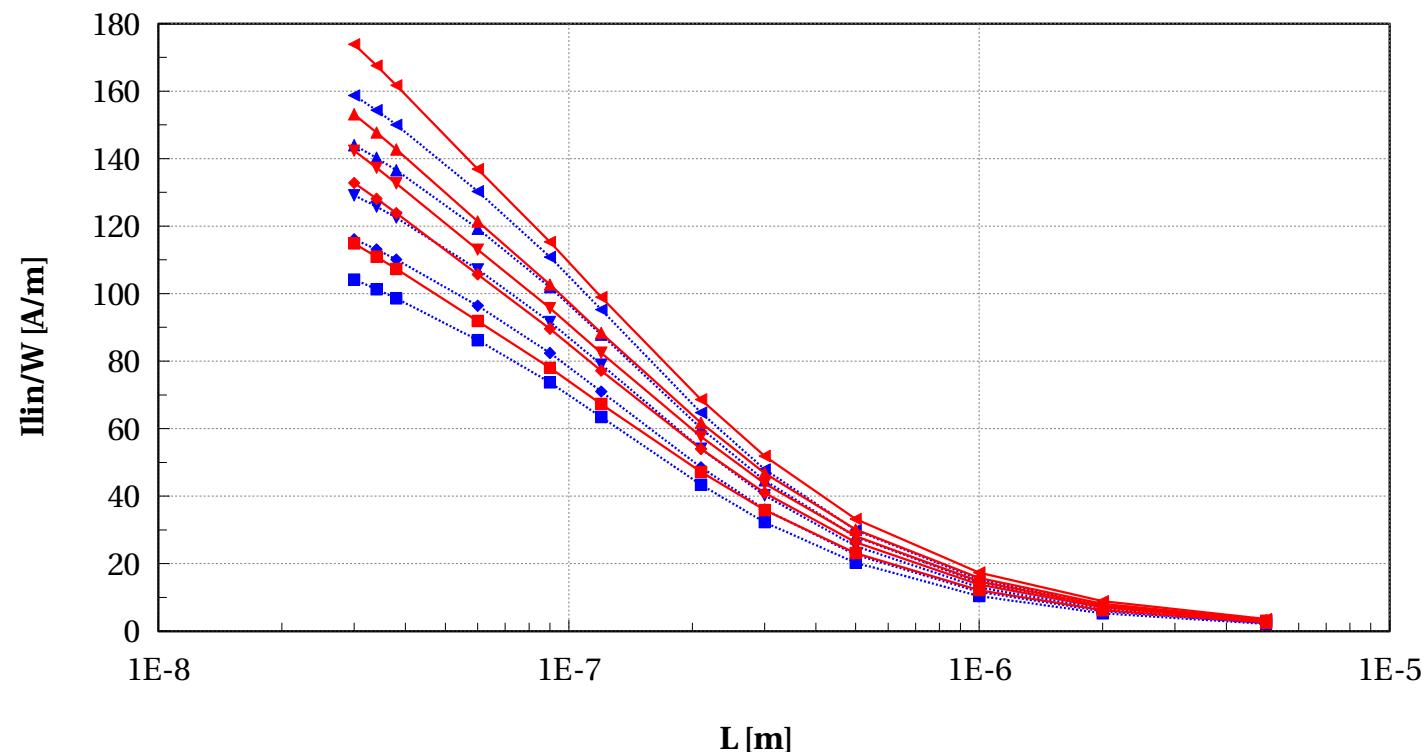
lvtnfet_acc, Vt_lin [mV] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



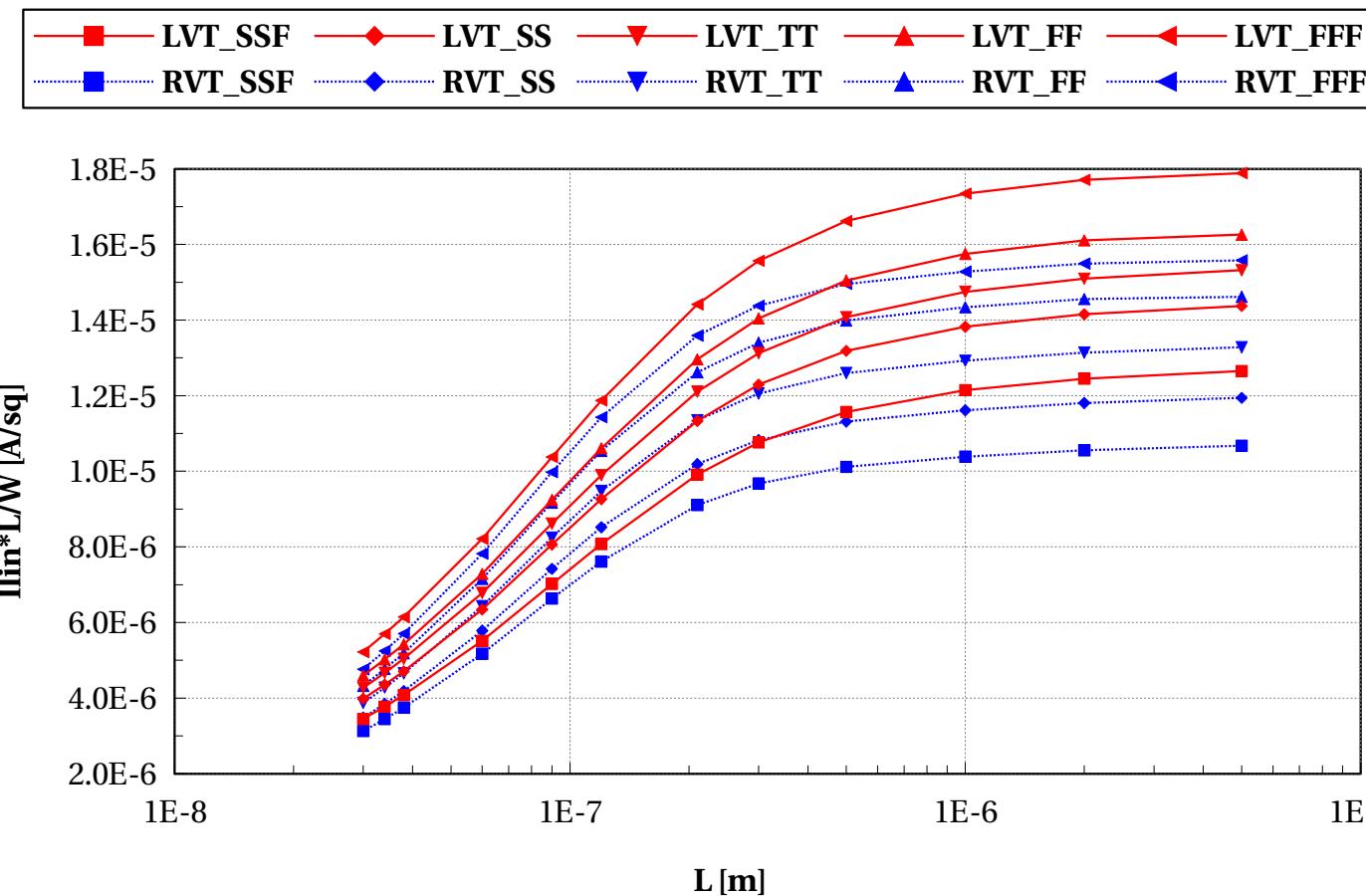
lvtnfet_acc, Ilin/W [A/m] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



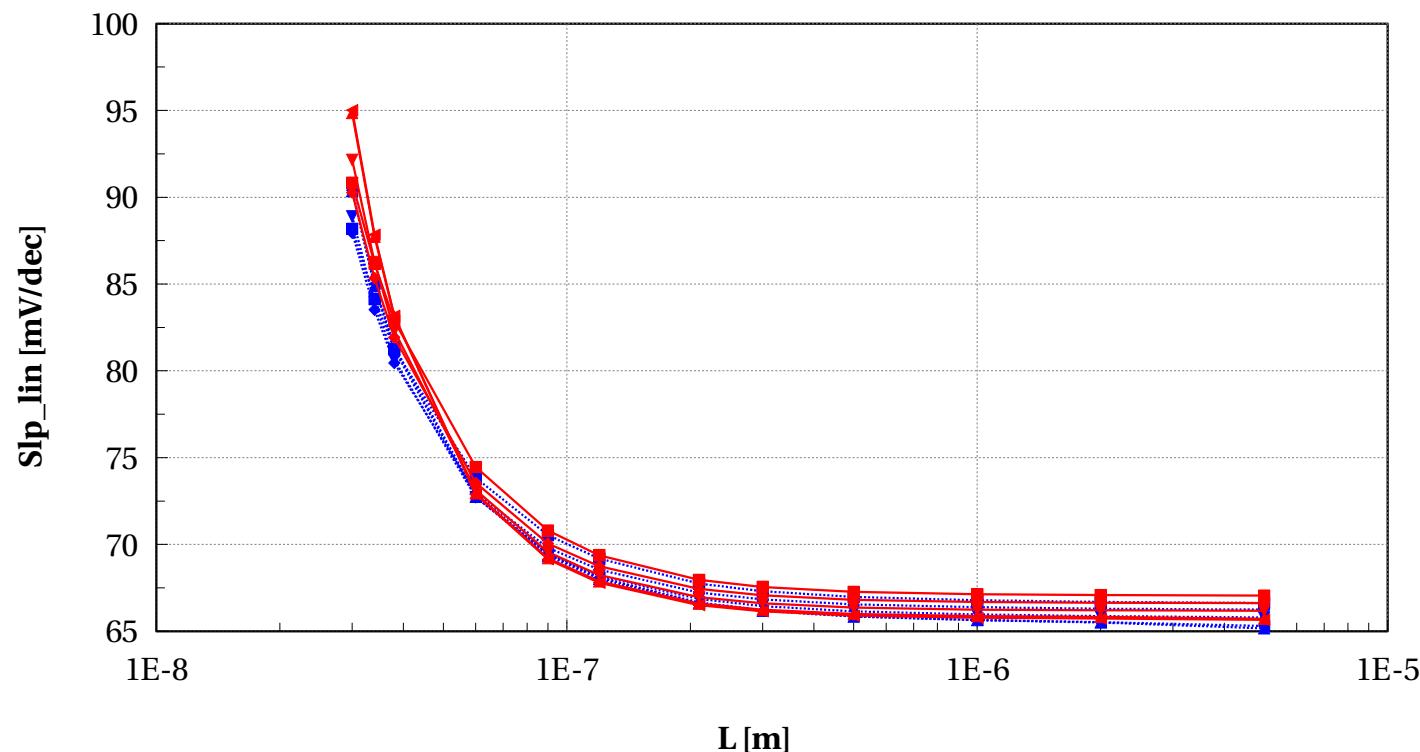
lvtnfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs L [m]

$w=0.210e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



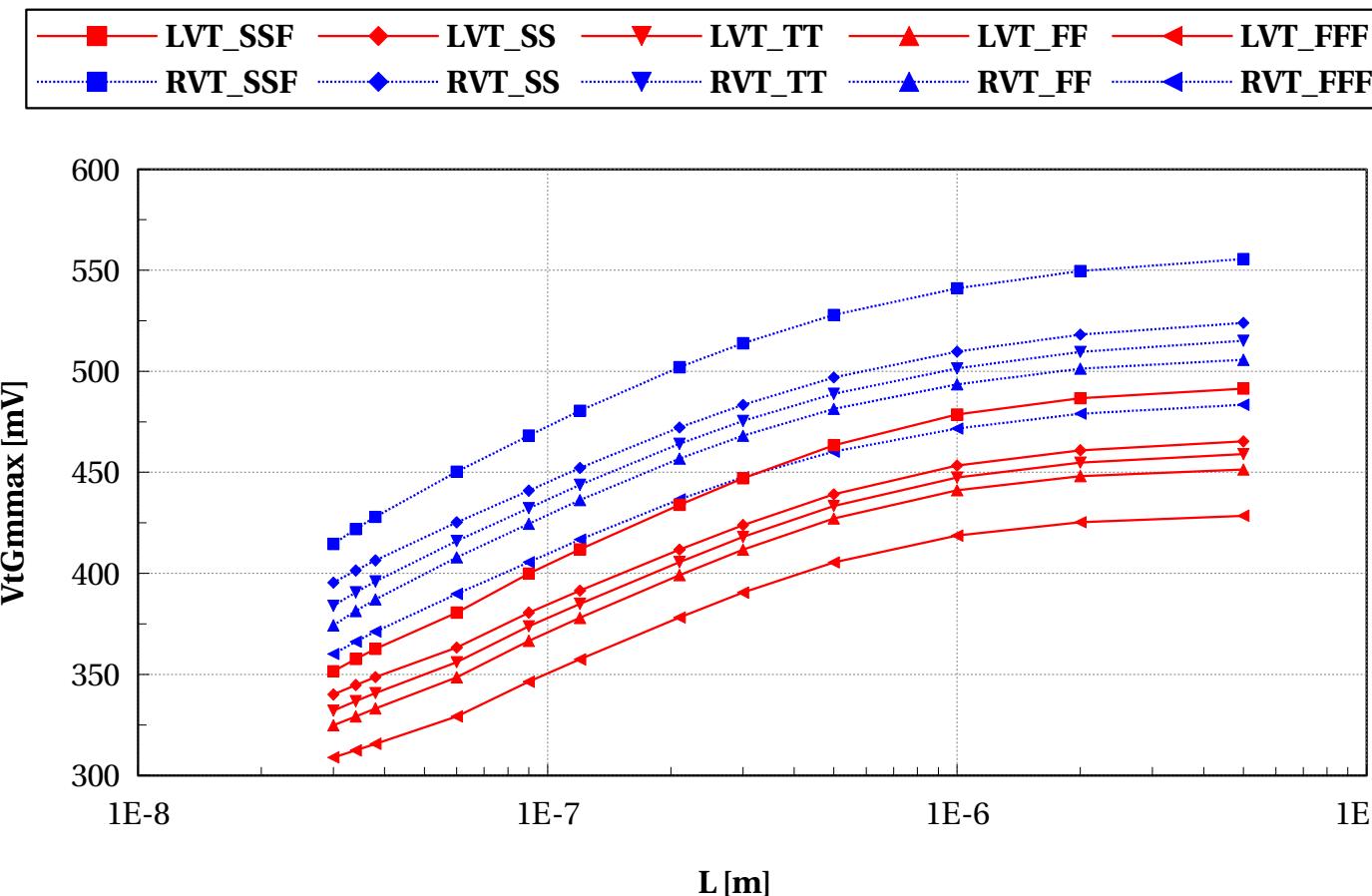
lvtnfet_acc, Slp_lin [mV/dec] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



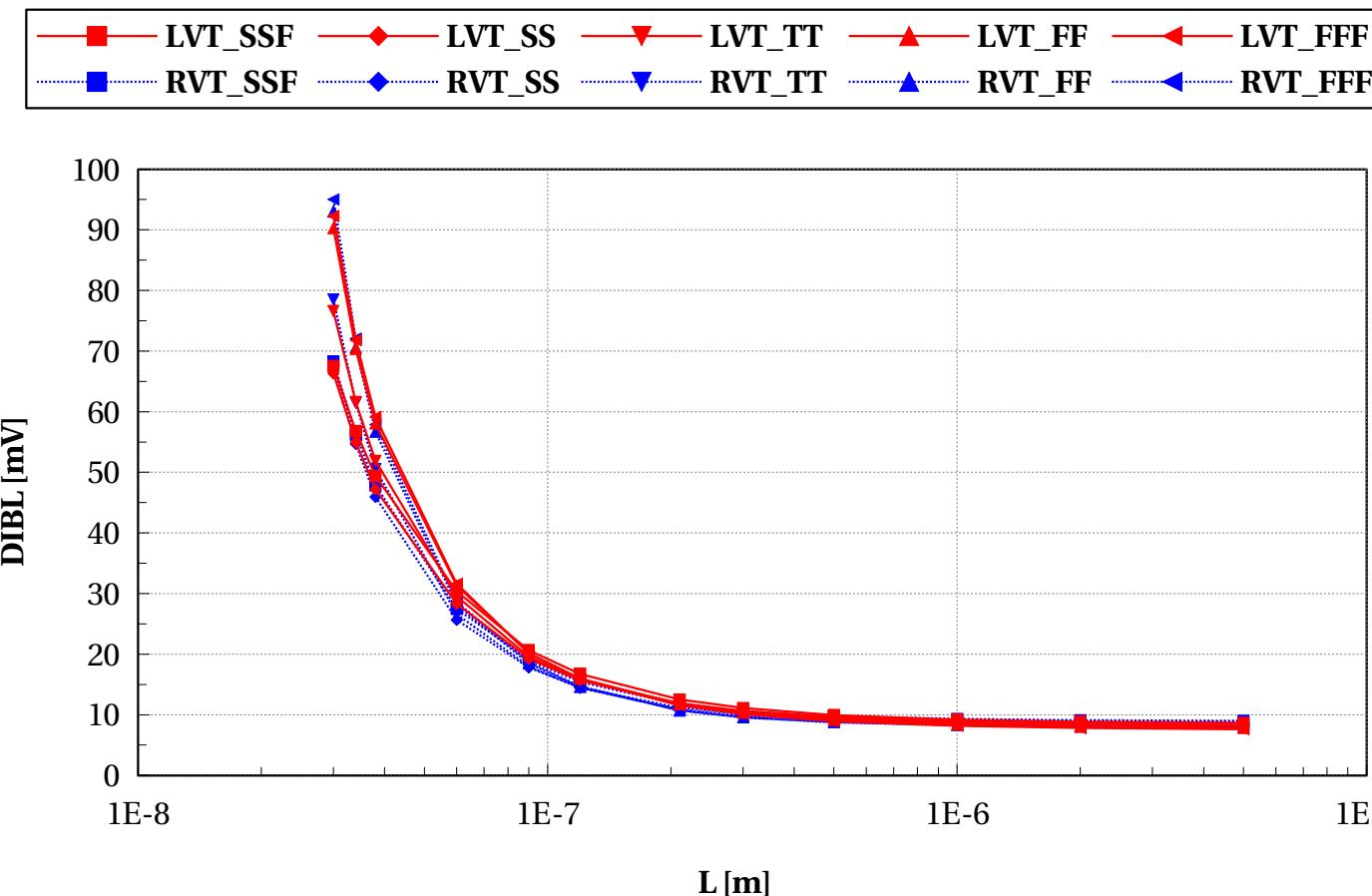
lvtnfet_acc, VtGmmax [mV] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



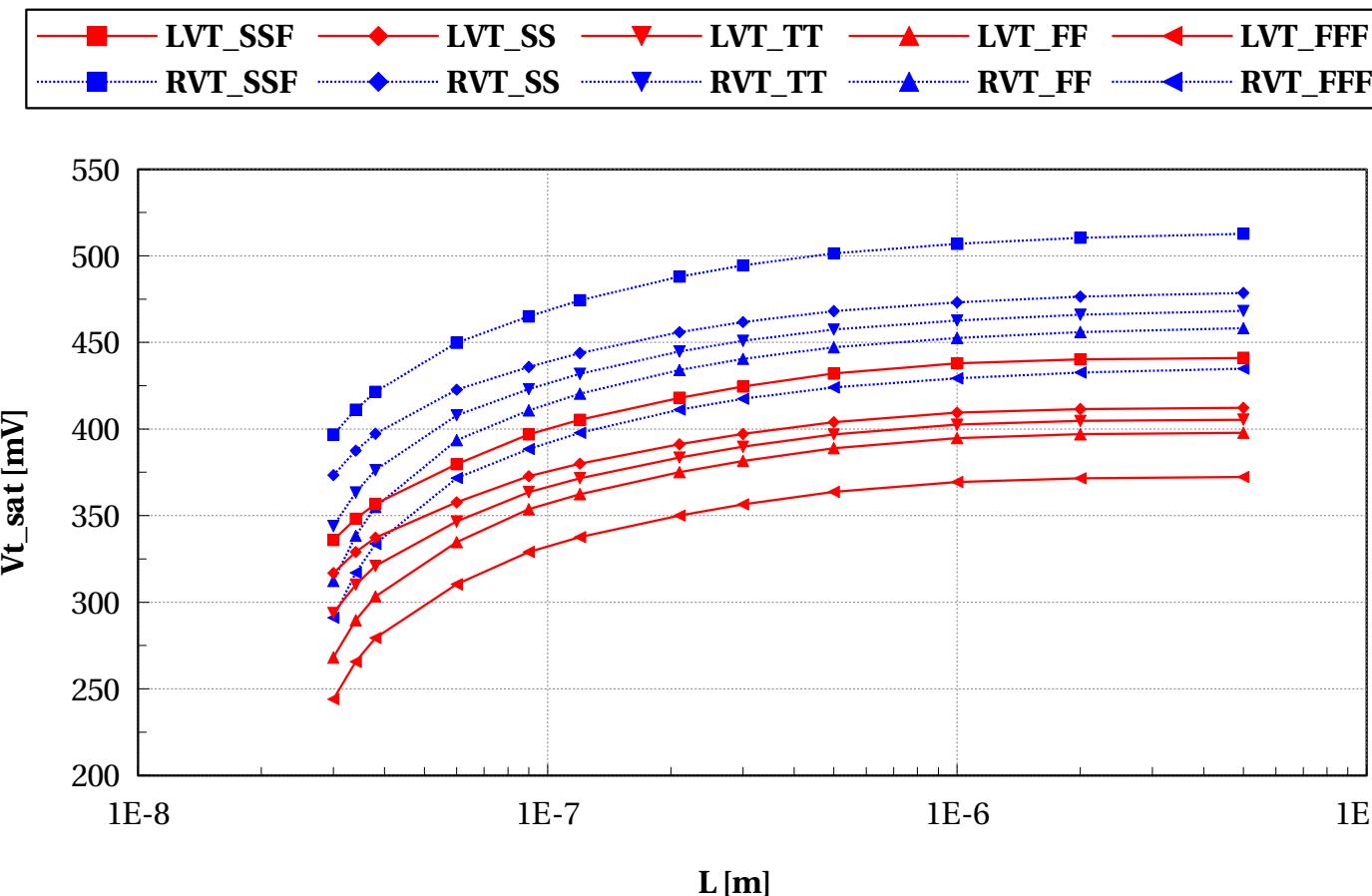
lvtnfet_acc, DIBL [mV] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



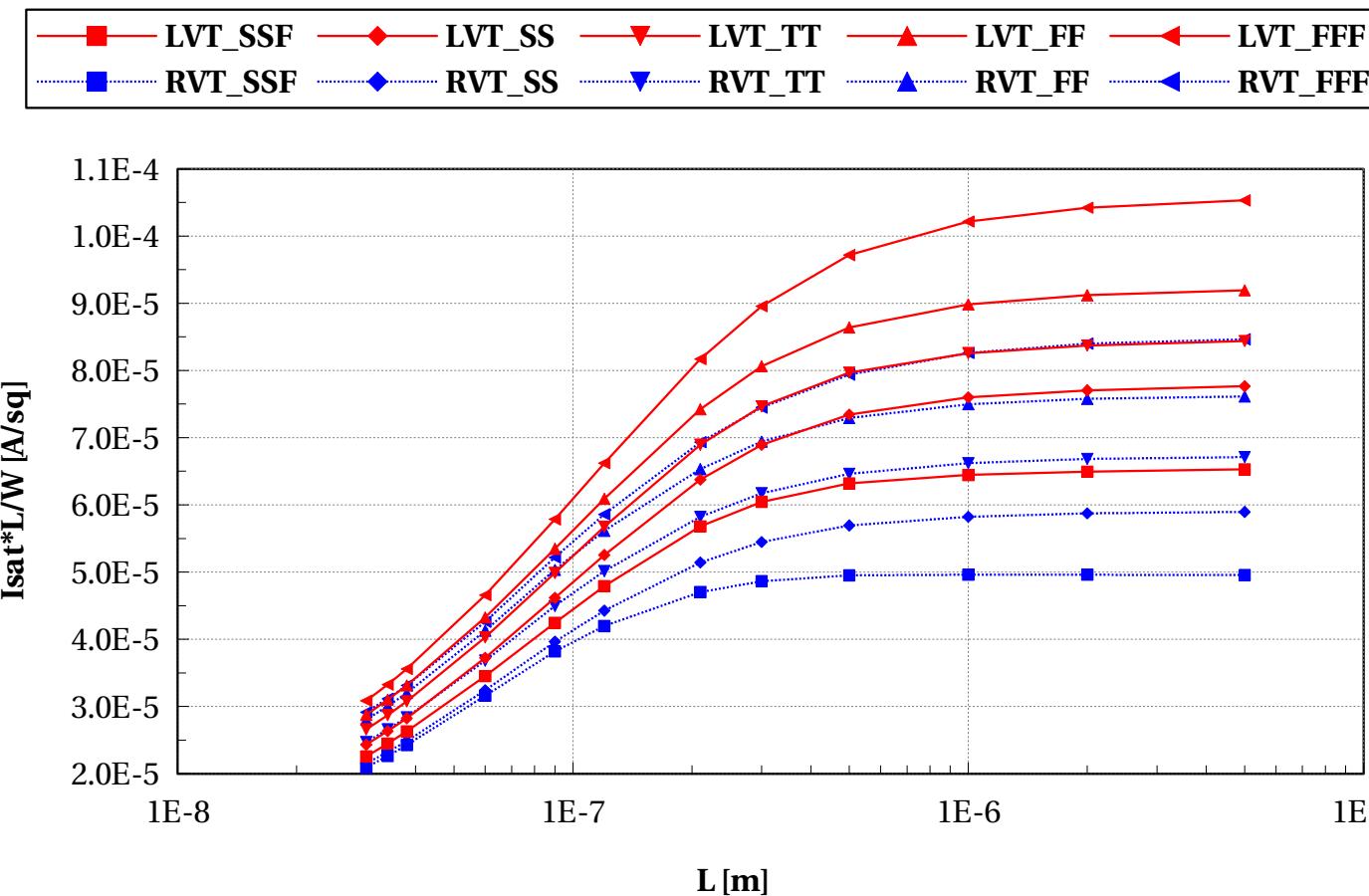
lvtnfet_acc, Vt_sat [mV] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



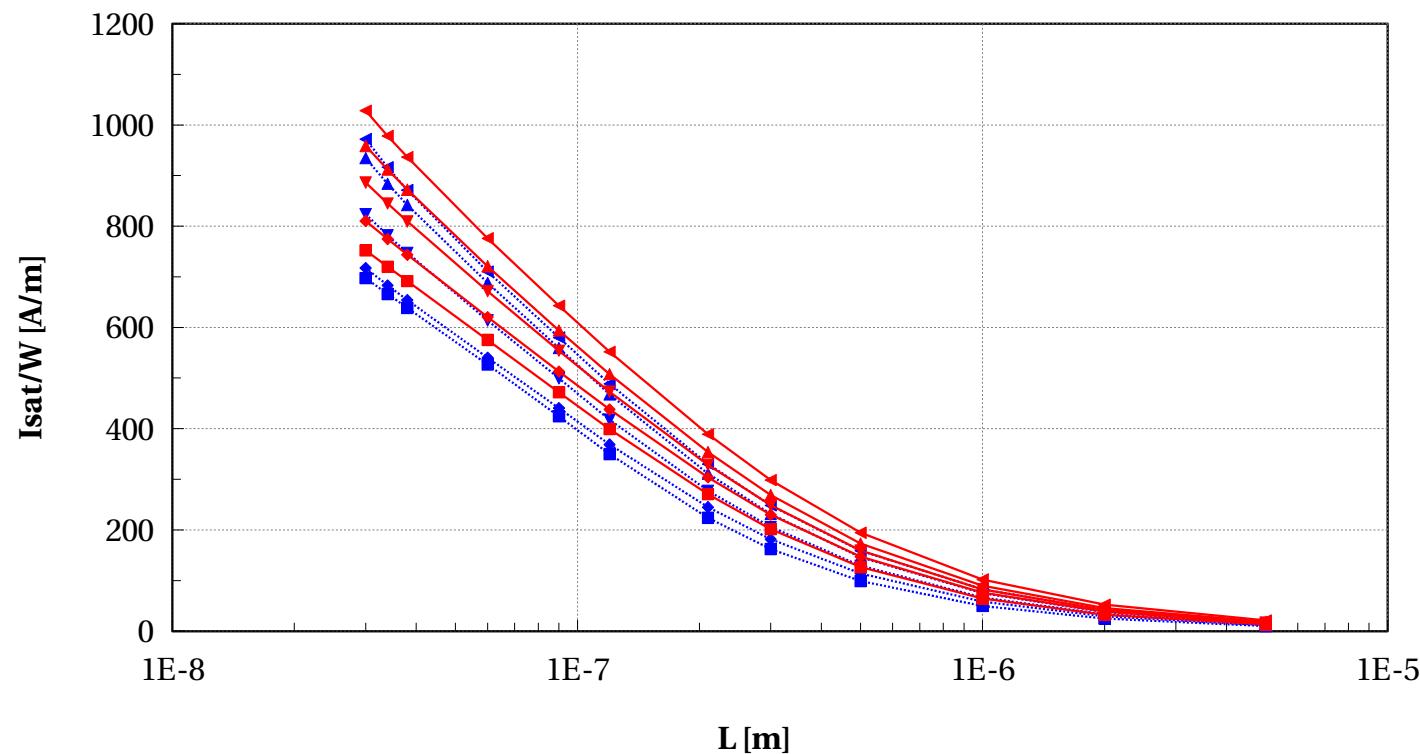
lvtnfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs L [m]

$w=0.210e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



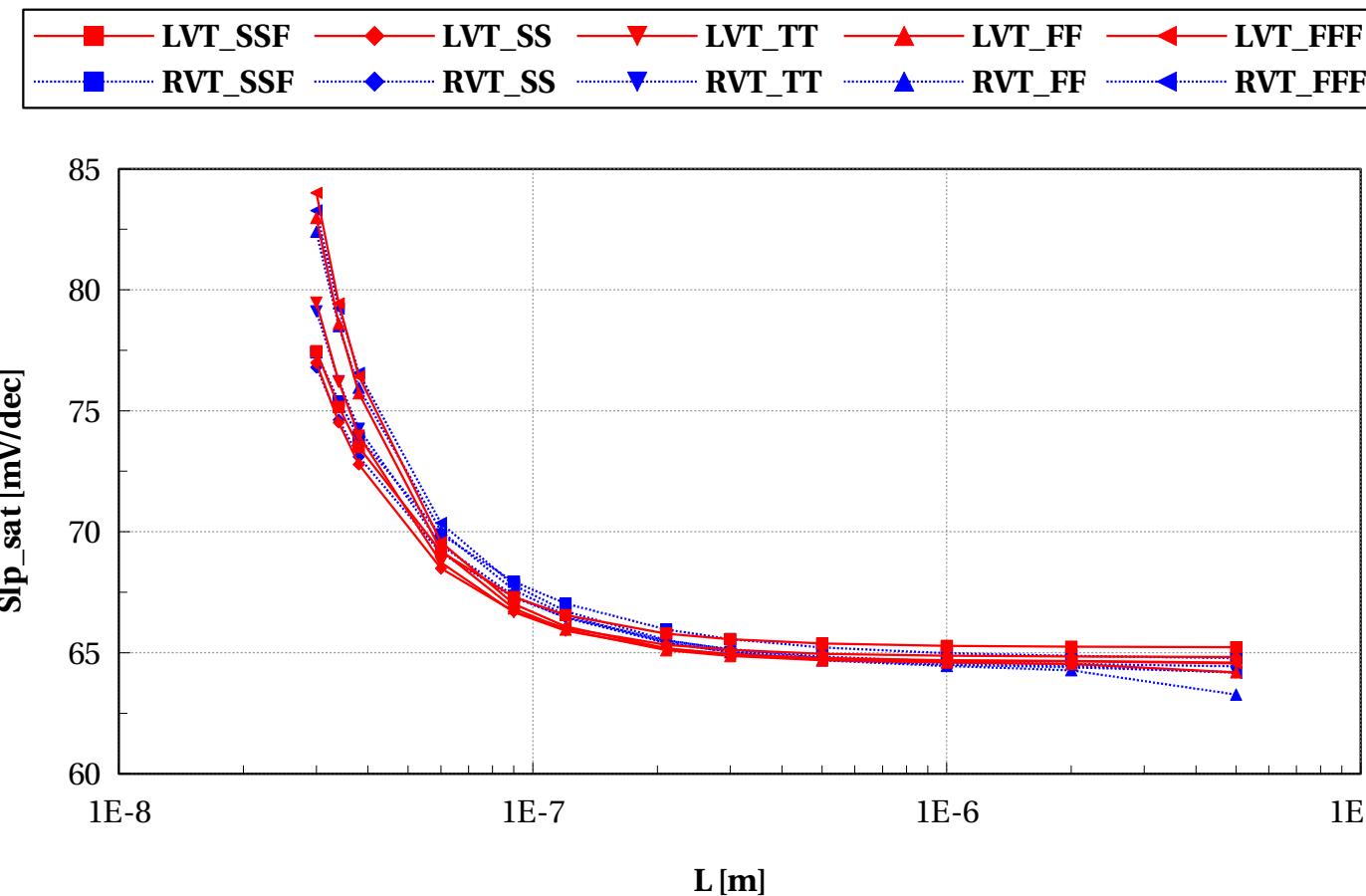
lvtnfet_acc, Isat/W [A/m] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



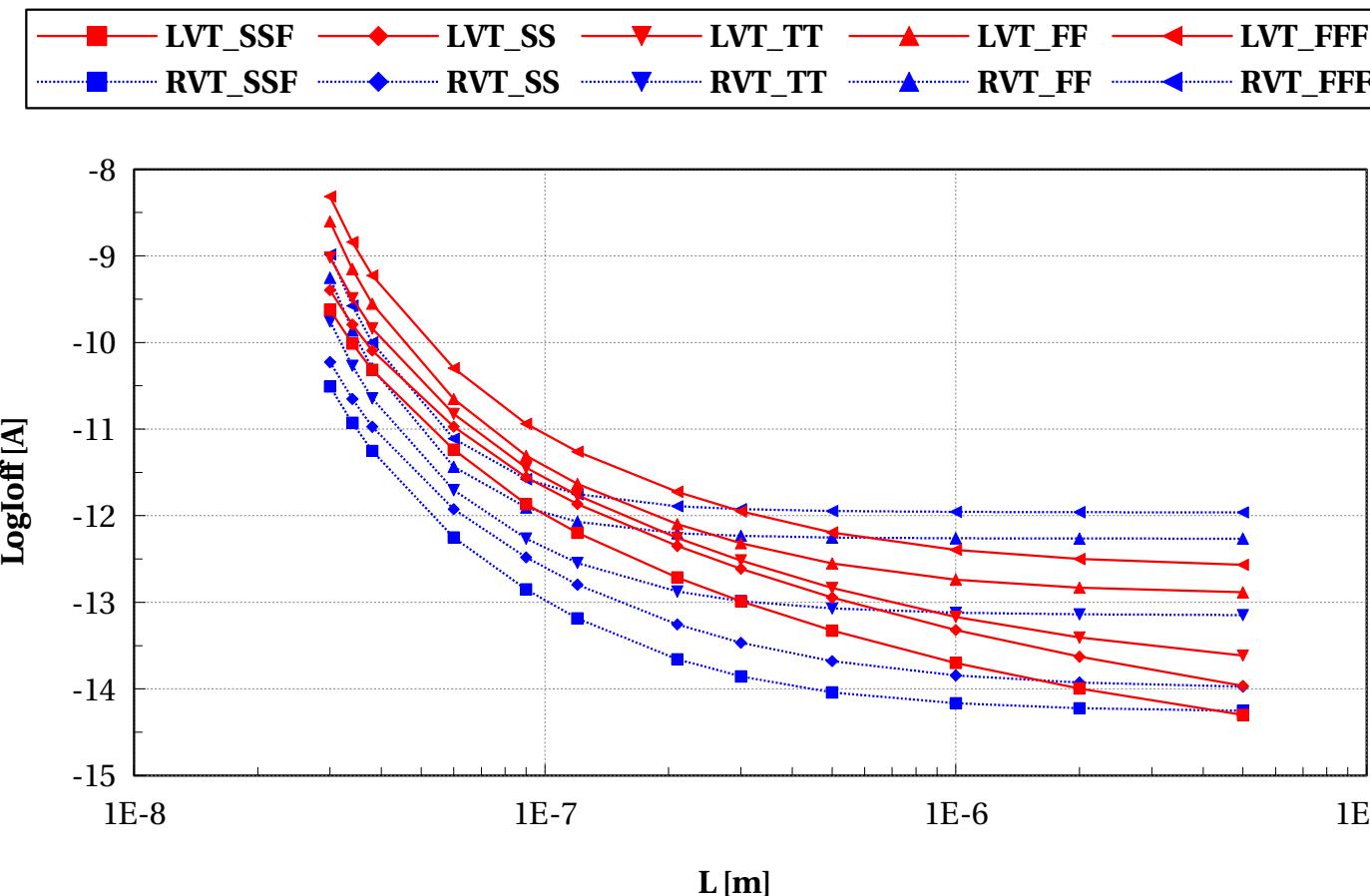
lvtnfet_acc, Slp_sat [mV/dec] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



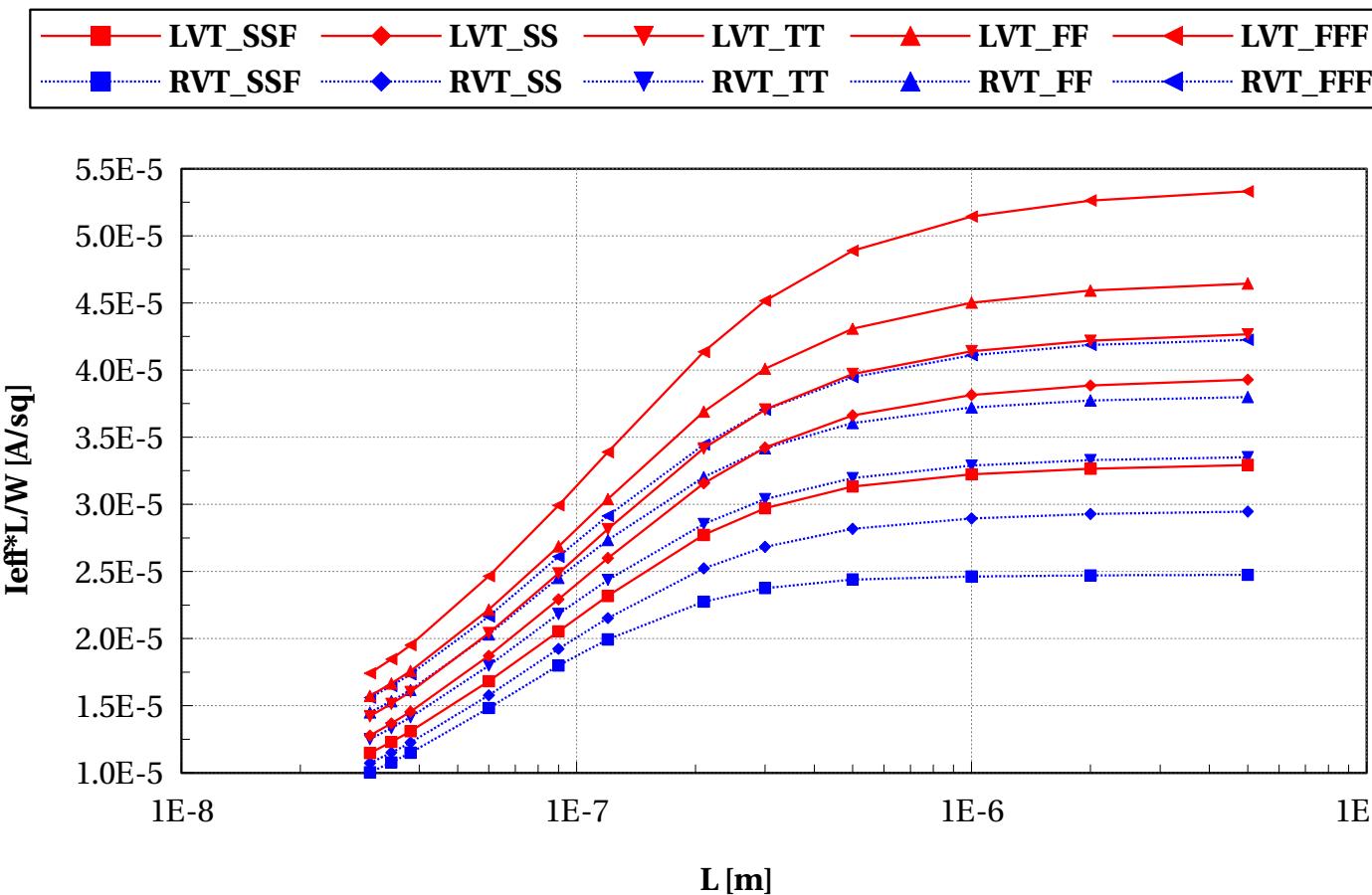
lvtnfet_acc, LogIoff [A] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



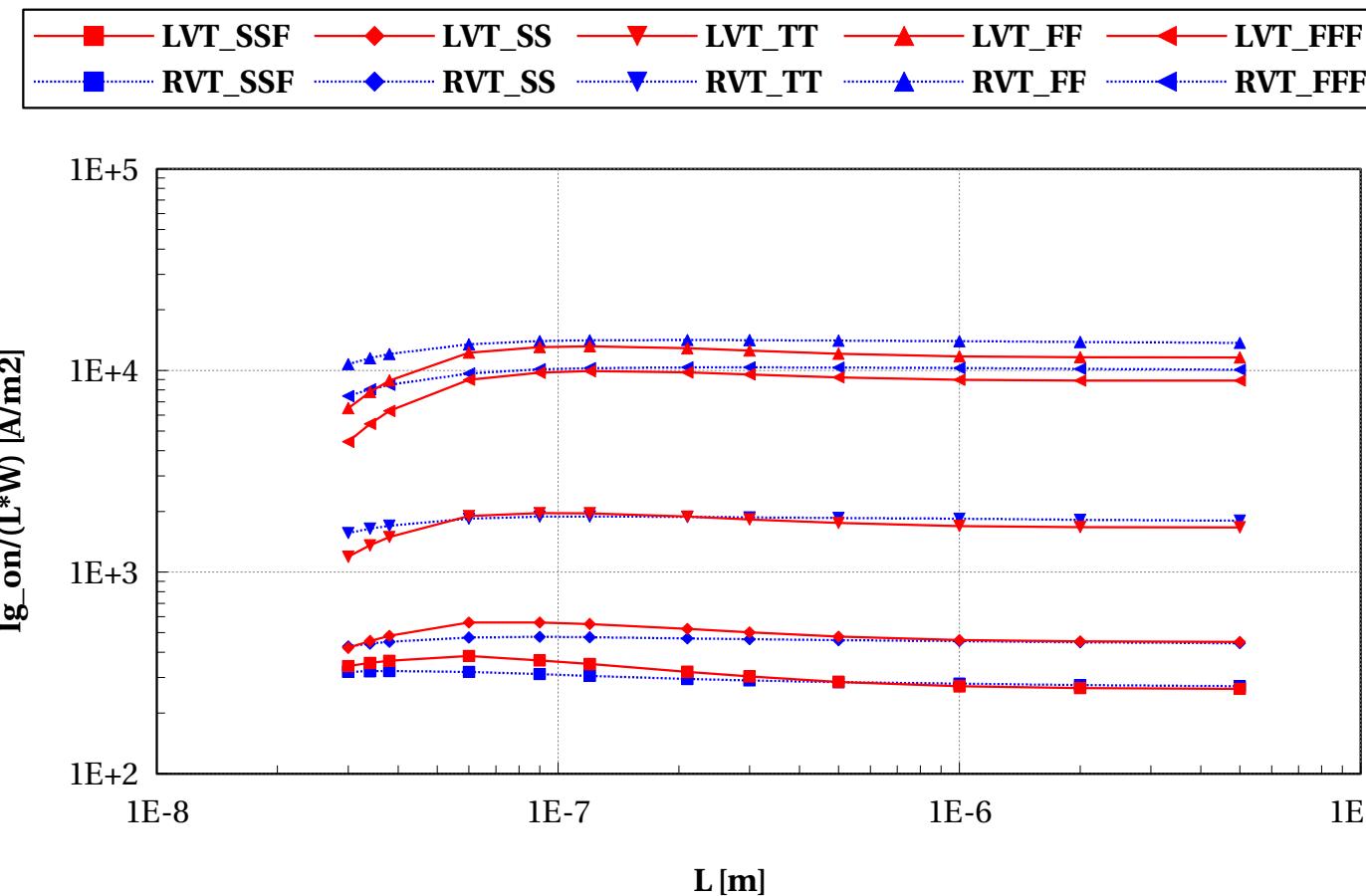
lvtnfet_acc, Ieff*L/W [A/sq] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



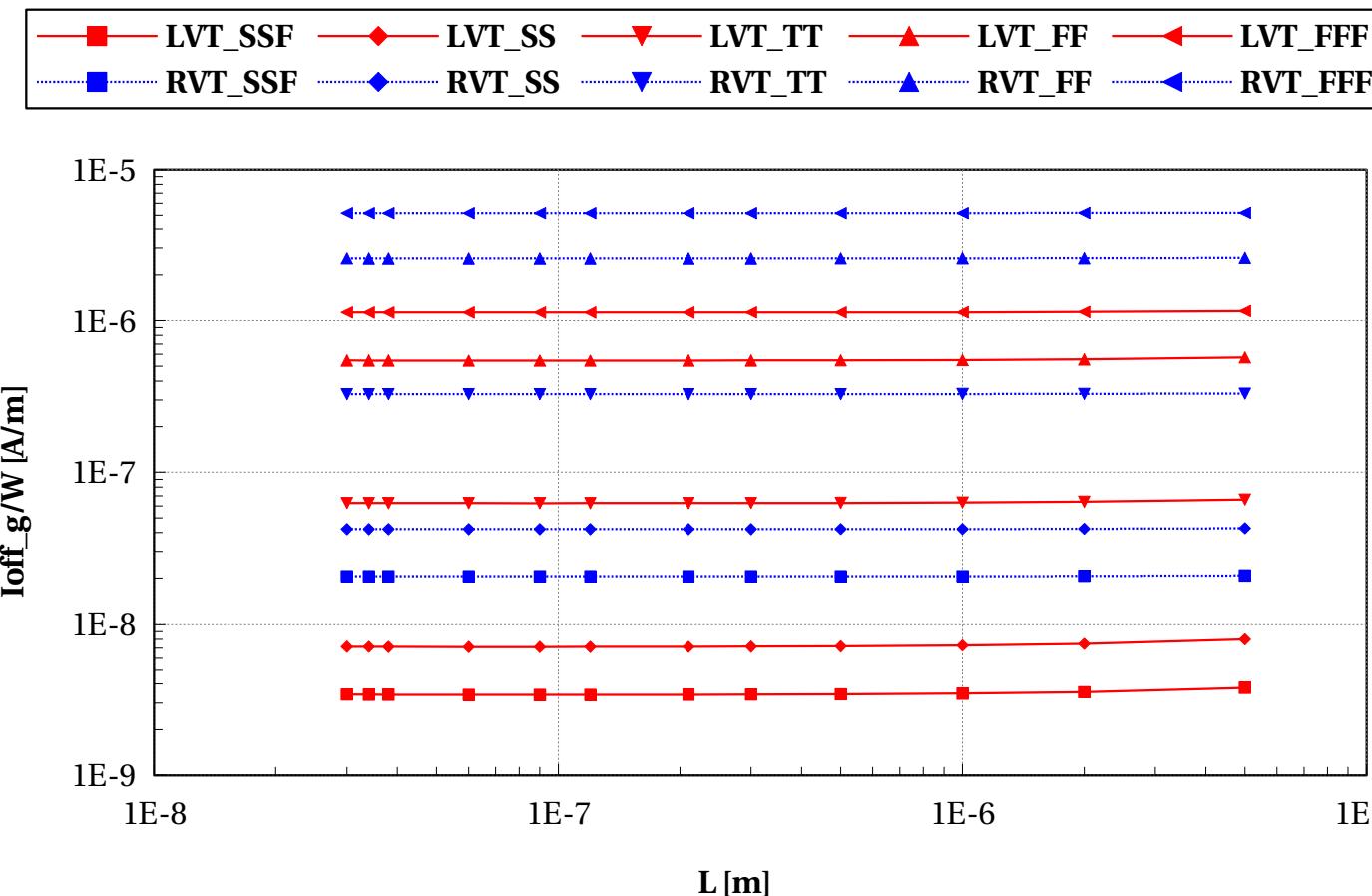
lvtnfet_acc, Ig_on/(L*W) [A/m2] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



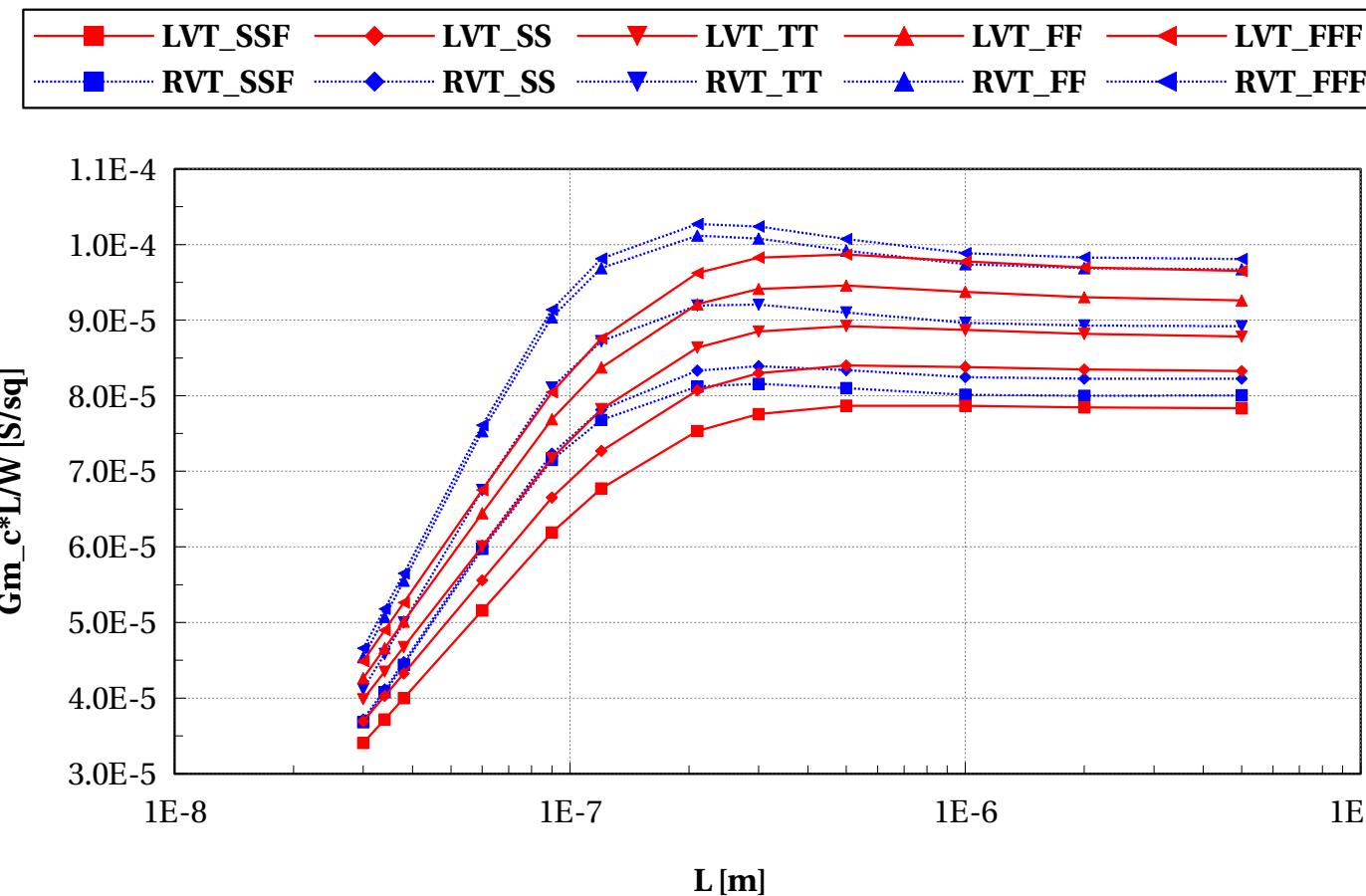
lvtnfet_acc, Ioff_g/W [A/m] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



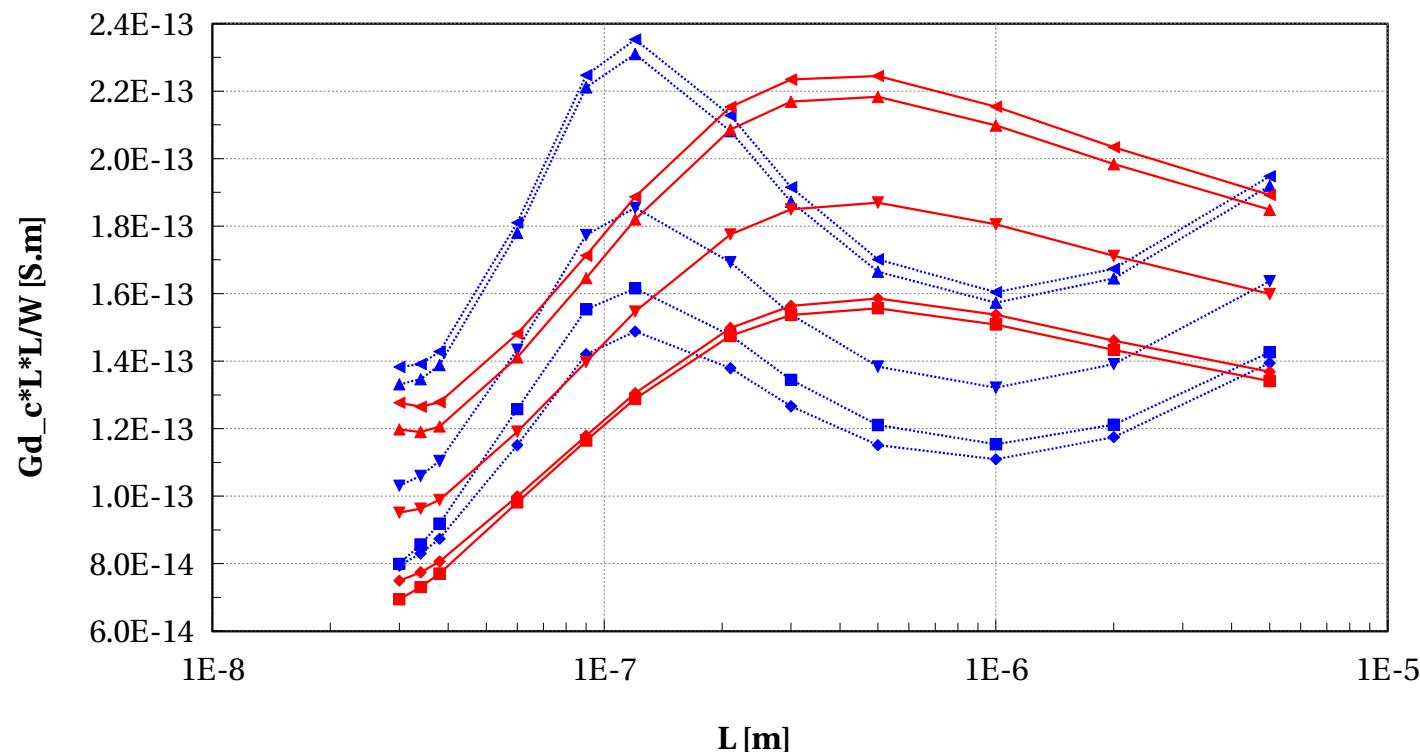
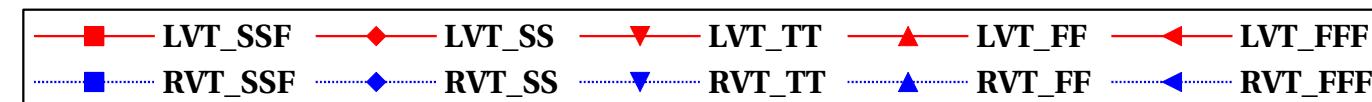
lvtnfet_acc, $Gm_c \cdot L/W$ [S/sq] vs L [m]

$w=0.210e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



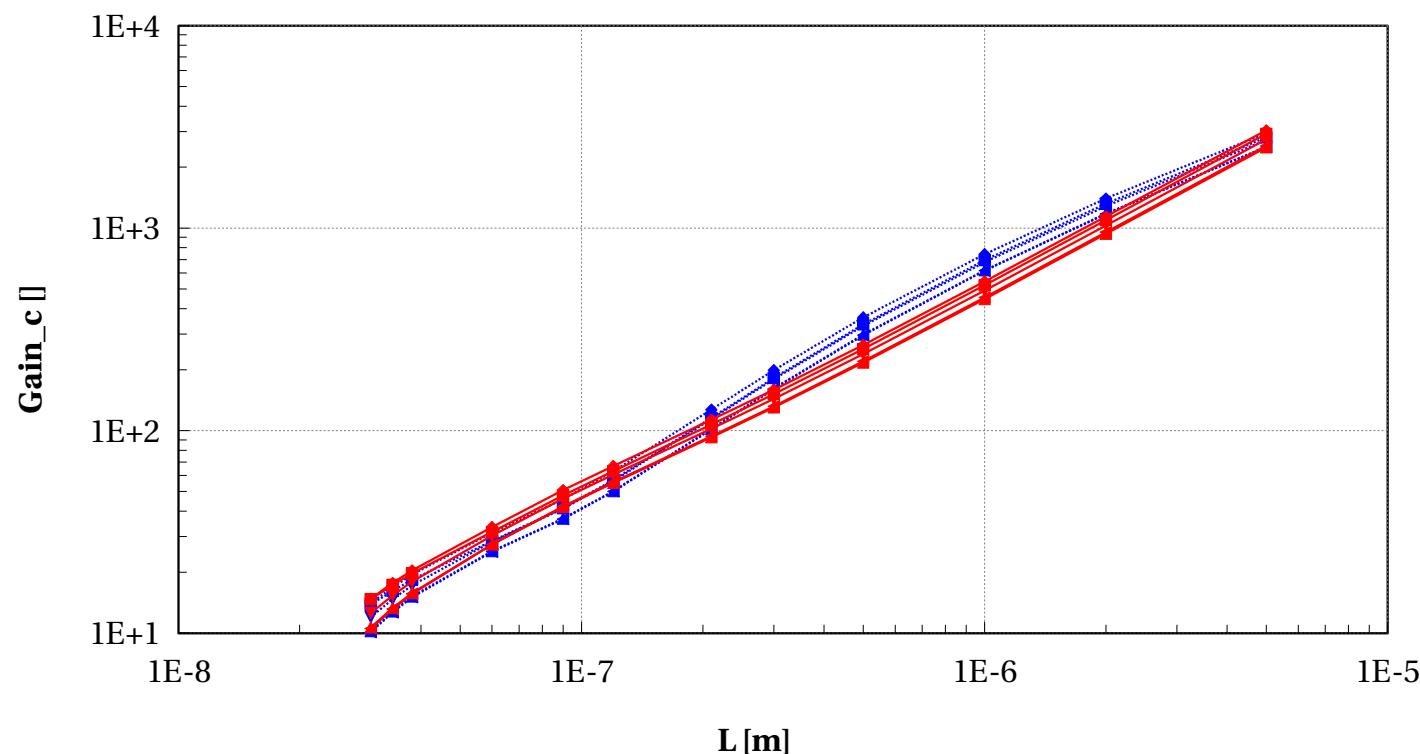
lvtnfet_acc, Gd_c*L*W [S.m] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



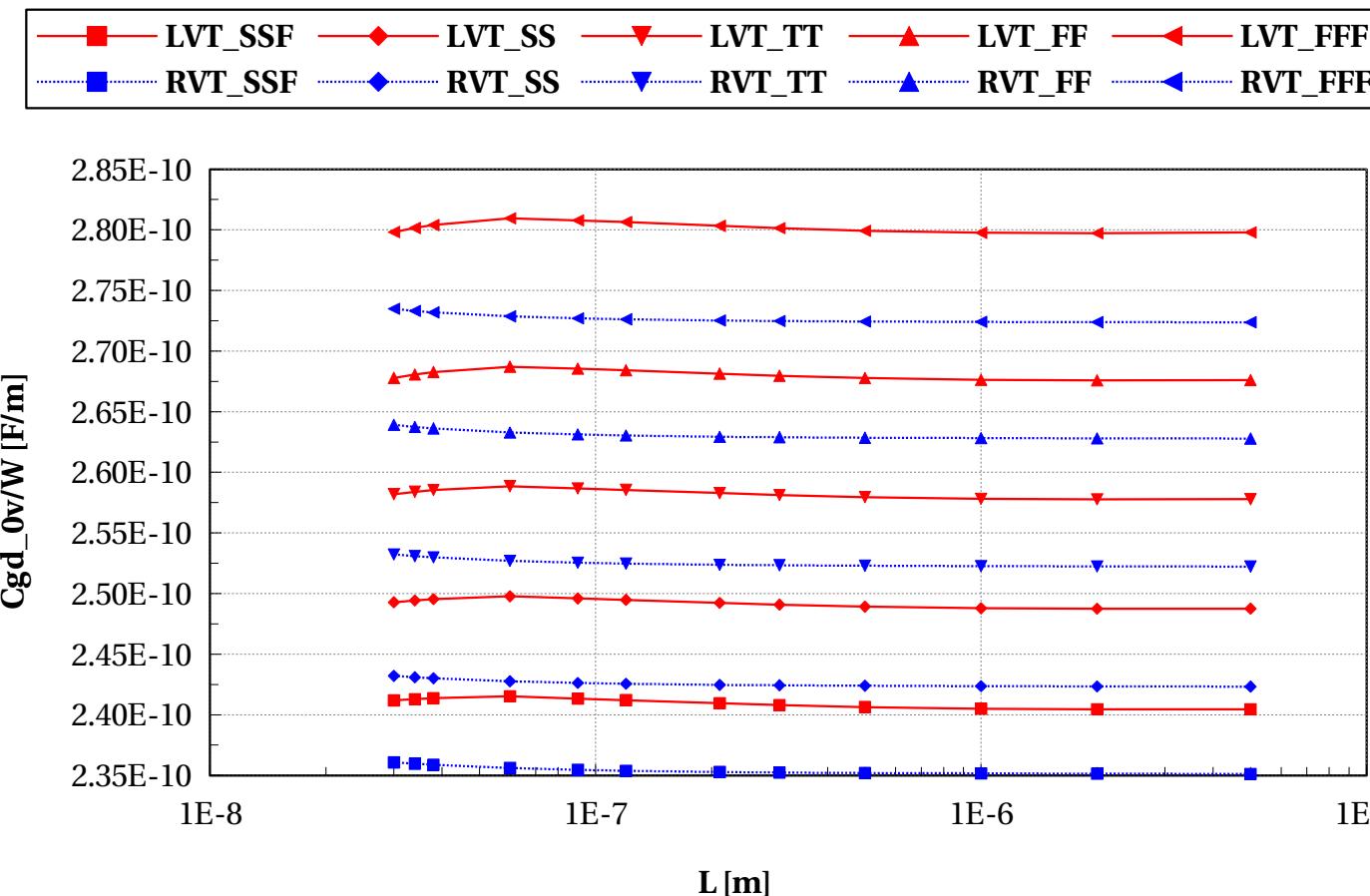
lvtnfet_acc, Gain_c [] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



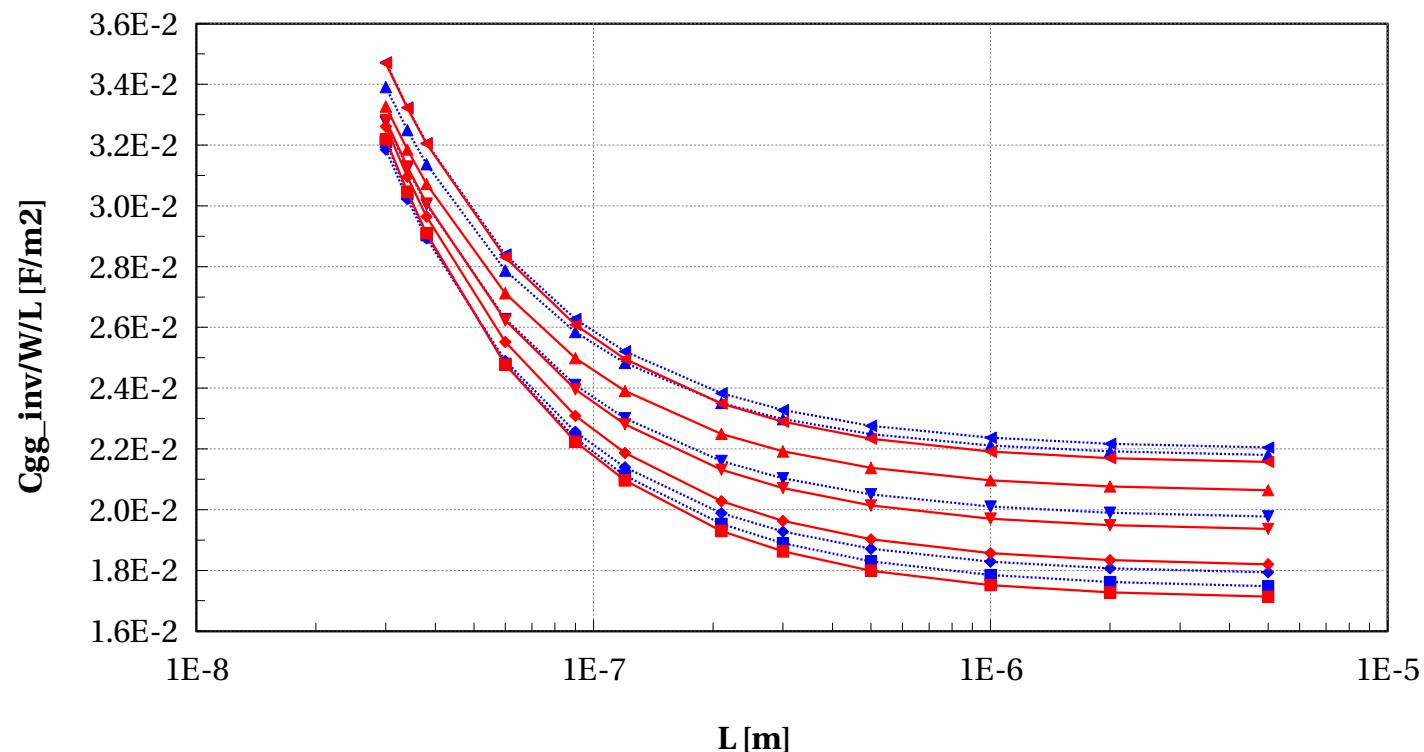
lvtnfet_acc, Cgd_0v/W [F/m] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



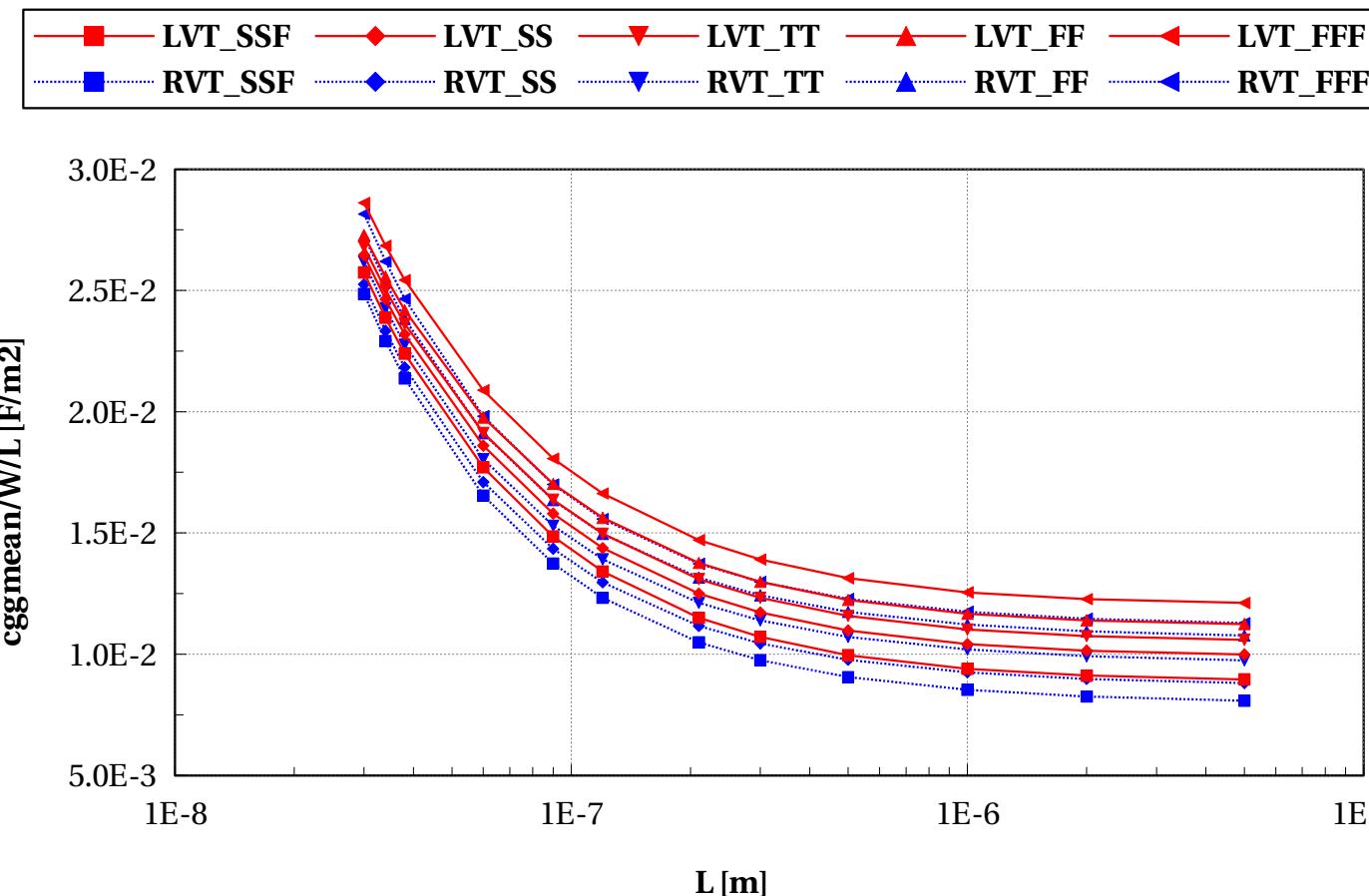
lvtnfet_acc, C_{gg}_inv/W/L [F/m²] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



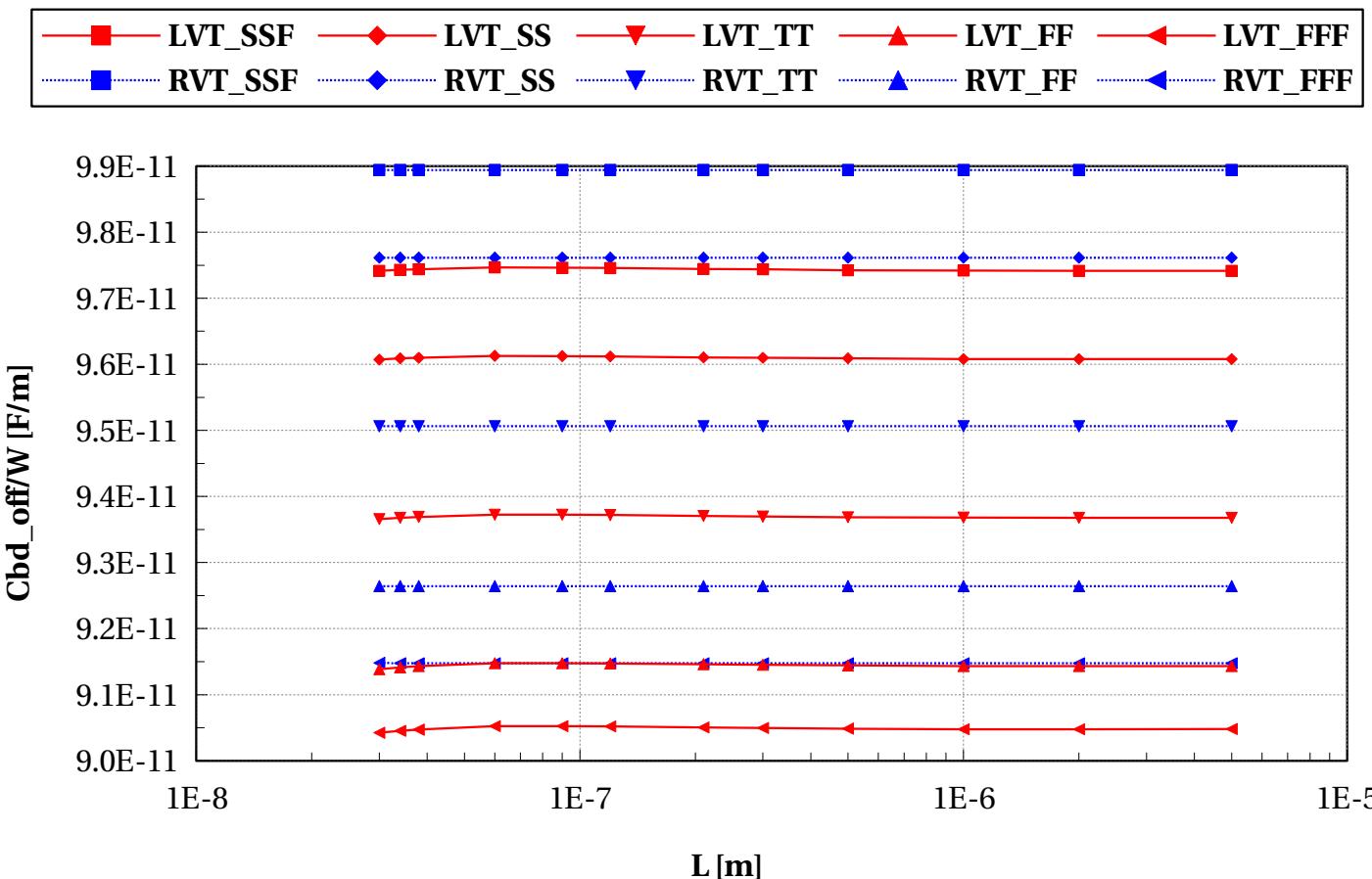
lvtnfet_acc, cggmean/W/L [F/m²] vs L [m]

w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



lvtnfet_acc, Cbd_off/W [F/m] vs L [m]

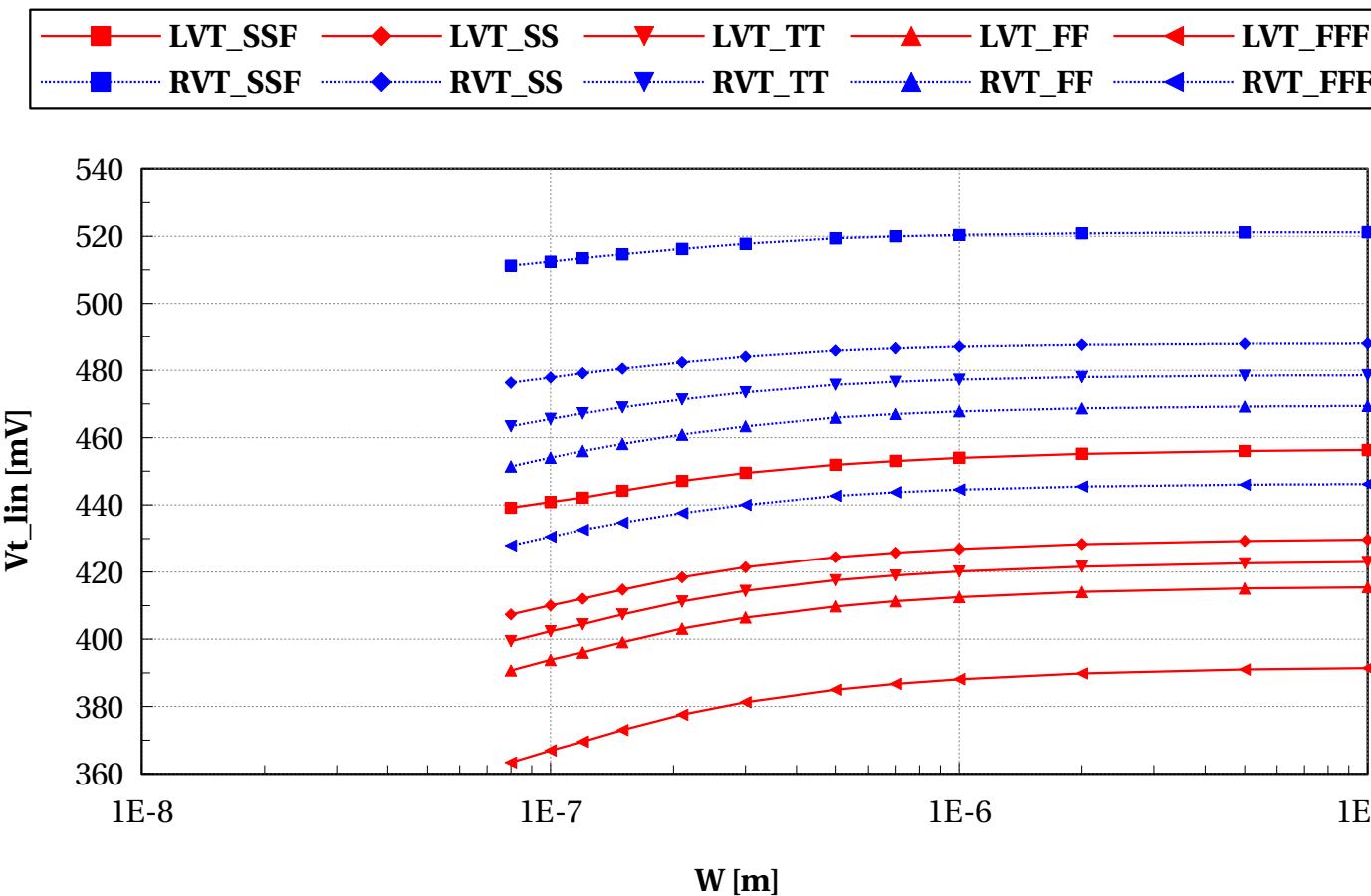
w==0.210e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



Scaling versus Width (L=1um)

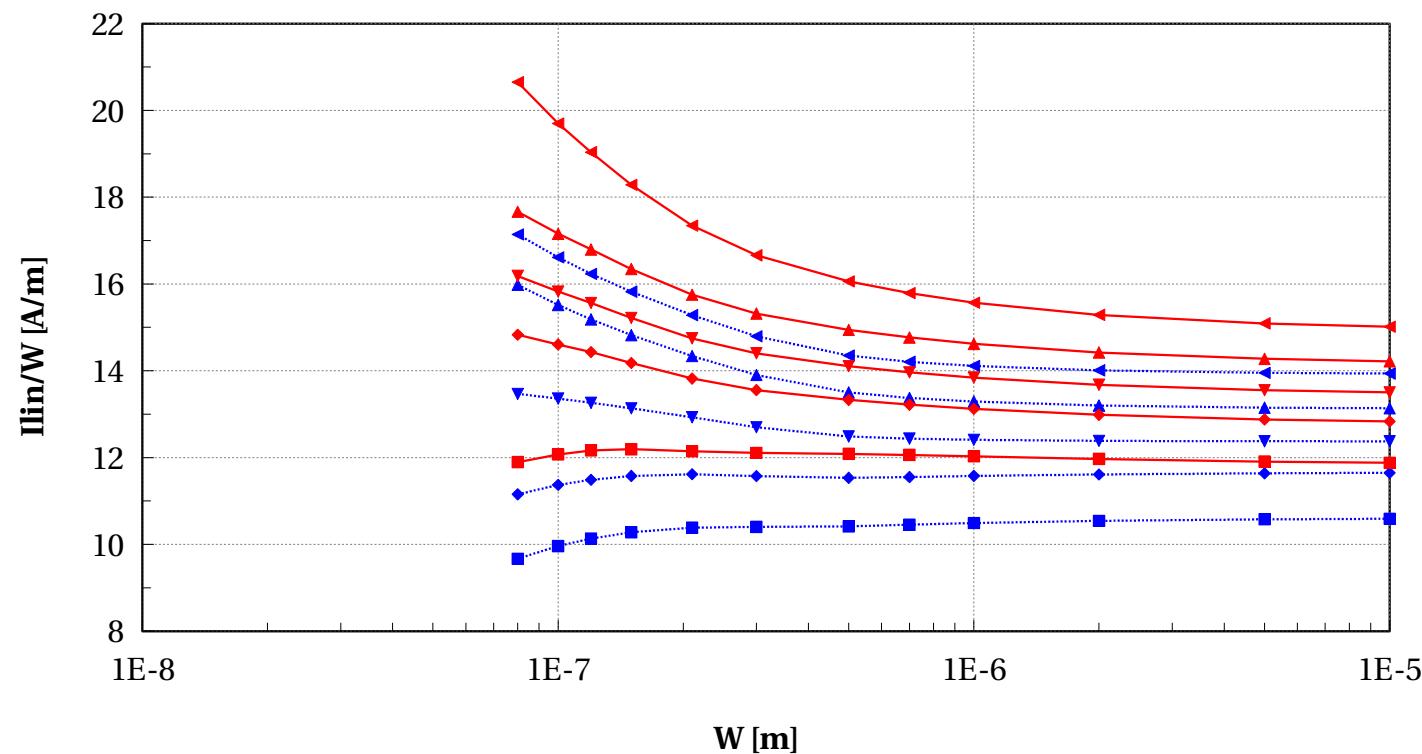
lvtnfet_acc, Vt_lin [mV] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



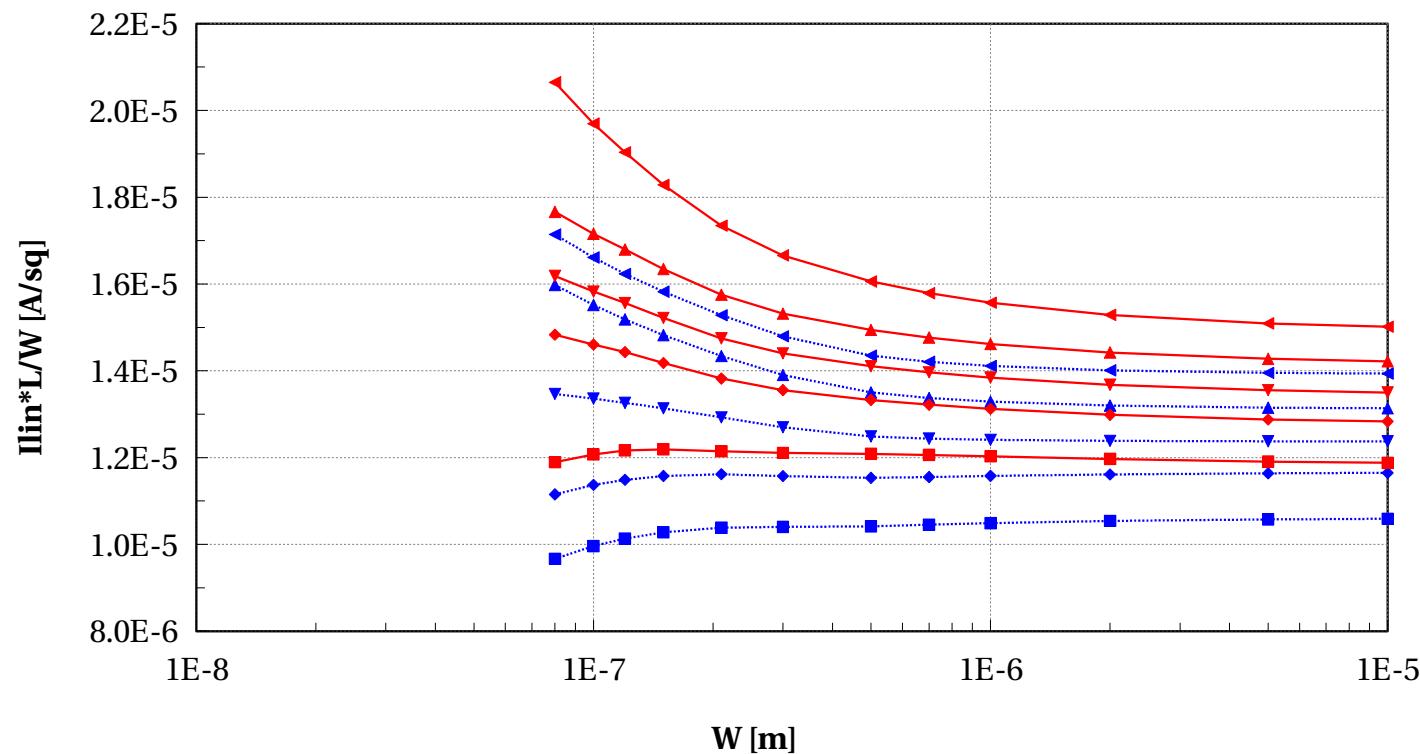
Ivtnfet_acc, Ilin/W [A/m] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



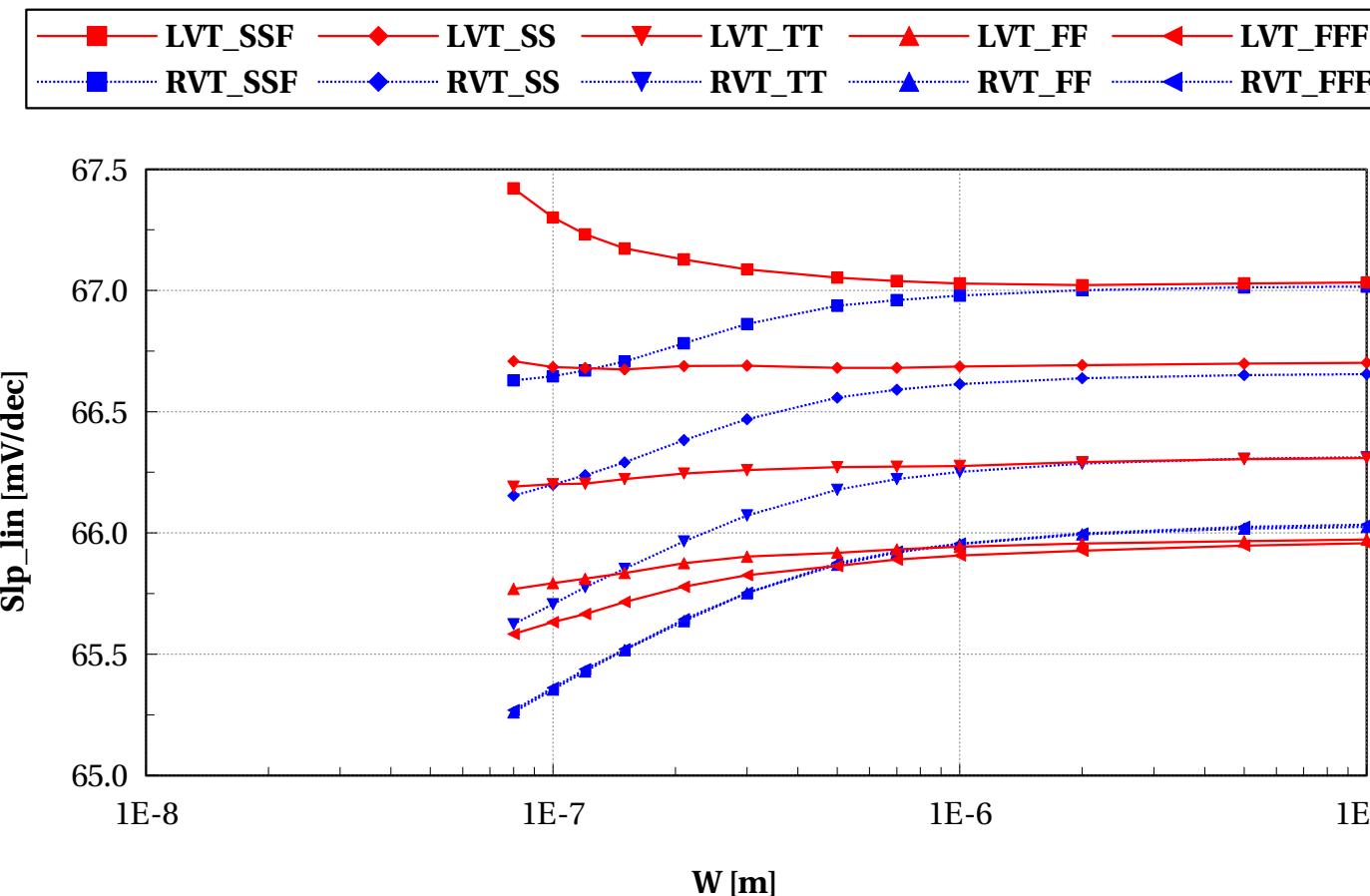
lvtnfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs W [m]

$I == 1e-6$ and $Temp == 25$ and $p_la == 0$ and $devType == "PCELLwoWPE"$



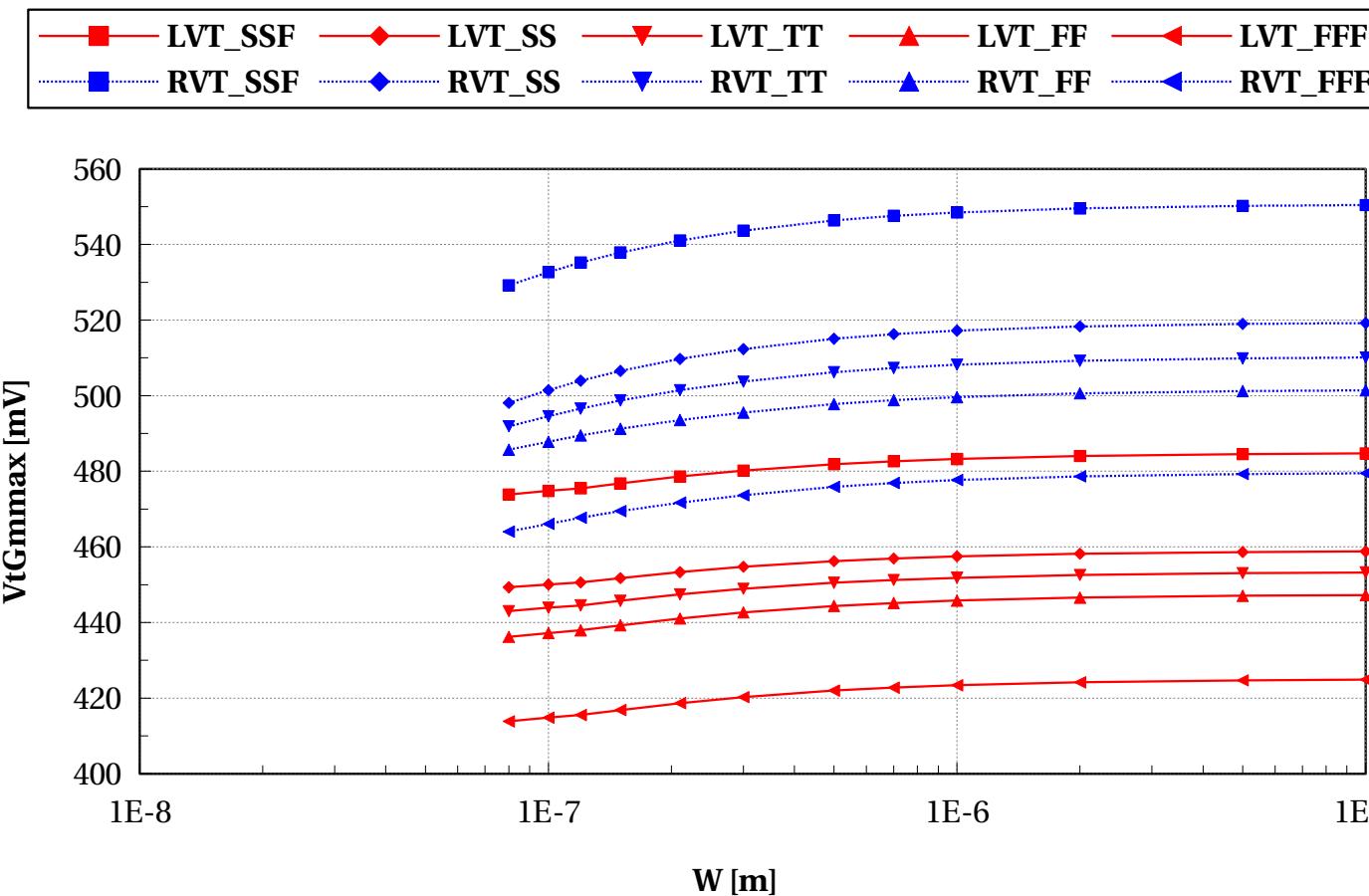
lvtnfet_acc, Slp_lin [mV/dec] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



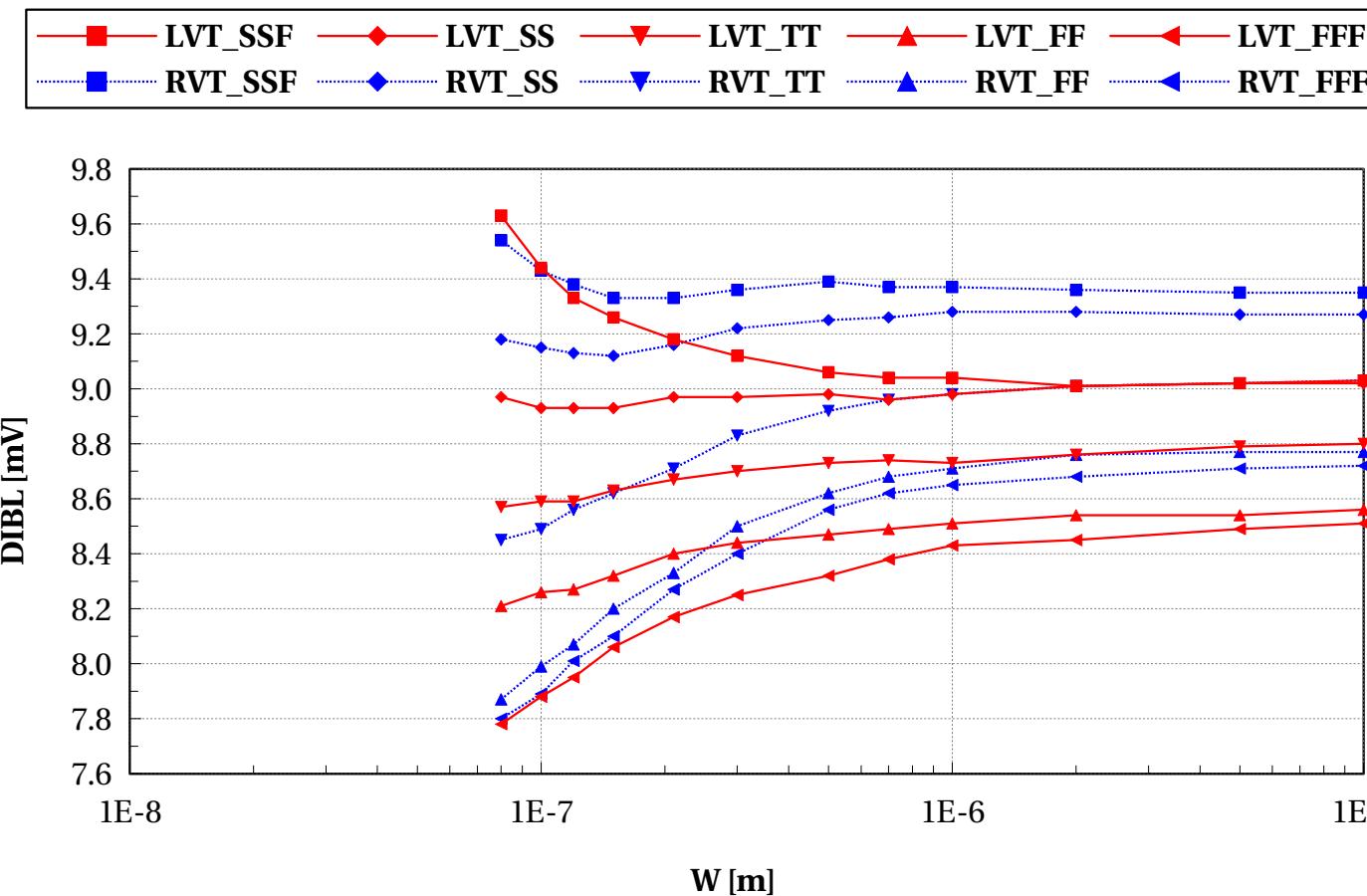
lvtnfet_acc, VtGmmax [mV] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



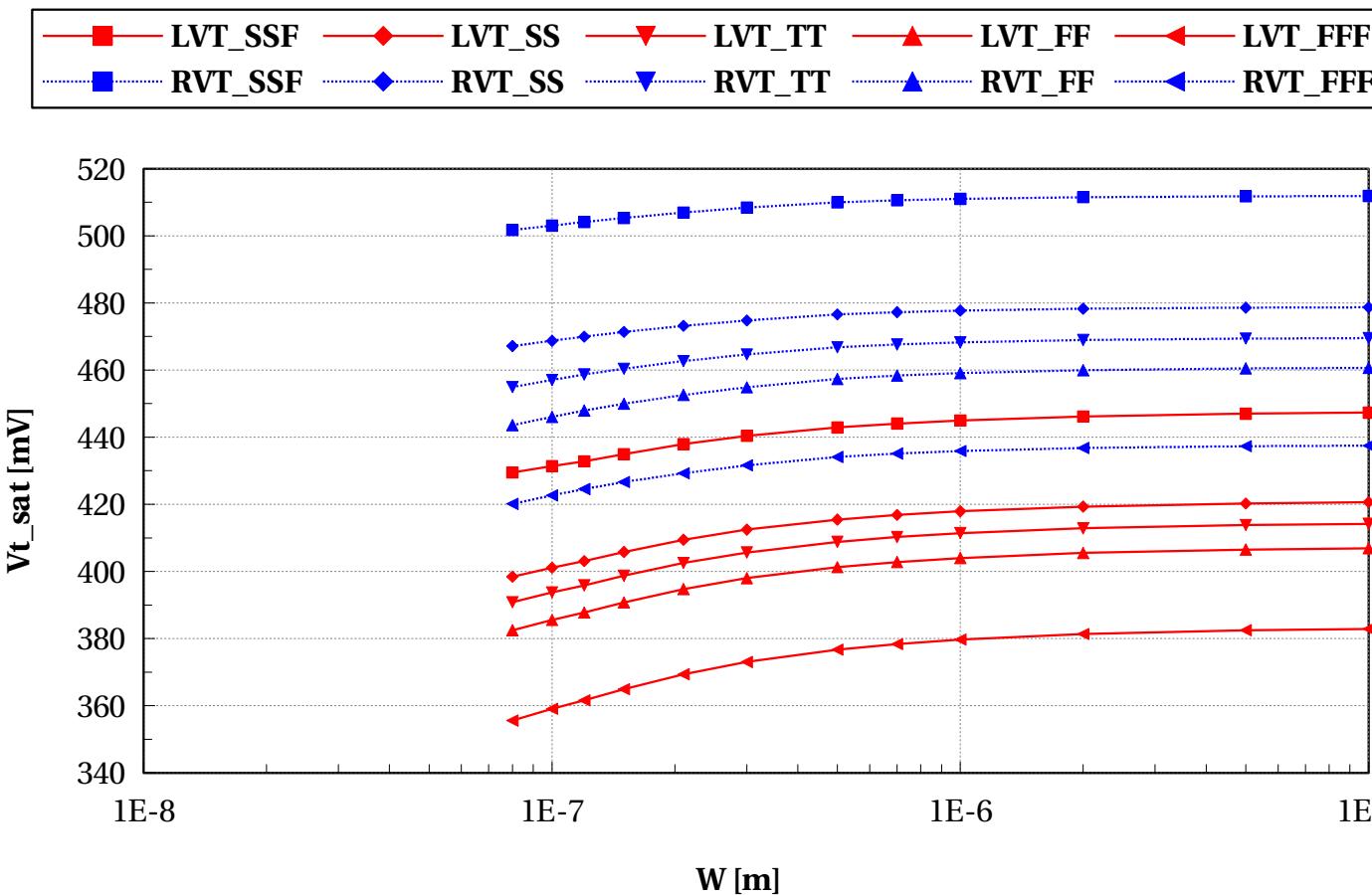
lvtnfet_acc, DIBL [mV] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



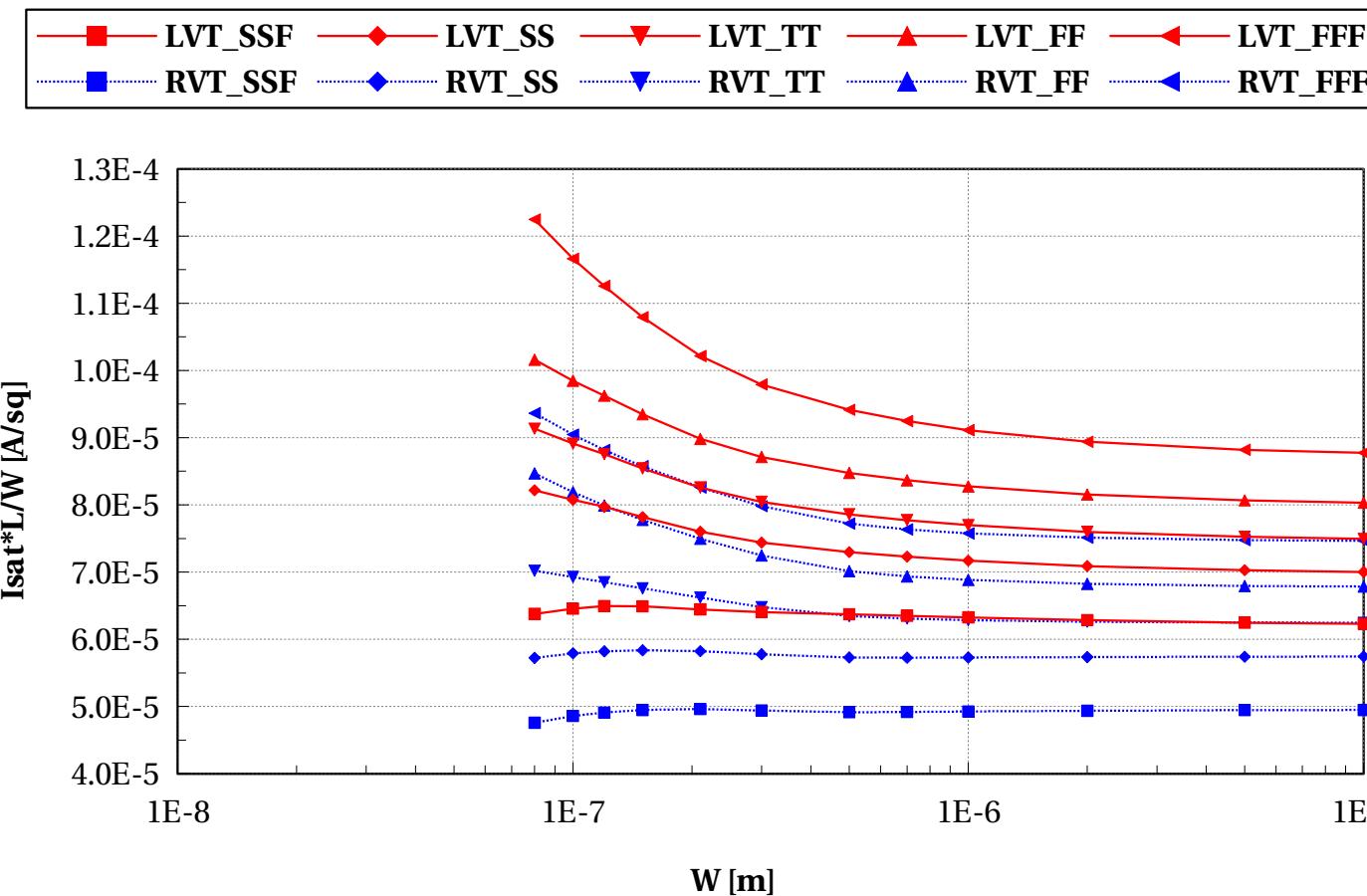
lvtnfet_acc, Vt_sat [mV] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



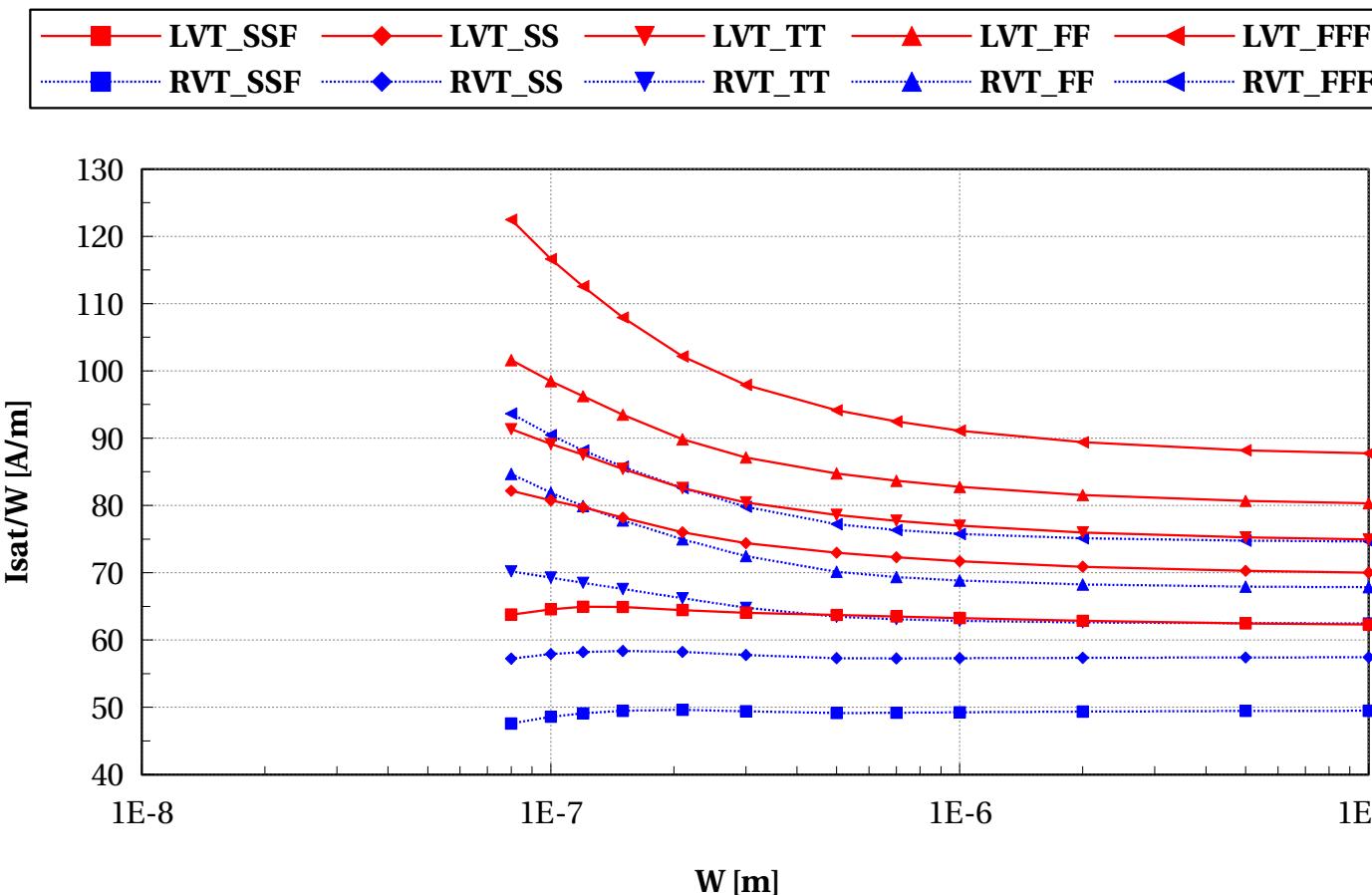
lvtnfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs W [m]

$I=1e-6$ and Temp=25 and p_la==0 and devType=="PCELLwoWPE"



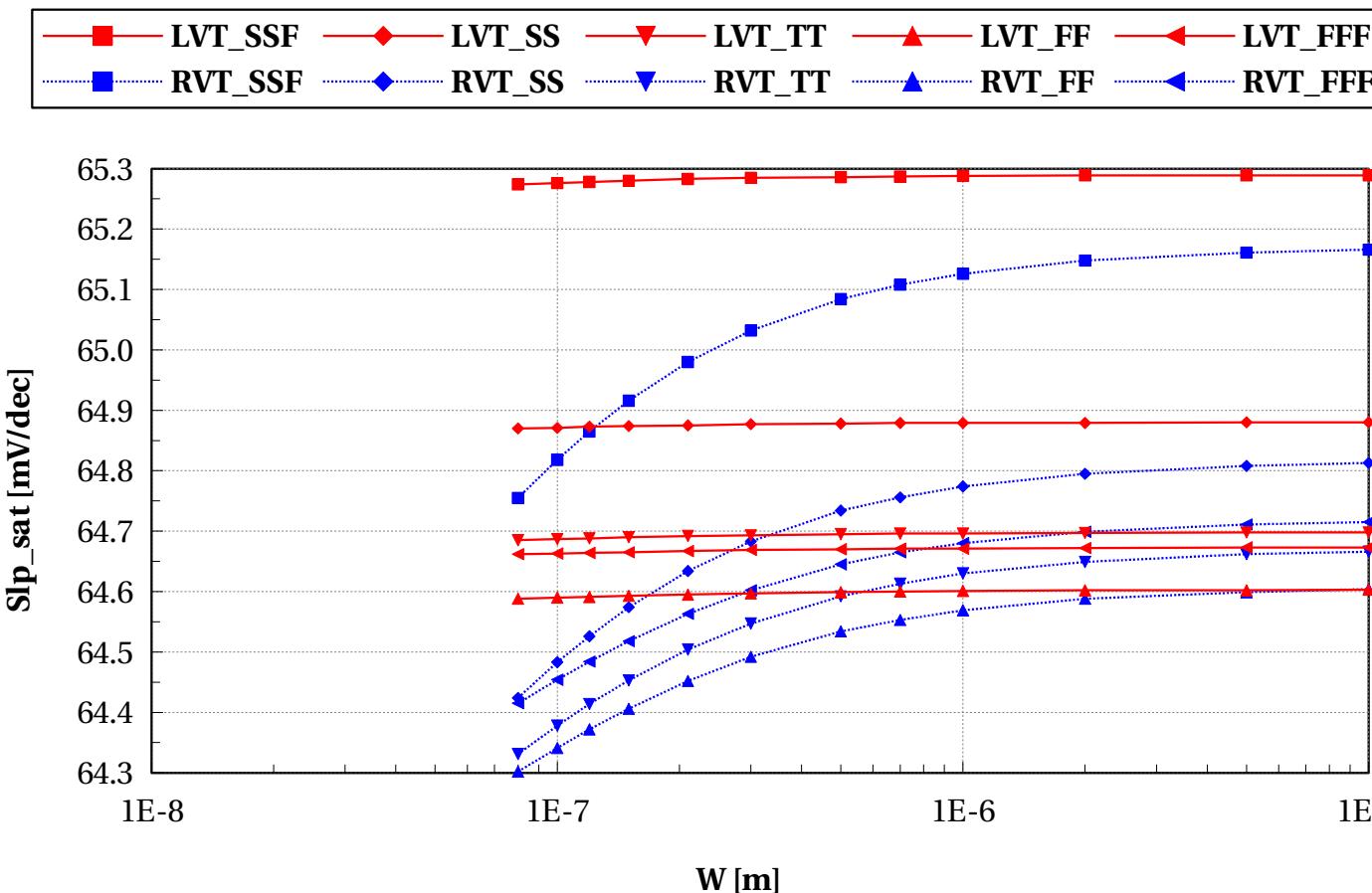
lvtnfet_acc, Isat/W [A/m] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



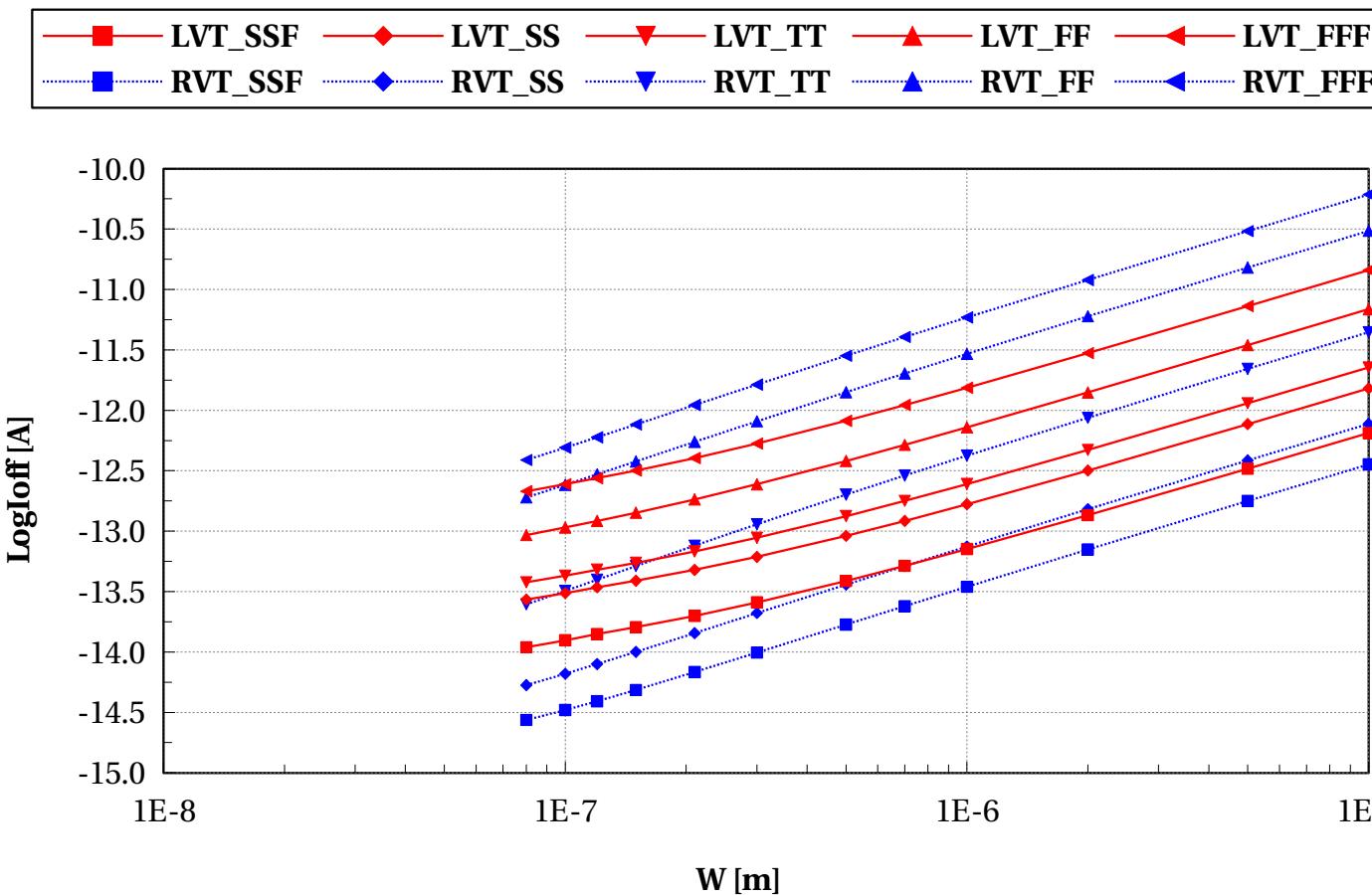
lvtnfet_acc, Slp_sat [mV/dec] vs W [m]

$I=1e-6$ and Temp=25 and p_la==0 and devType=="PCELLwoWPE"



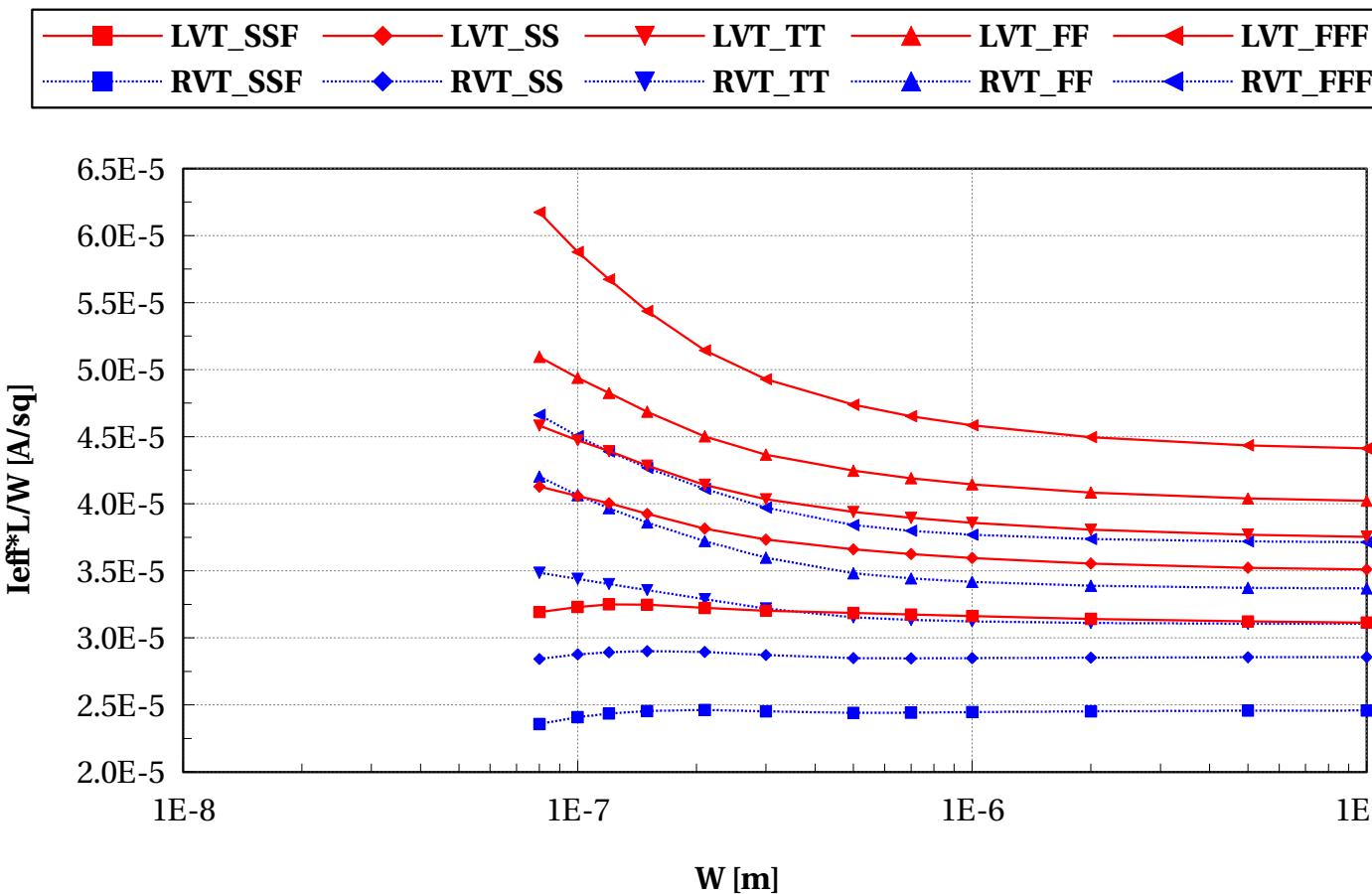
lvtnfet_acc, LogIoff [A] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



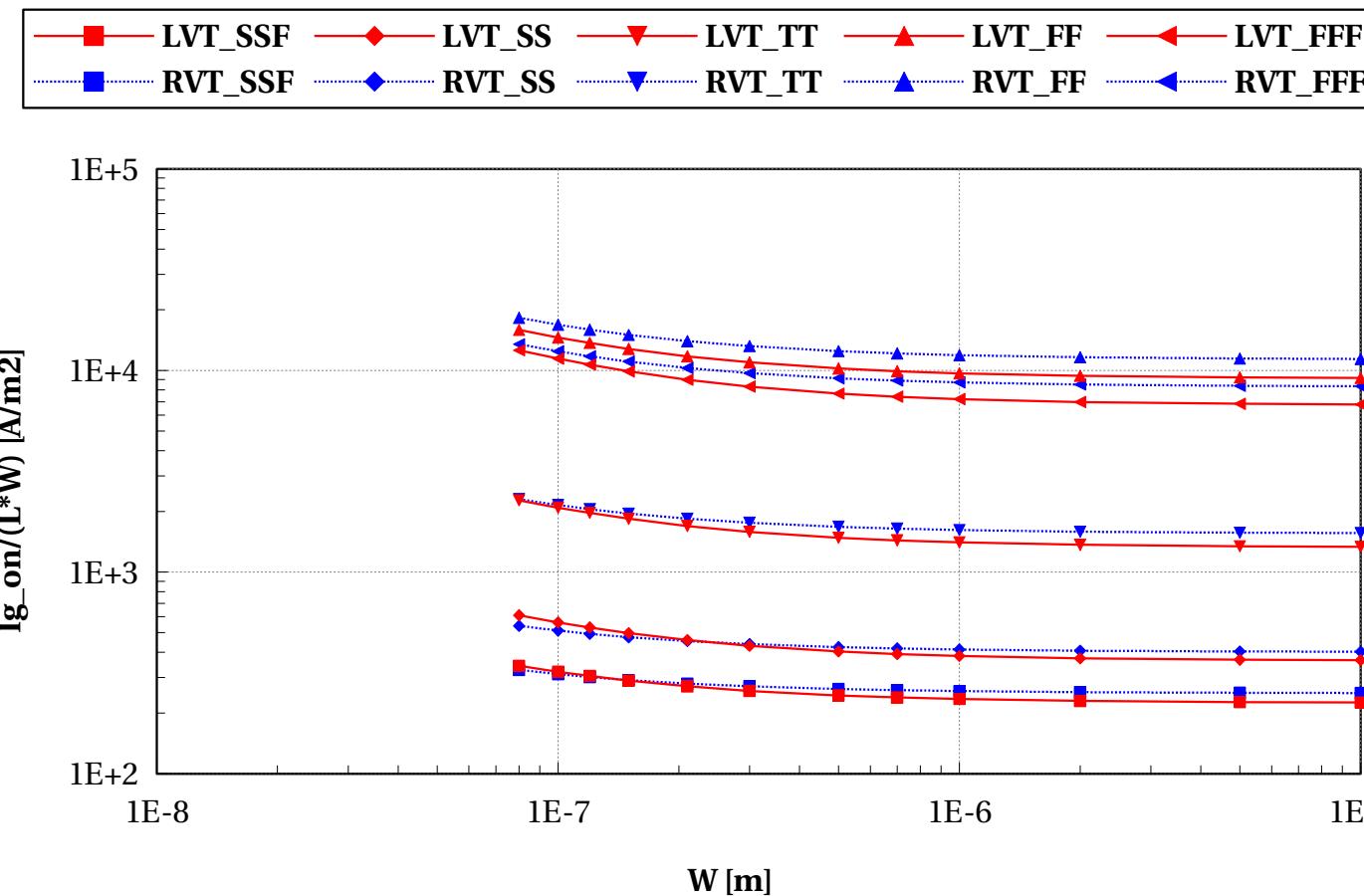
Ivtnfet_acc, Ieff*L/W [A/sq] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



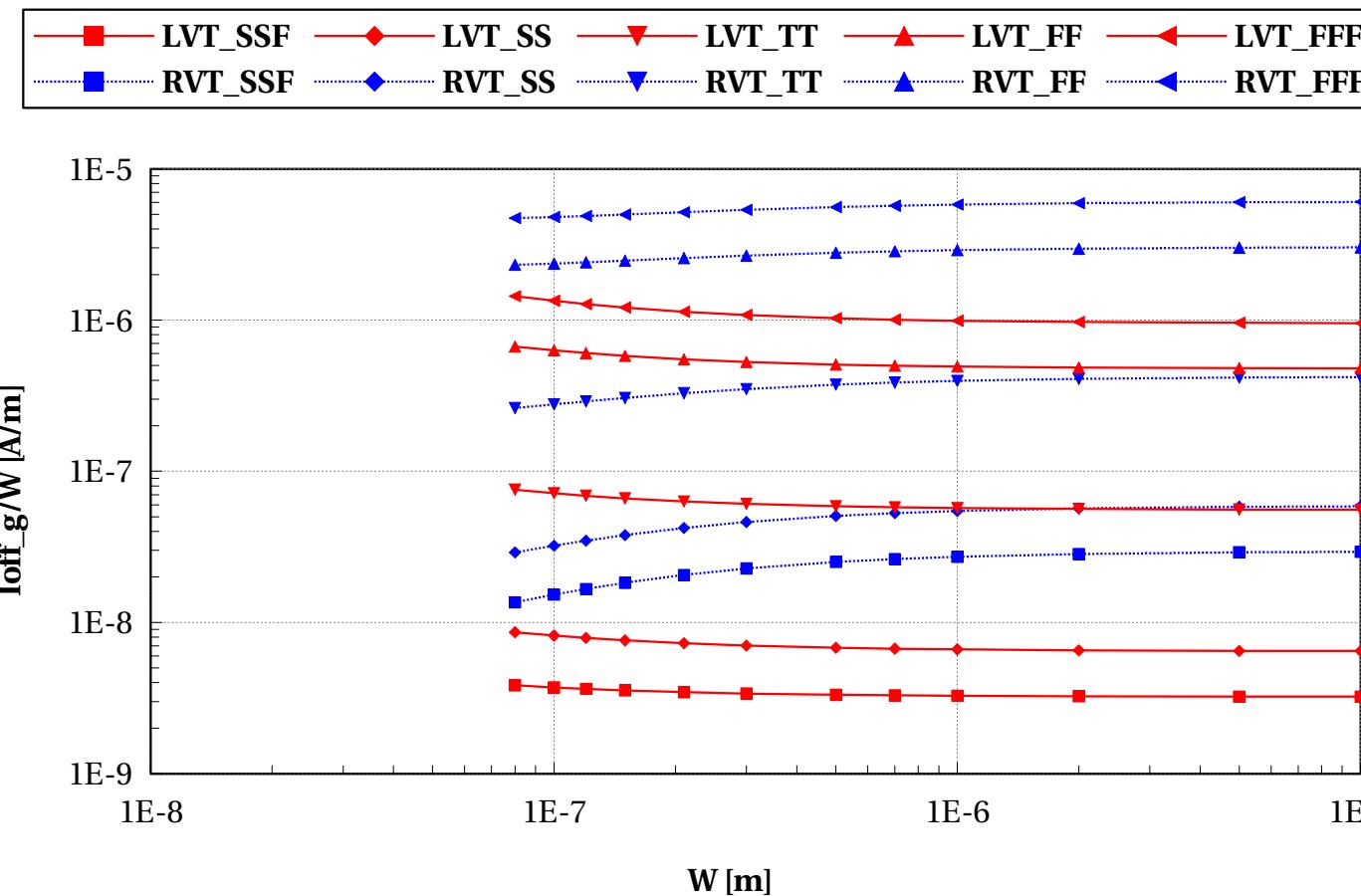
lvt_nfet_acc, Ig_on/(L*W) [A/m²] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



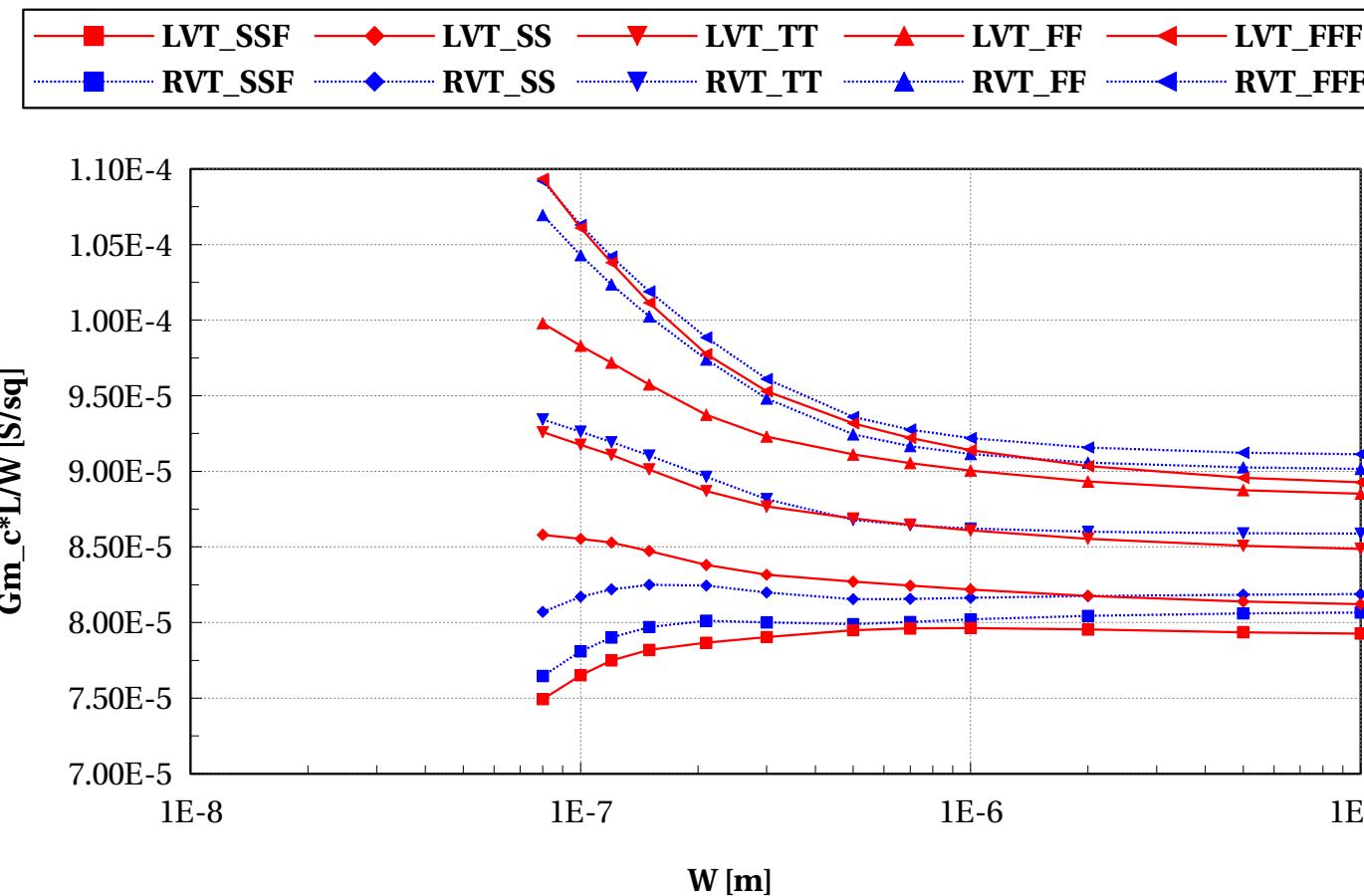
Ivtnfet_acc, Ioff_g/W [A/m] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



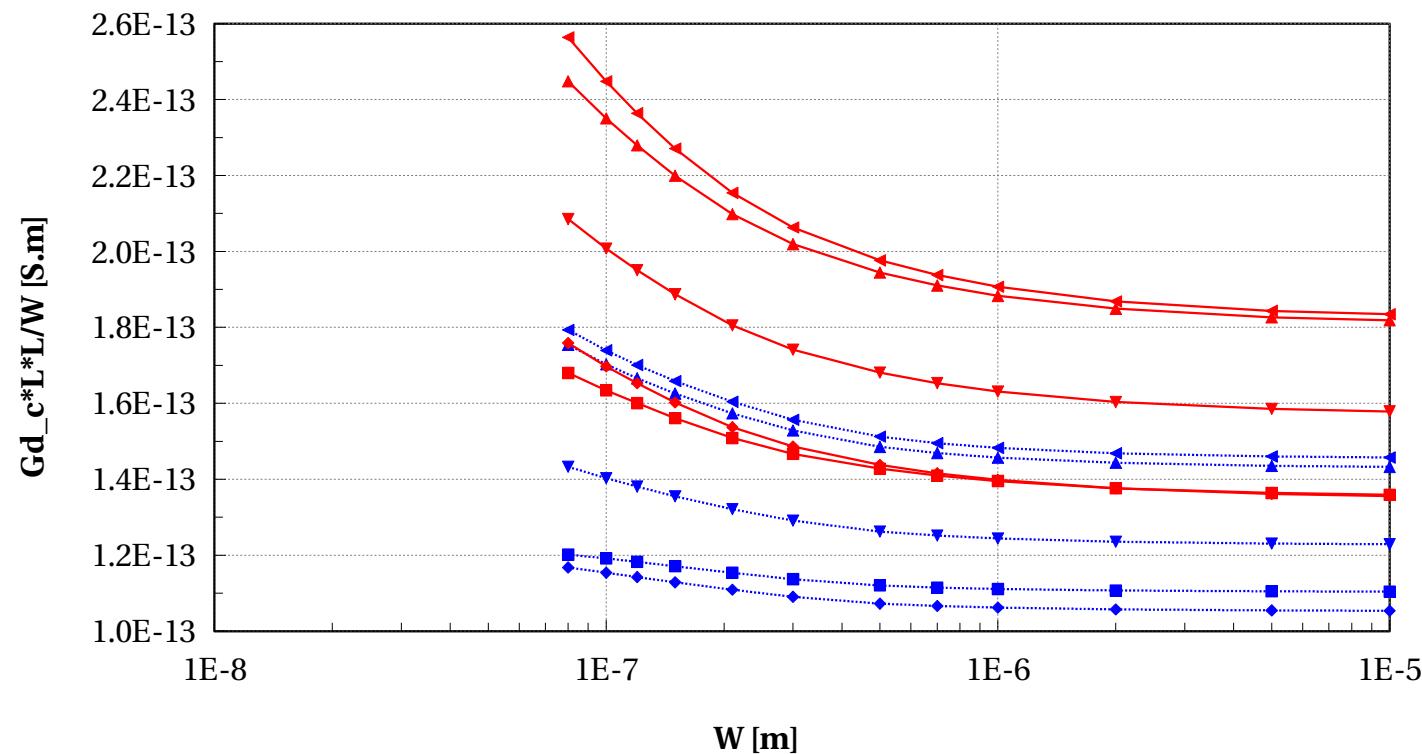
lvtnfet_acc, Gm_c*L/W [S/sq] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



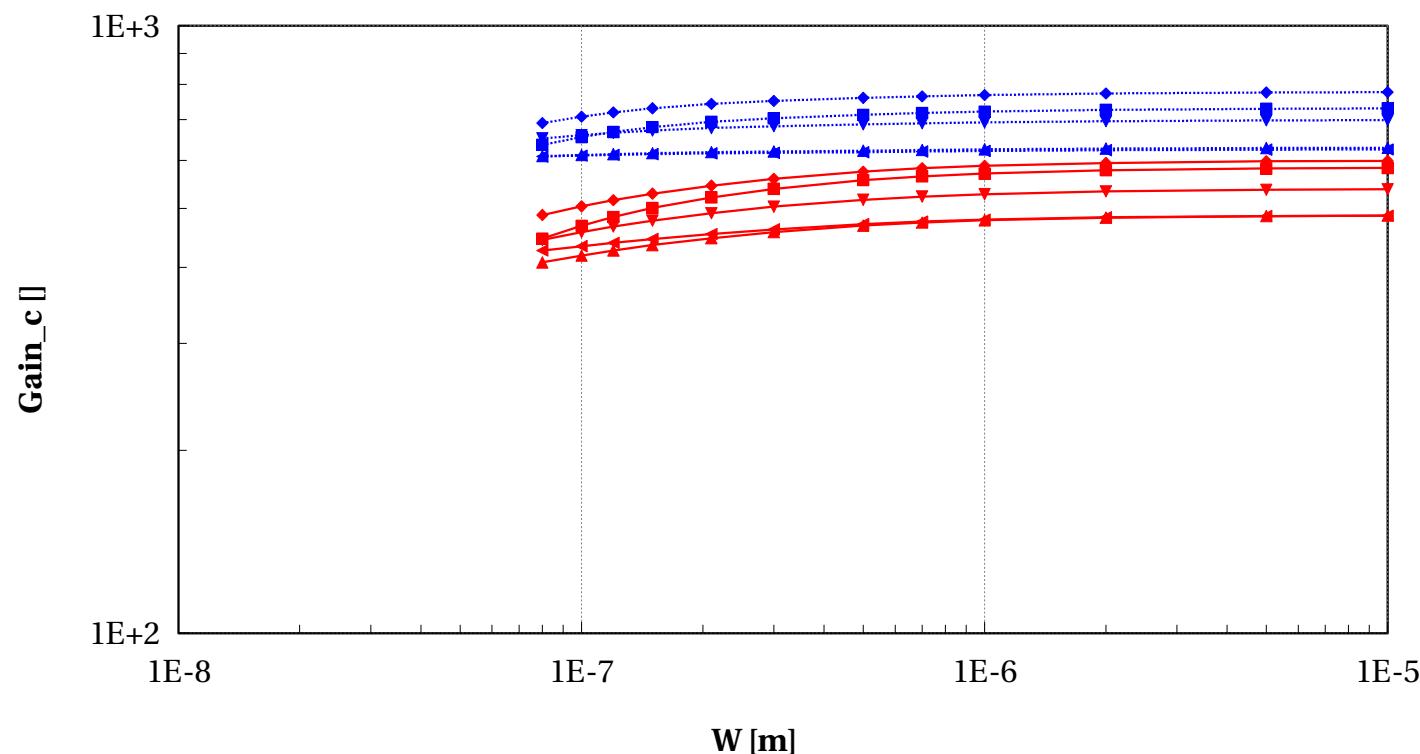
lvtnfet_acc, $G_d \cdot c^* L^* L/W$ [S.m] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



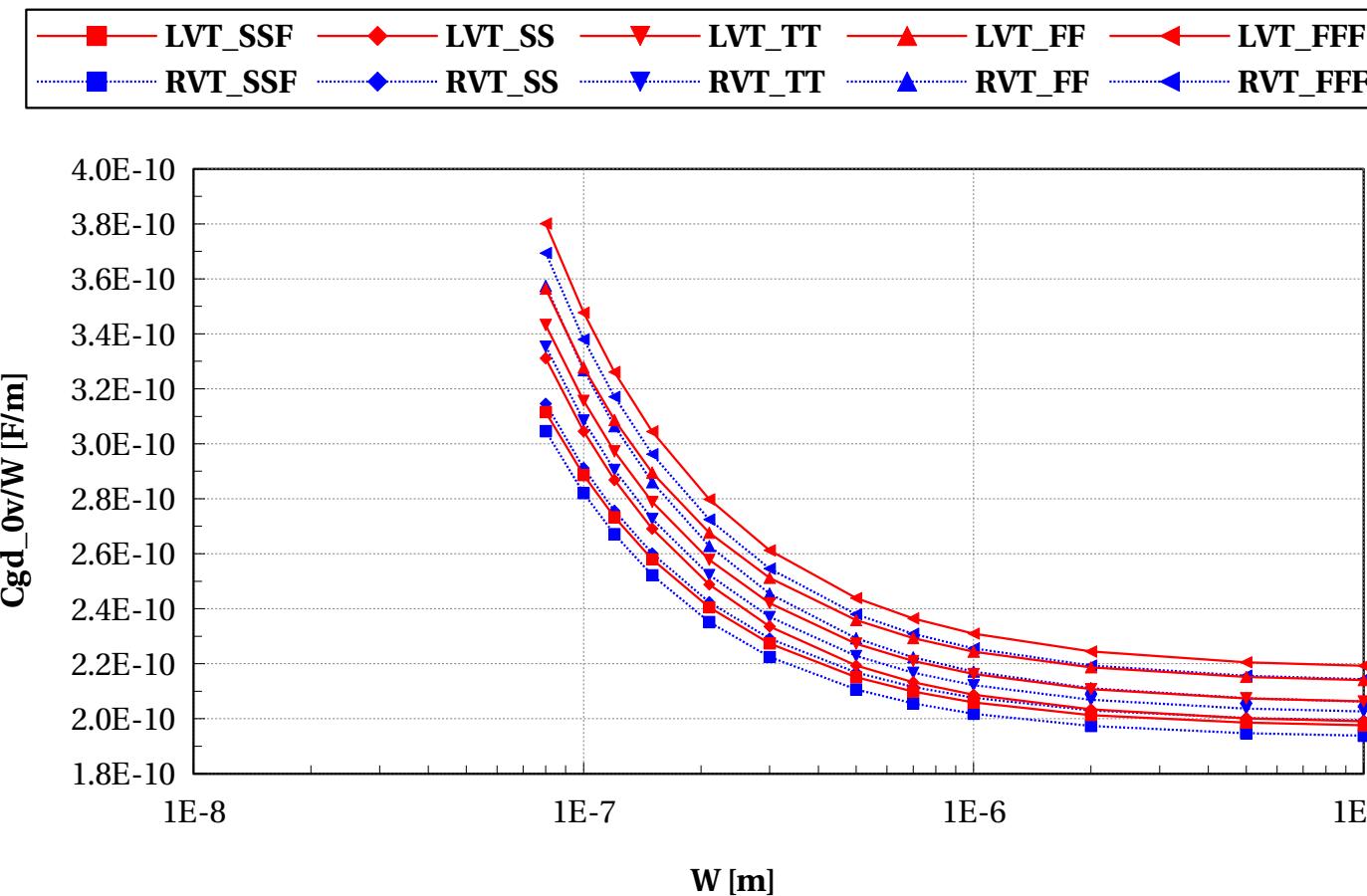
lvtnfet_acc, Gain_c [] vs W [m]

$I=1e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



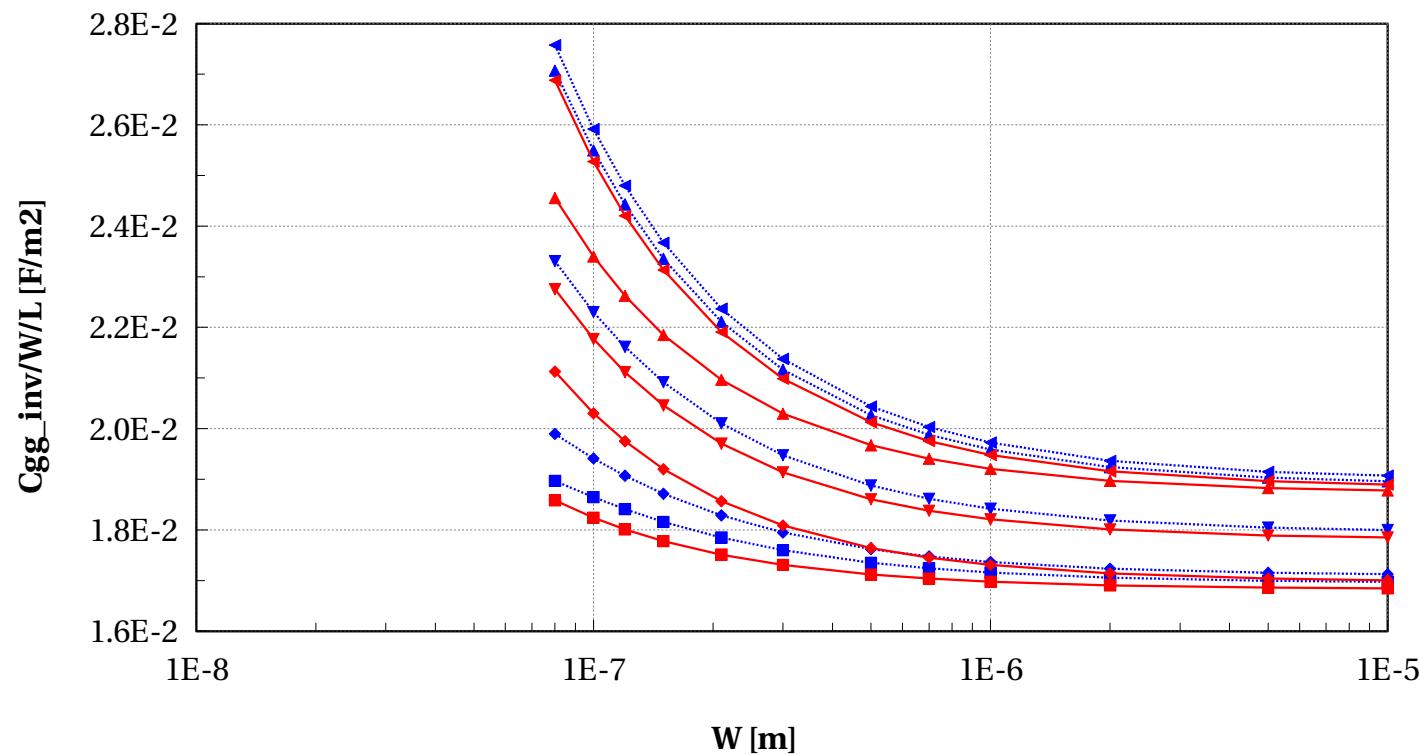
lvtnfet_acc, Cgd_0v/W [F/m] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



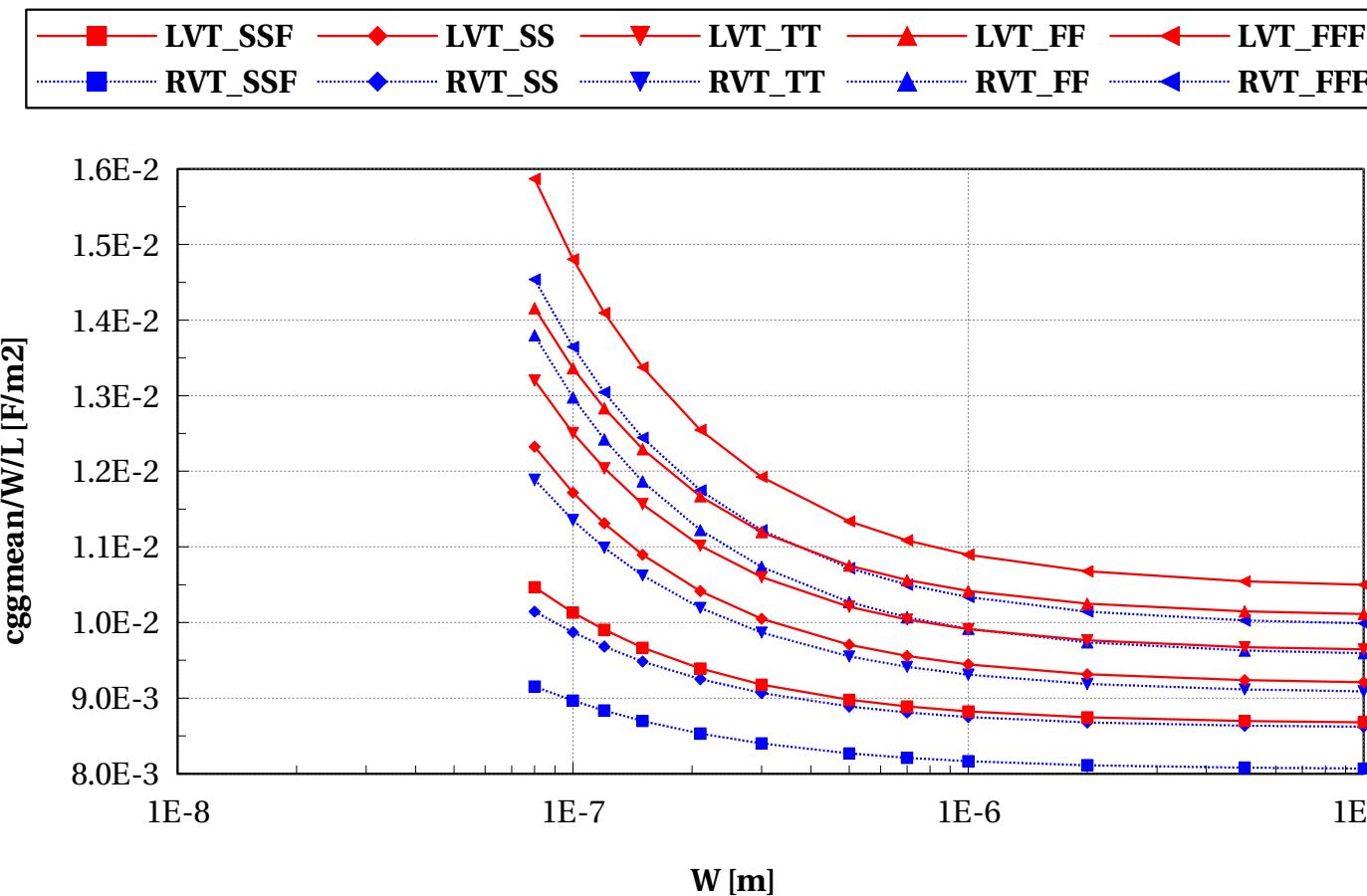
lvtnfet_acc, Cgg_inv/W/L [F/m²] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



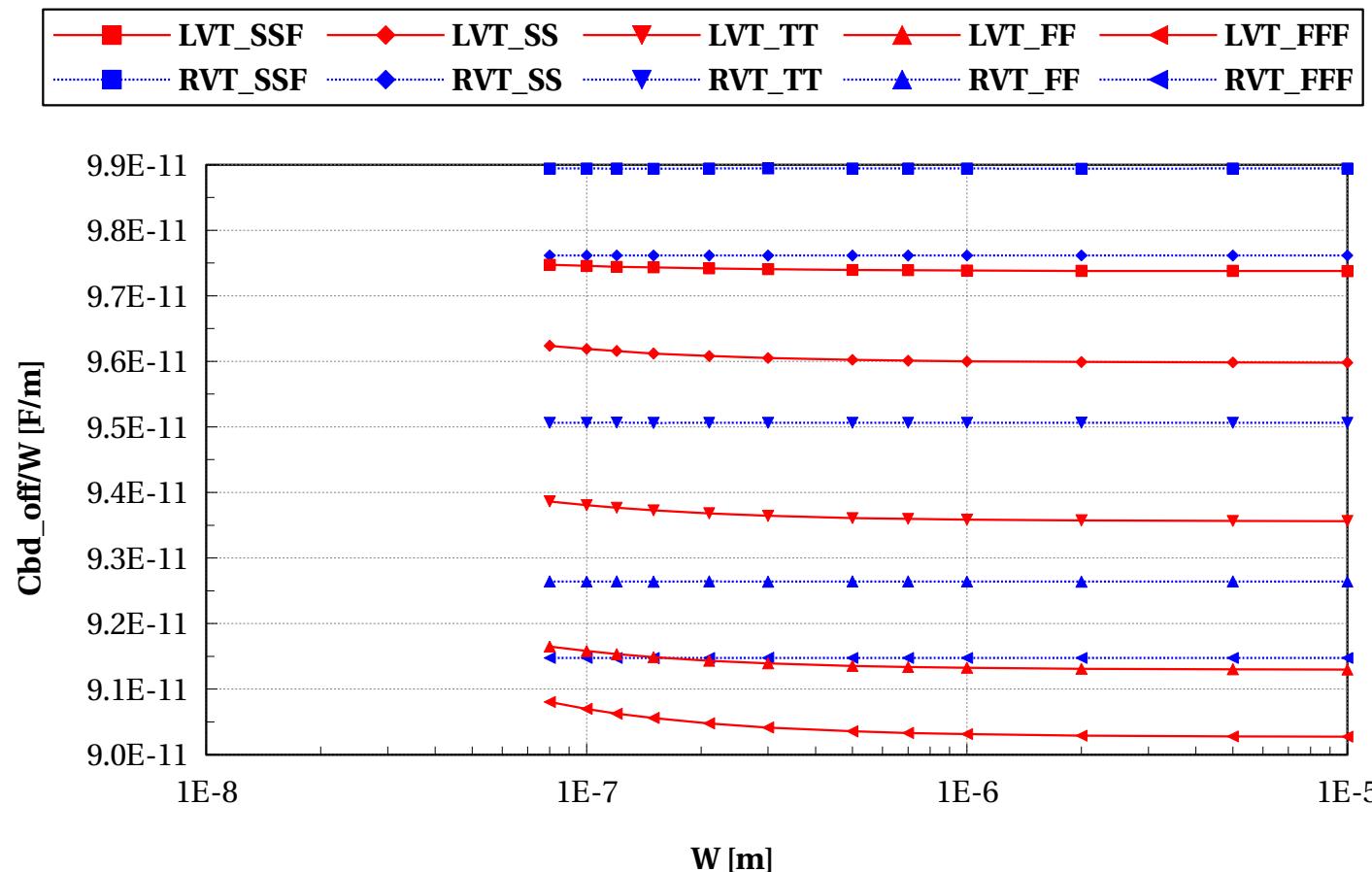
lvtnfet_acc, cggmean/W/L [F/m²] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



lvtnfet_acc, Cbd_off/W [F/m] vs W [m]

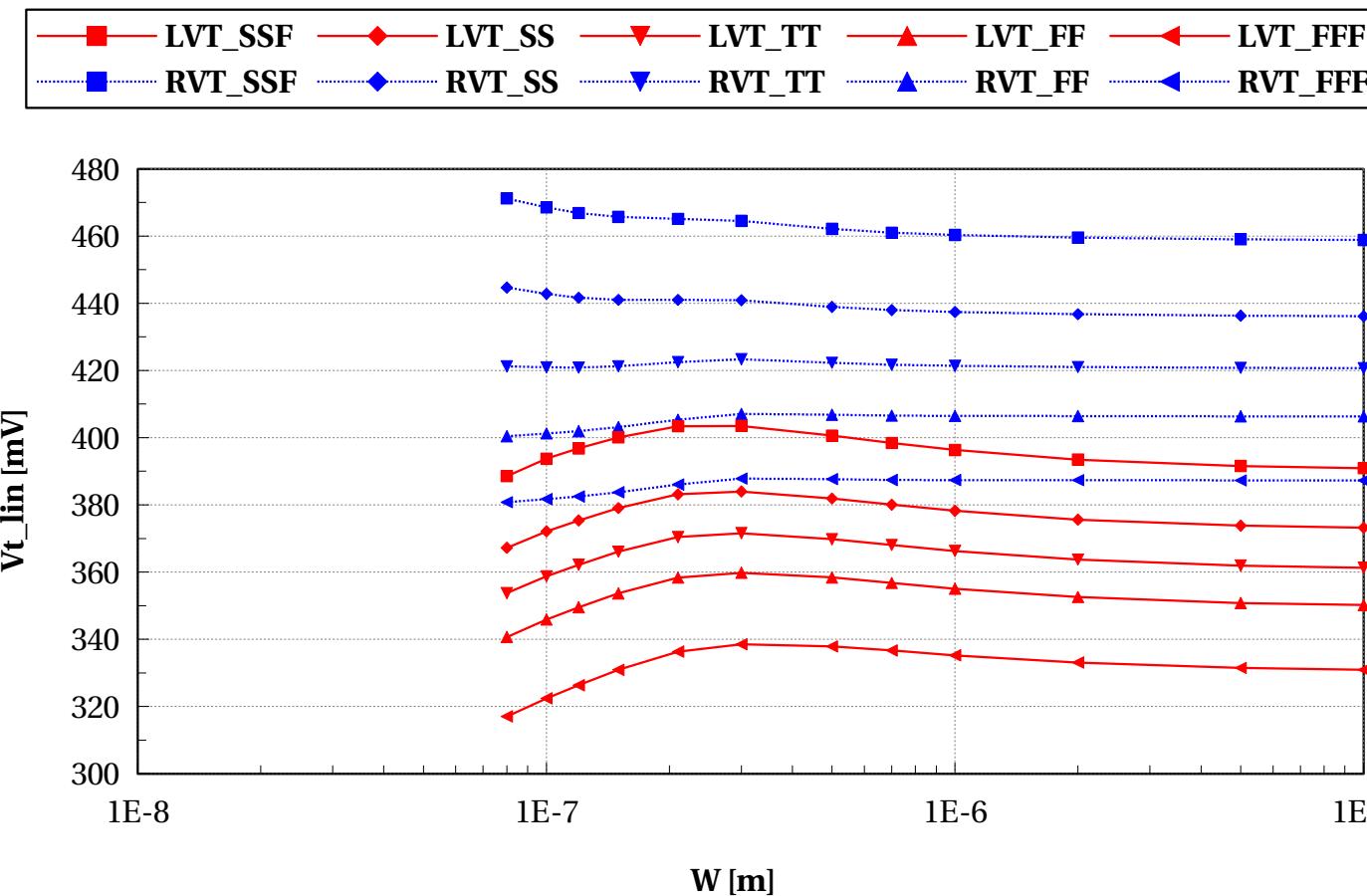
$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



Scaling versus Width (L=30nm)

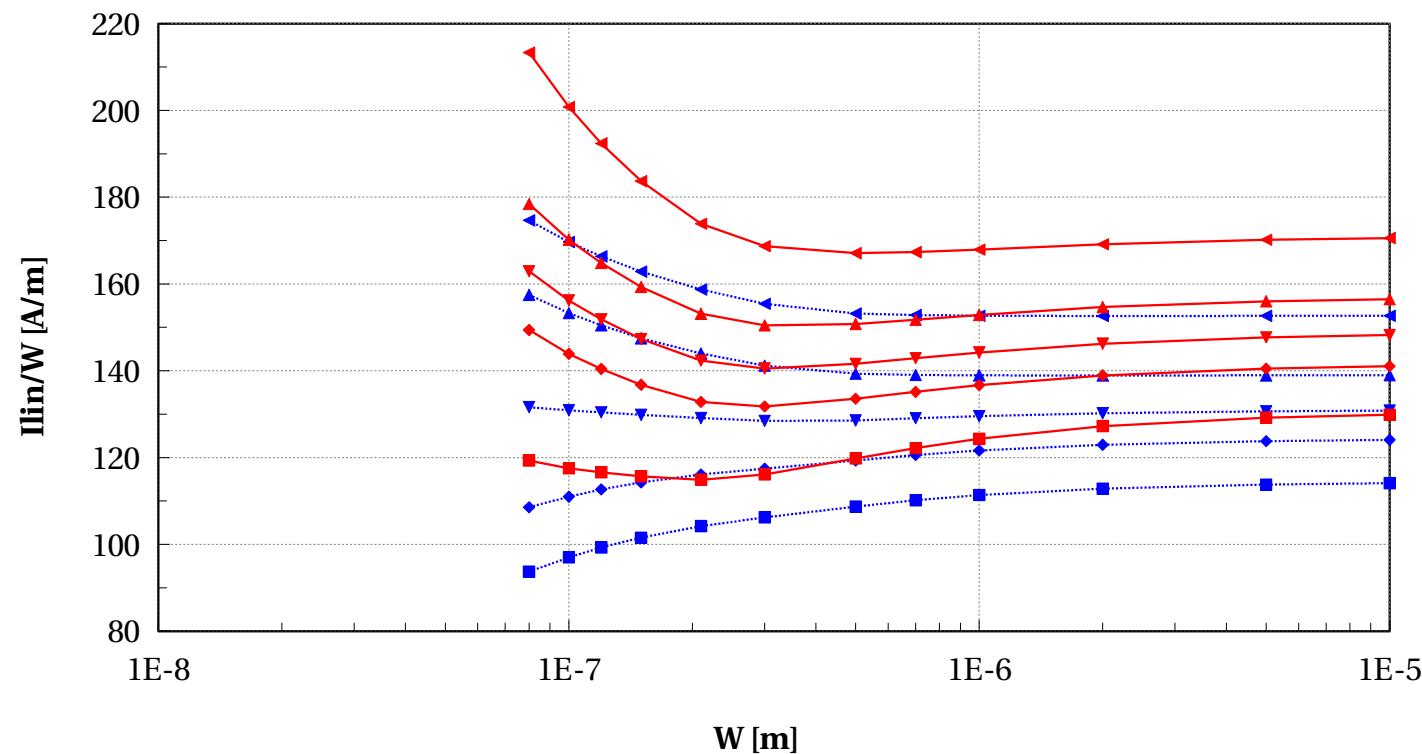
lvtnfet_acc, Vt_lin [mV] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



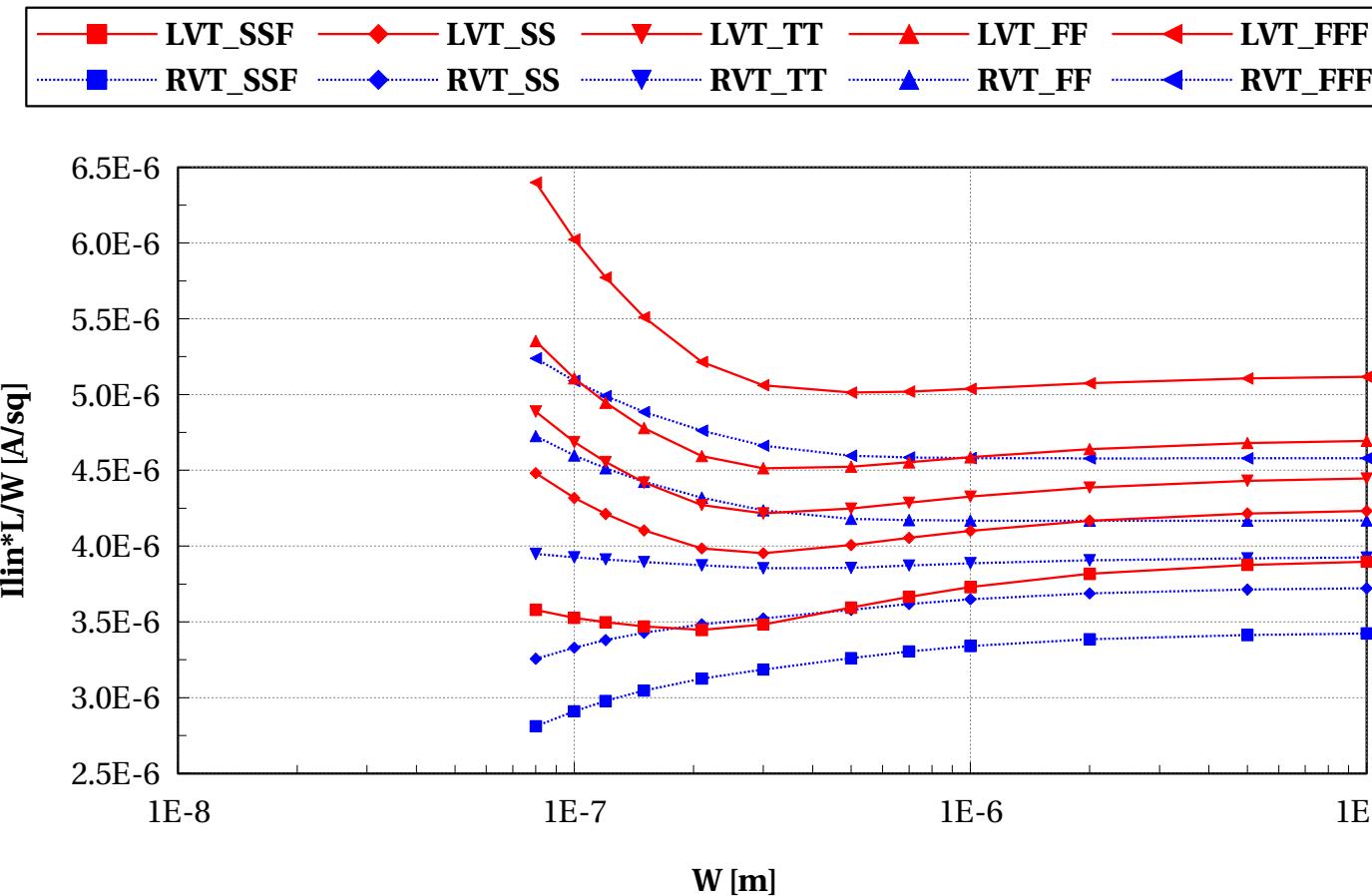
lvtnfet_acc, Ilin/W [A/m] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



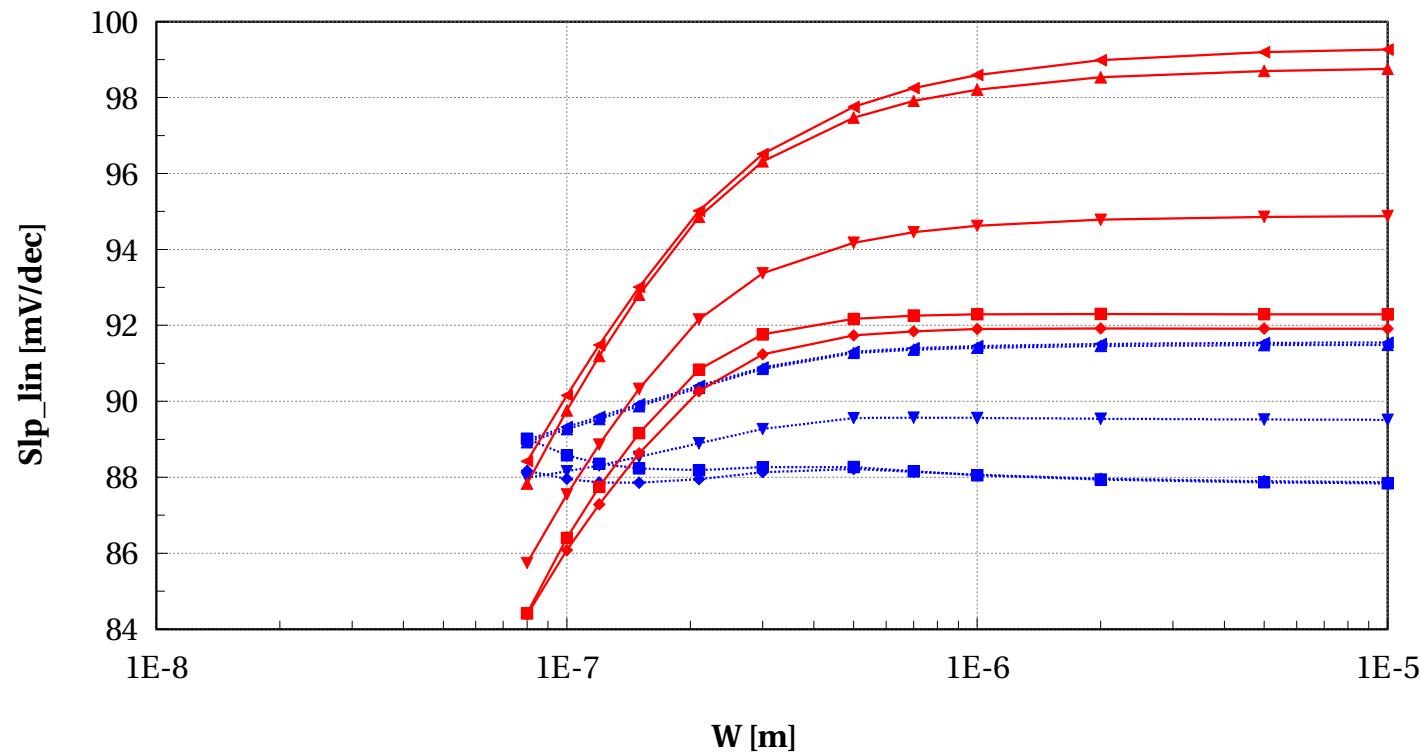
lvtnfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs W [m]

$I = 0.030e-6$ and $Temp = 25$ and $p_la = 0$ and $devType = "PCELLwoWPE"$



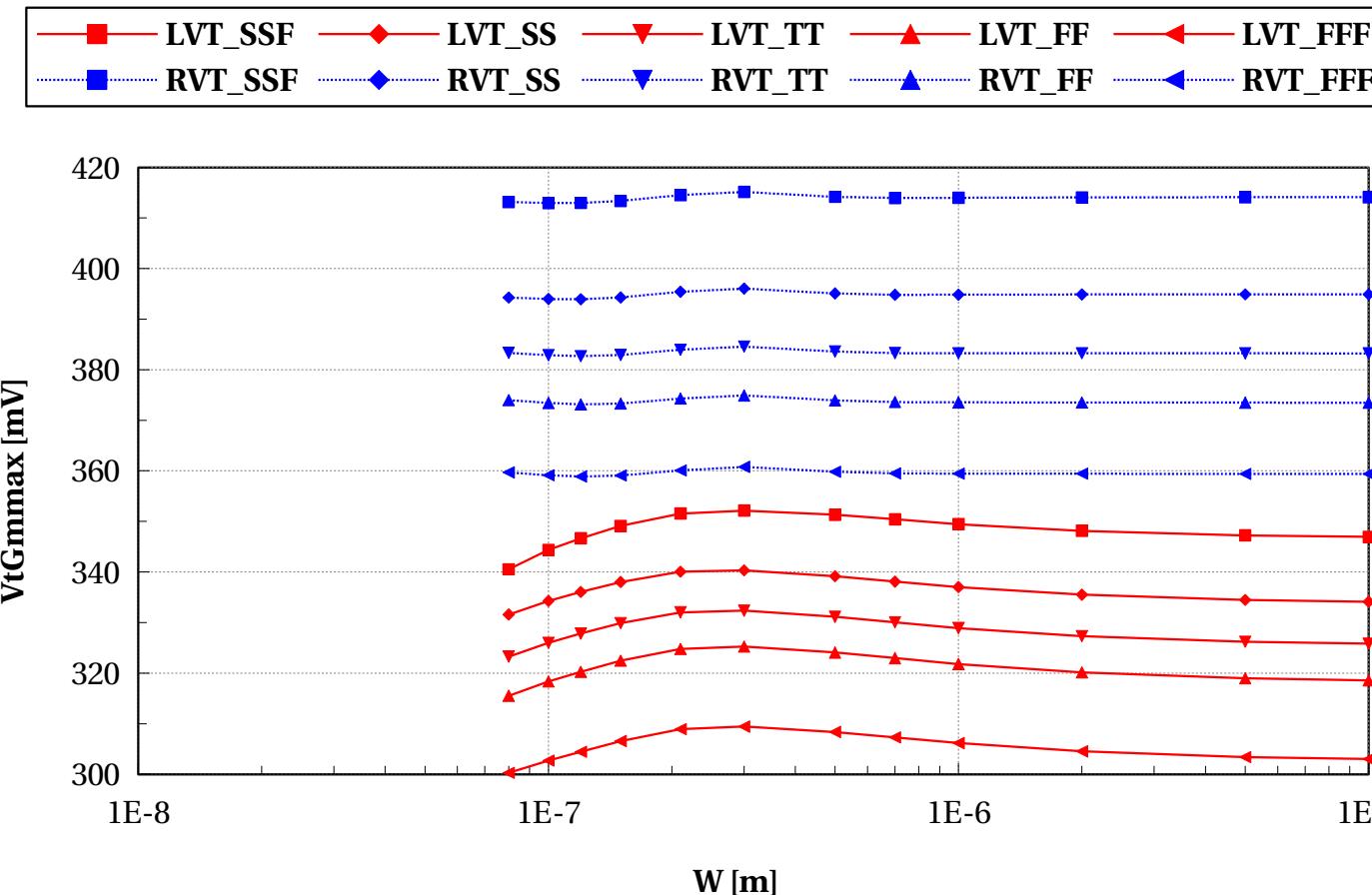
lvtnfet_acc, Slp_lin [mV/dec] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



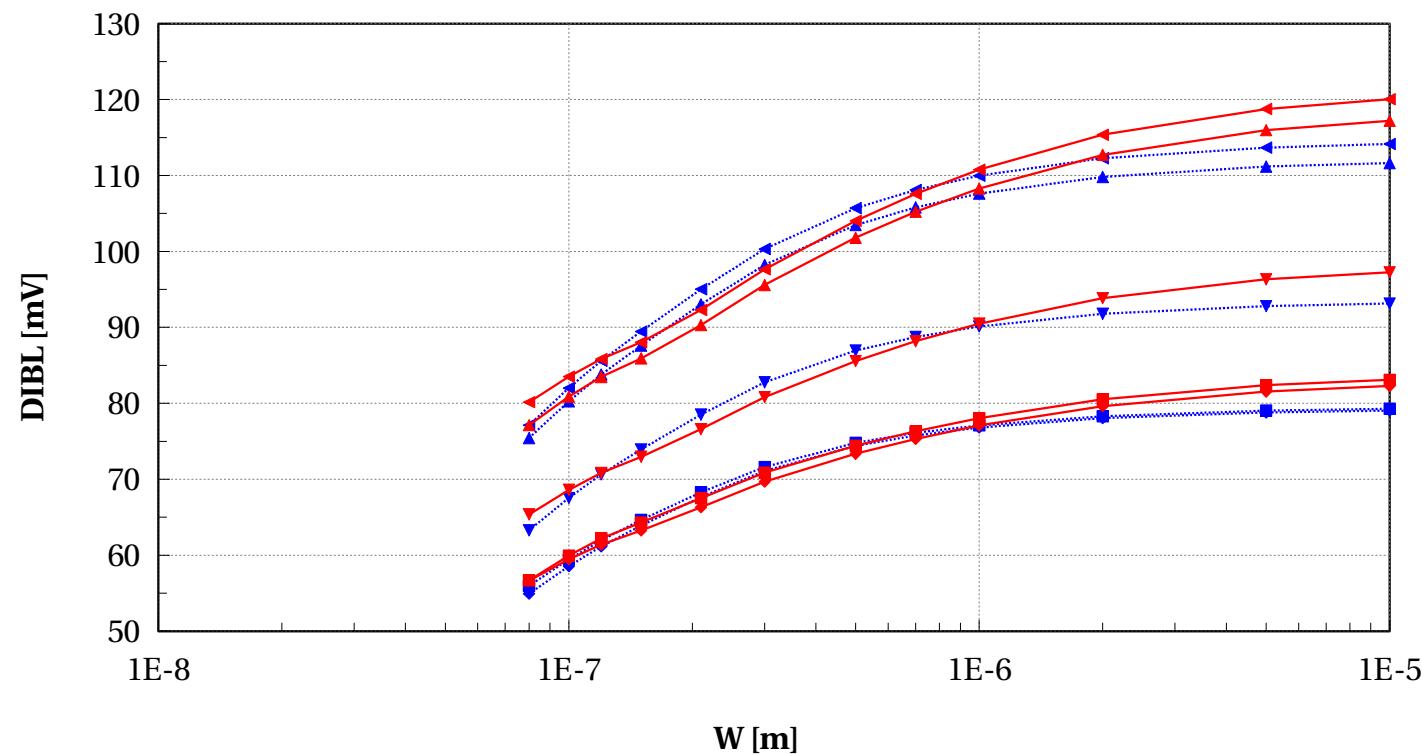
lvtnfet_acc, VtGmmax [mV] vs W [m]

$I=0.030e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



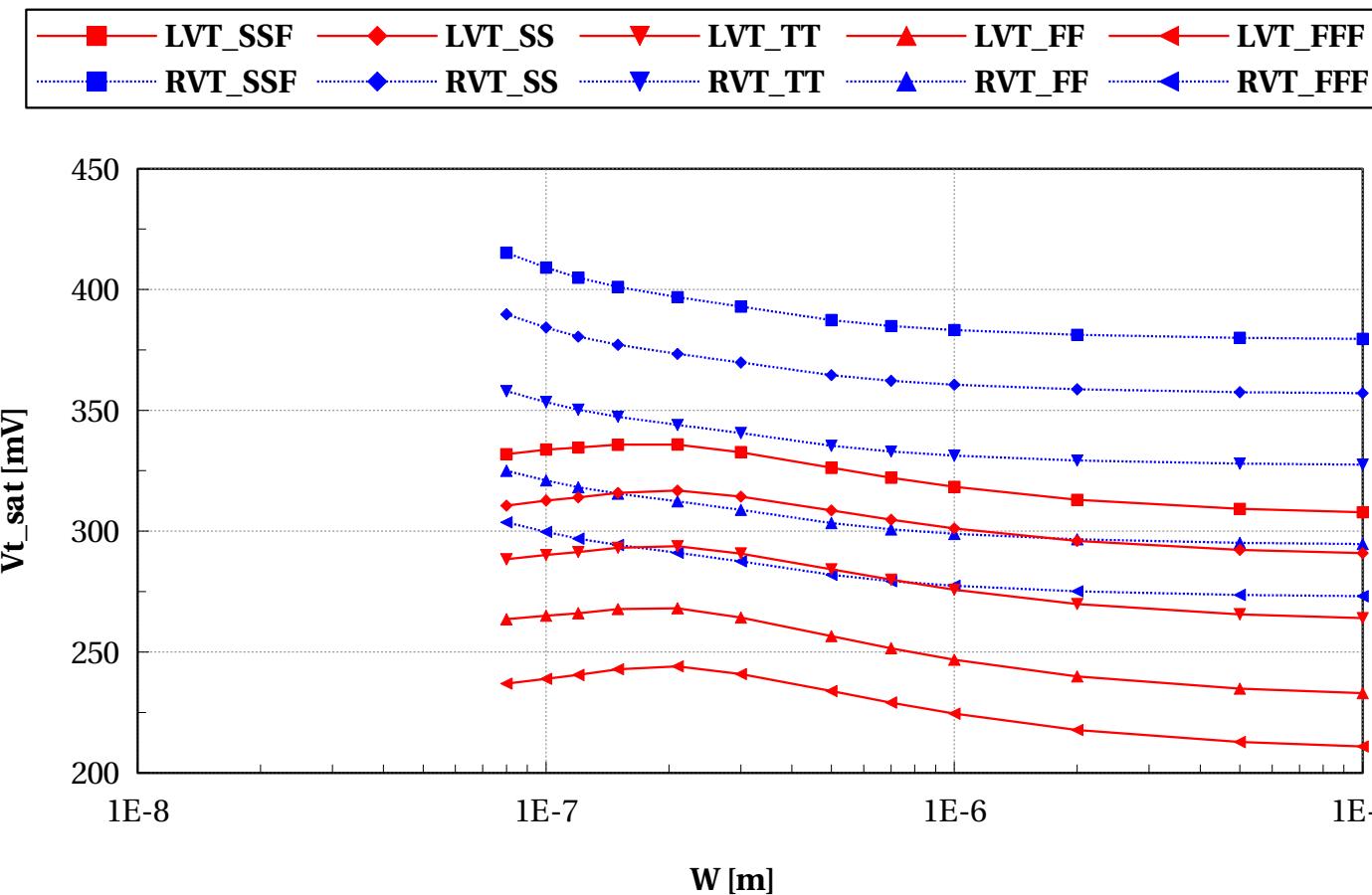
lvtnfet_acc, DIBL [mV] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



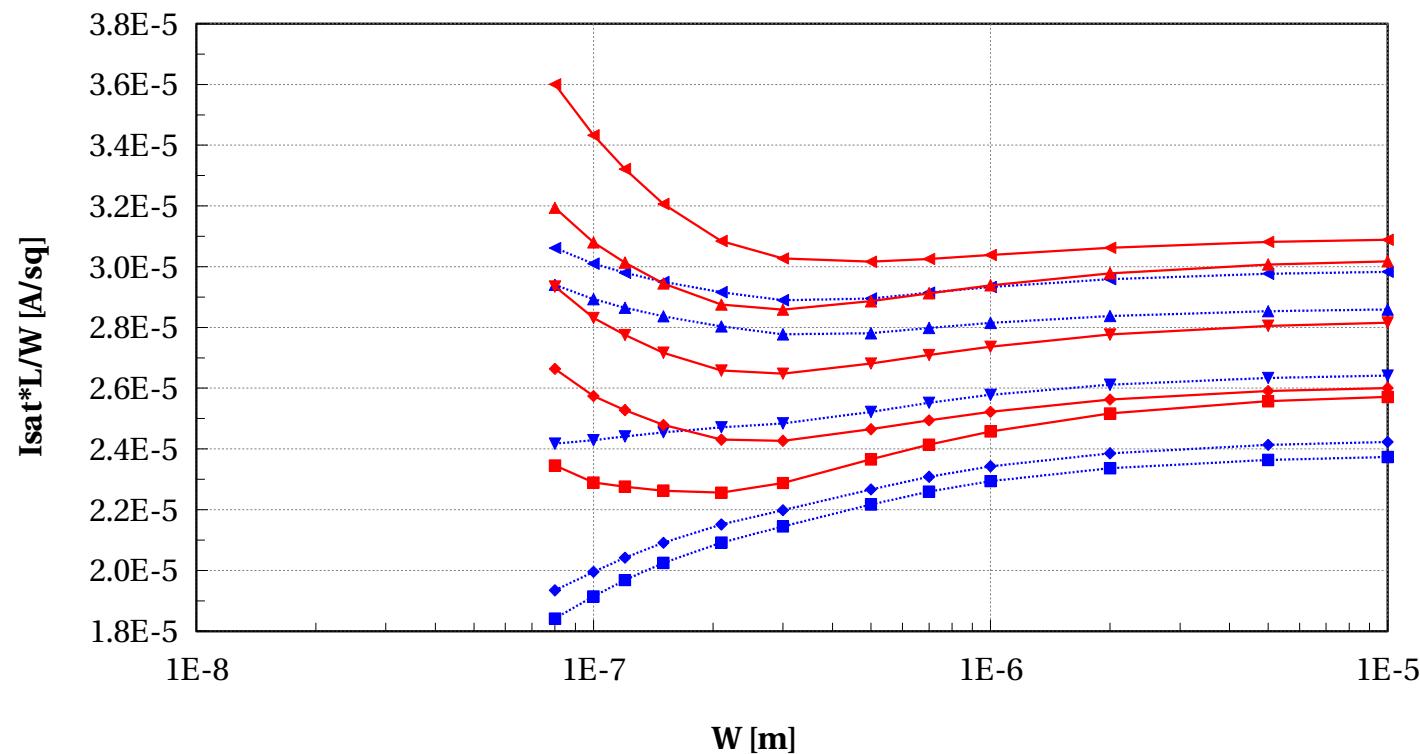
lvtnfet_acc, Vt_sat [mV] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



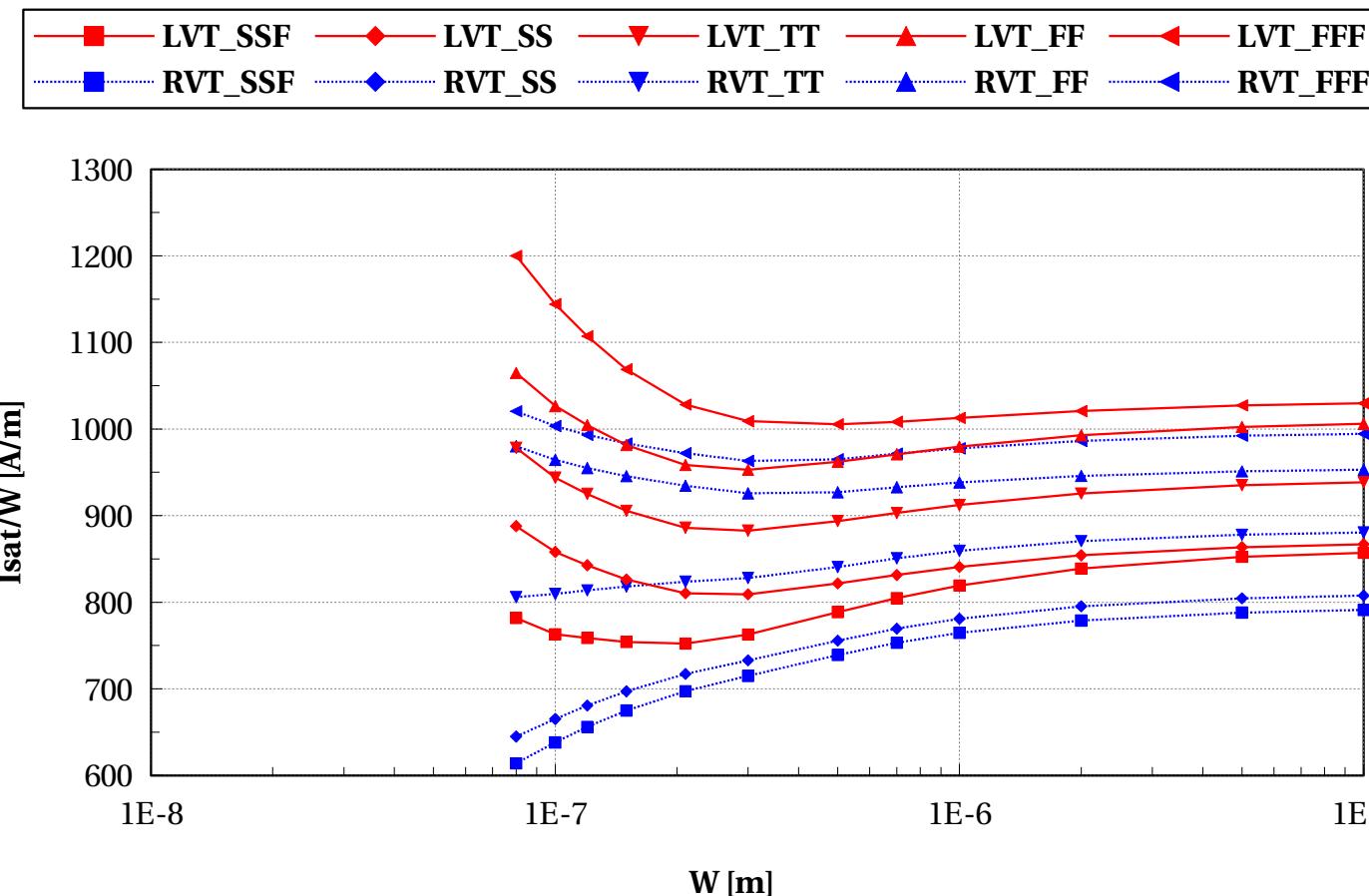
lvtnfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs W [m]

$I = 0.030e-6$ and $Temp = 25$ and $p_la = 0$ and $devType = "PCELLwoWPE"$



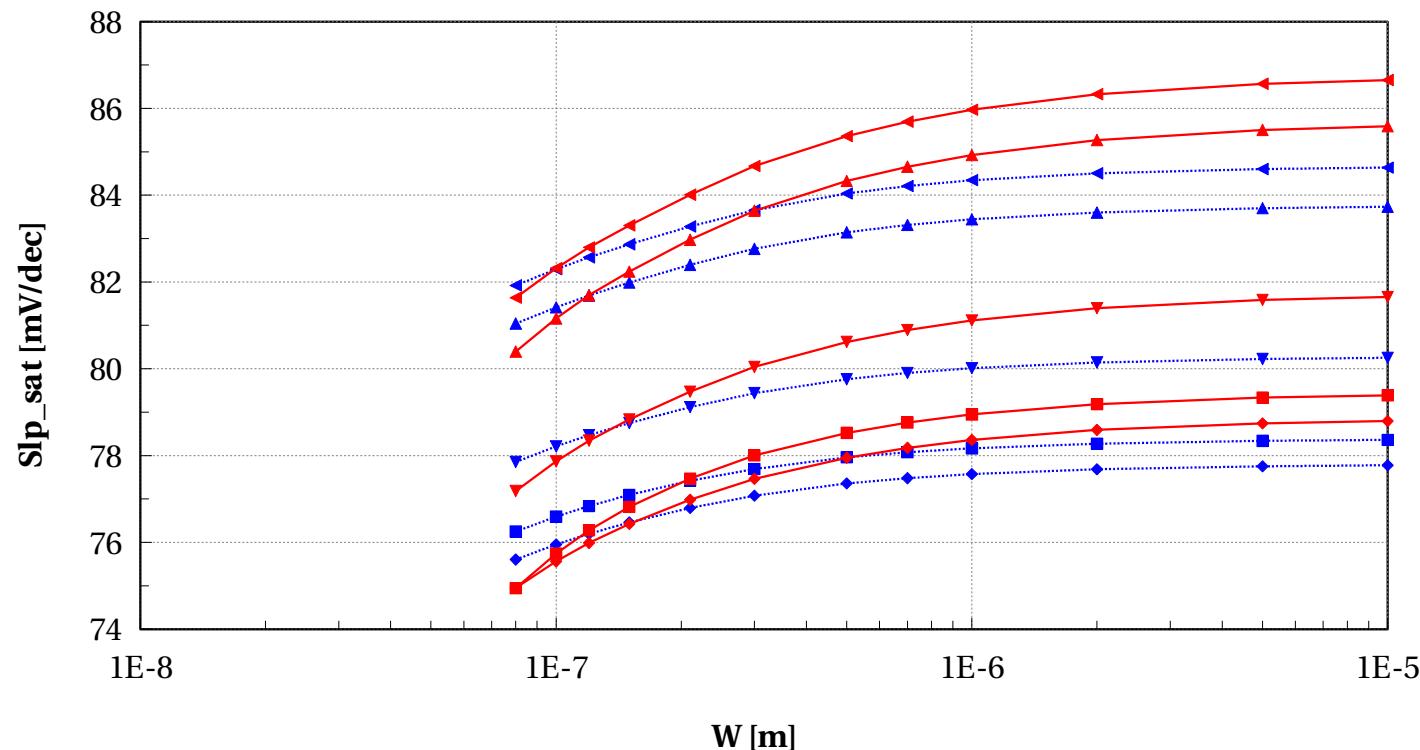
lvtnfet_acc, Isat/W [A/m] vs W [m]

$I=0.030e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



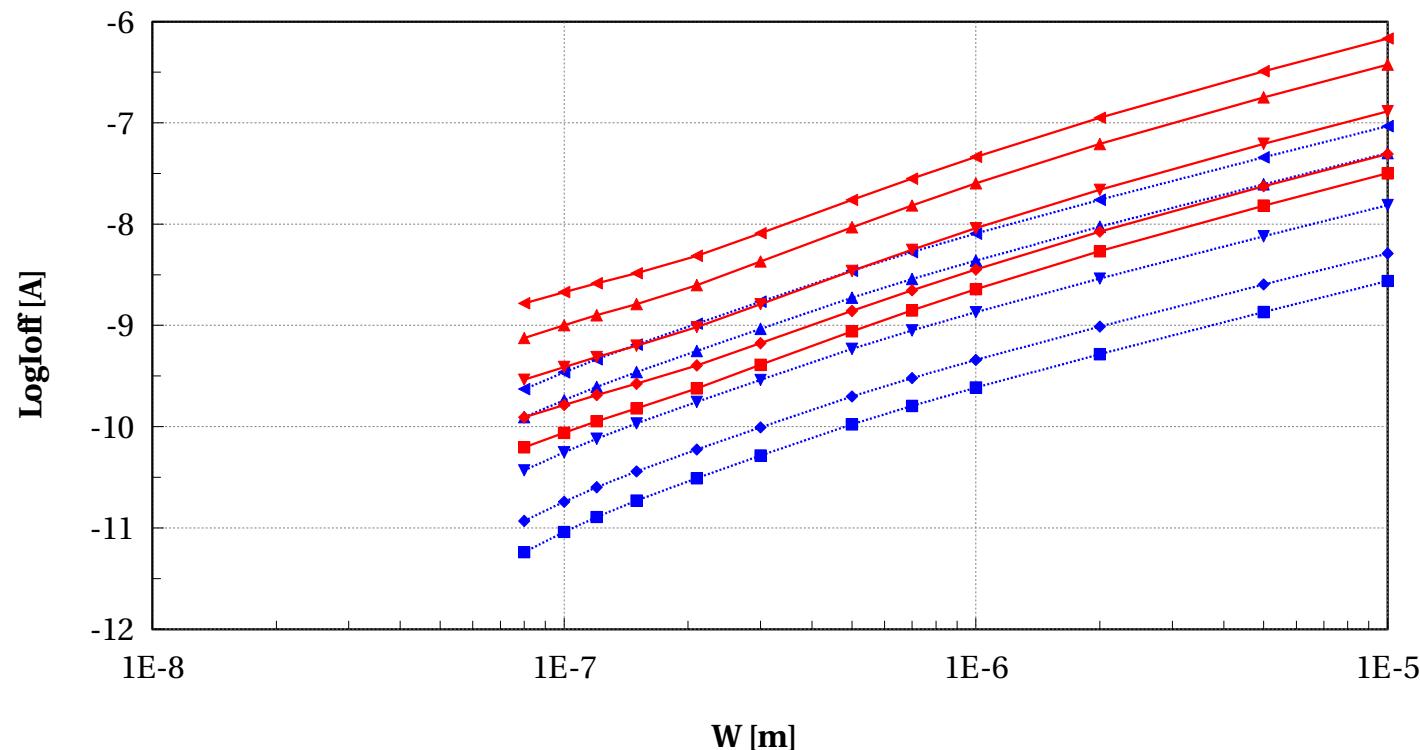
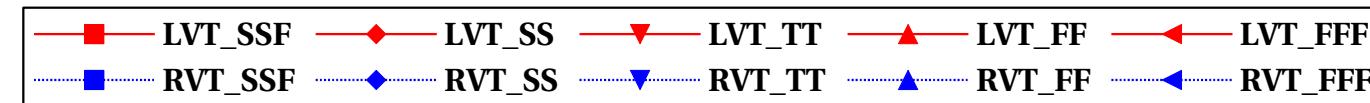
lvtnfet_acc, Slp_sat [mV/dec] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



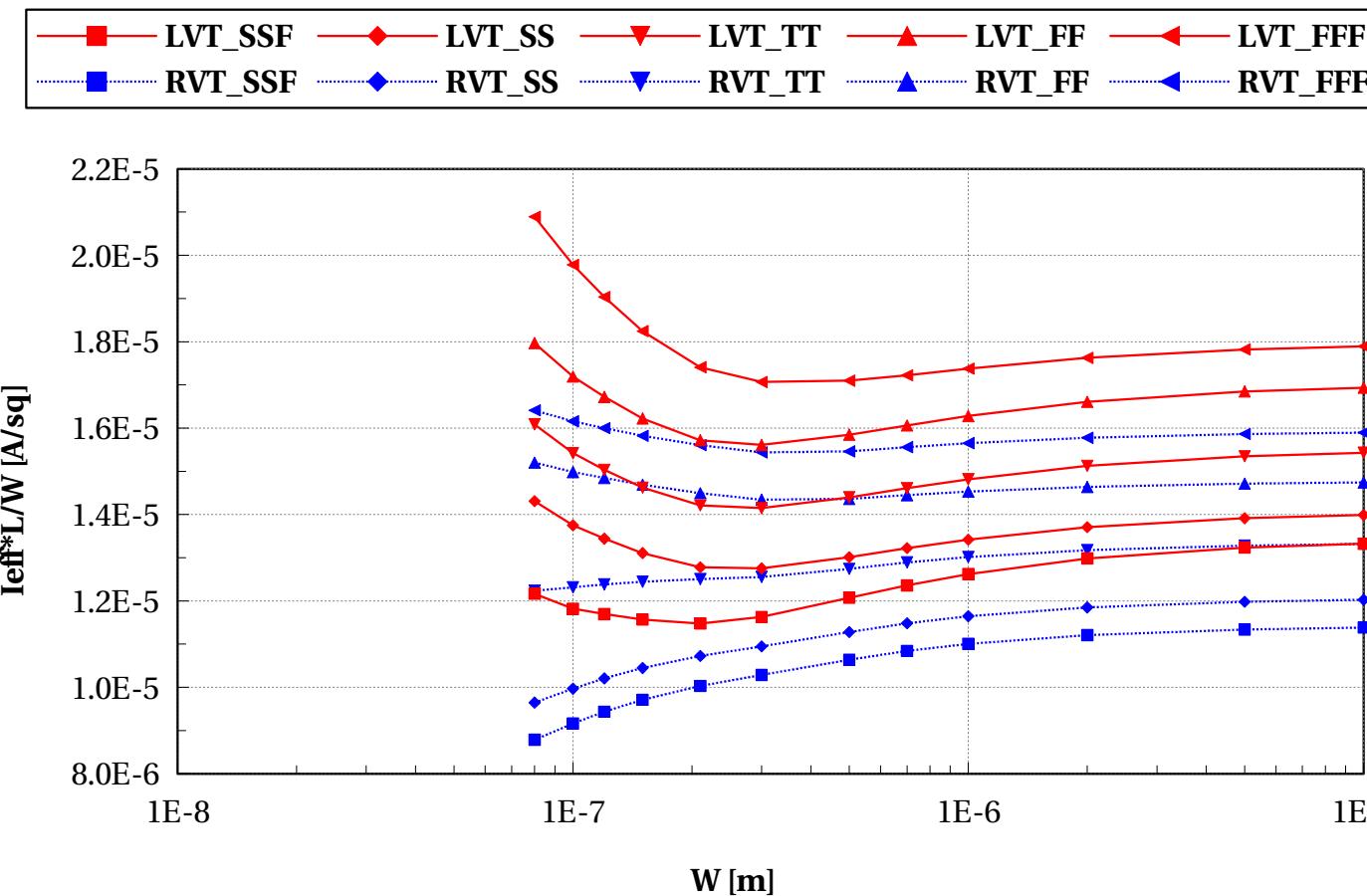
lvtnfet_acc, LogIoff [A] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



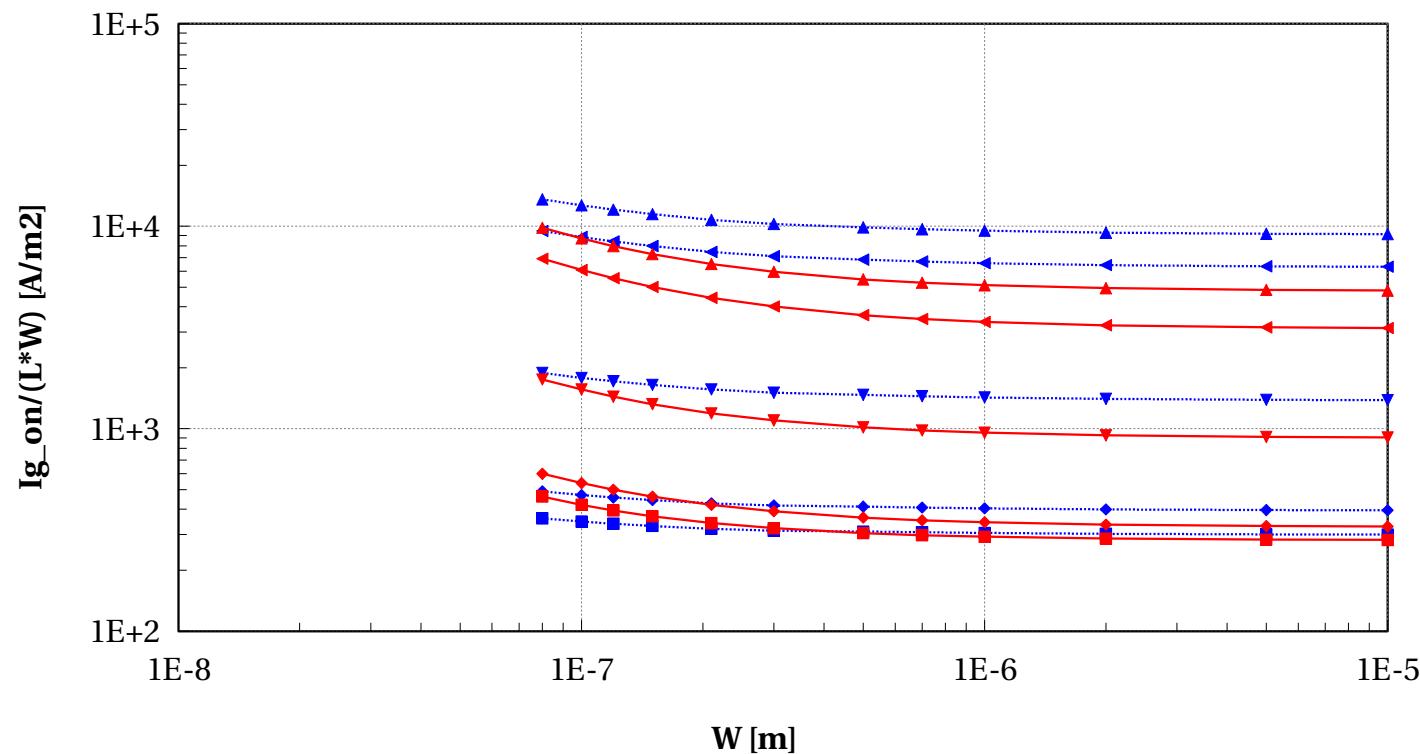
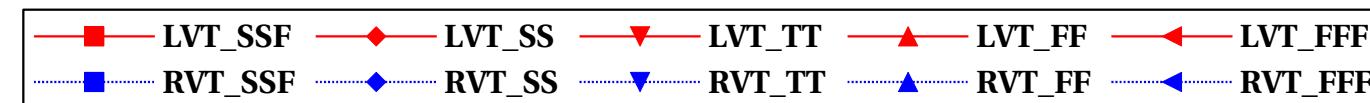
Ivtnfet_acc, Ieff*L/W [A/sq] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



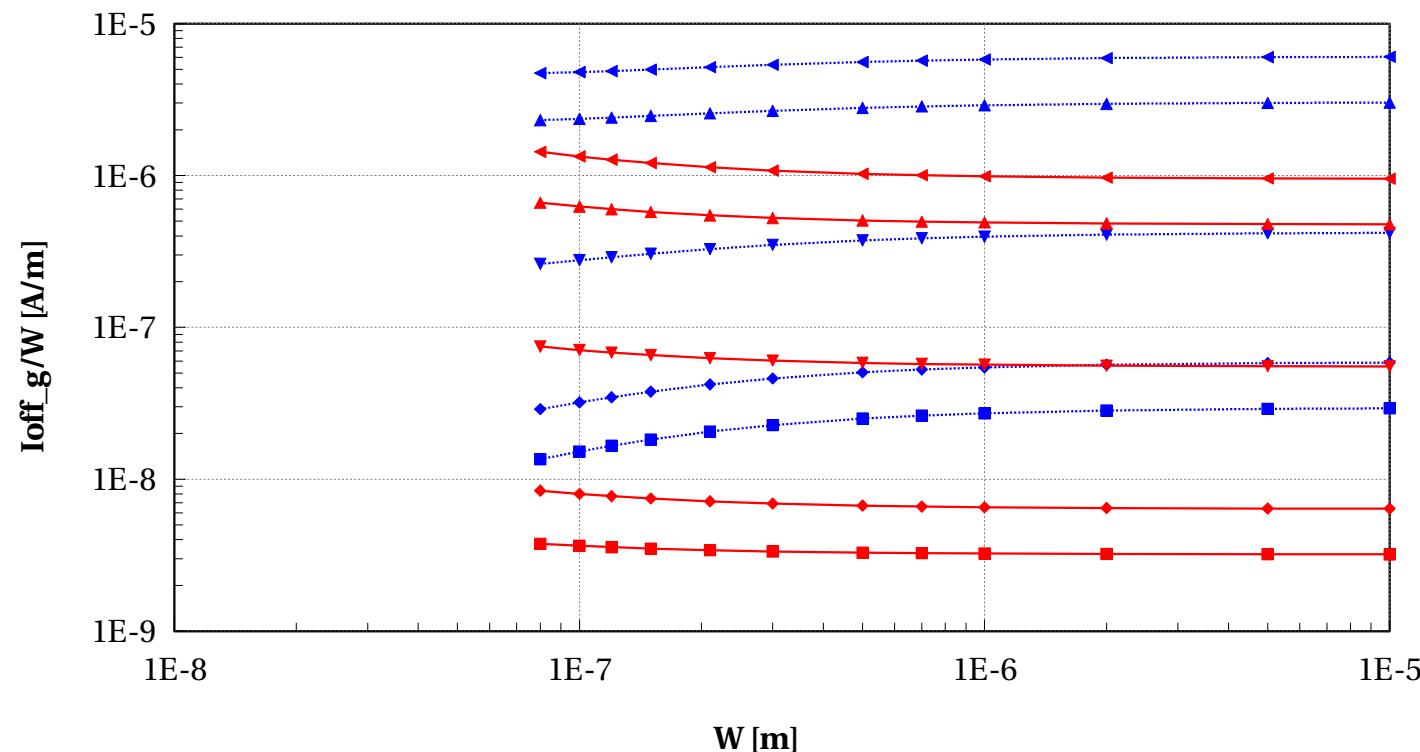
lvt_nfet_acc, Ig_on/(L*W) [A/m²] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



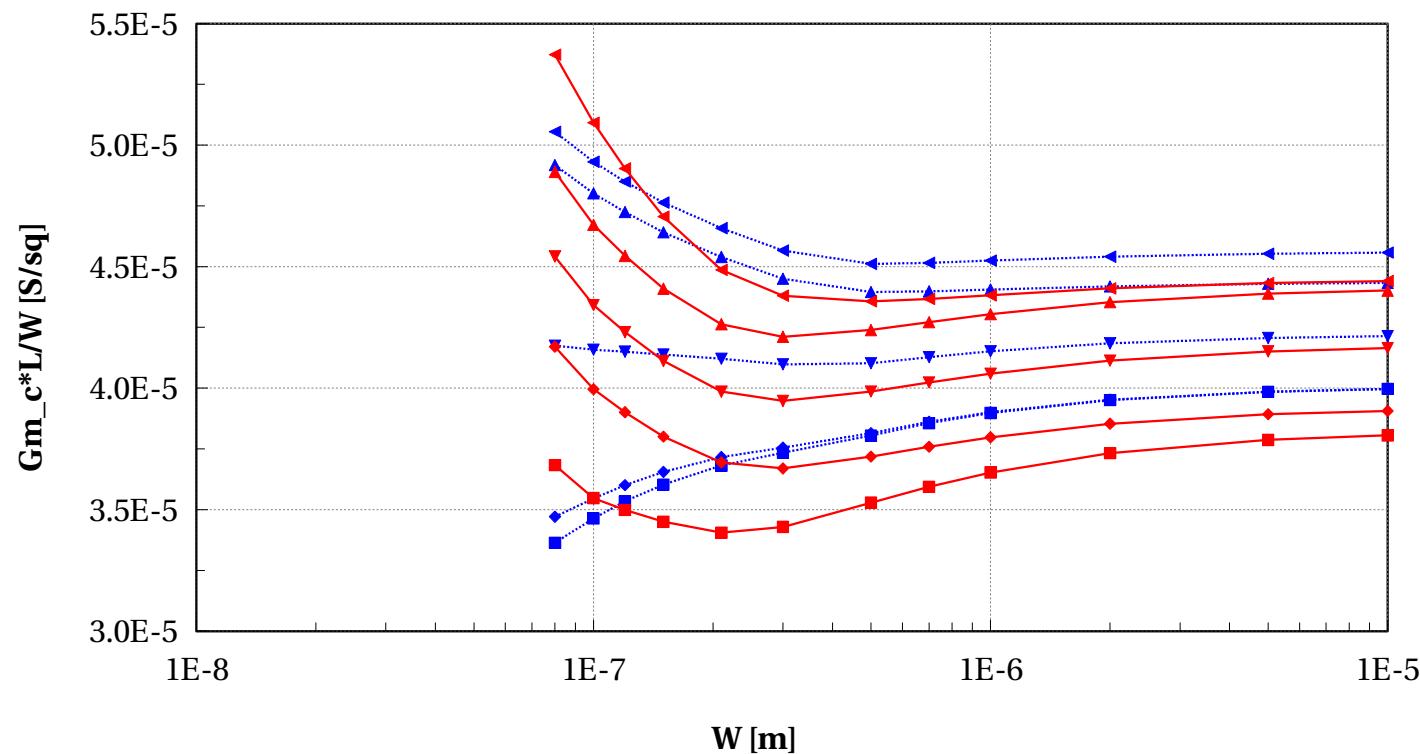
Ivtnfet_acc, Ioff_g/W [A/m] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



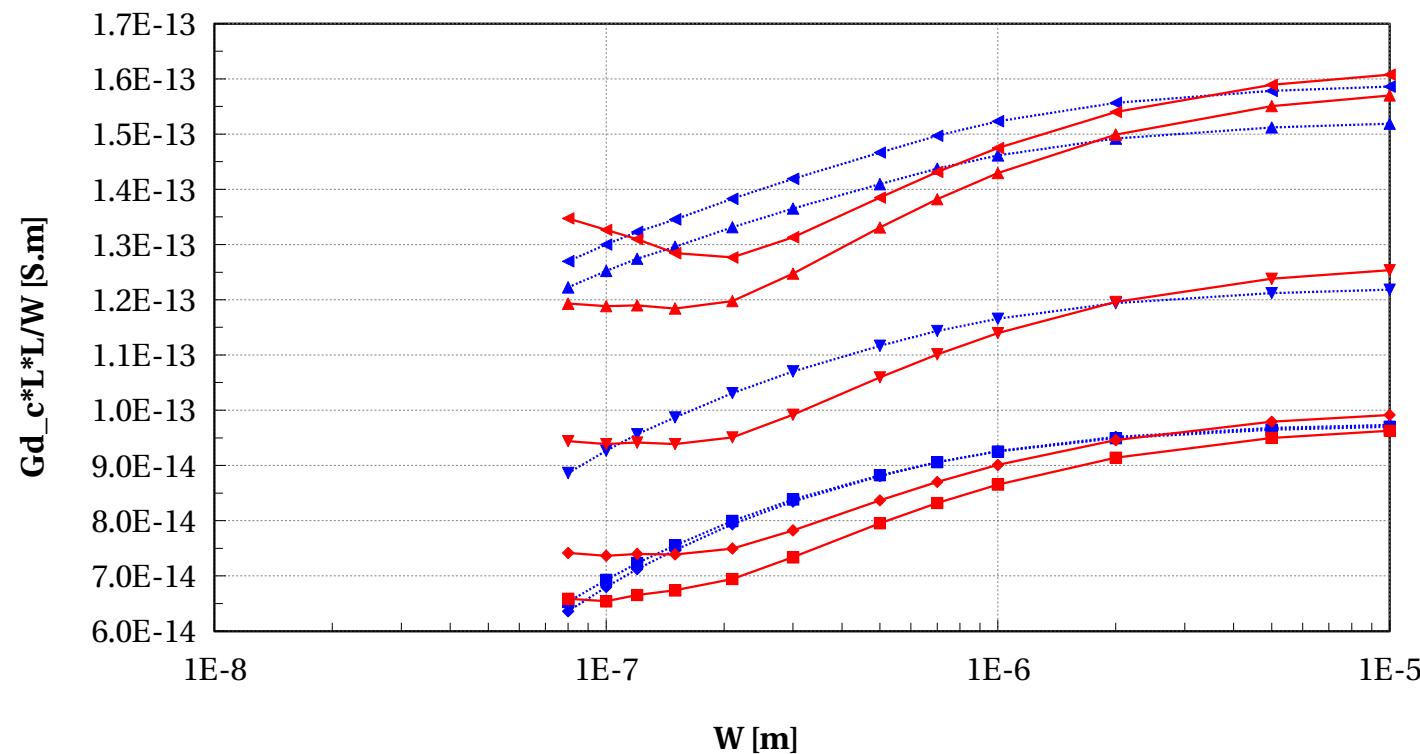
lvtnfet_acc, Gm_c*L/W [S/sq] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



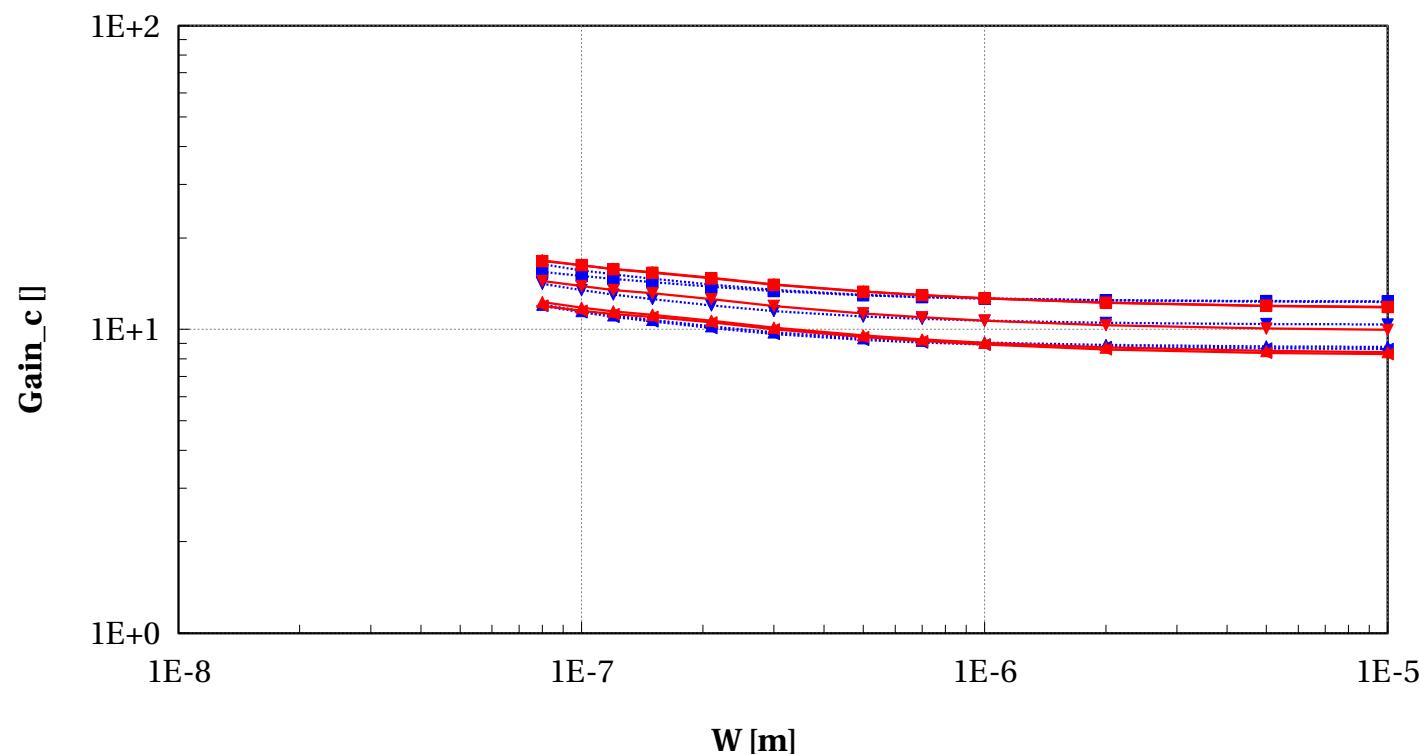
lvtnfet_acc, Gd_c*L*W [S.m] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{la} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



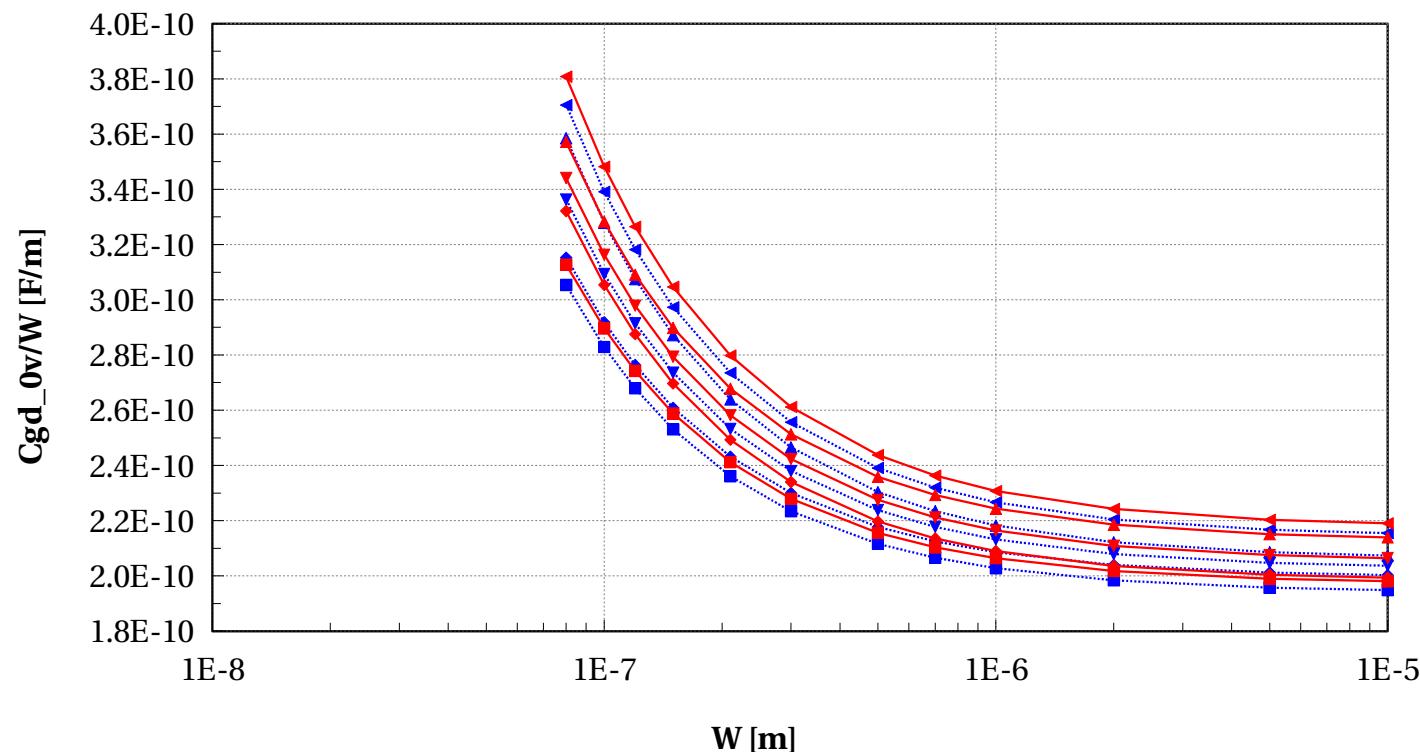
lvtnfet_acc, Gain_c [] vs W [m]

$I=0.030e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



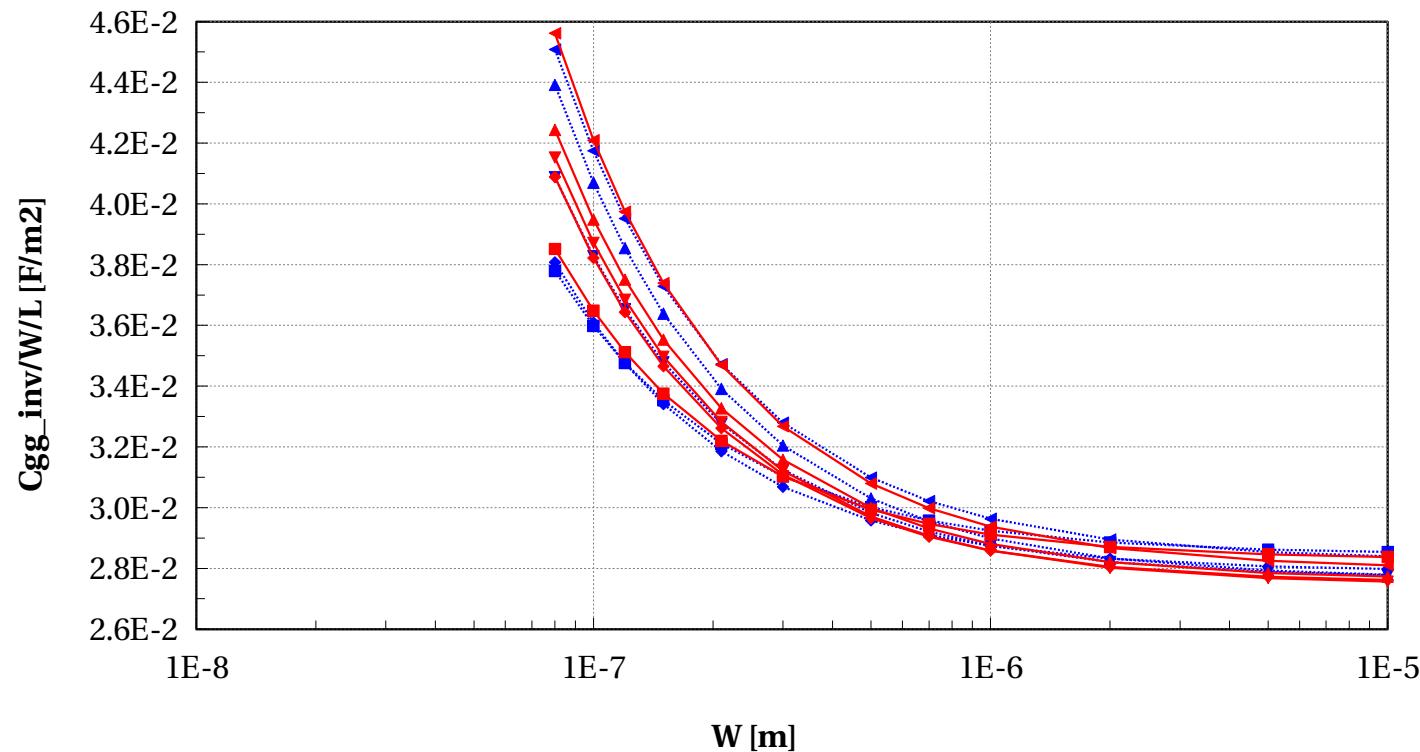
lvtnfet_acc, Cgd_0v/W [F/m] vs W [m]

$I = 0.030e-6$ and $Temp = 25$ and $p_la = 0$ and $devType = "PCELLwoWPE"$



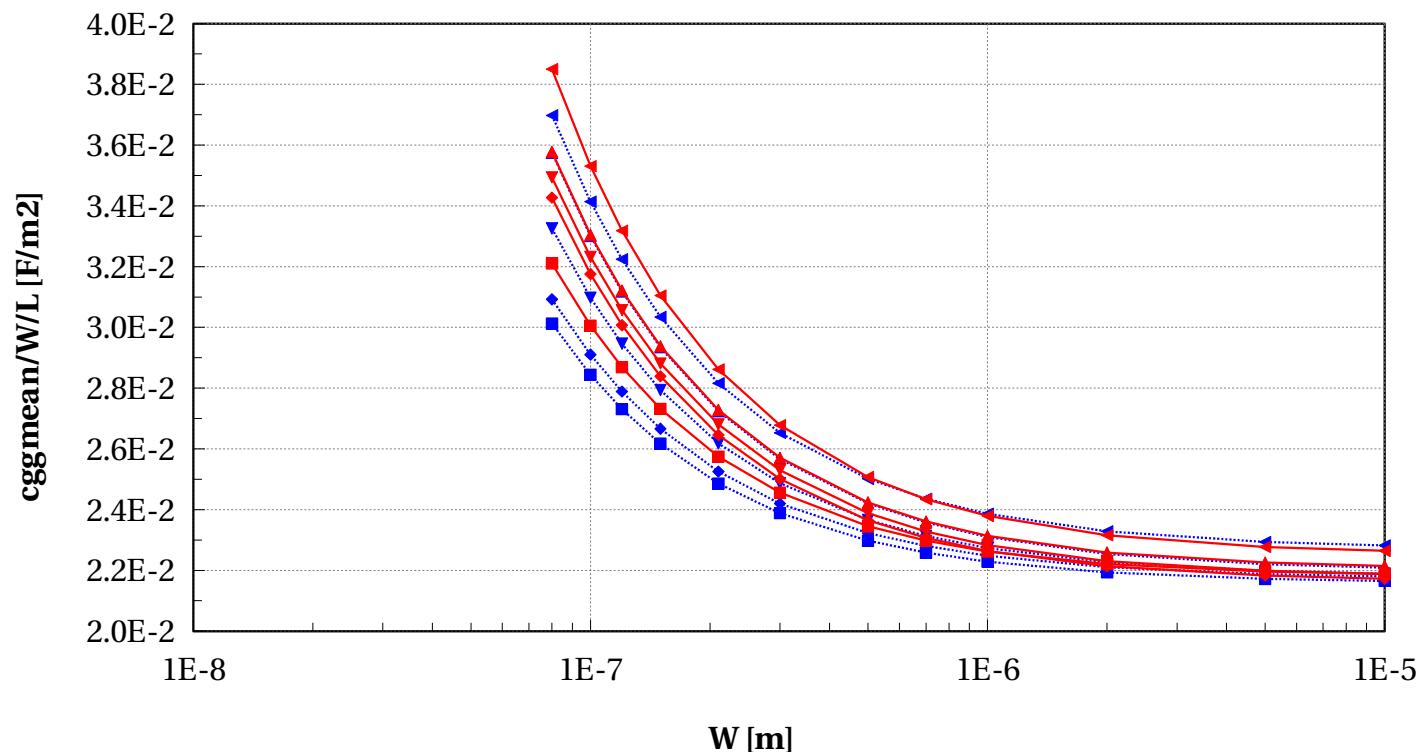
lvtnfet_acc, C_{gg}_inv/W/L [F/m²] vs W [m]

$I = 0.030e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



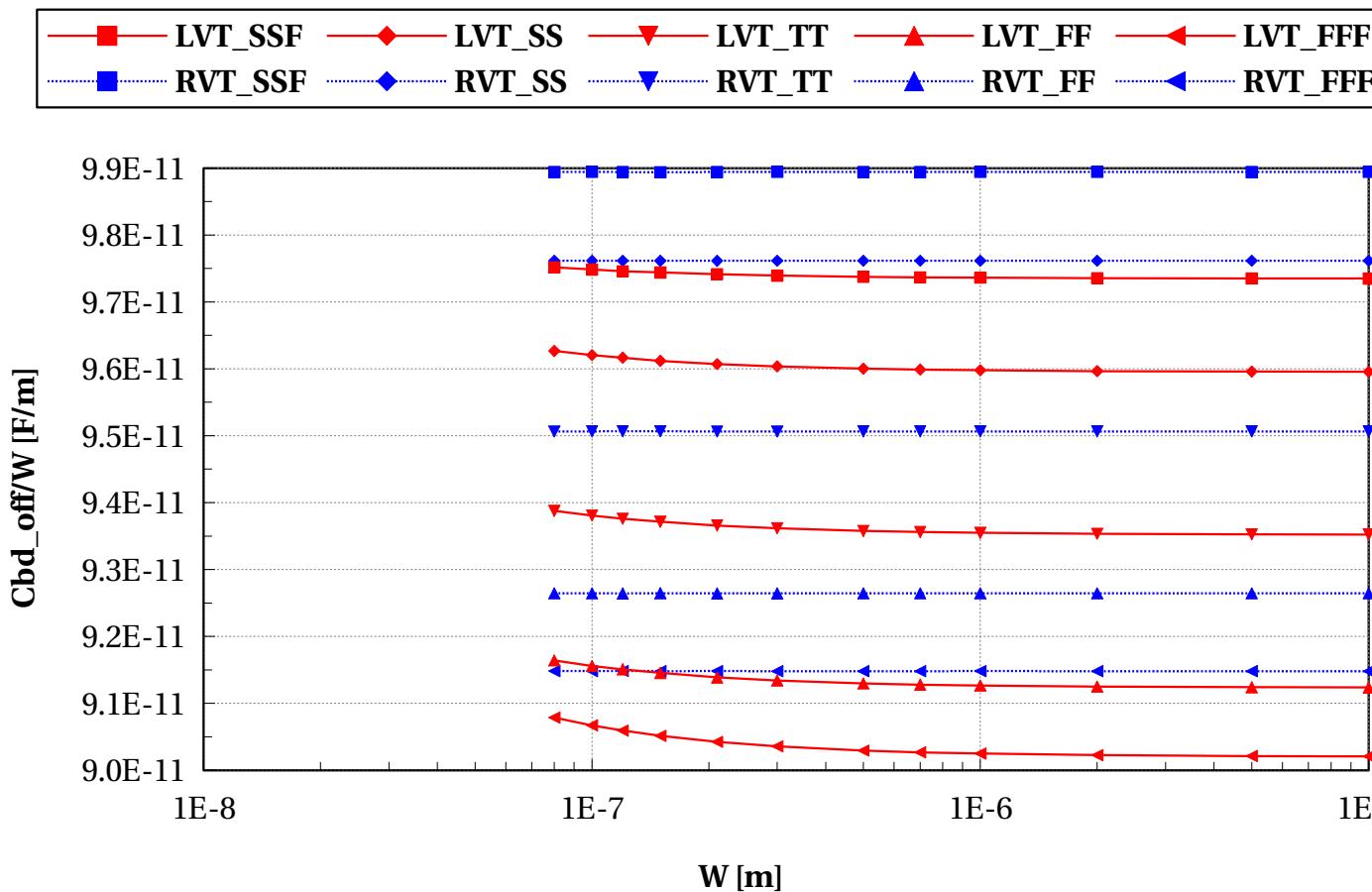
lvtnfet_acc, cggmean/W/L [F/m²] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{la} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



lvtnfet_acc, Cbd_off/W [F/m] vs W [m]

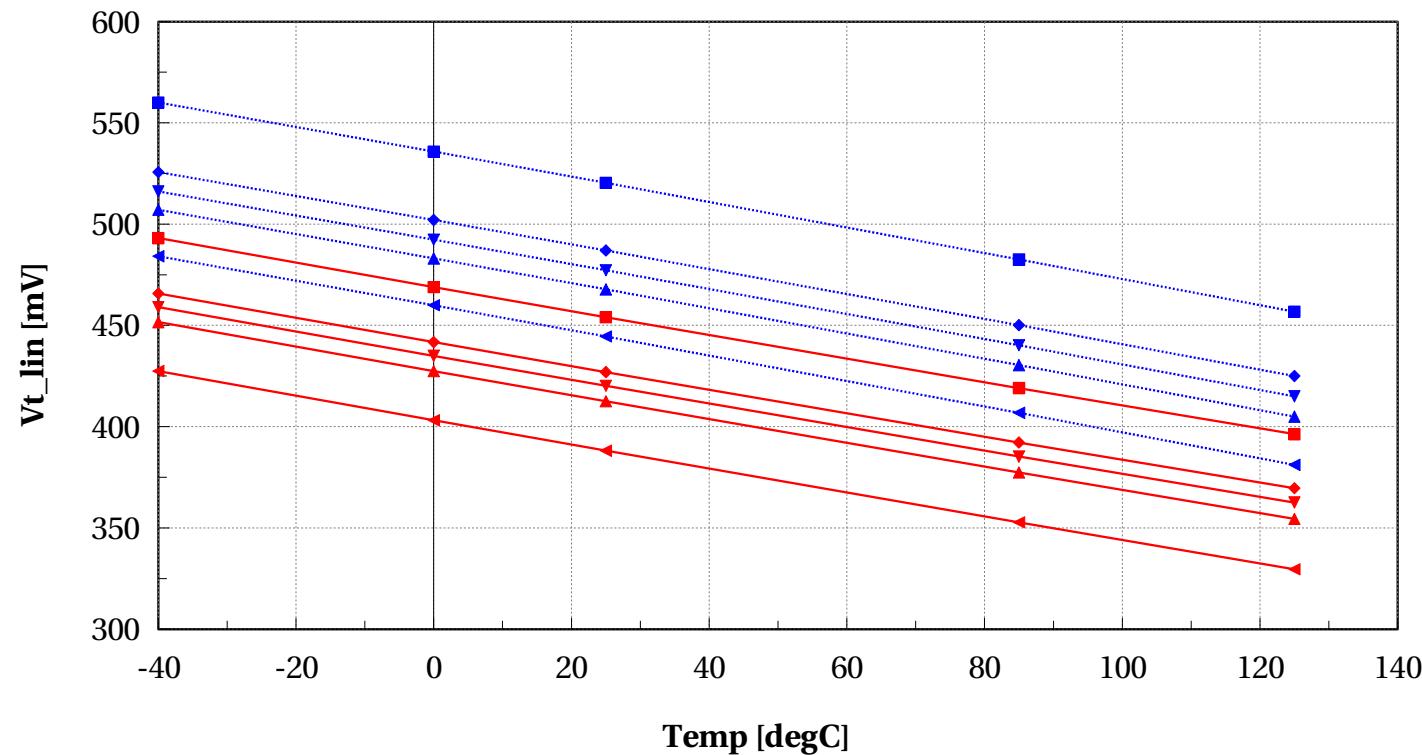
$I = 0.030e-6$ and $Temp = 25$ and $p_la = 0$ and $devType = "PCELLwoWPE"$



Scaling versus Temp (L=1um,W=1um)

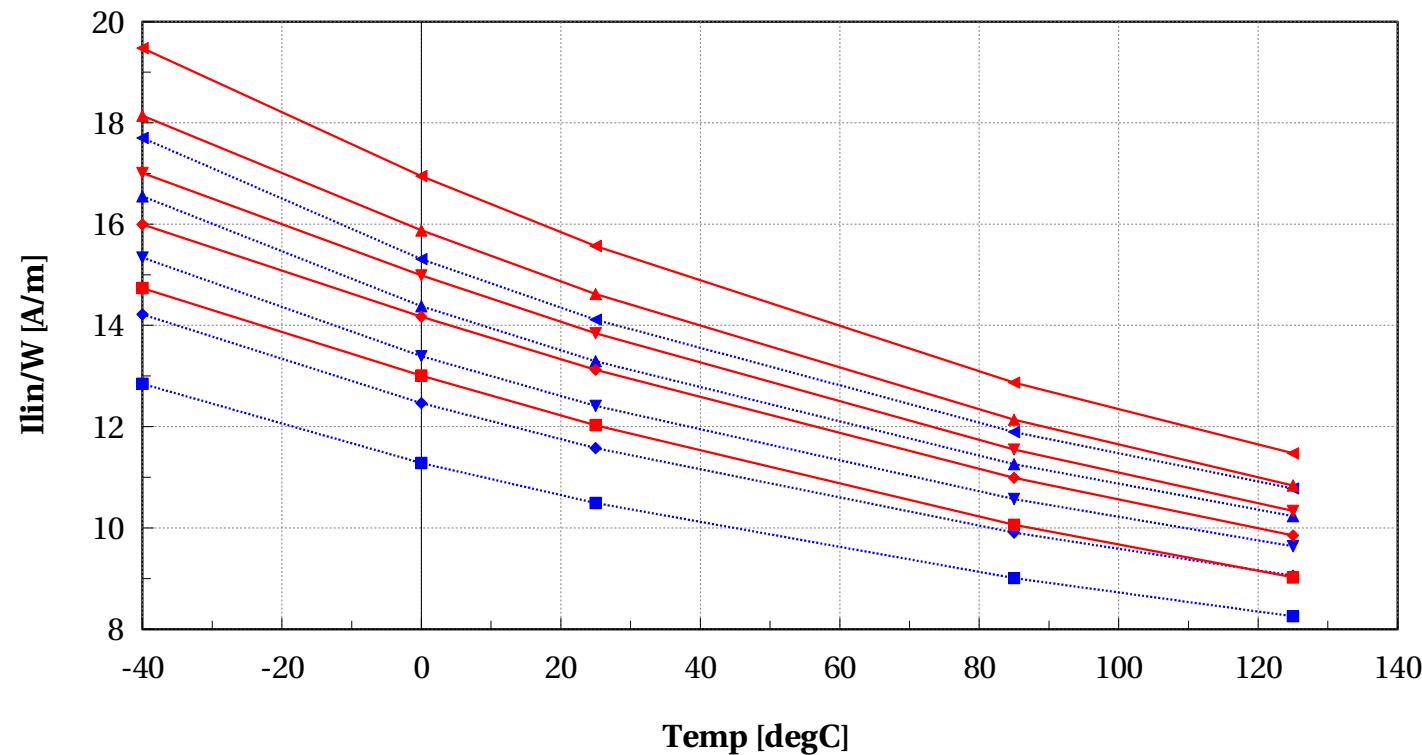
lvtnfet_acc, Vt_lin [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



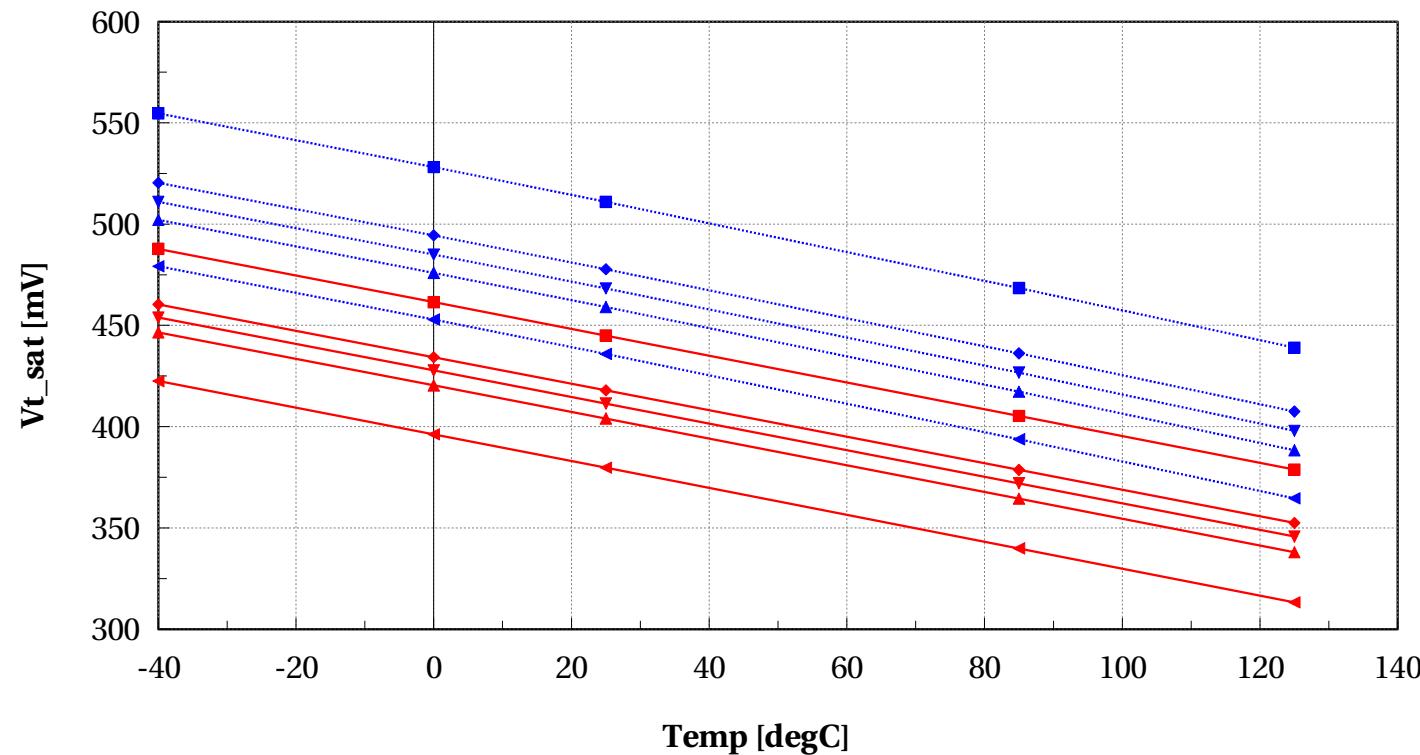
Ivtnfet_acc, Ilin/W [A/m] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



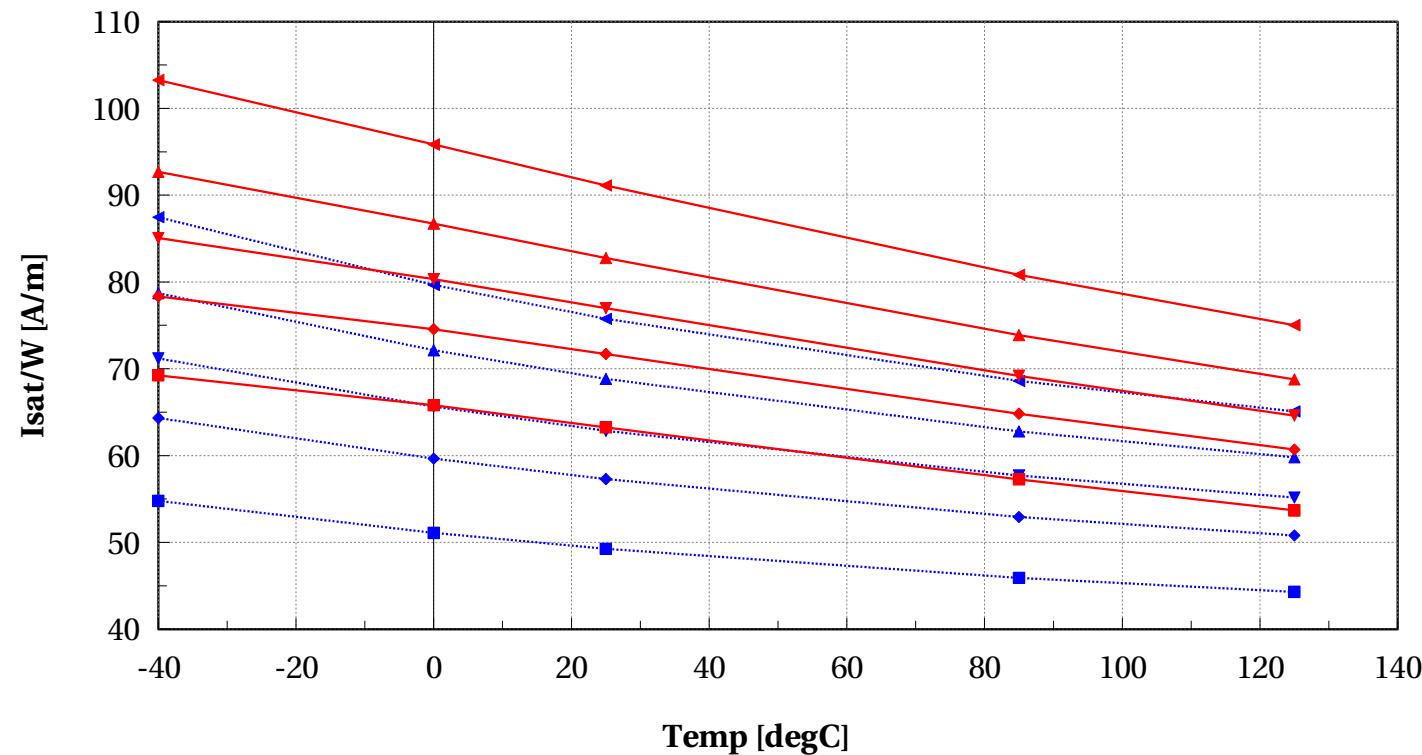
lvtnfet_acc, Vt_sat [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



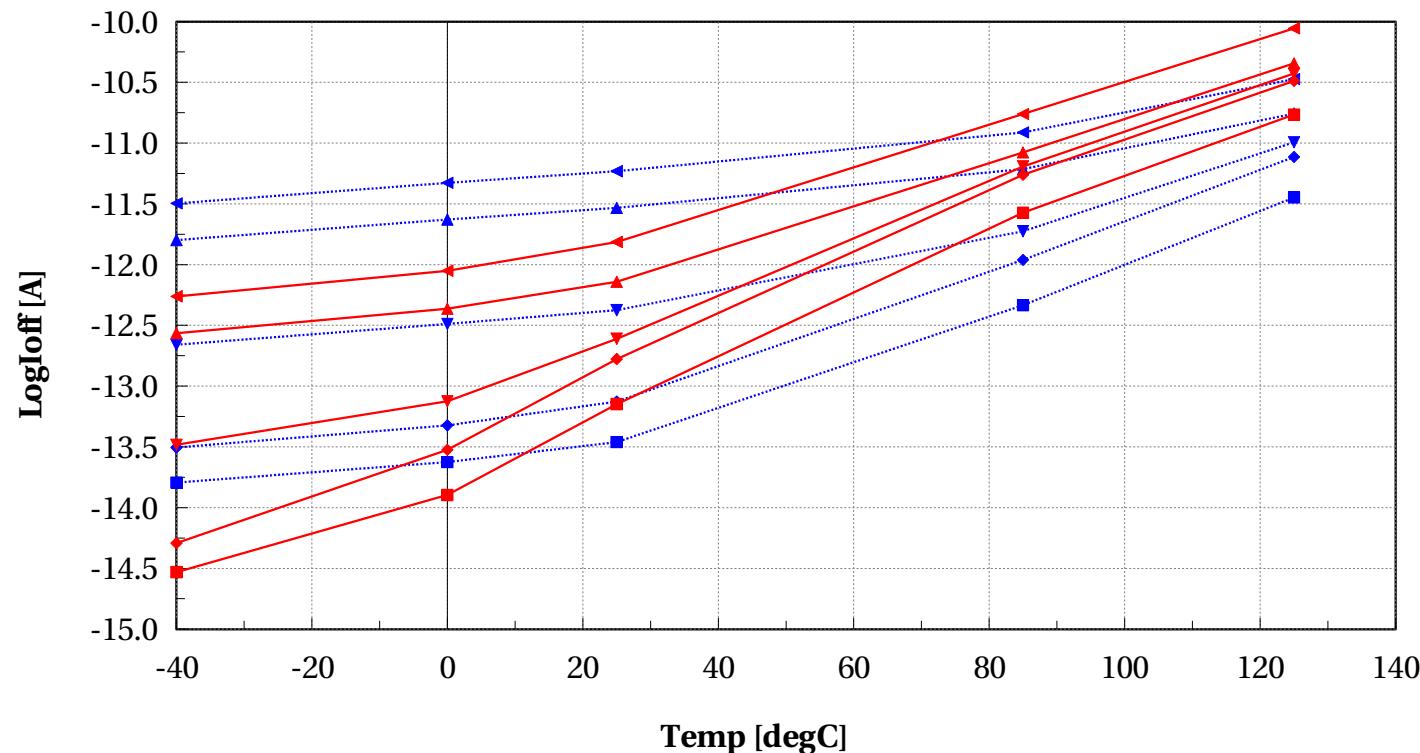
lvtnfet_acc, Isat/W [A/m] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



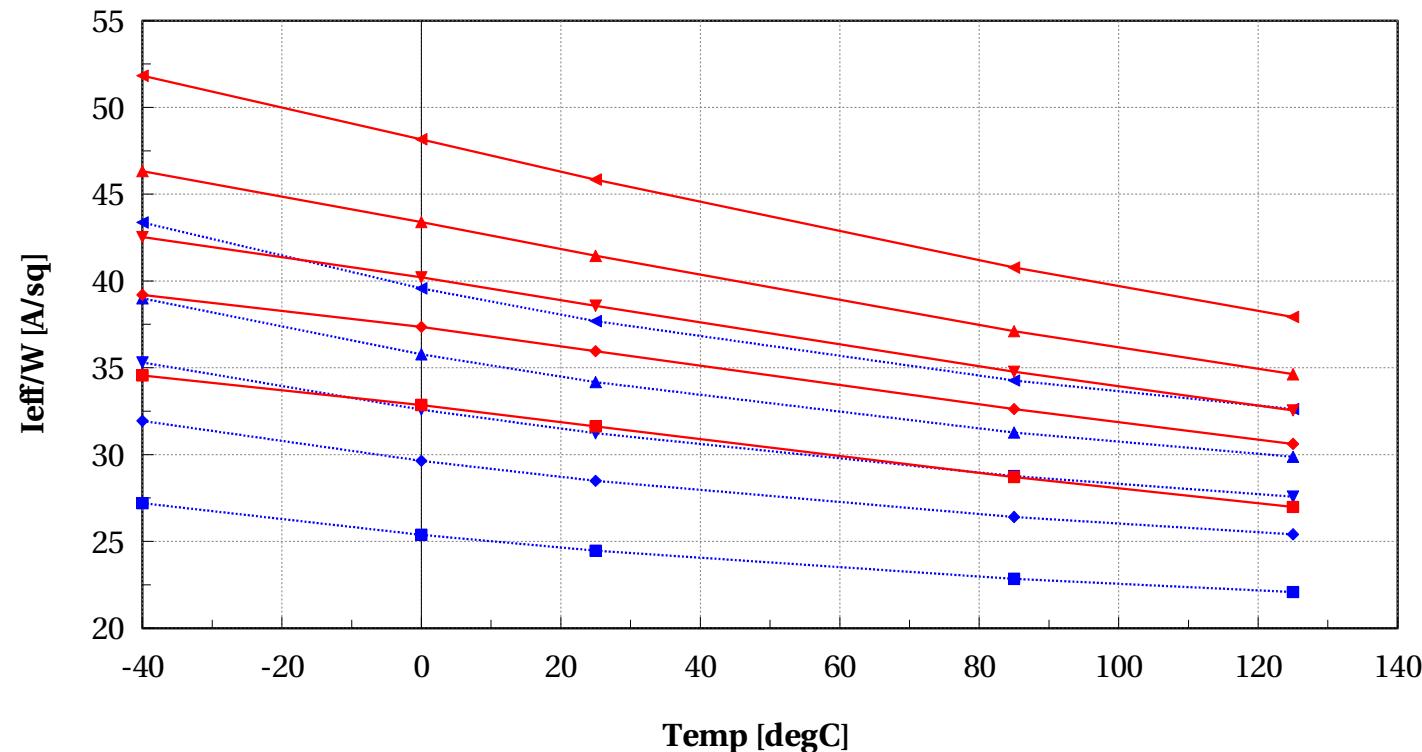
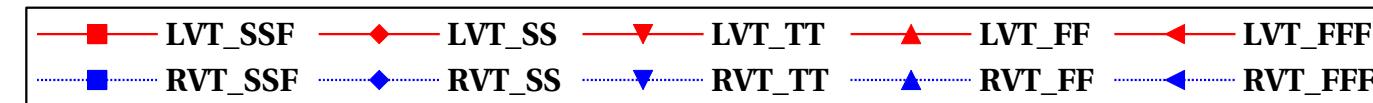
lvtnfet_acc, LogIoff [A] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



Ivtnfet_acc, Ieff/W [A/sq] vs Temp [degC]

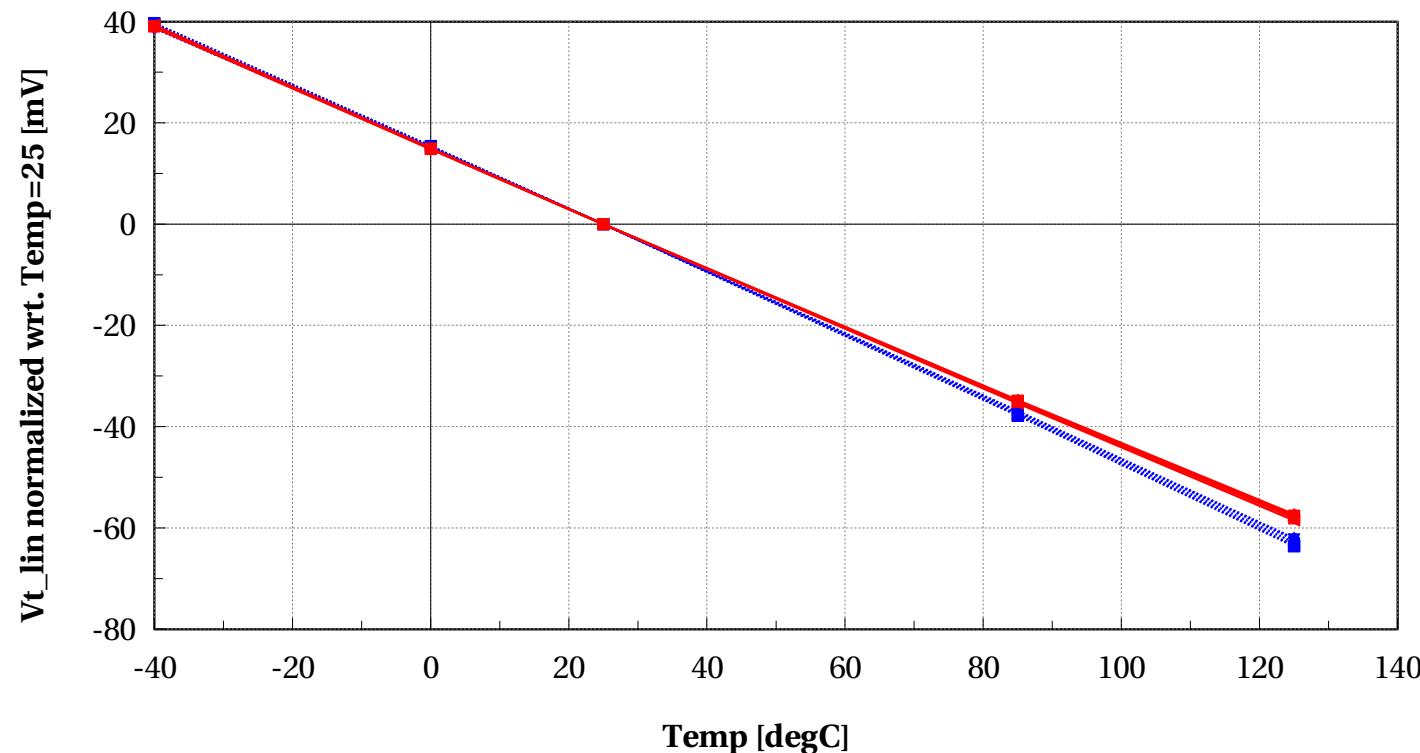
w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



Scaling versus Temp normalized (L=1um,W=1um)

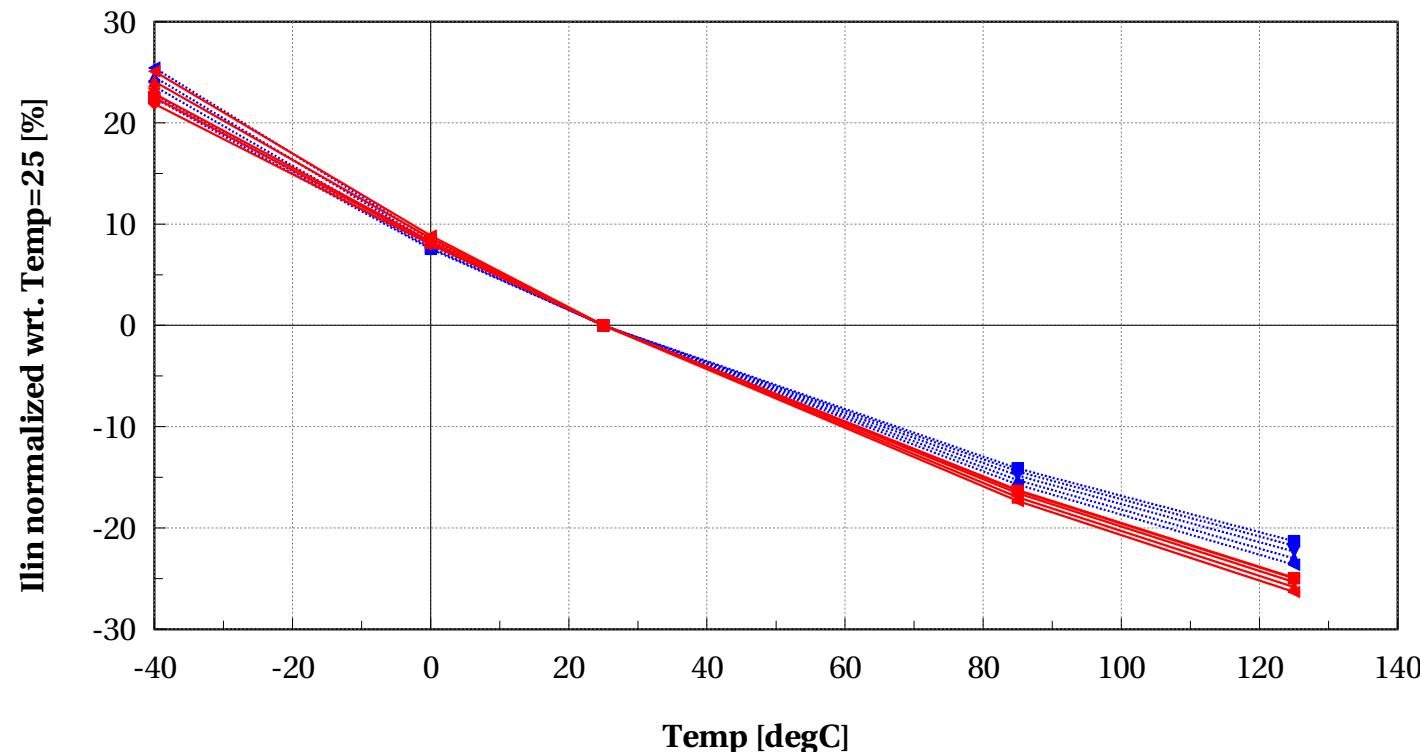
lvtnfet_acc, Vt_lin normalized wrt. Temp=25 [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



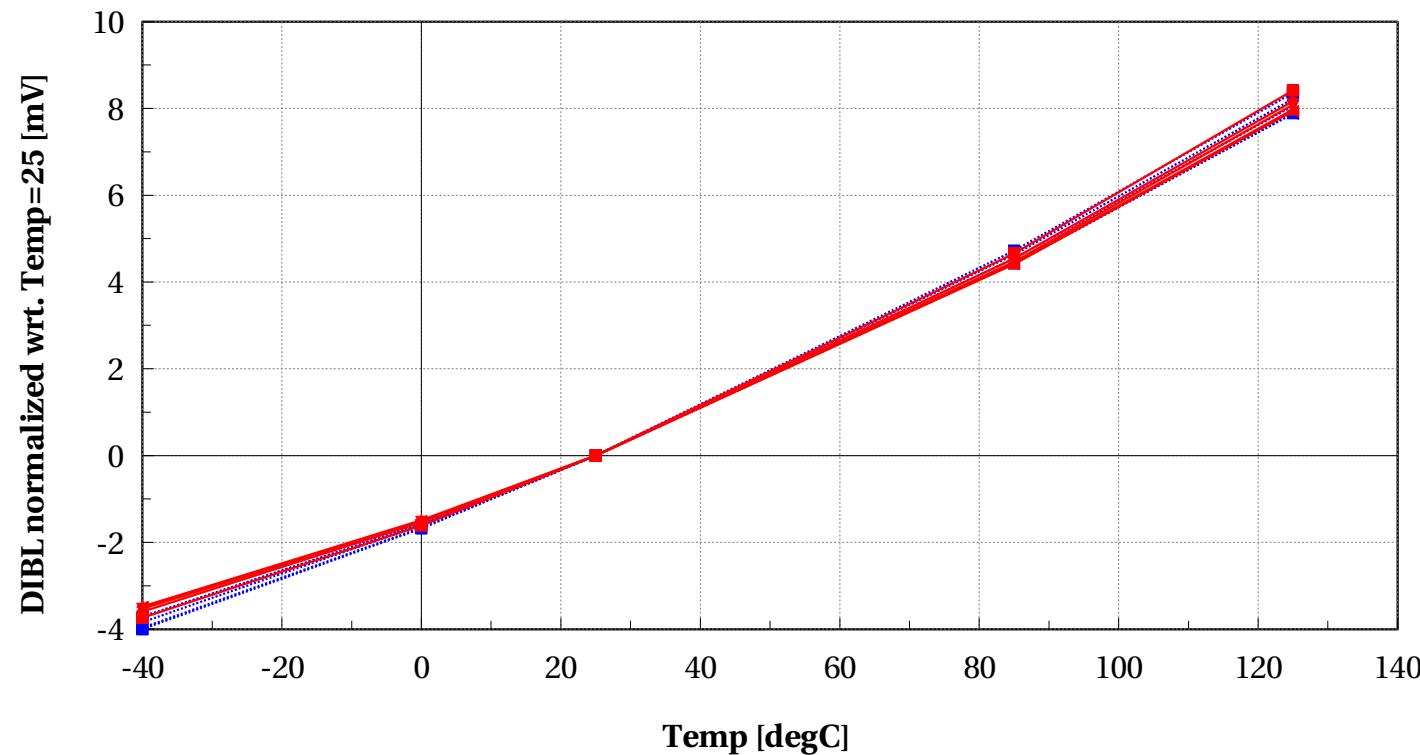
lvtnfet_acc, Ilin normalized wrt. Temp=25 [%] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



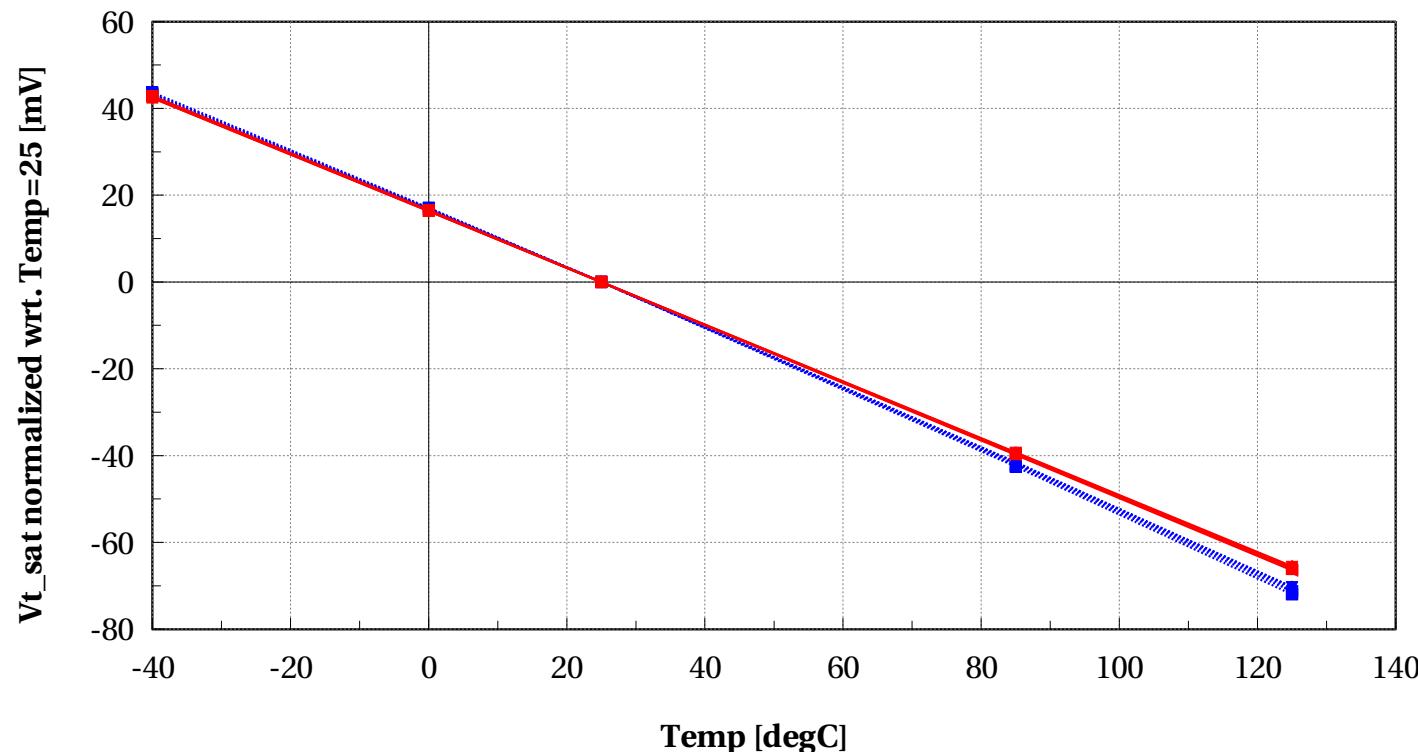
lvtnfet_acc, DIBL normalized wrt. Temp=25 [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



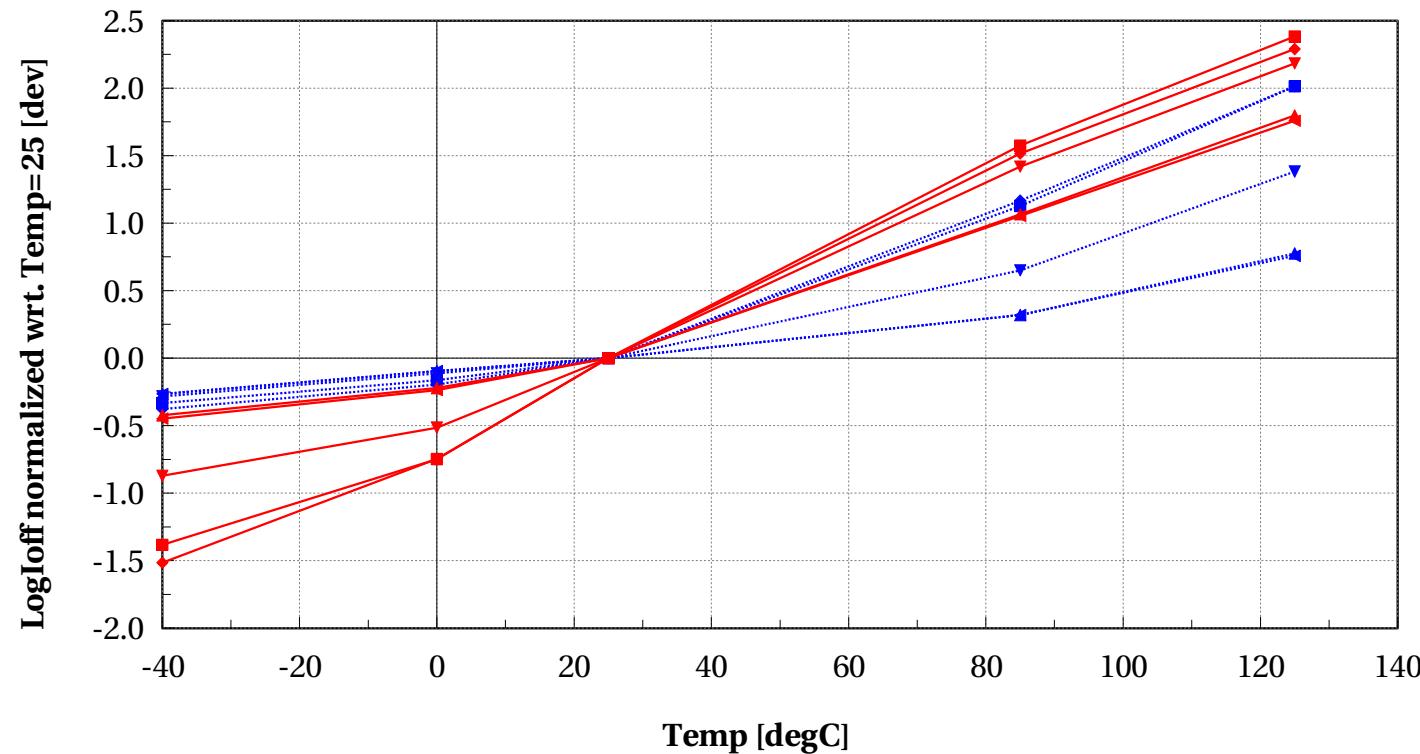
lvtnfet_acc, Vt_sat normalized wrt. Temp=25 [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



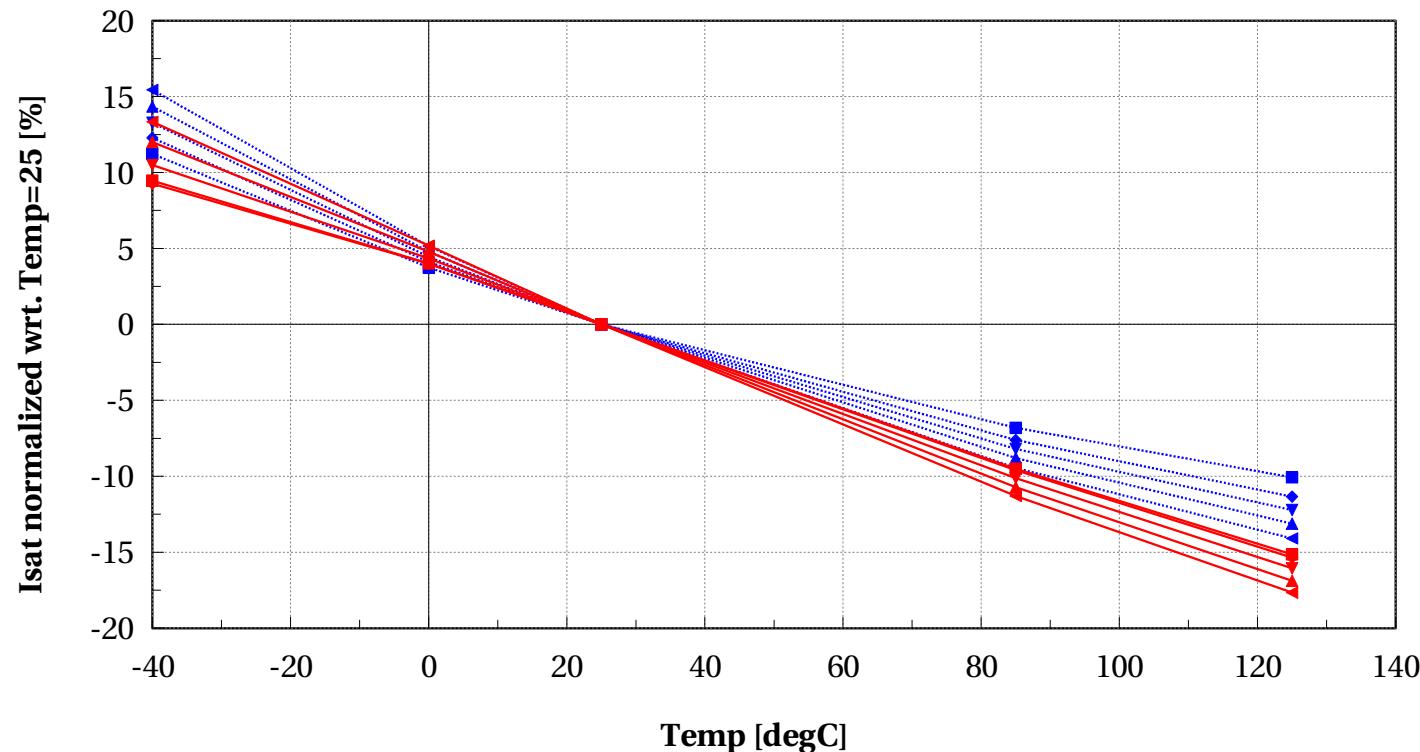
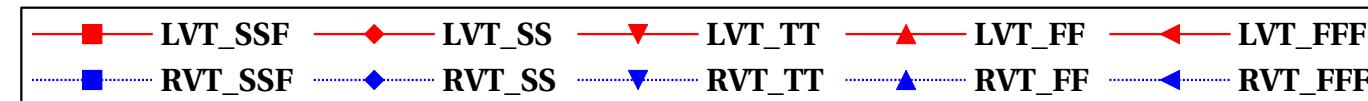
lvtnfet_acc, LogIoff normalized wrt. Temp=25 [dev] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



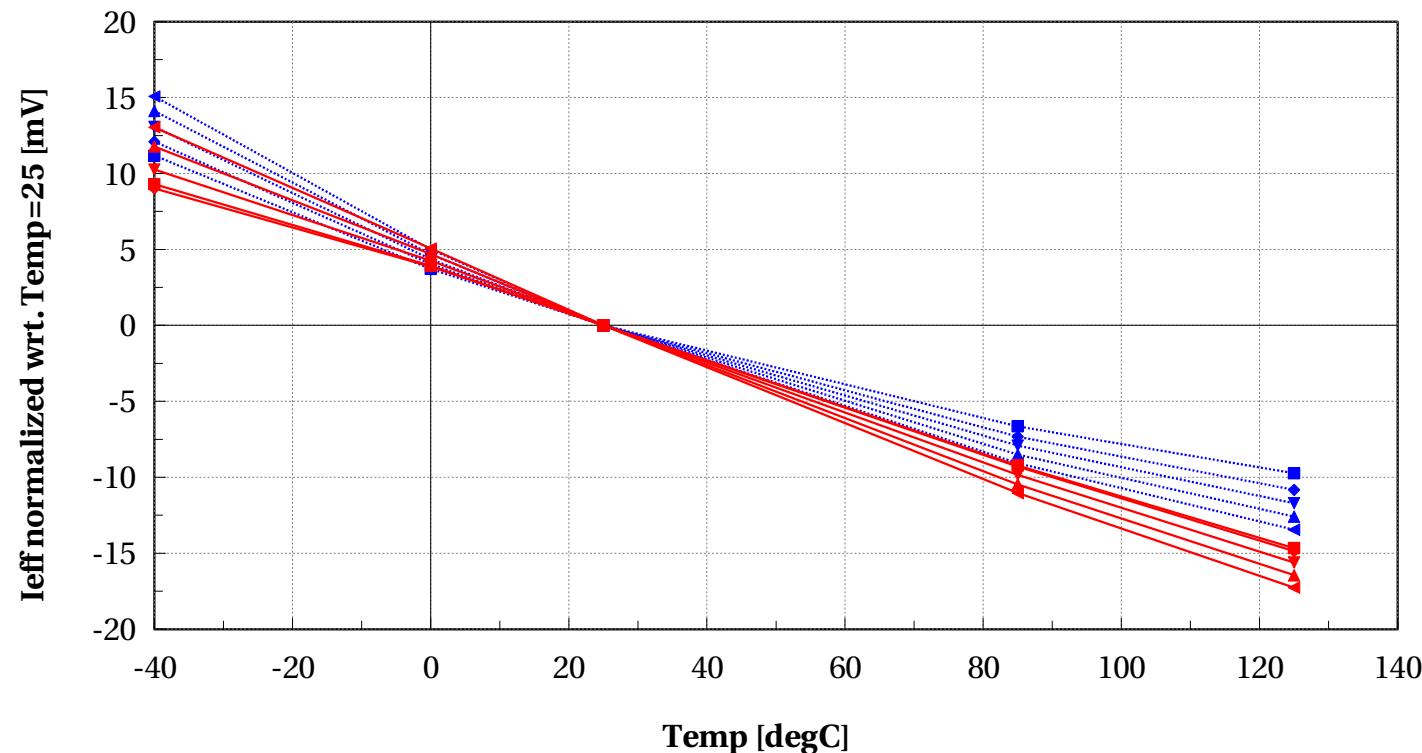
lvtnfet_acc, Isat normalized wrt. Temp=25 [%] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



lvtnfet_acc, Ieff normalized wrt. Temp=25 [mV] vs Temp [degC]

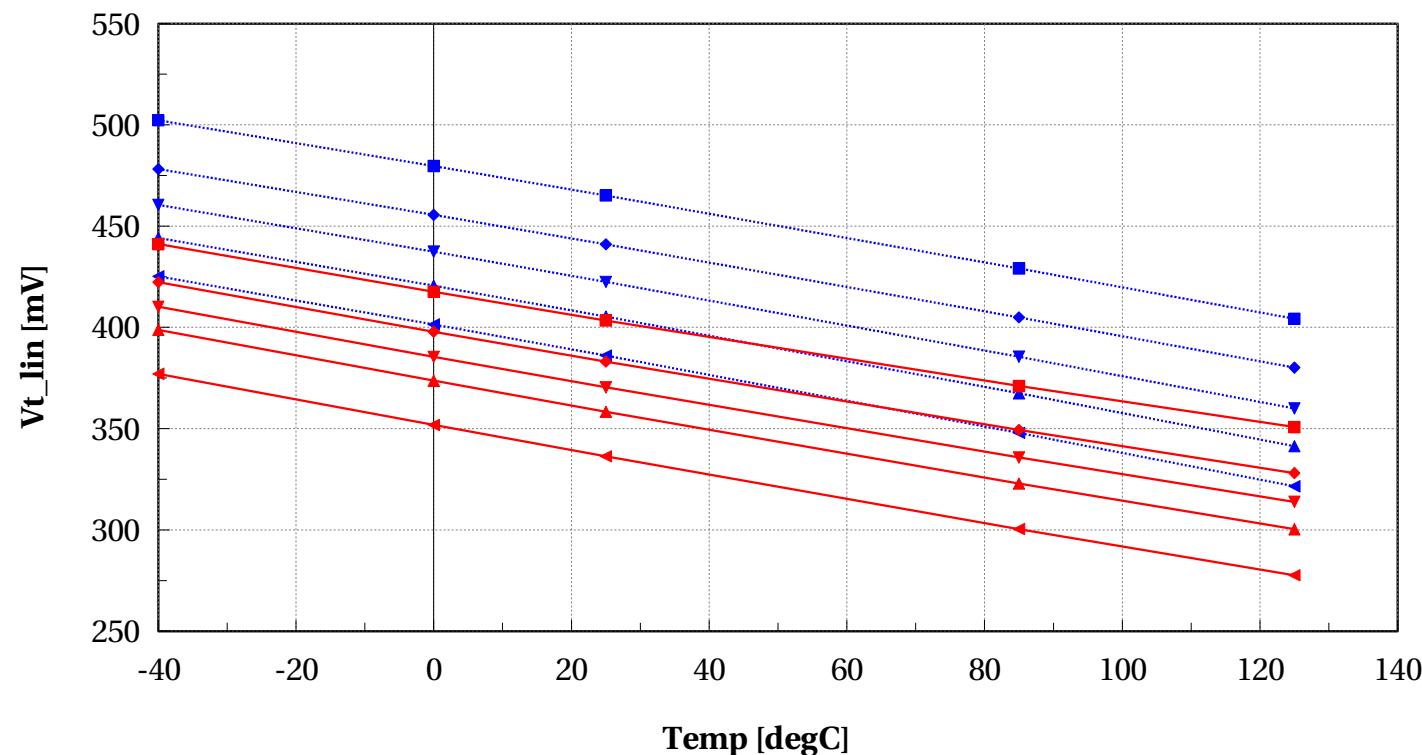
w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



Scaling versus Temp (L=30nm,W=210nm)

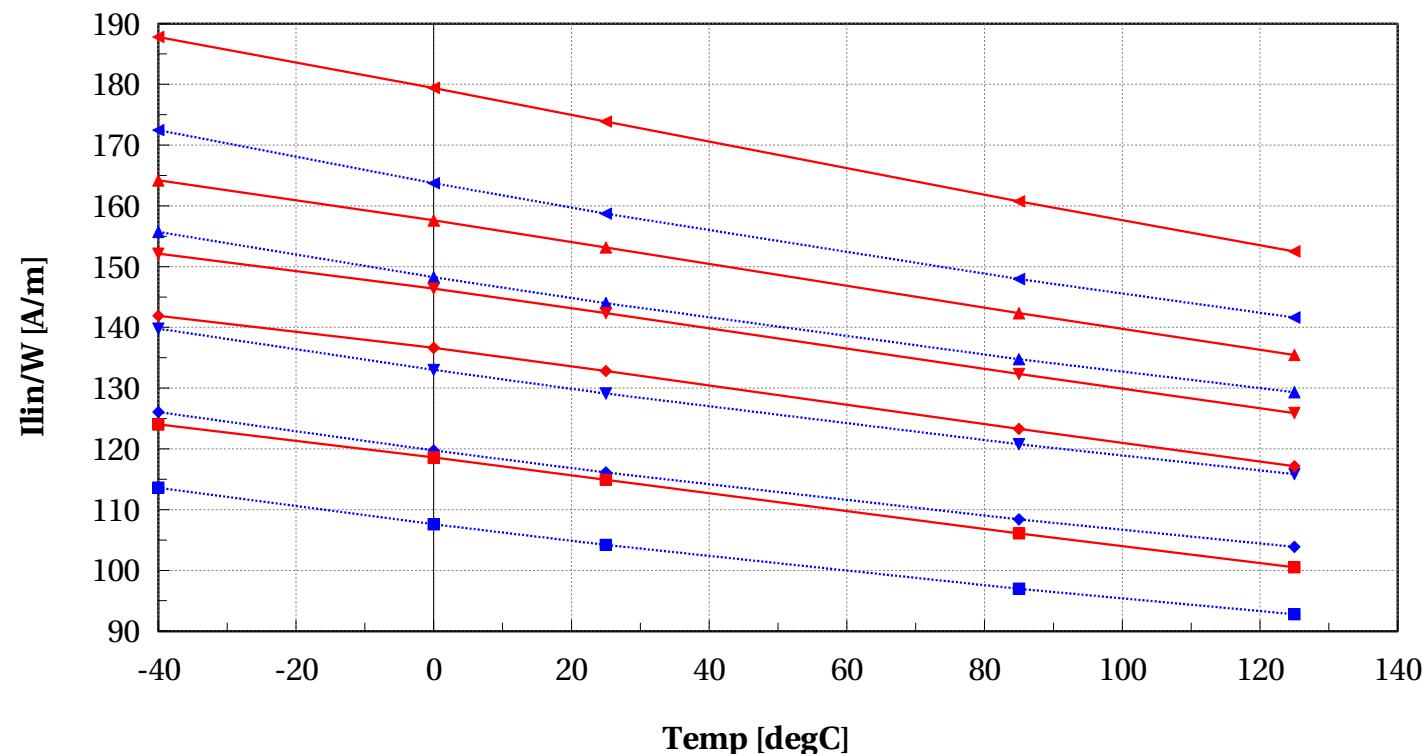
lvtnfet_acc, Vt_lin [mV] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



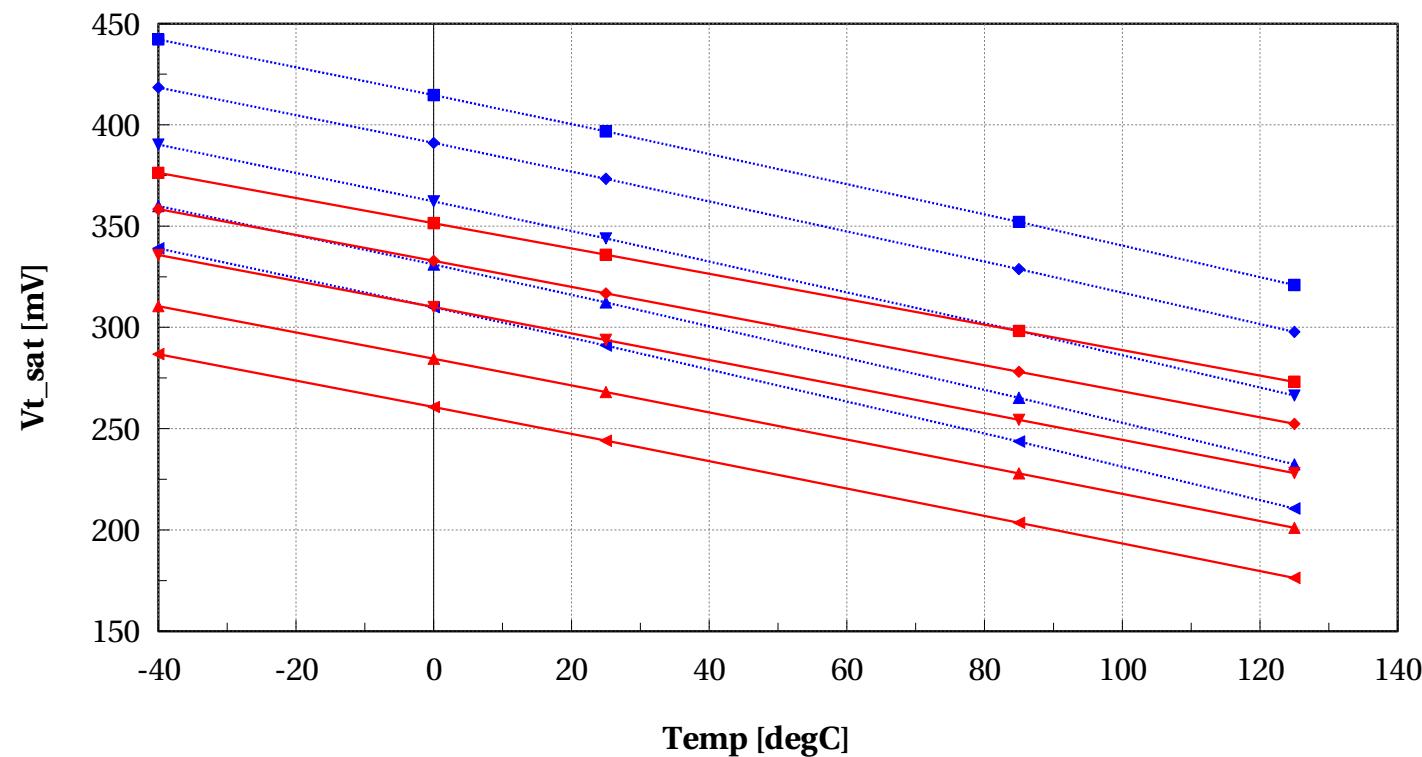
Ivtnfet_acc, Ilin/W [A/m] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



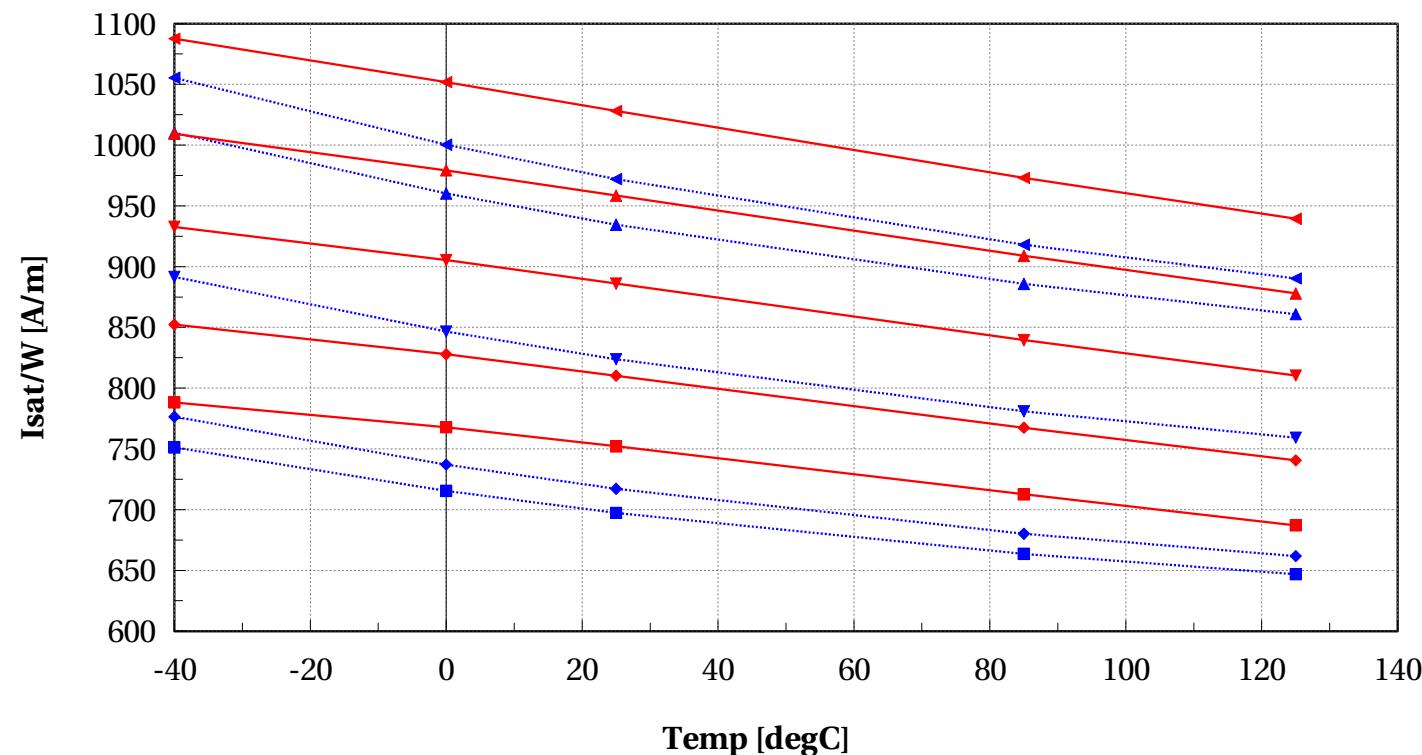
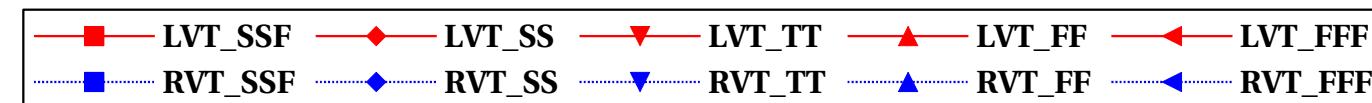
lvtnfet_acc, Vt_sat [mV] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



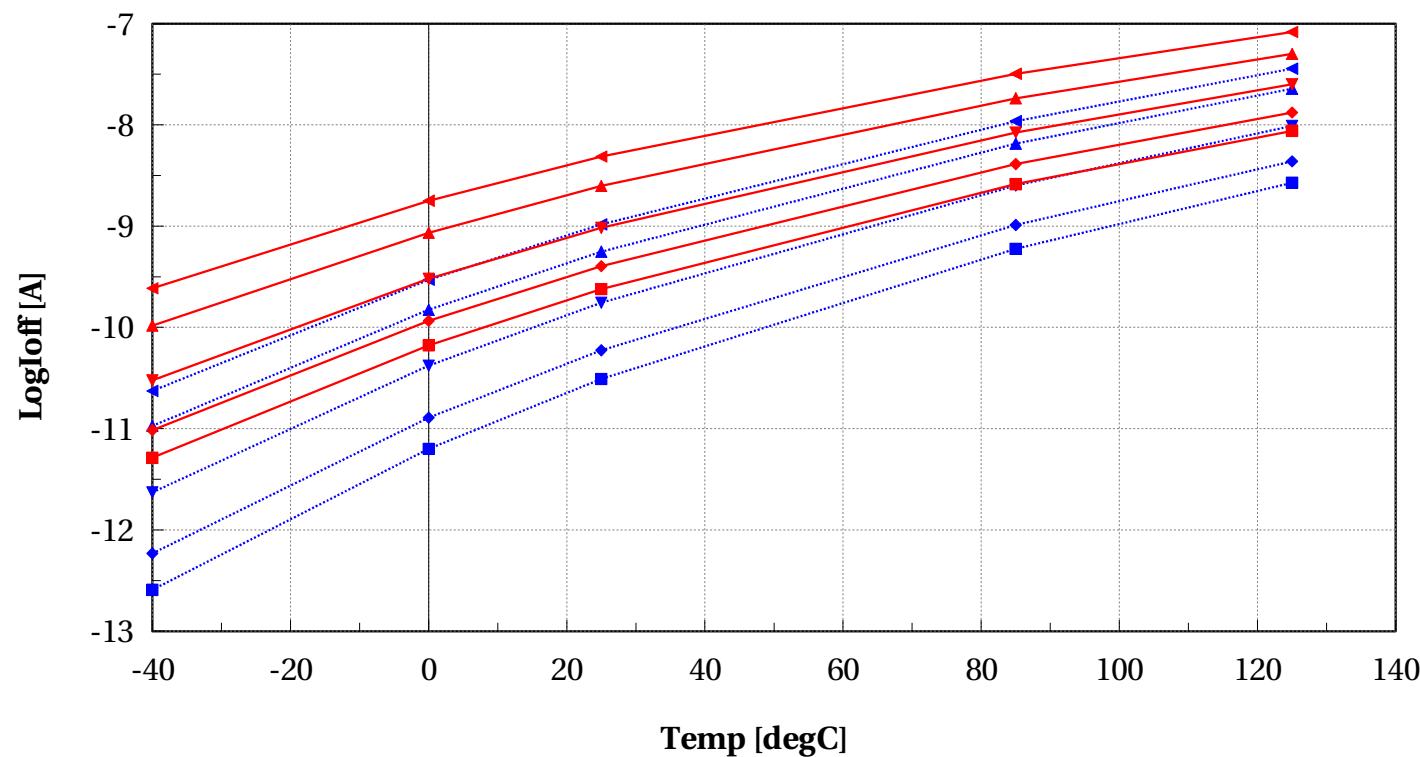
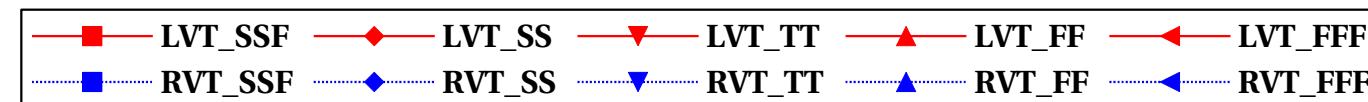
lvtnfet_acc, Isat/W [A/m] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



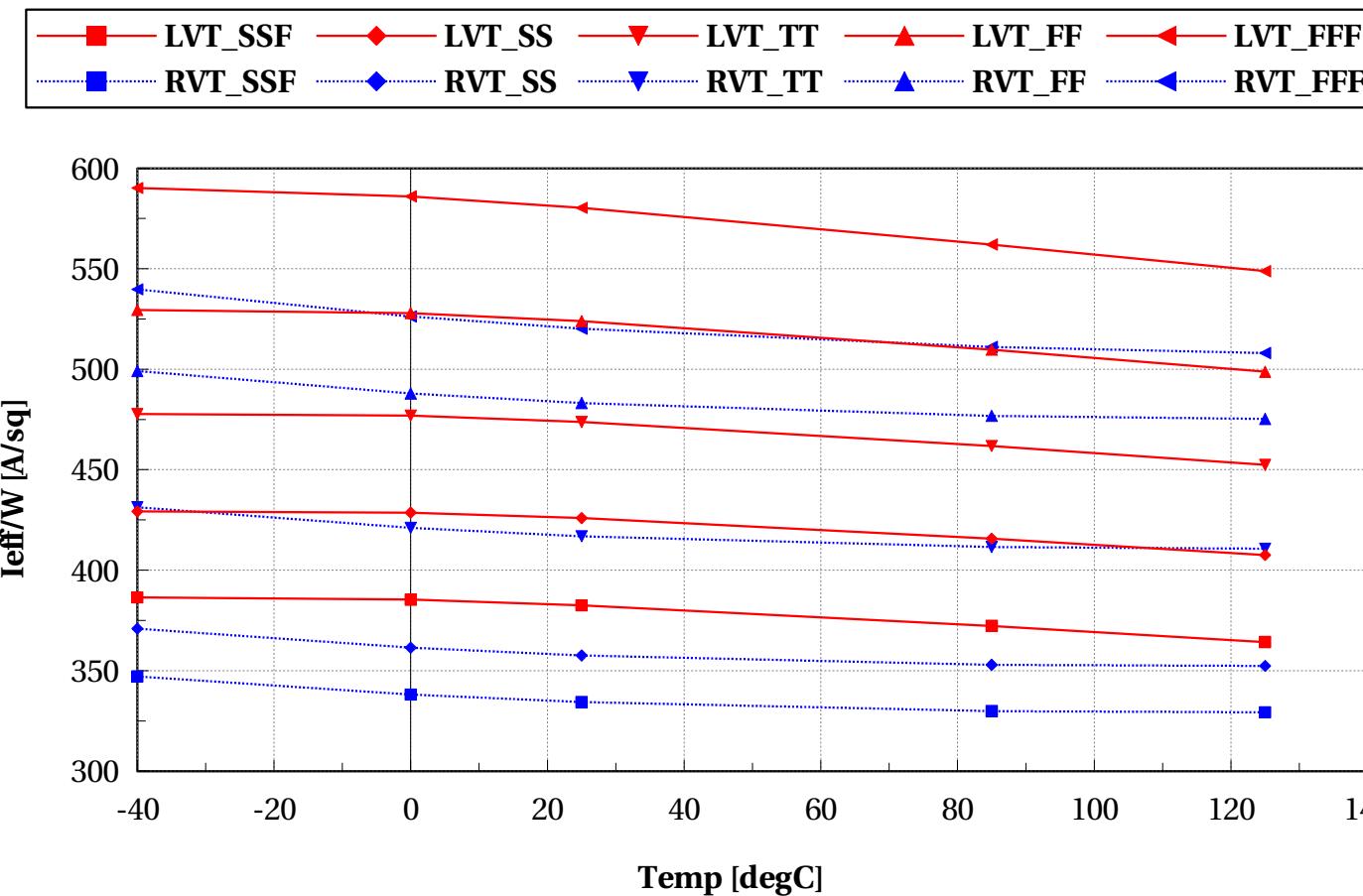
lvtnfet_acc, LogIoff [A] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



Ivtnfet_acc, Ieff/W [A/sq] vs Temp [degC]

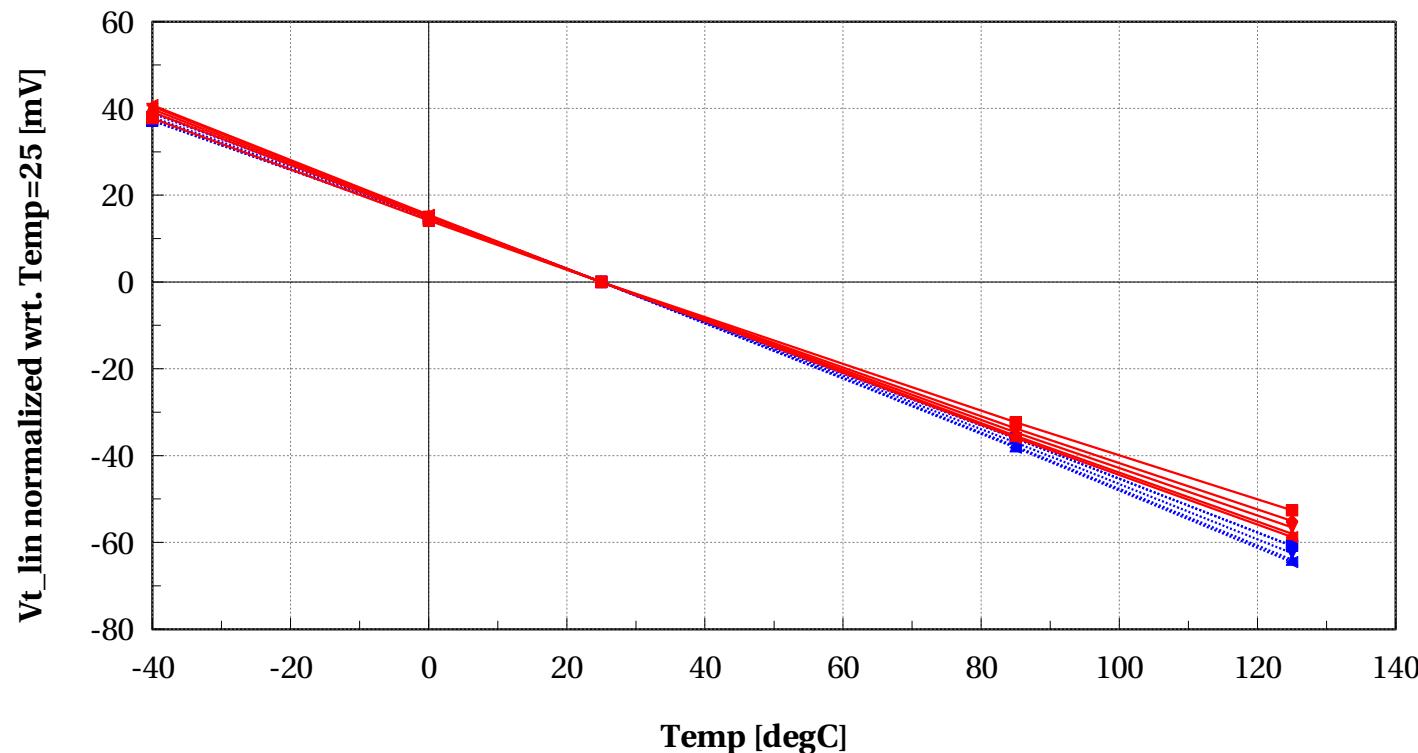
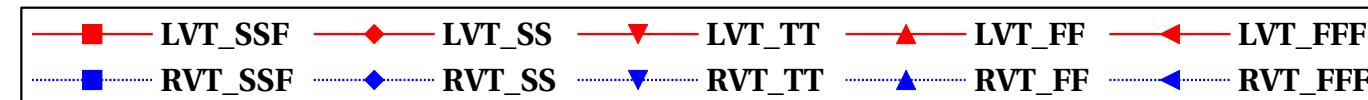
w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



Scaling versus Temp normalized (L=30nm,W=210nm)

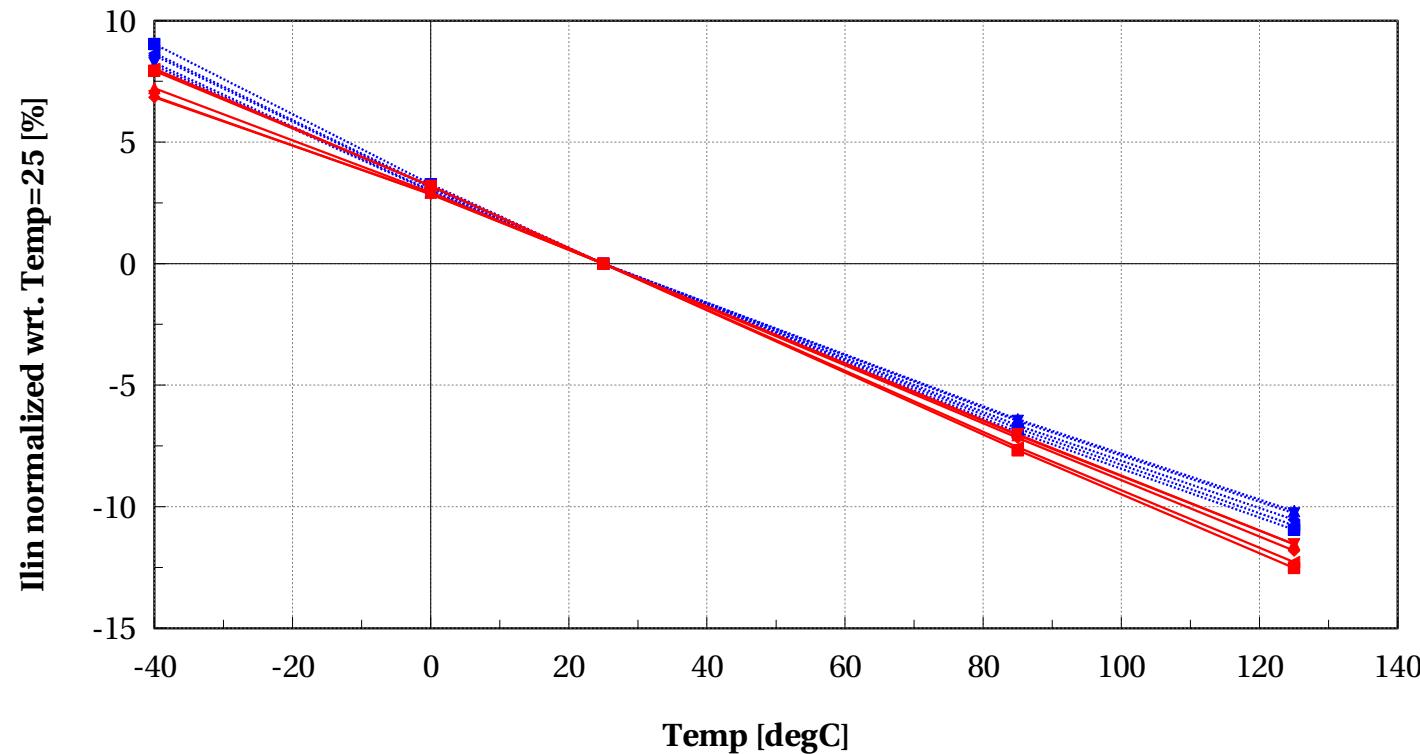
lvtnfet_acc, Vt_lin normalized wrt. Temp=25 [mV] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



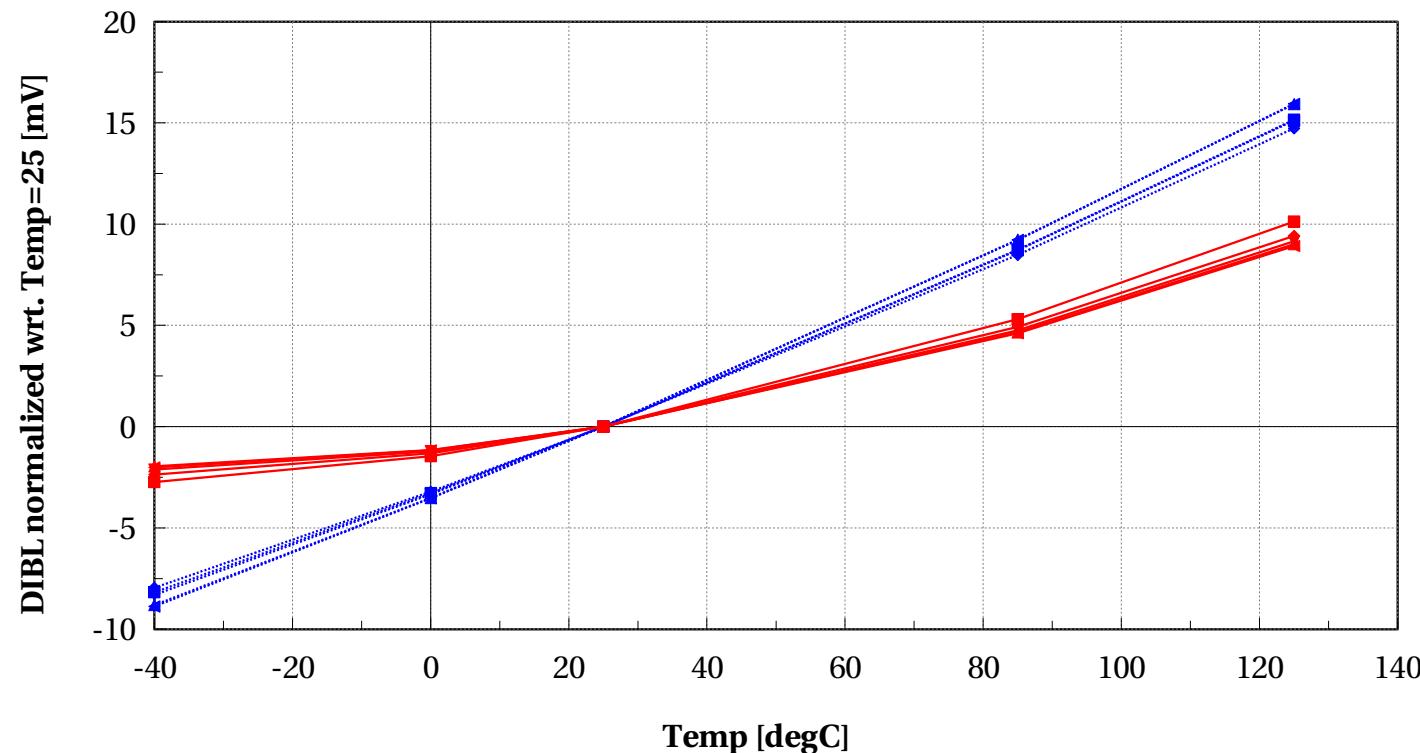
lvtnfet_acc, Ilin normalized wrt. Temp=25 [%] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



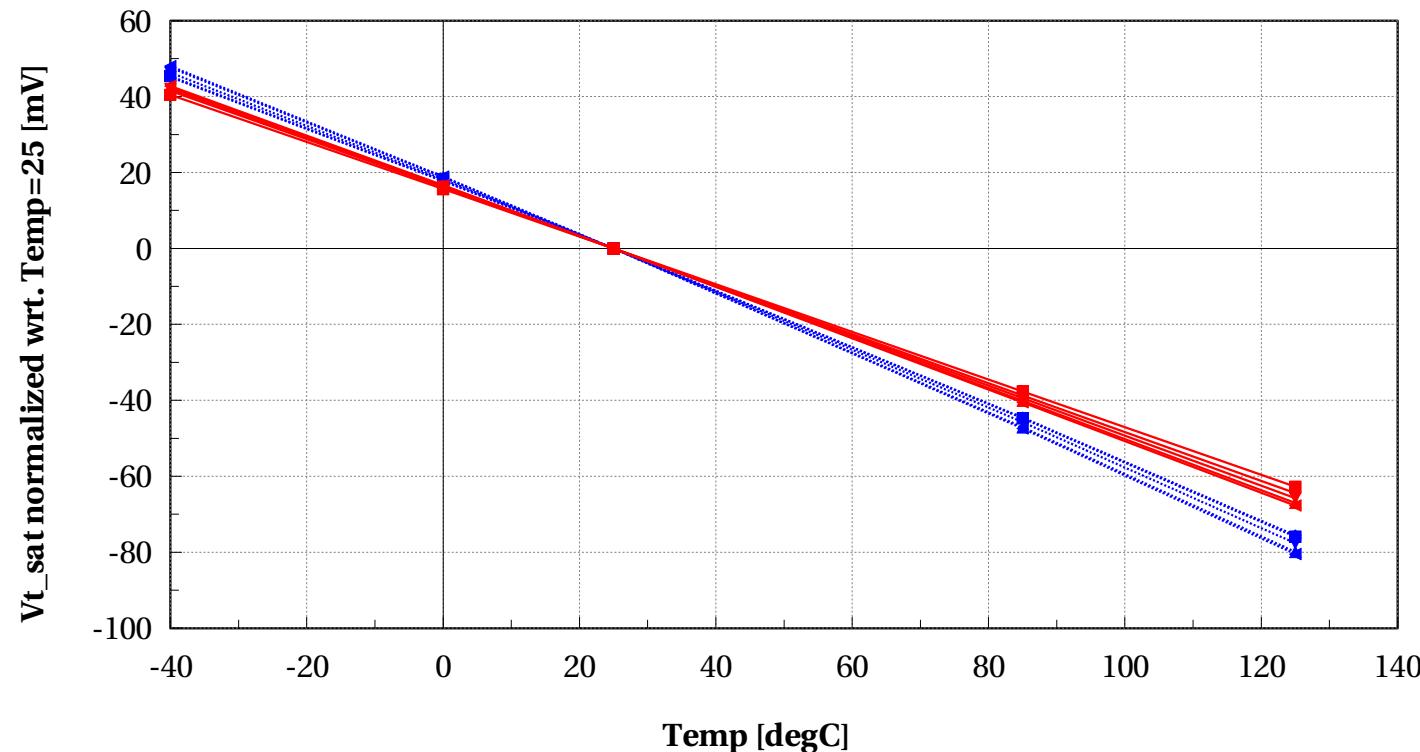
lvtnfet_acc, DIBL normalized wrt. Temp=25 [mV] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



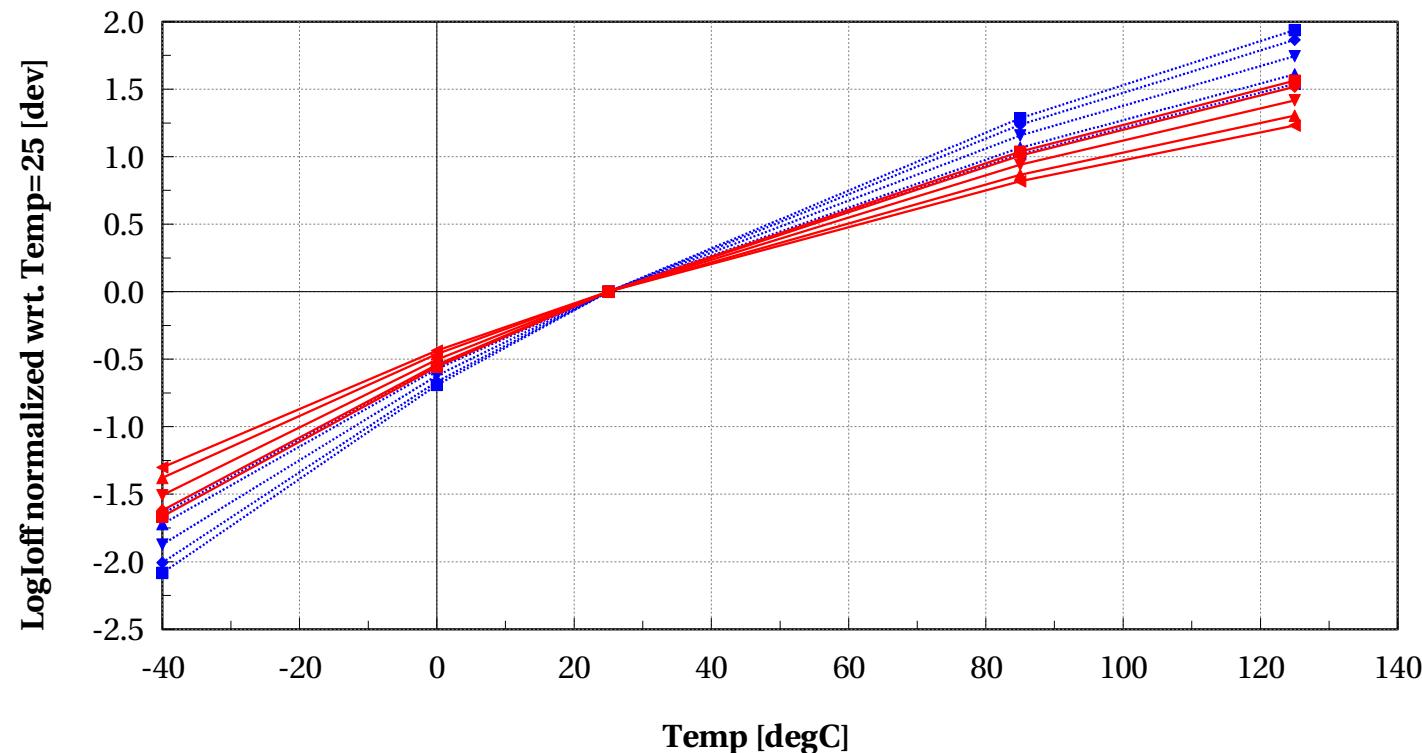
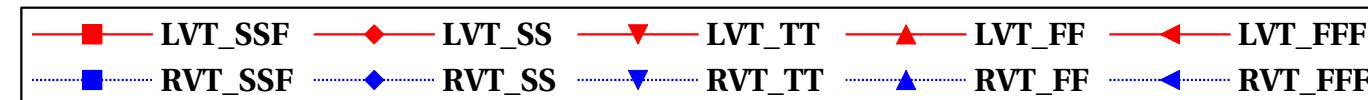
lvtnfet_acc, Vt_sat normalized wrt. Temp=25 [mV] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



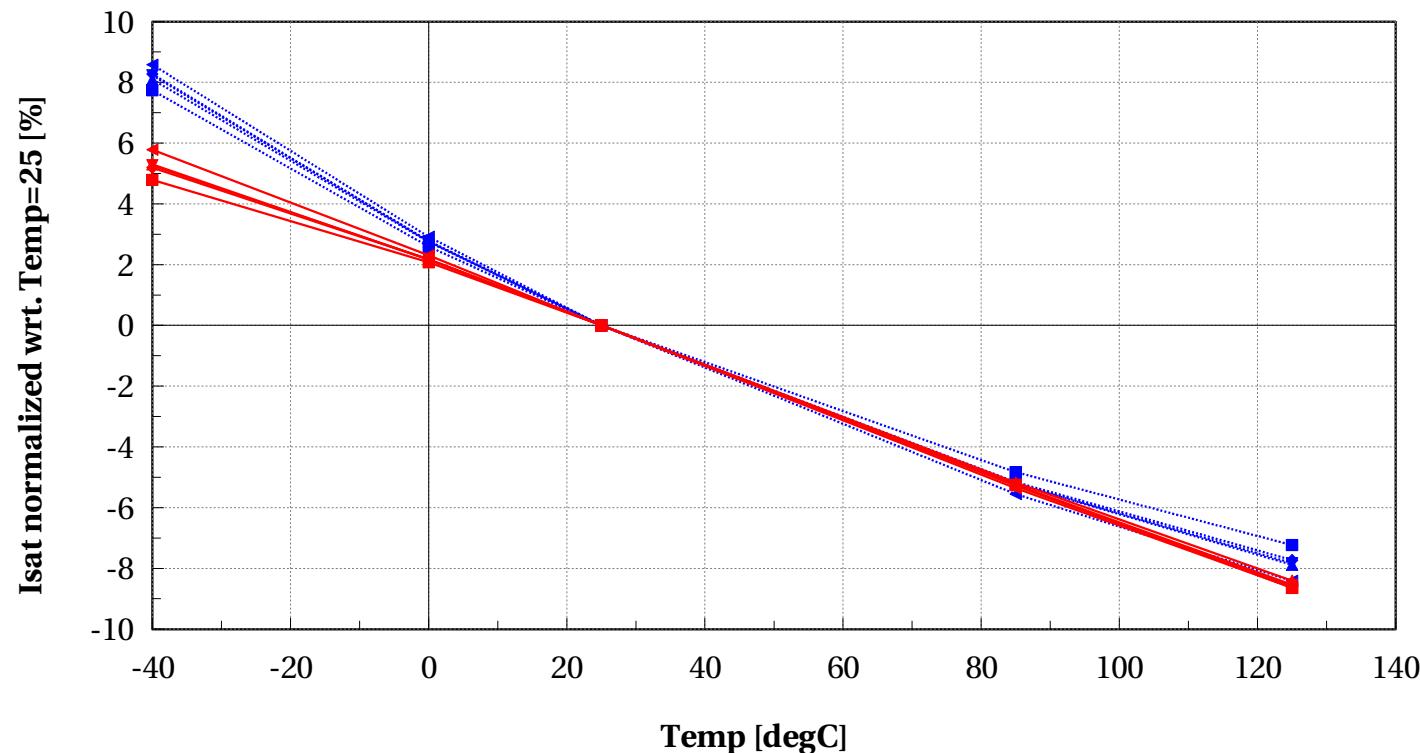
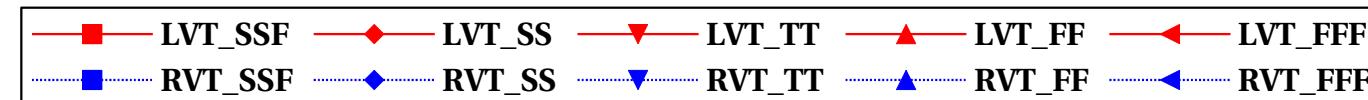
lvtnfet_acc, LogIoff normalized wrt. Temp=25 [dev] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



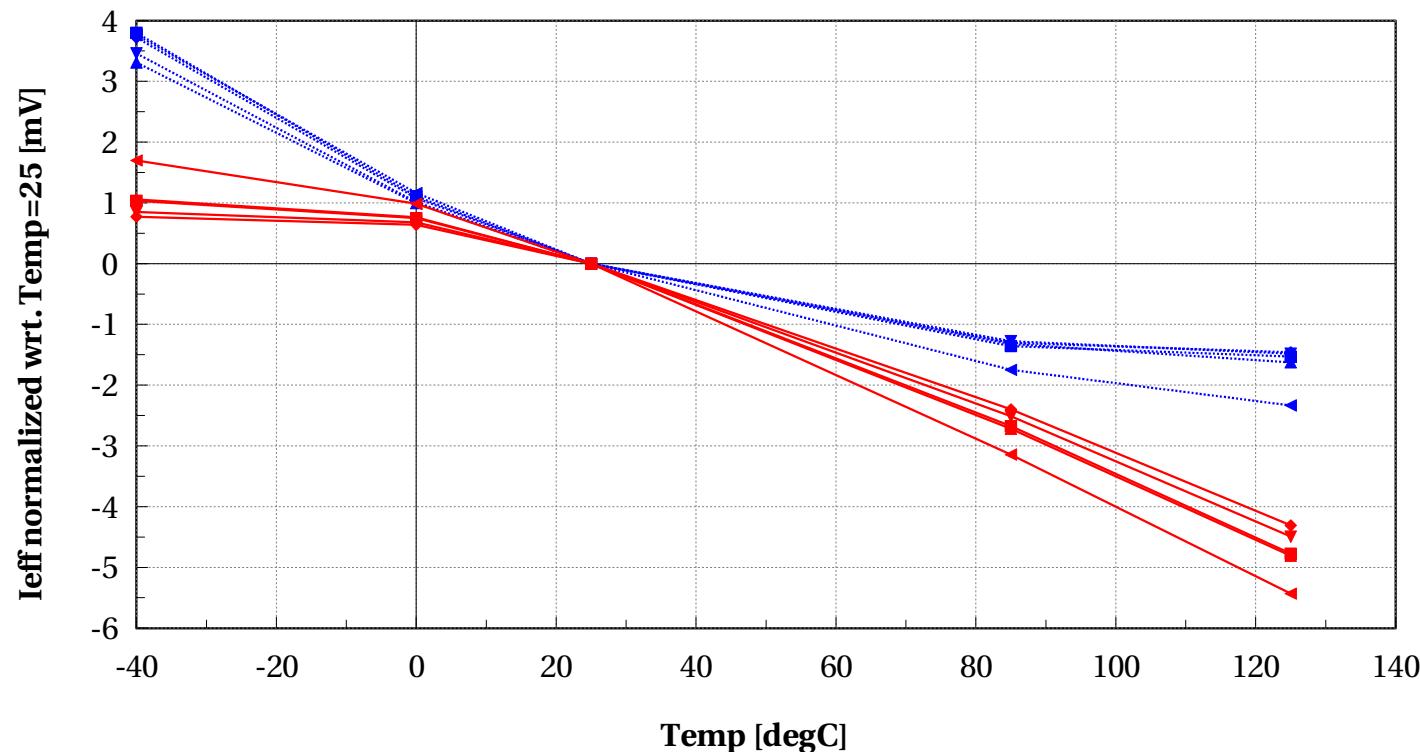
lvtnfet_acc, Isat normalized wrt. Temp=25 [%] vs Temp [degC]

w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



lvtnfet_acc, Ieff normalized wrt. Temp=25 [mV] vs Temp [degC]

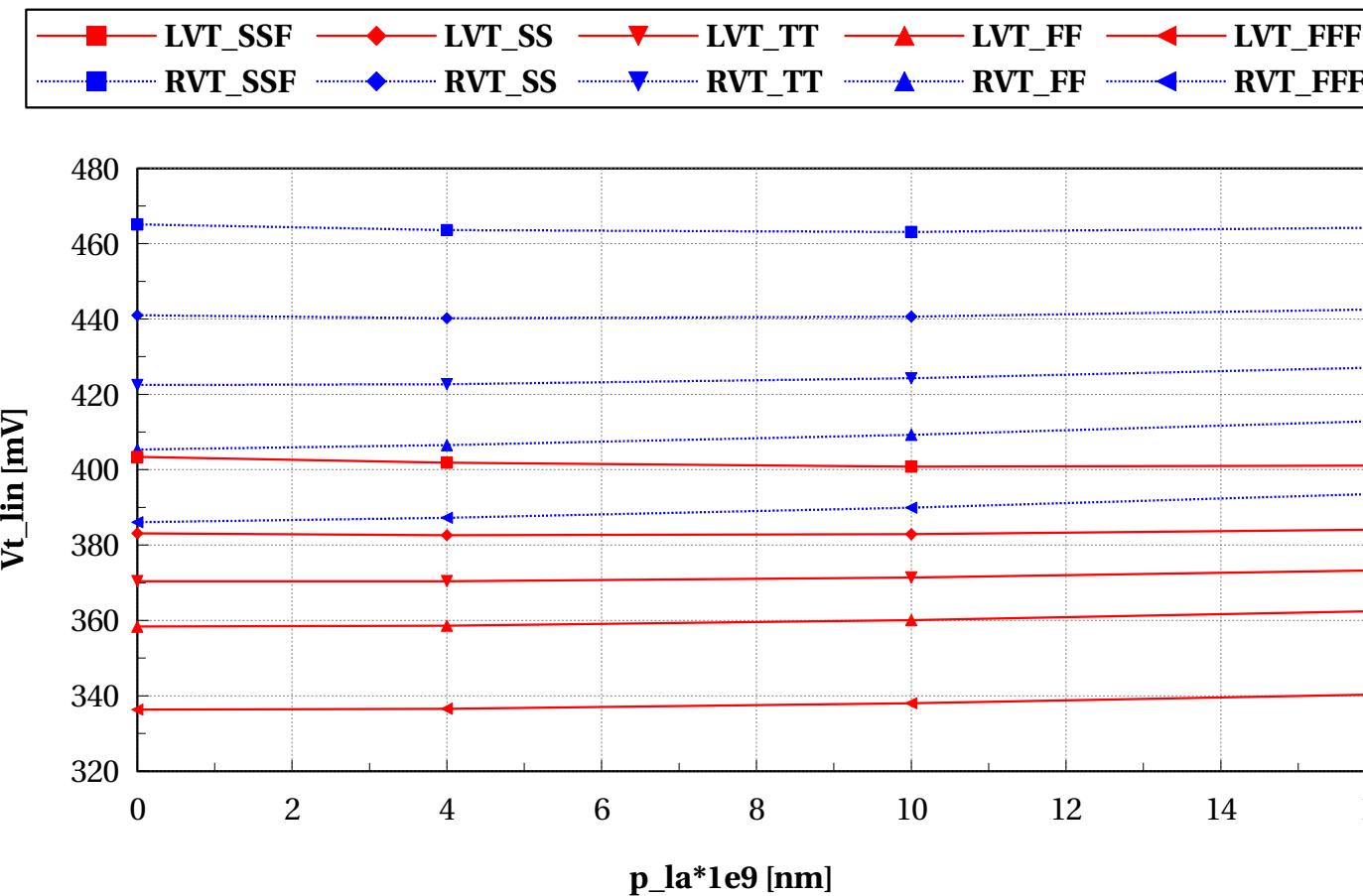
w==210e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



Poly bias effect (L=30nm, W=210nm)

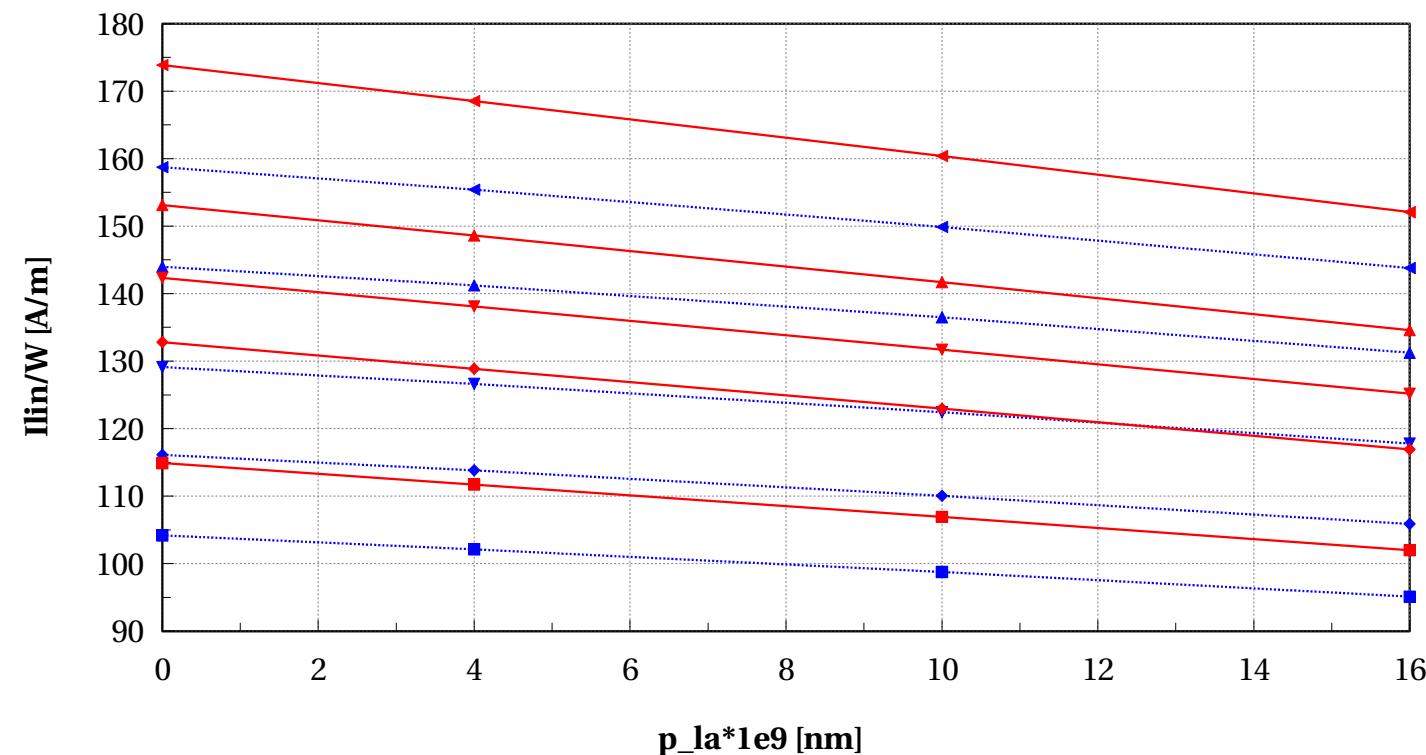
lvtnfet_acc, Vt_lin [mV] vs p_la*1e9 [nm]

$I=30e-9$ and $w=0.210e-6$ and $\text{Temp}=25$ and $\text{devType}=\text{"PCELLwoWPE"}$



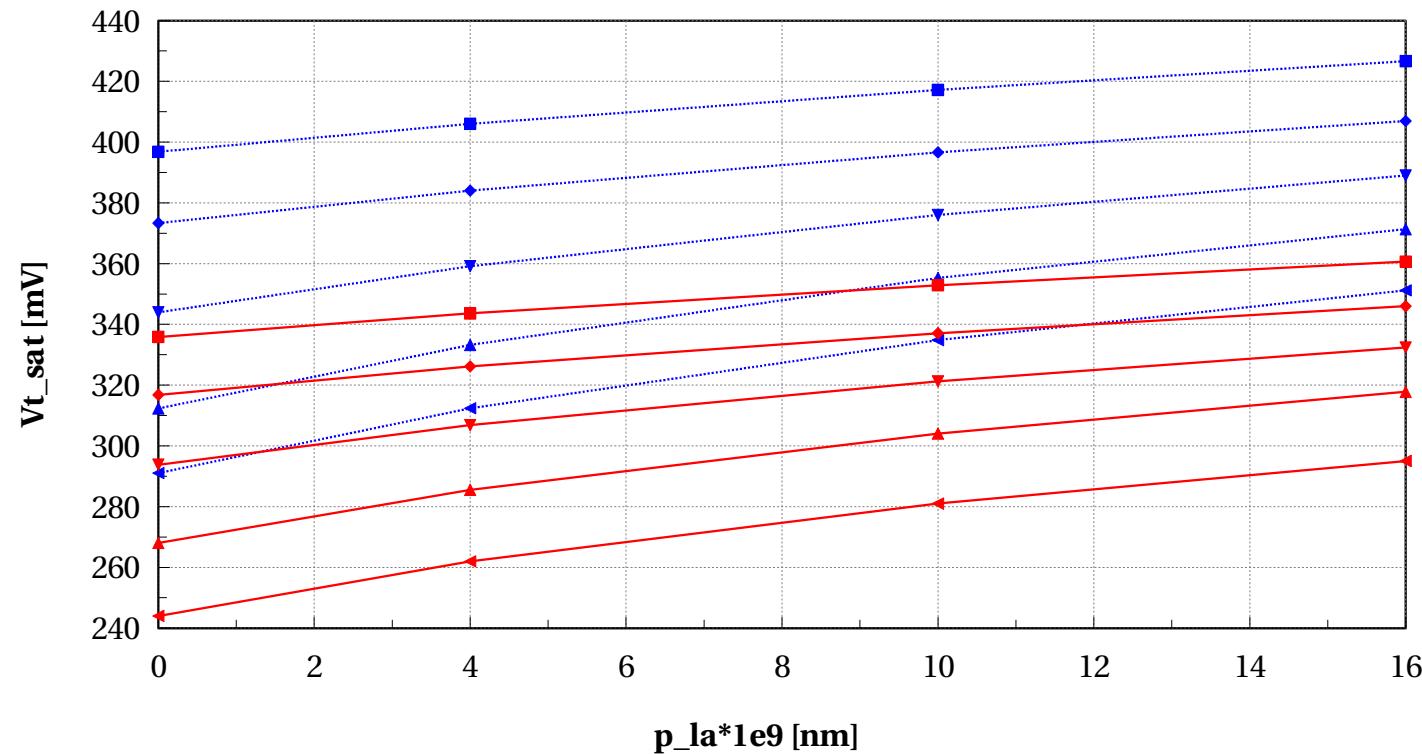
lvtnfet_acc, Ilin/W [A/m] vs p_la*1e9 [nm]

$I=30e-9$ and $w=0.210e-6$ and Temp=25 and devType=="PCELLwoWPE"



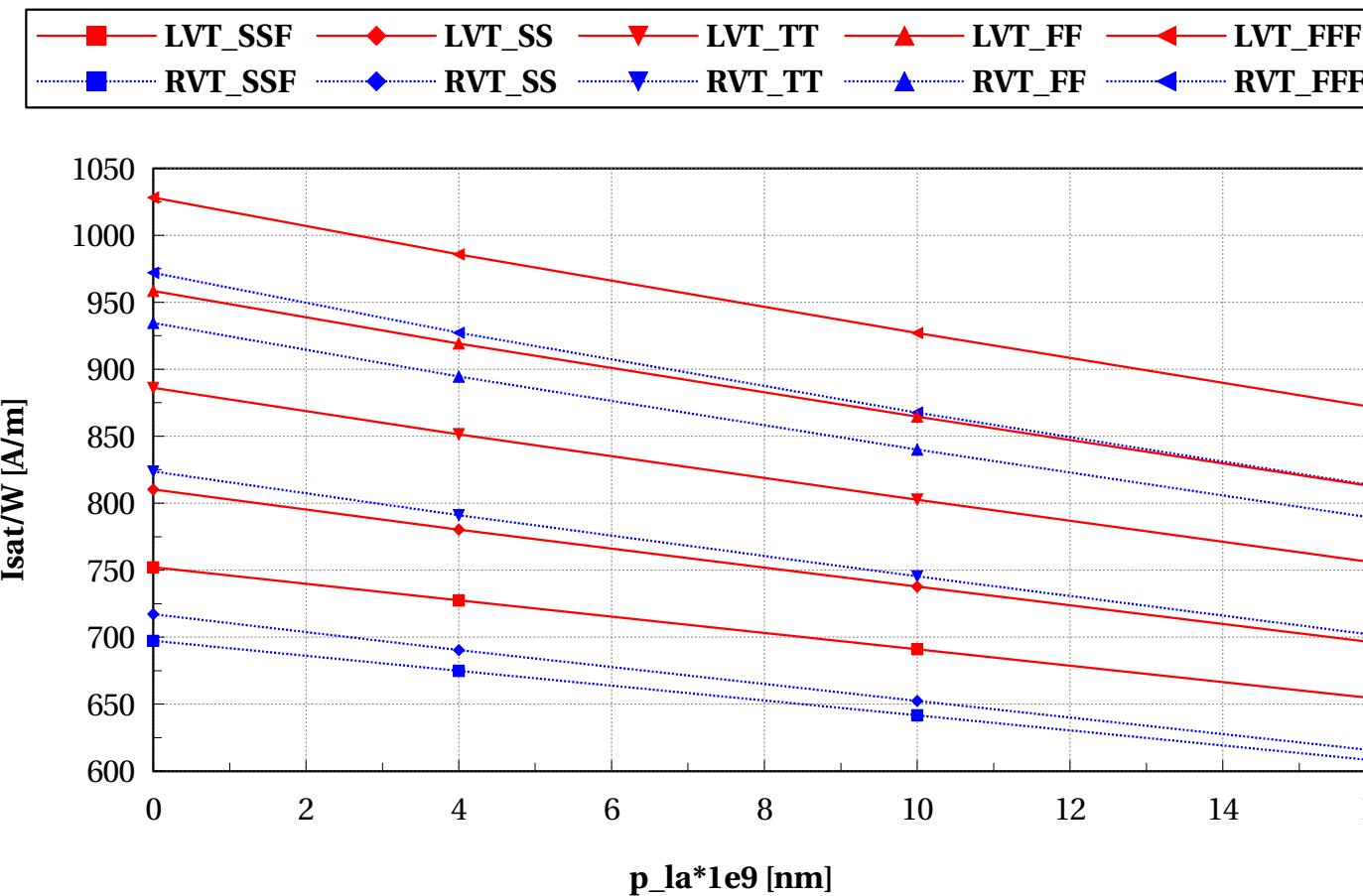
lvtnfet_acc, Vt_sat [mV] vs p_la*1e9 [nm]

$I=30e-9$ and $w=0.210e-6$ and Temp=25 and devType=="PCELLwoWPE"



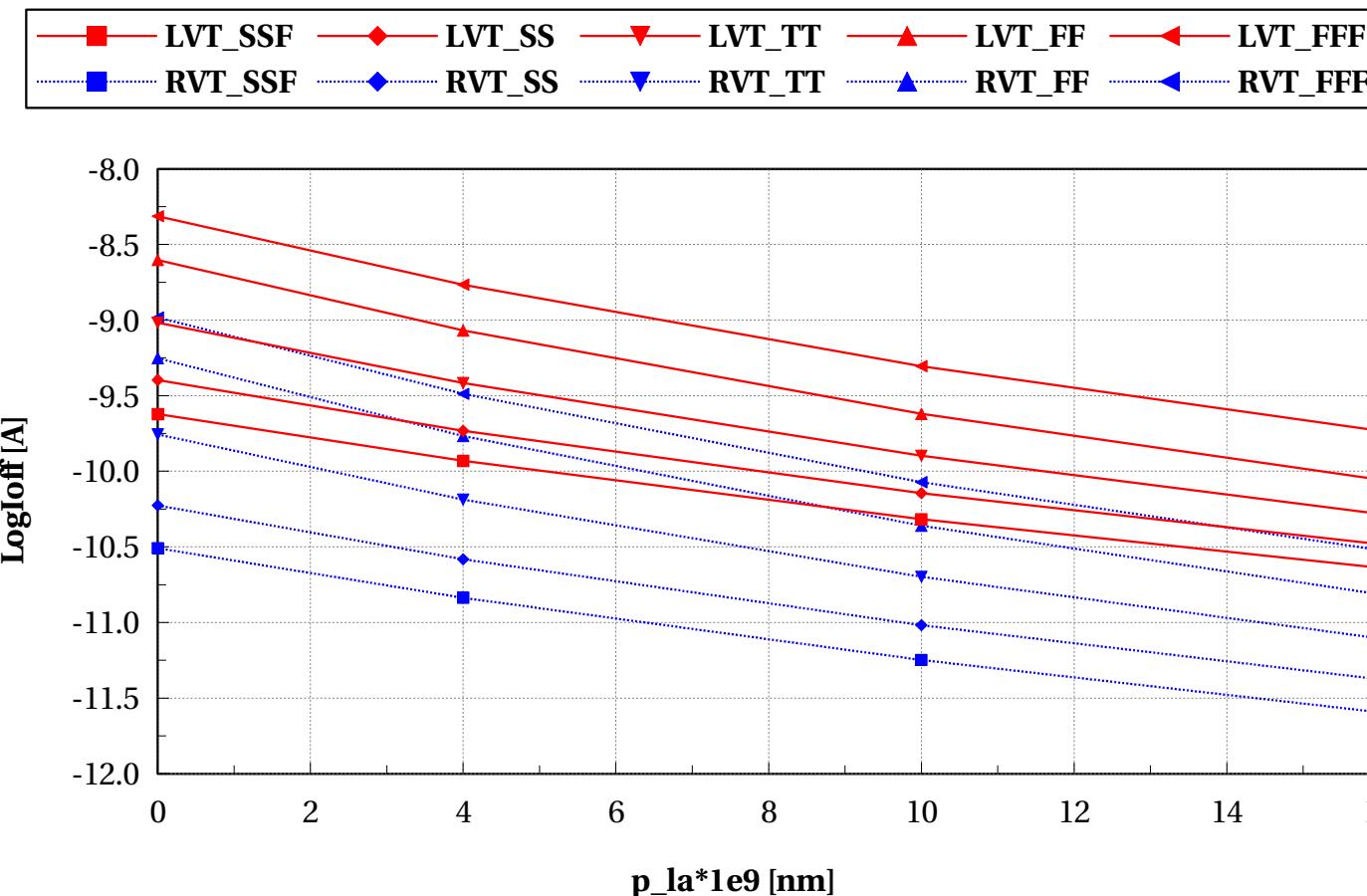
lvtnfet_acc, Isat/W [A/m] vs p_la*1e9 [nm]

$I = 30e-9$ and $w = 0.210e-6$ and Temp = 25 and devType == "PCELLwoWPE"



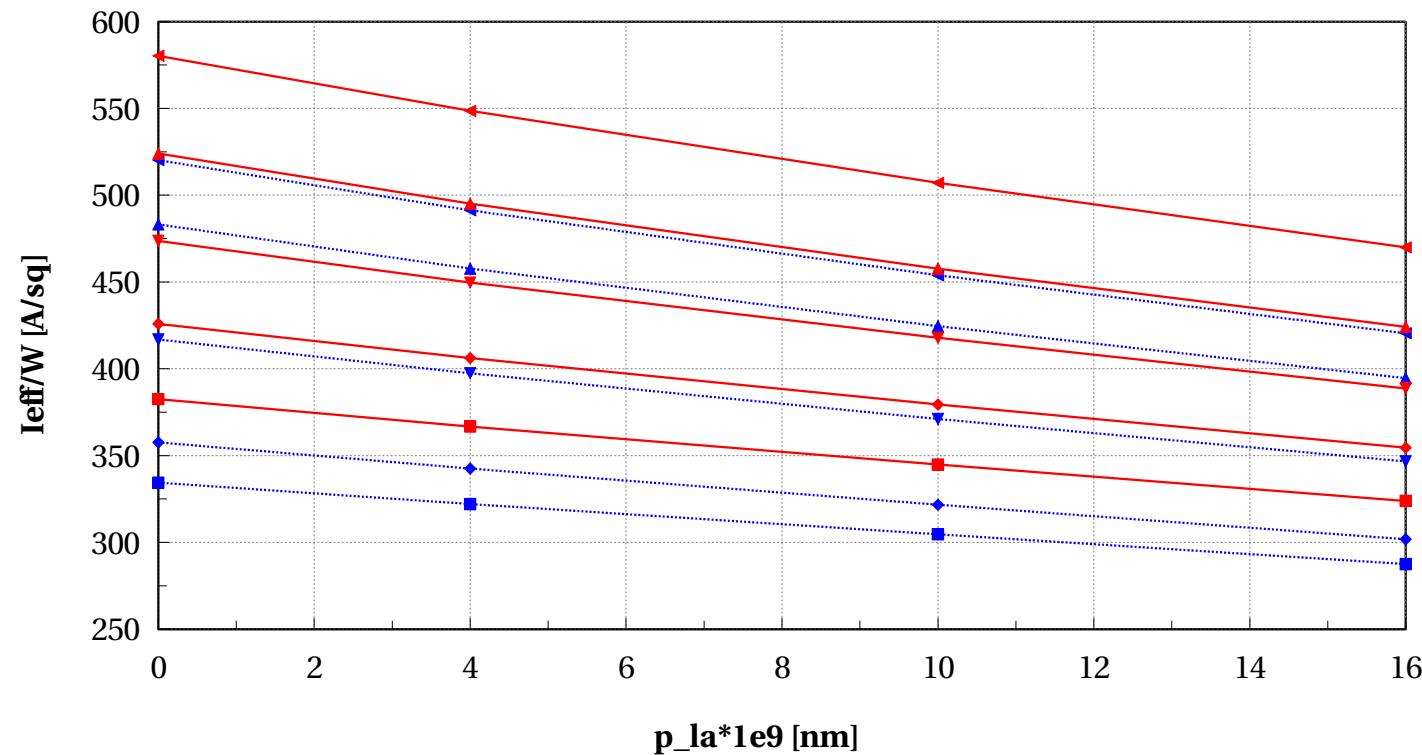
lvtnfet_acc, LogIoff [A] vs p_la*1e9 [nm]

$I = 30e-9$ and $w = 0.210e-6$ and $\text{Temp} = 25$ and $\text{devType} = \text{"PCELLwoWPE"}$



lvtnfet_acc, Ieff/W [A/sq] vs p_la*1e9 [nm]

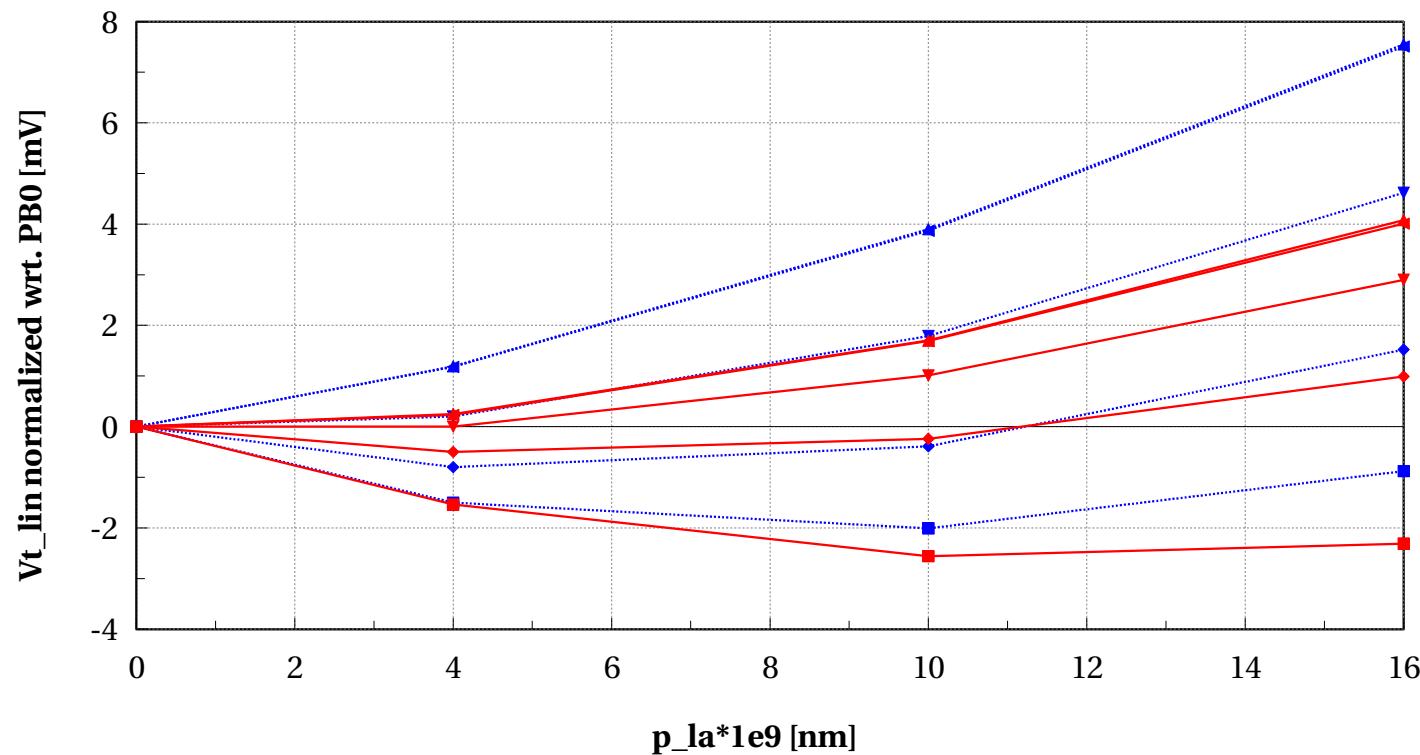
$I = 30e-9$ and $w = 0.210e-6$ and $\text{Temp} = 25$ and $\text{devType} = \text{"PCELLwoWPE"}$



Poly bias effect normalized (L=30nm,W=210nm)

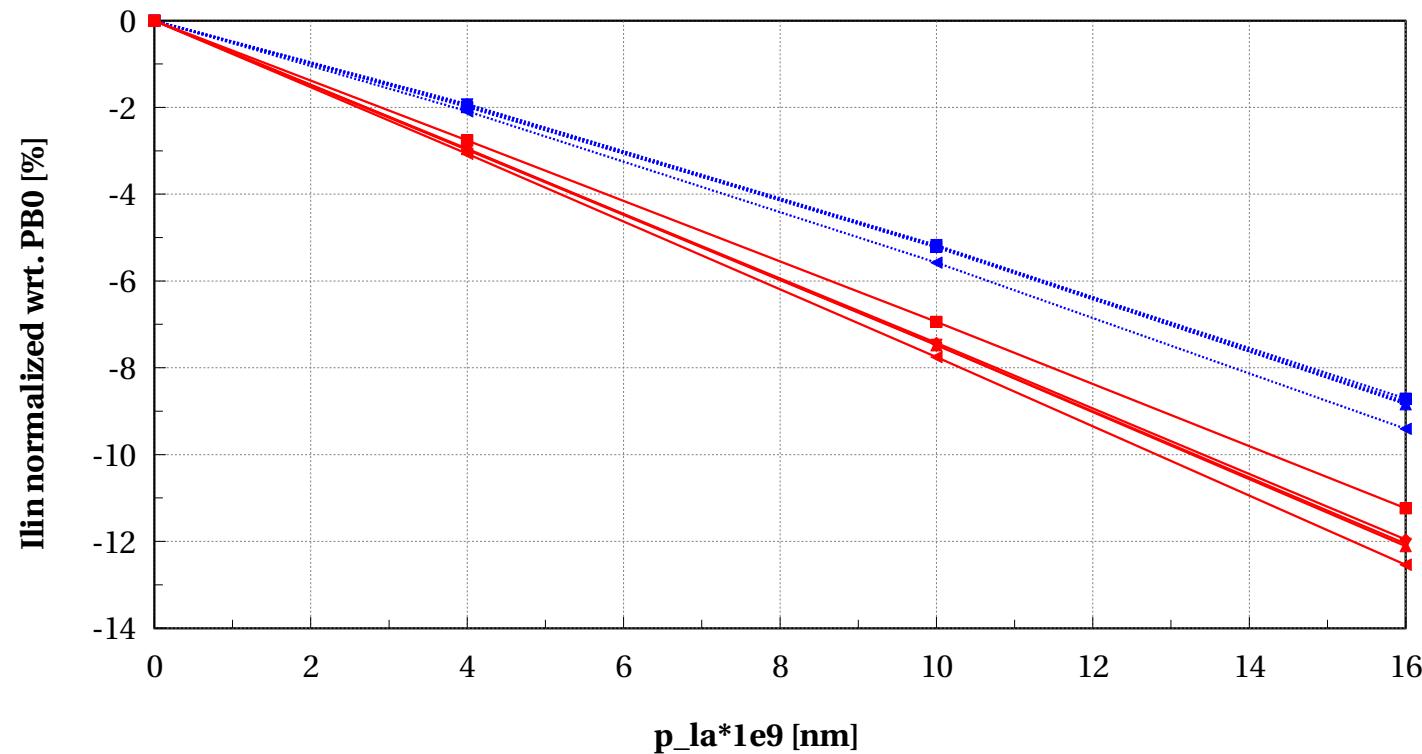
lvtnfet_acc, Vt_lin normalized wrt. PB0 [mV] vs p_la*1e9 [nm]

$I=30e-9$ and $w=0.210e-6$ and $\text{Temp}=25$ and $\text{devType}=\text{"PCELLwoWPE"}$



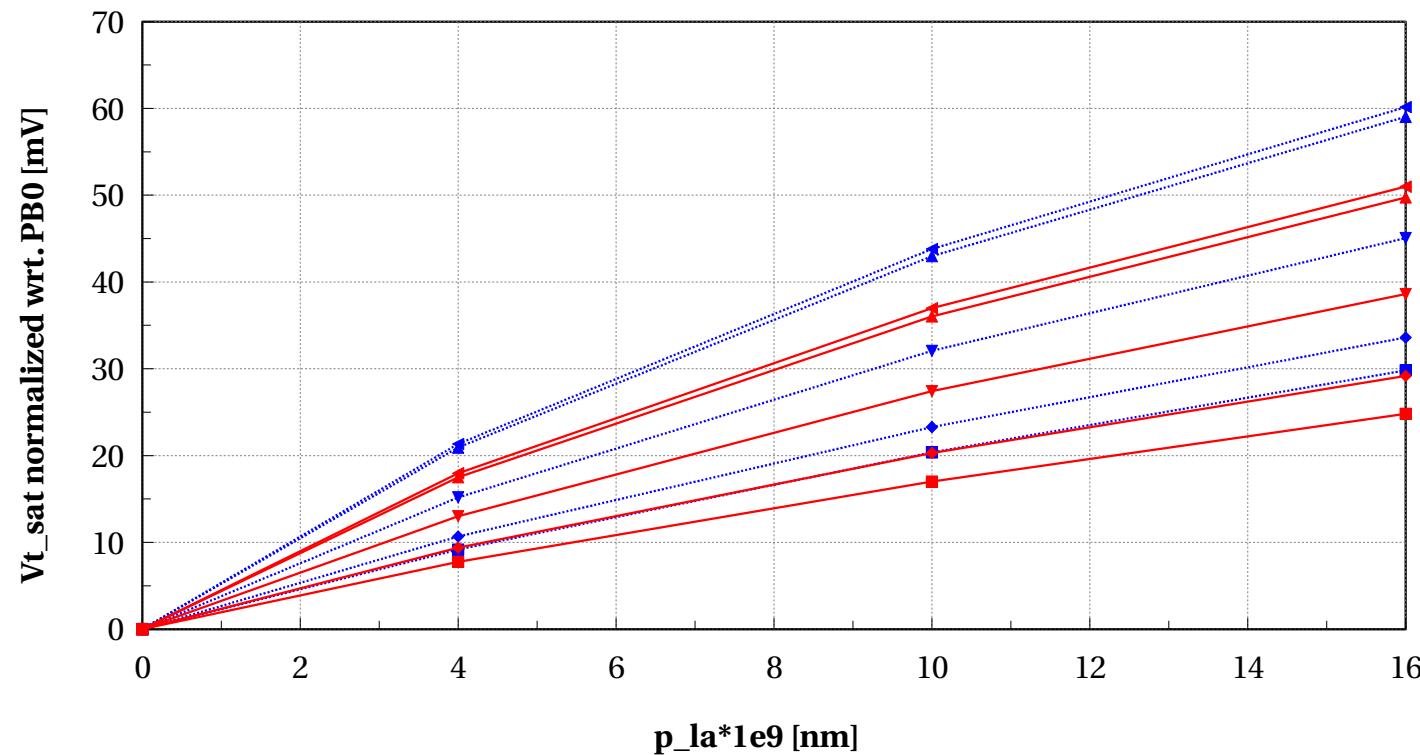
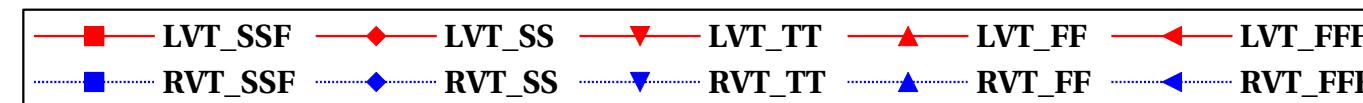
lvtnfet_acc, Ilin normalized wrt. PB0 [%] vs p_la*1e9 [nm]

$I = 30e-9$ and $w = 0.210e-6$ and $\text{Temp} = 25$ and $\text{devType} = \text{"PCELLwoWPE"}$



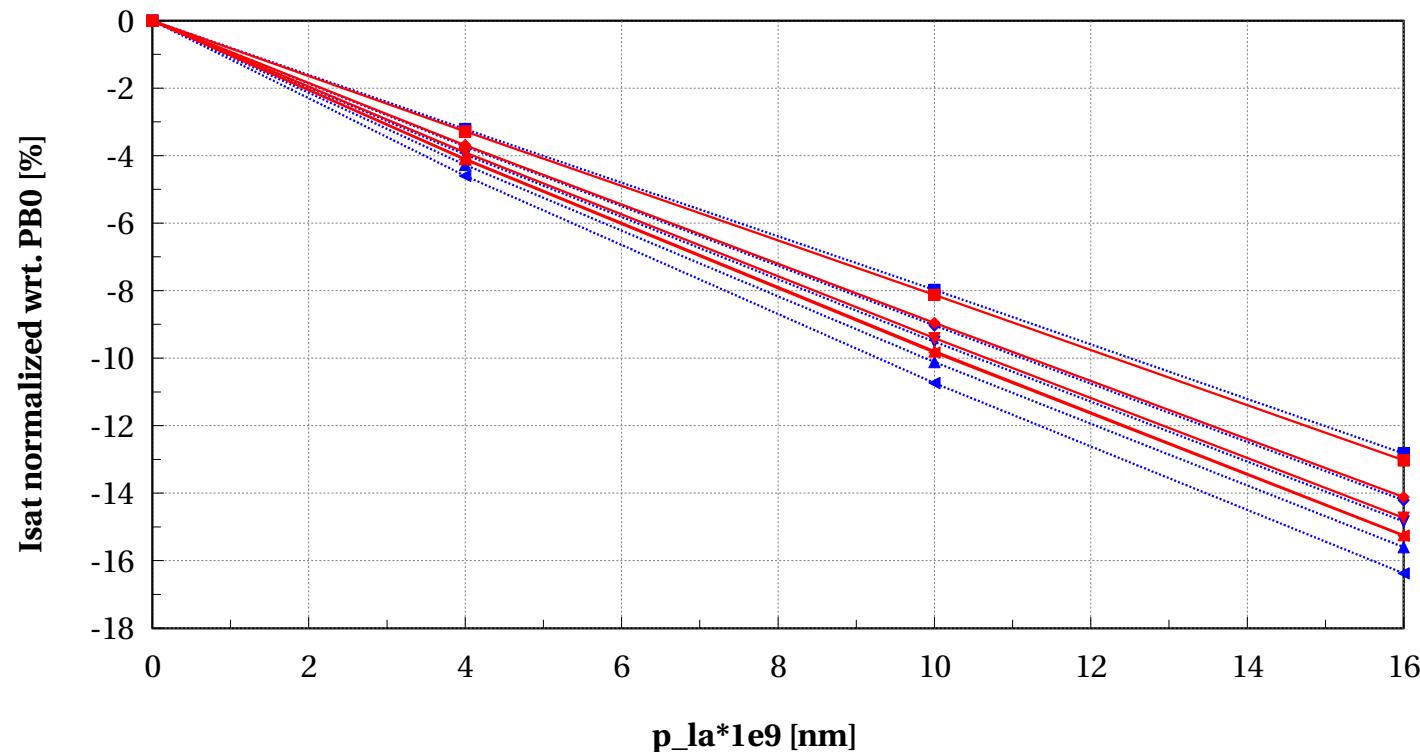
lvtnfet_acc, Vt_sat normalized wrt. PB0 [mV] vs p_la*1e9 [nm]

$I = 30e-9$ and $w = 0.210e-6$ and Temp = 25 and devType == "PCELLwoWPE"



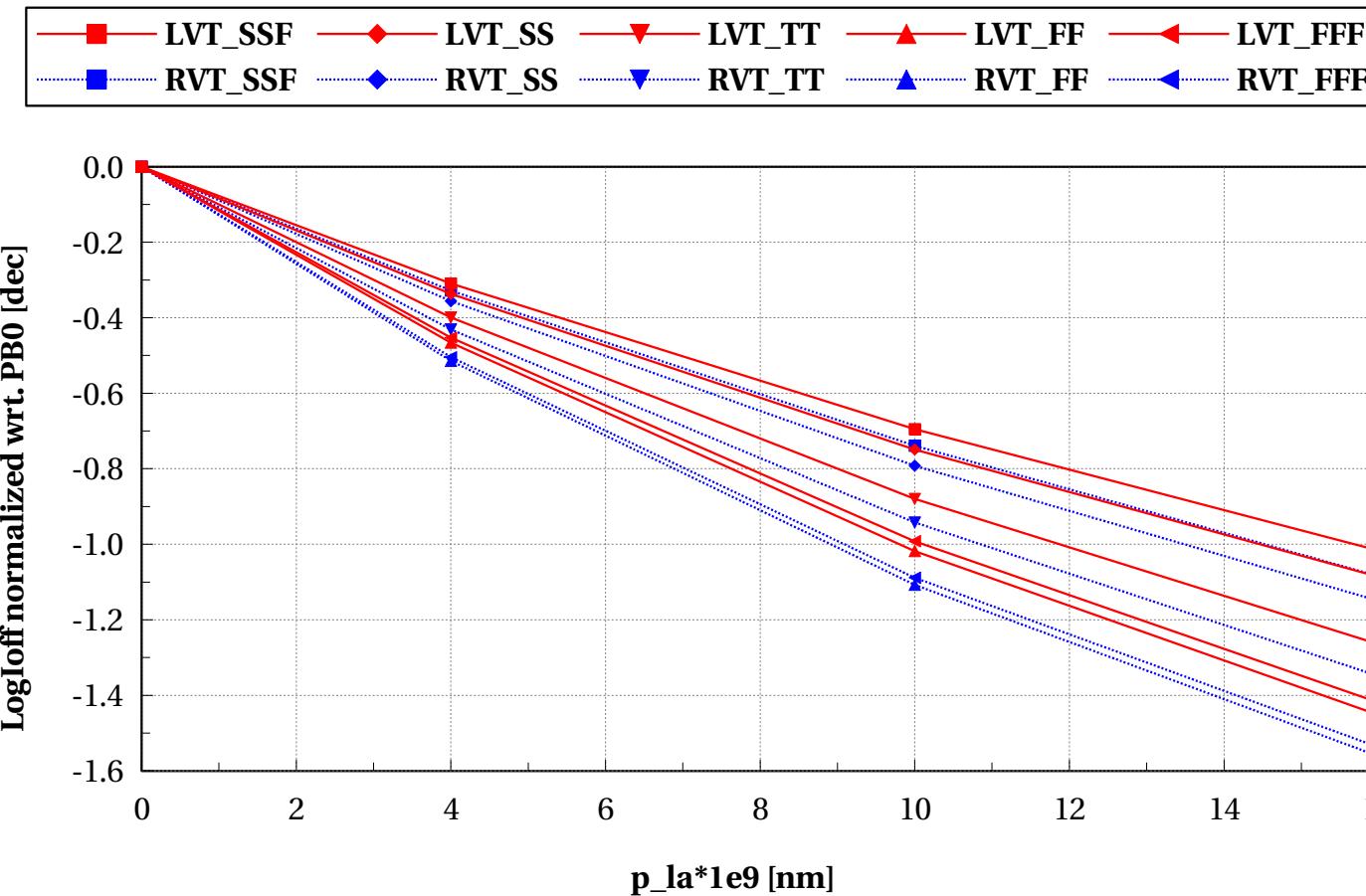
lvtnfet_acc, Isat normalized wrt. PB0 [%] vs p_la*1e9 [nm]

$I = 30e-9$ and $w = 0.210e-6$ and $\text{Temp} = 25$ and $\text{devType} = \text{"PCELLwoWPE"}$



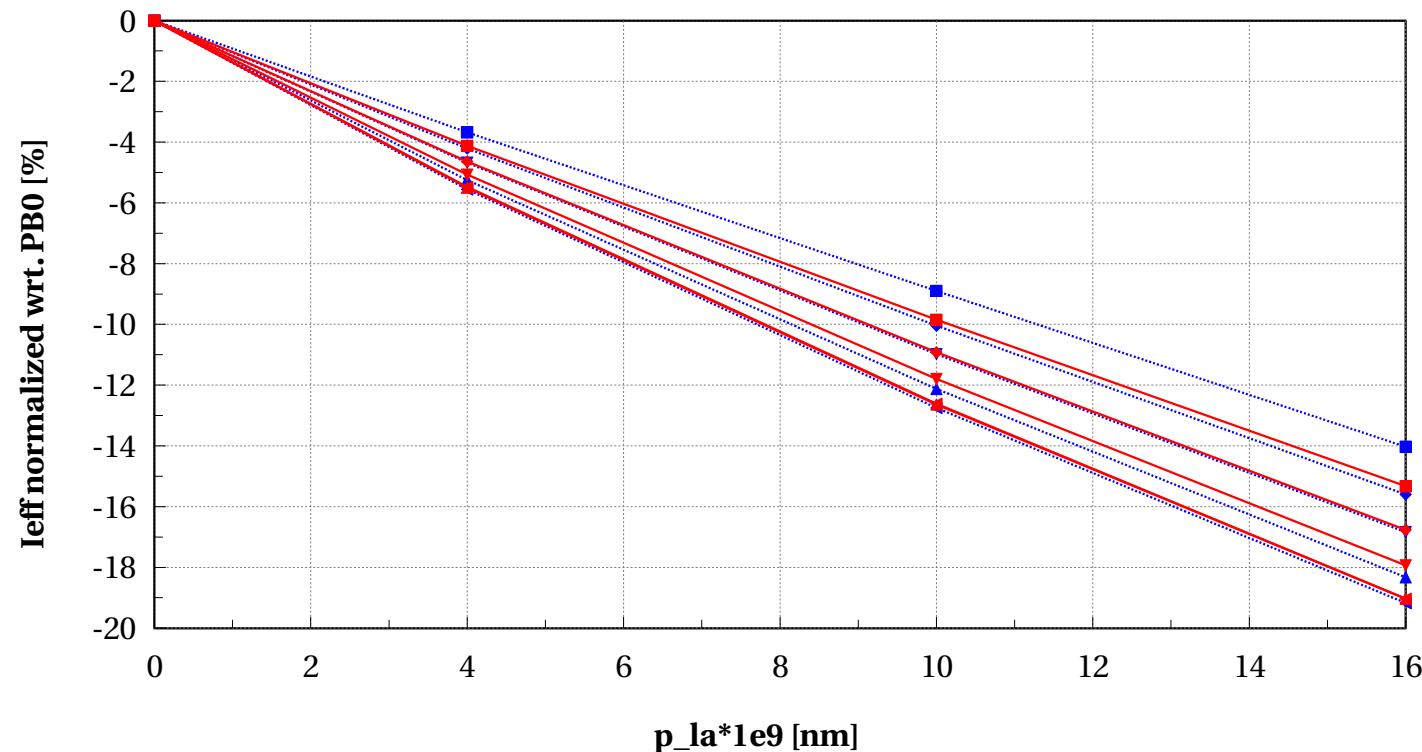
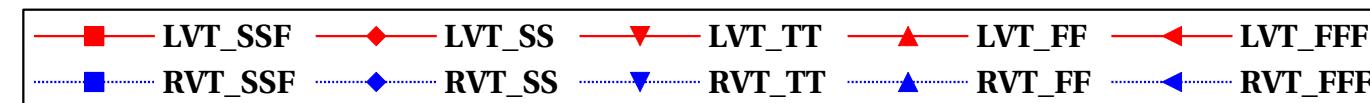
lvtnfet_acc, LogIoff normalized wrt. PB0 [dec] vs p_la*1e9 [nm]

$l==30e-9$ and $w==0.210e-6$ and $\text{Temp}==25$ and $\text{devType}=="\text{PCELLwoWPE}"$



lvtnfet_acc, Ieff normalized wrt. PB0 [%] vs p_la*1e9 [nm]

$I = 30e-9$ and $w = 0.210e-6$ and $\text{Temp} = 25$ and $\text{devType} = \text{"PCELLwoWPE"}$



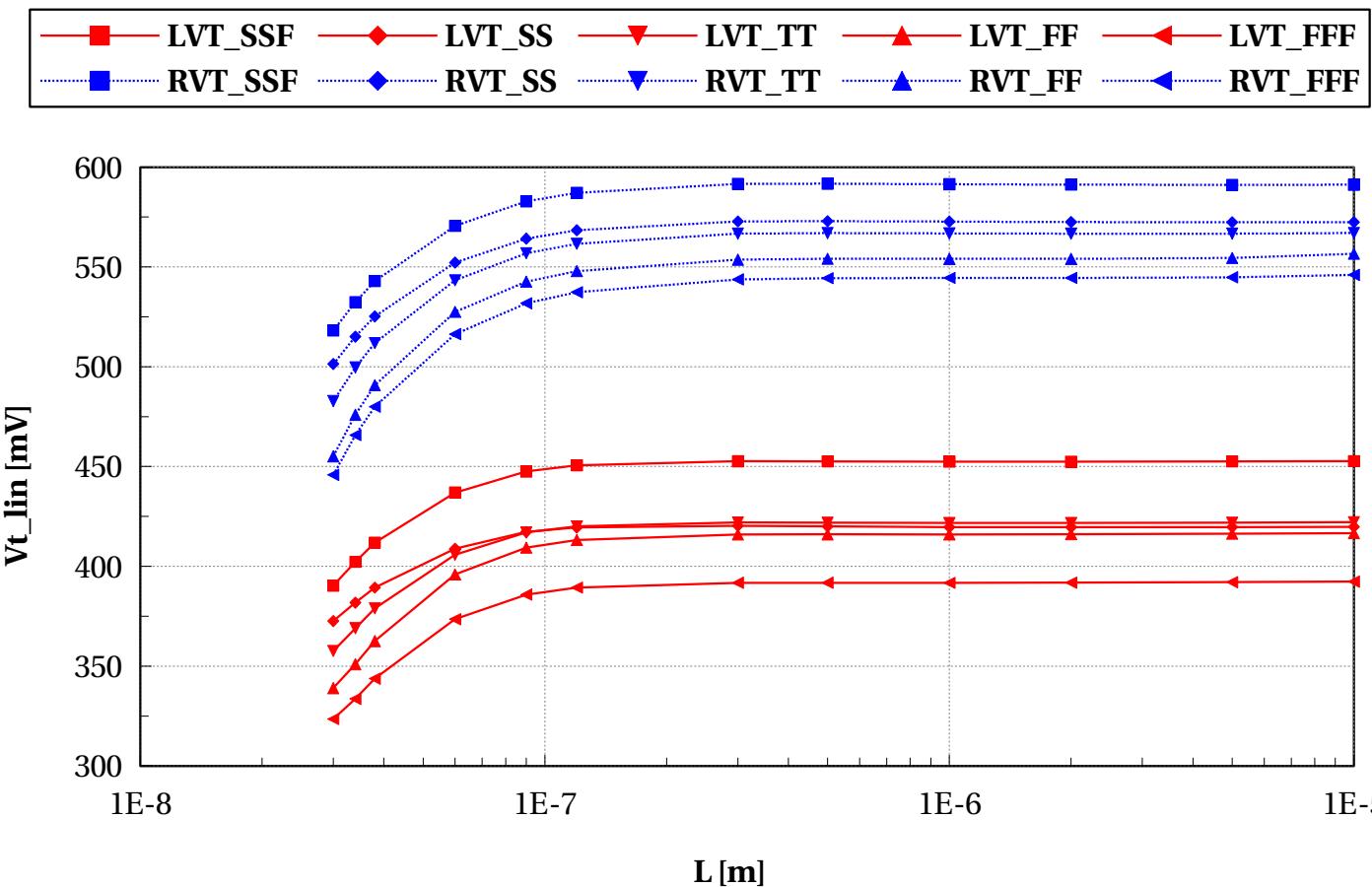
lvtpfet_acc

Electrical characteristics scaling

Scaling versus Length ($W=1\text{ }\mu\text{m}$)

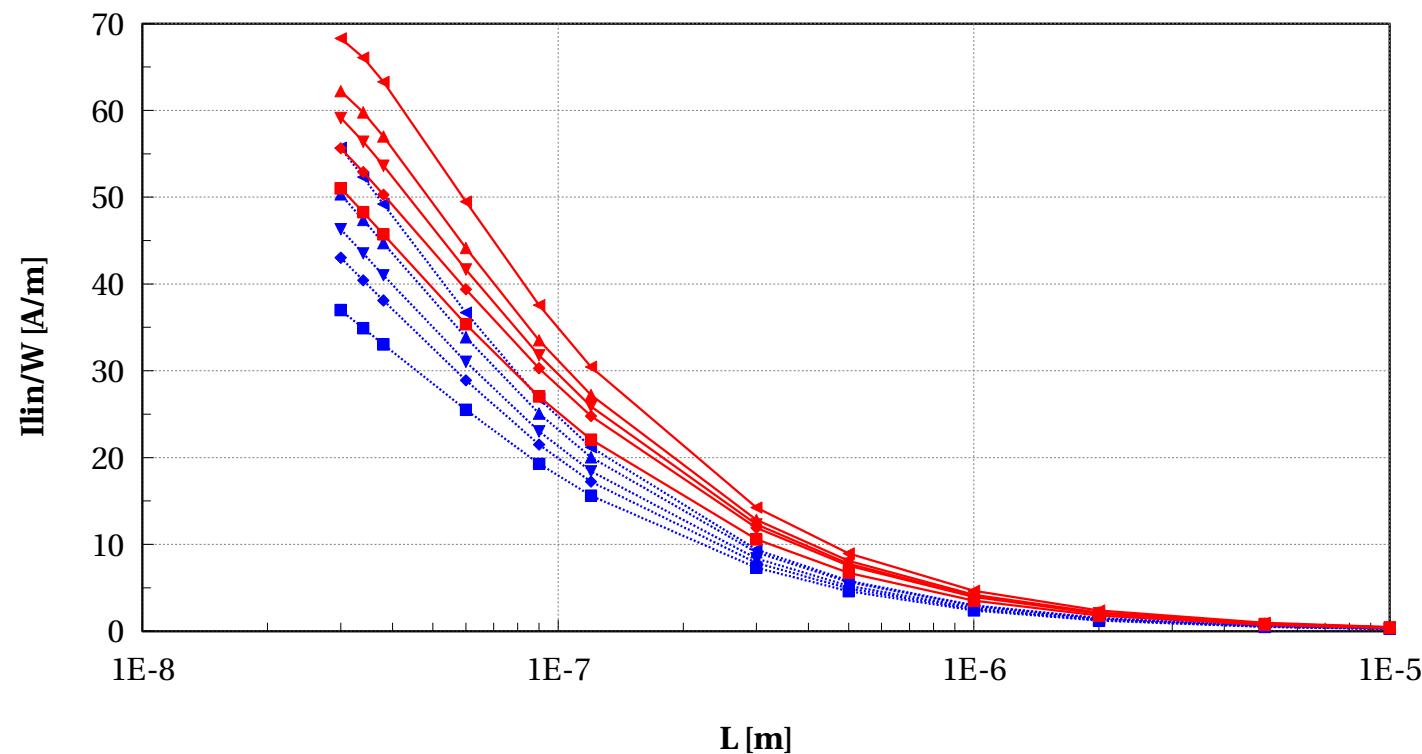
lvtpfet_acc, Vt_lin [mV] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



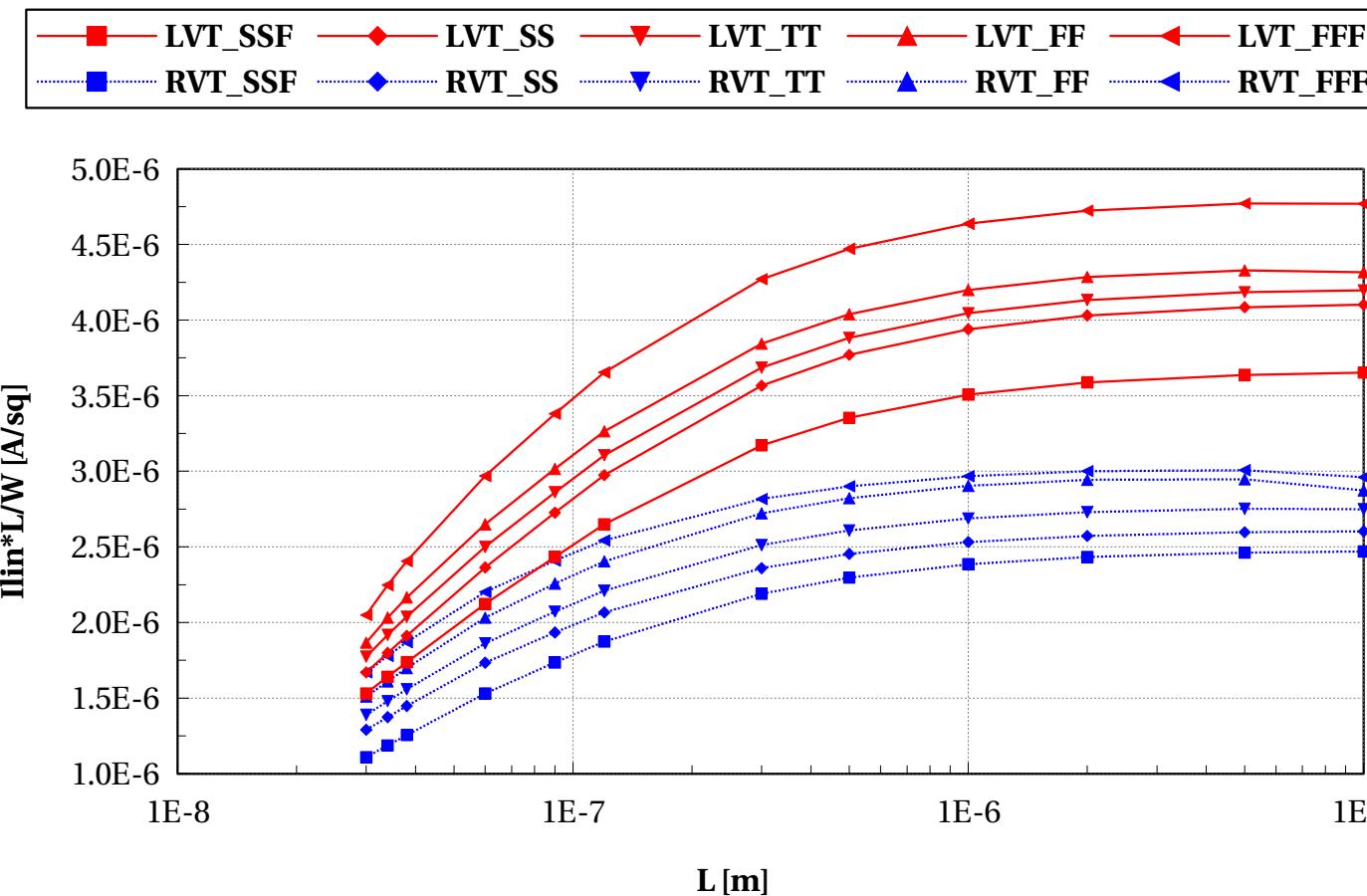
lvtpfet_acc, Ilin/W [A/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



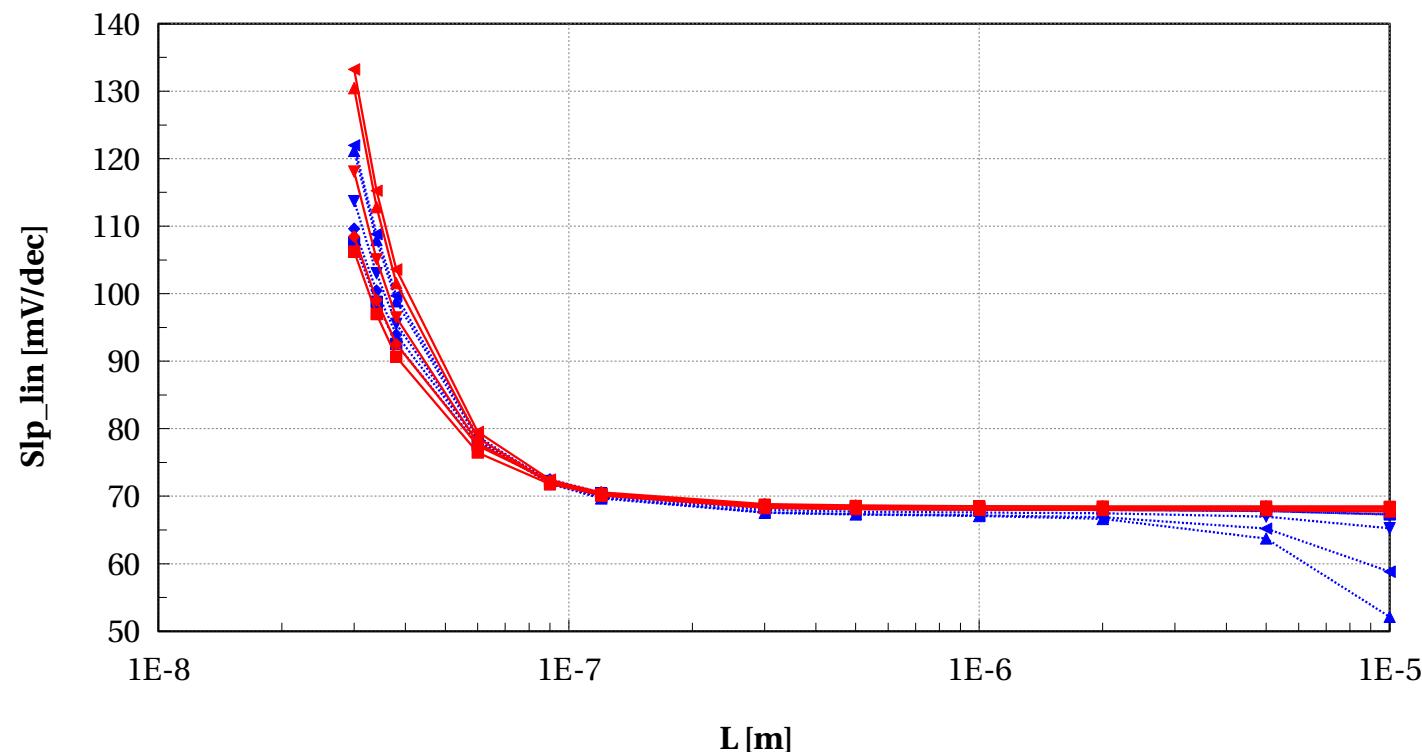
lvtpfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



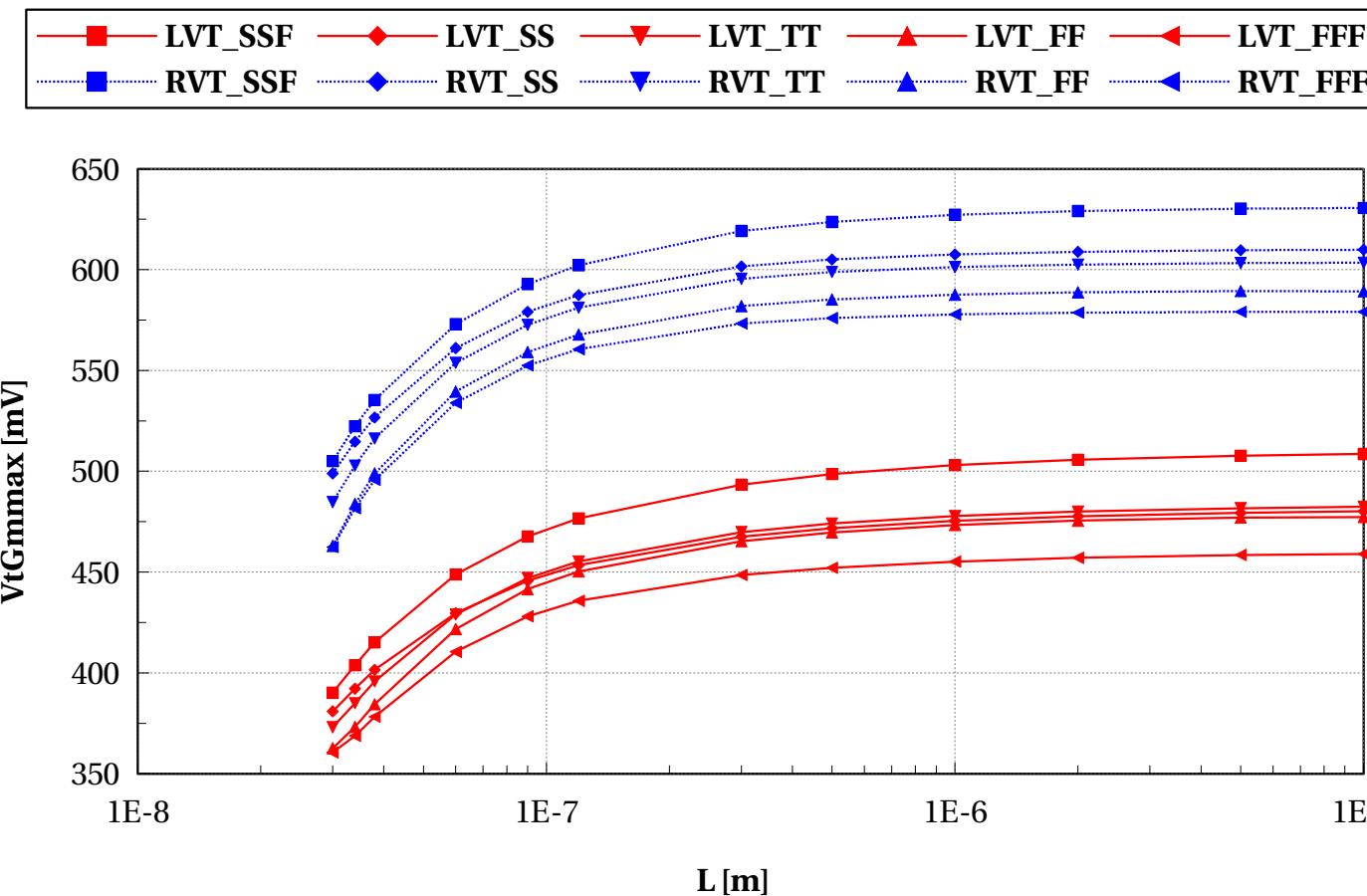
lvtpfet_acc, Slp_lin [mV/dec] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



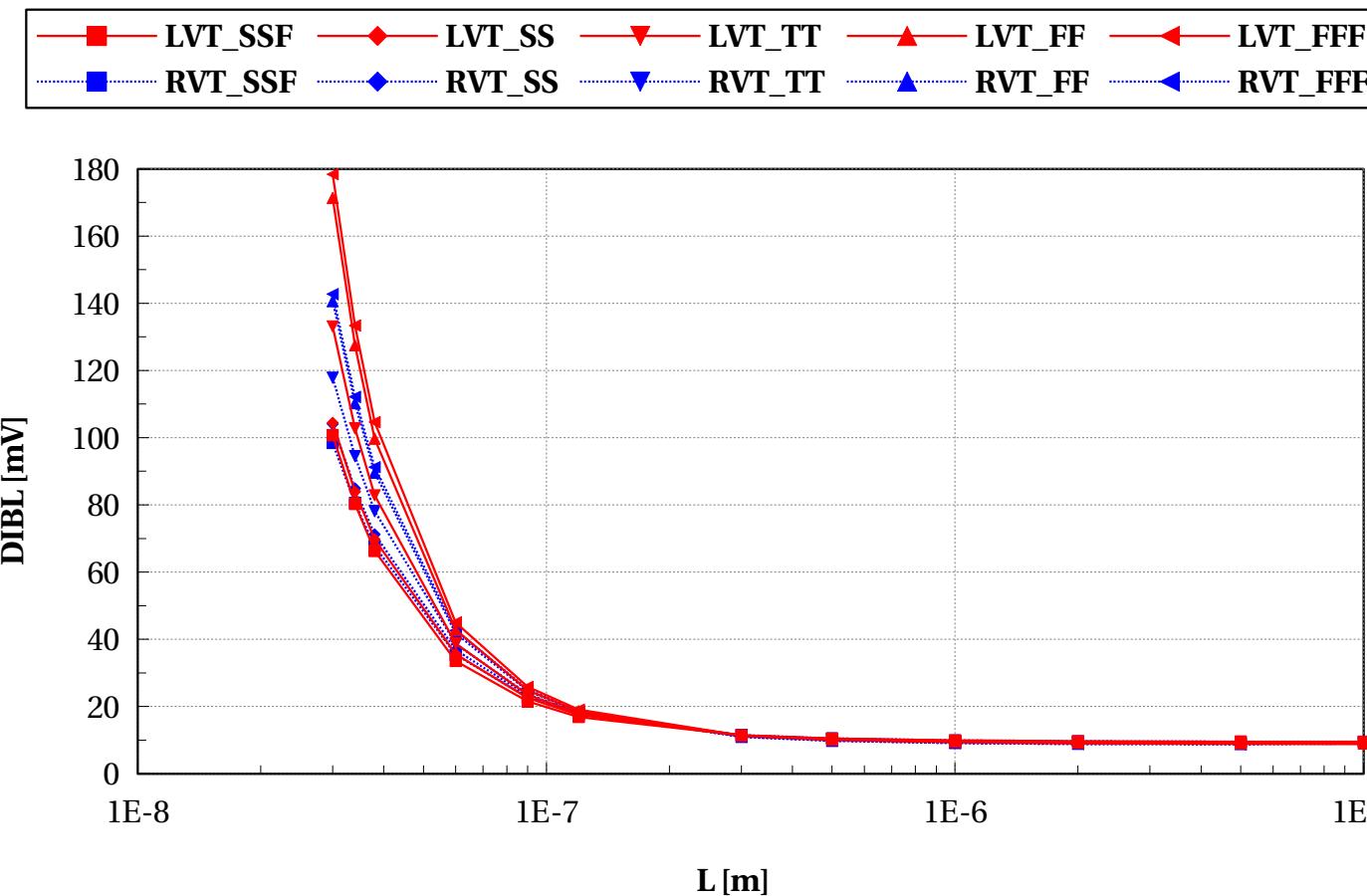
lvtpfet_acc, VtGmmax [mV] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



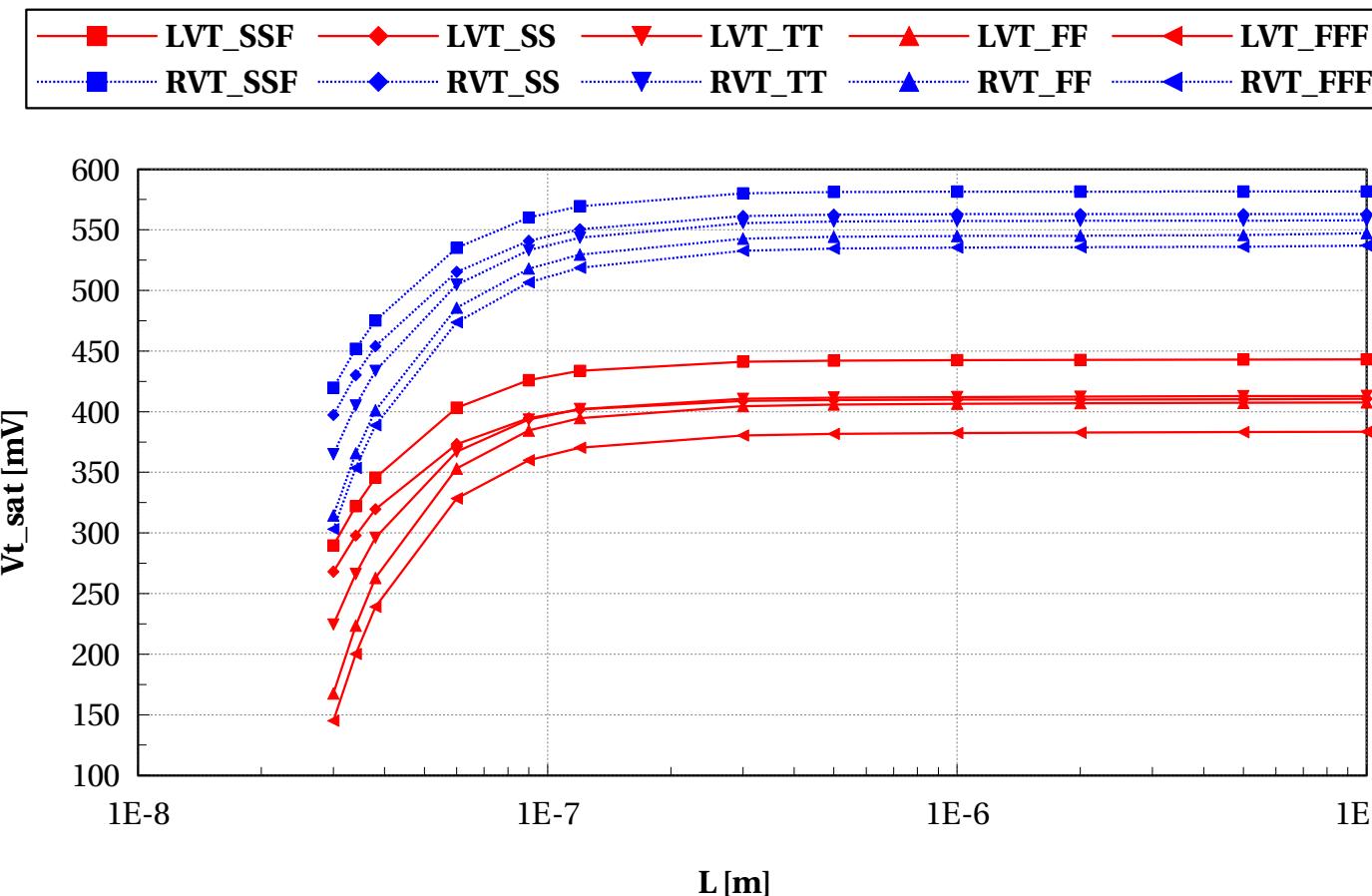
lvtpfet_acc, DIBL [mV] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



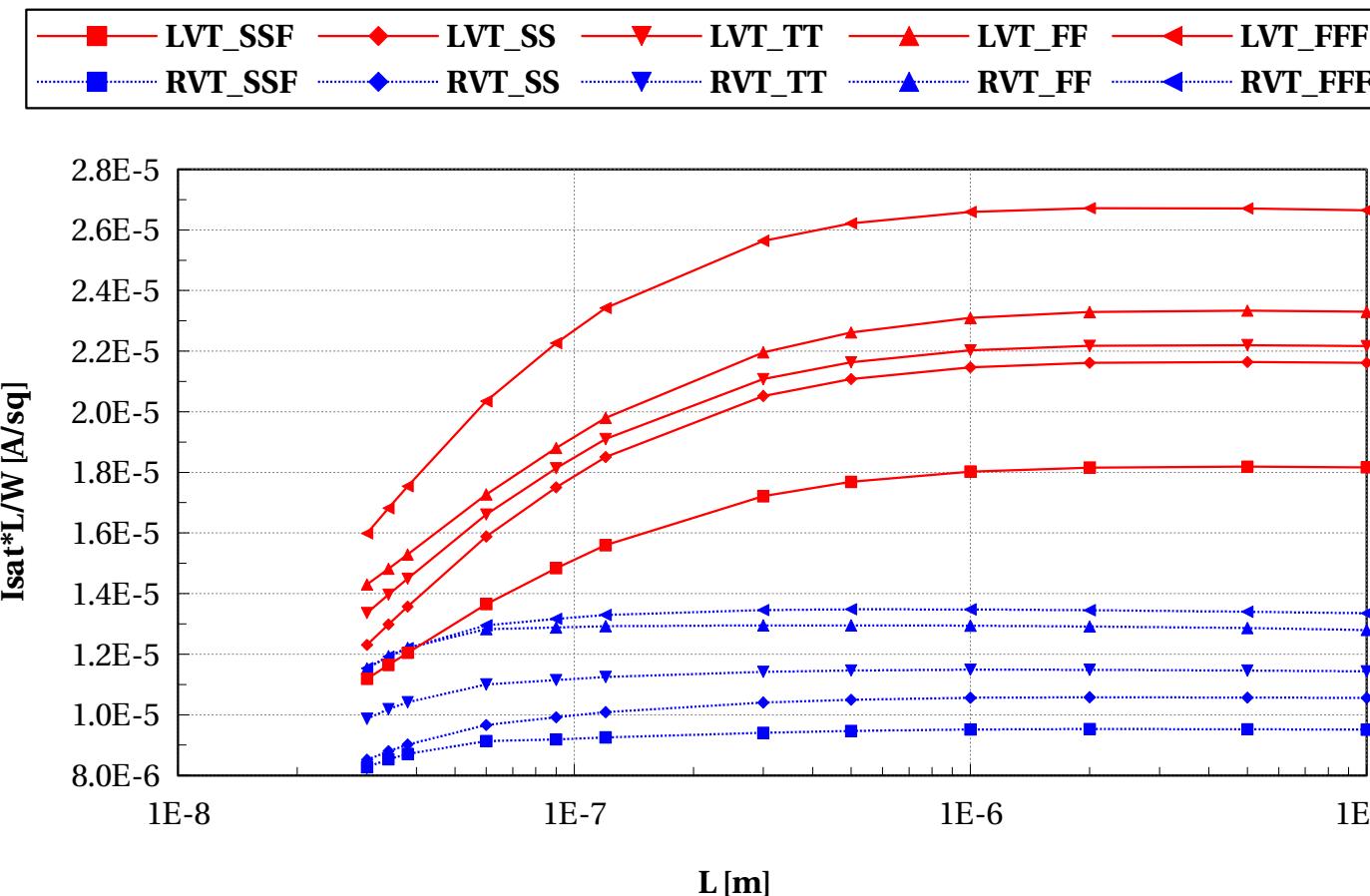
lvtpfet_acc, Vt_sat [mV] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



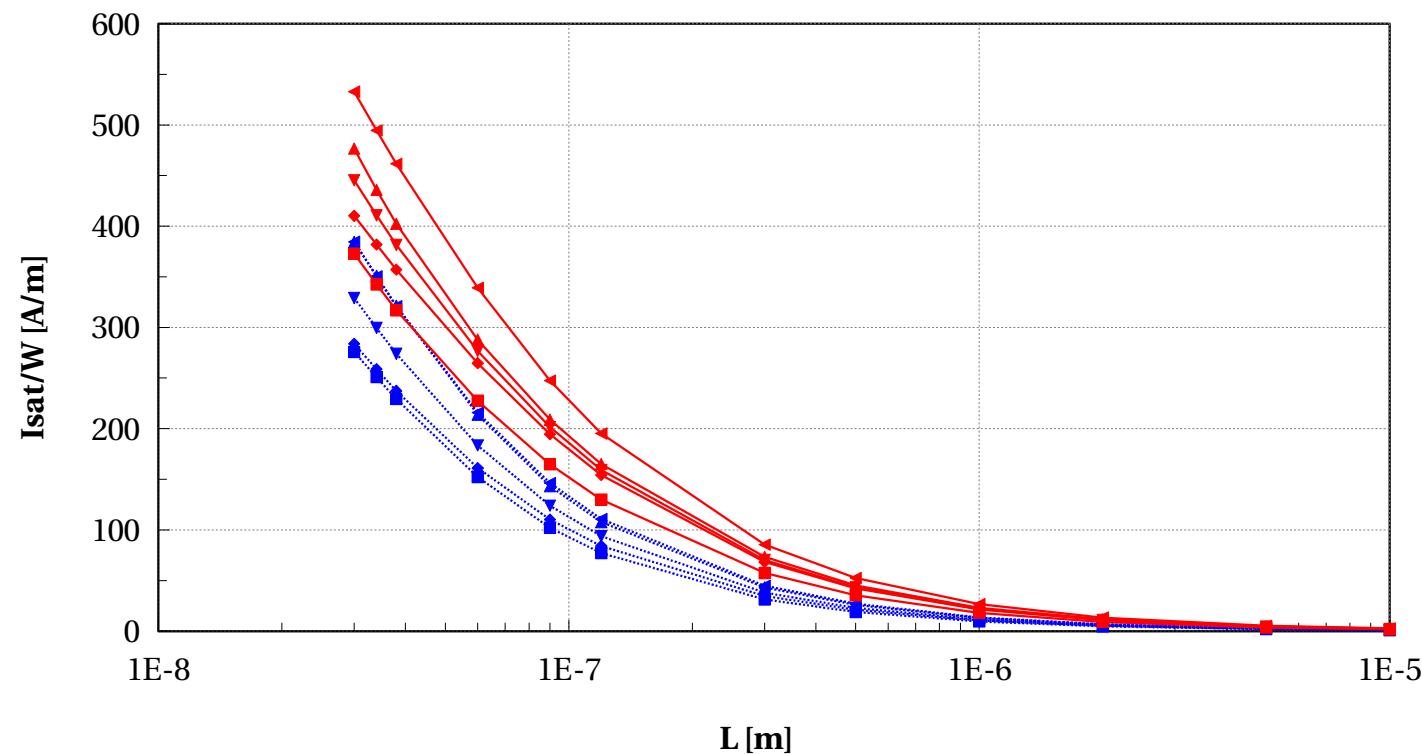
lvtpfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs L [m]

$w=1e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



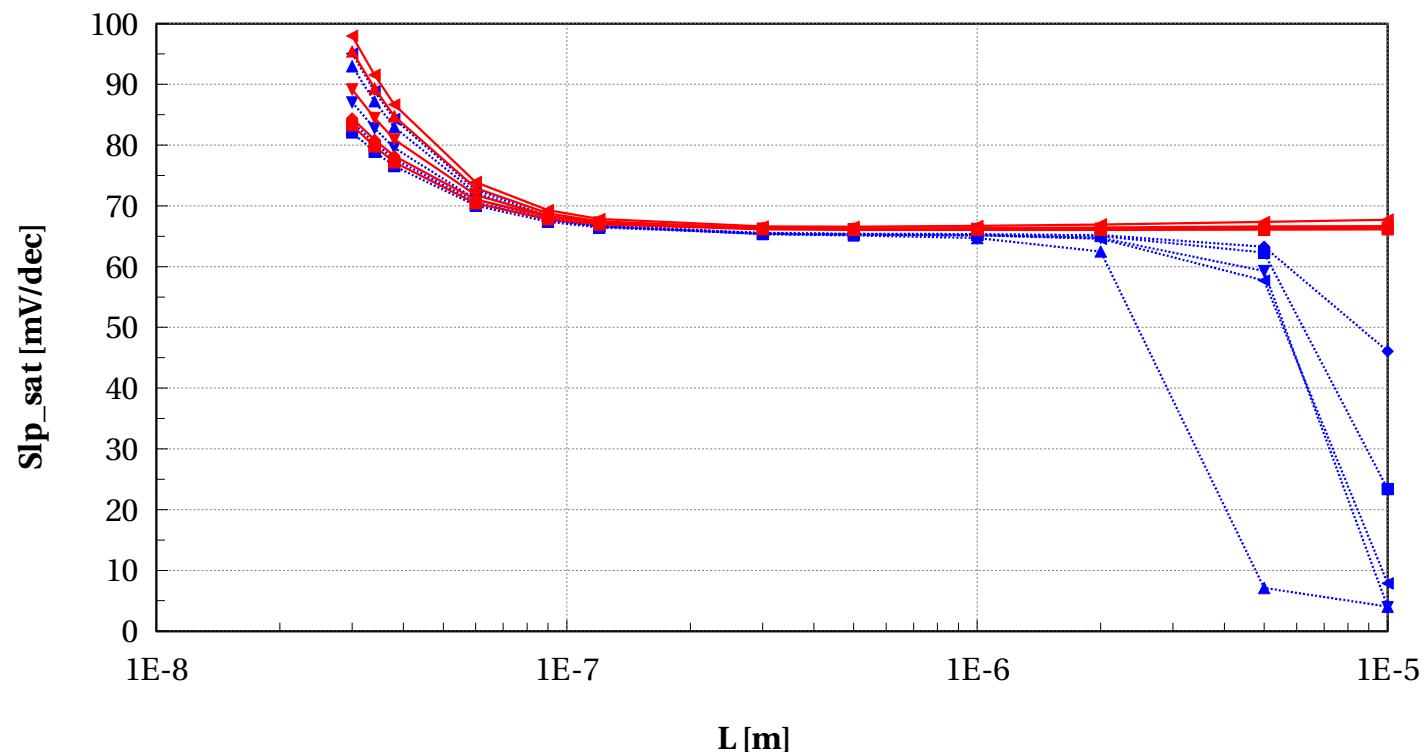
lvtpfet_acc, Isat/W [A/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



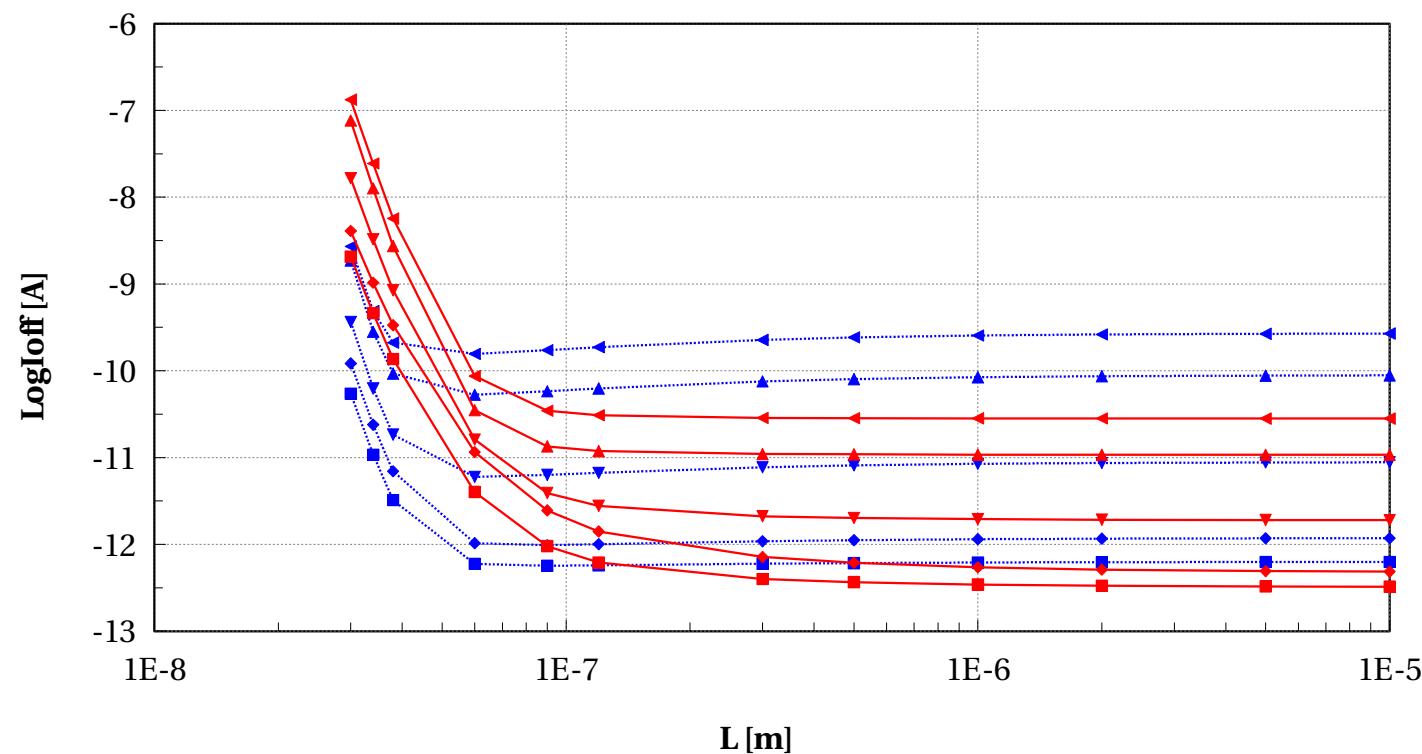
lvtpfet_acc, Slp_sat [mV/dec] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



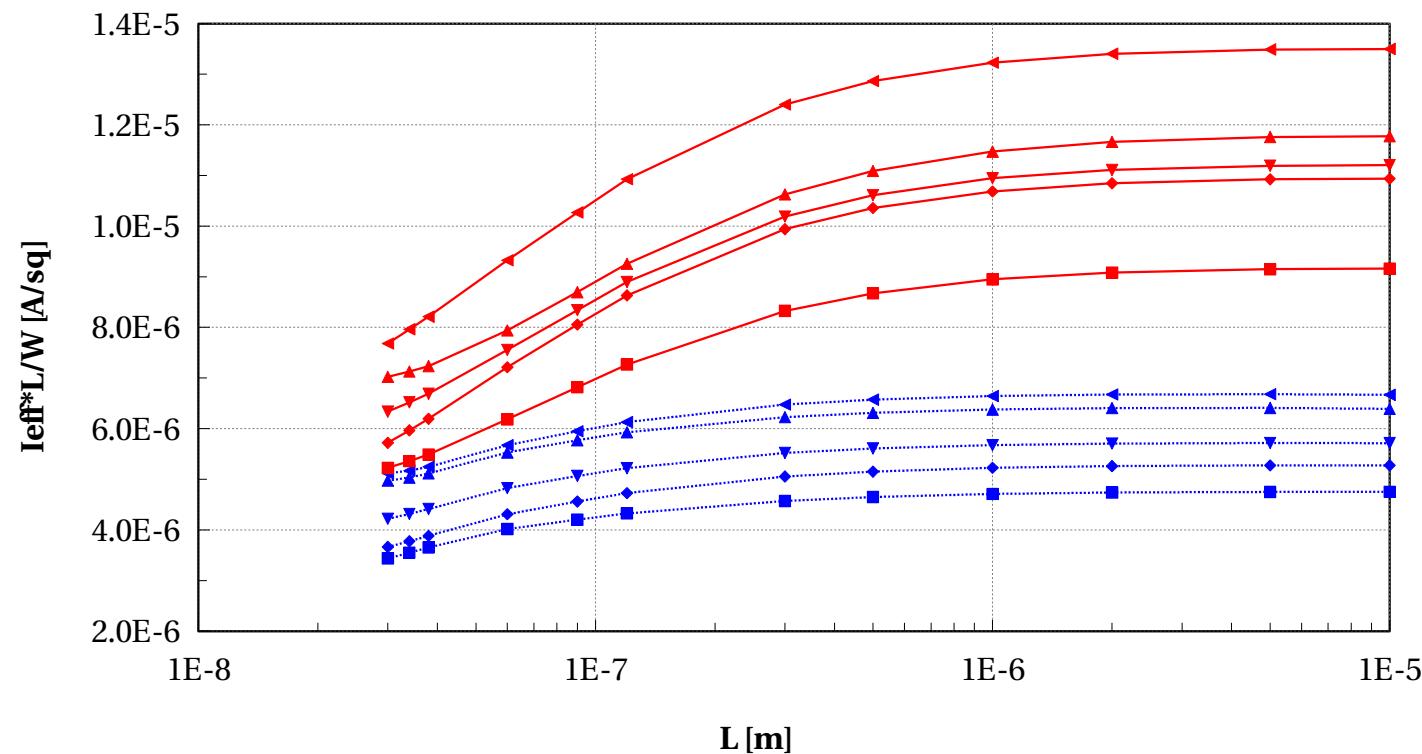
lvtpfet_acc, LogIoff [A] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



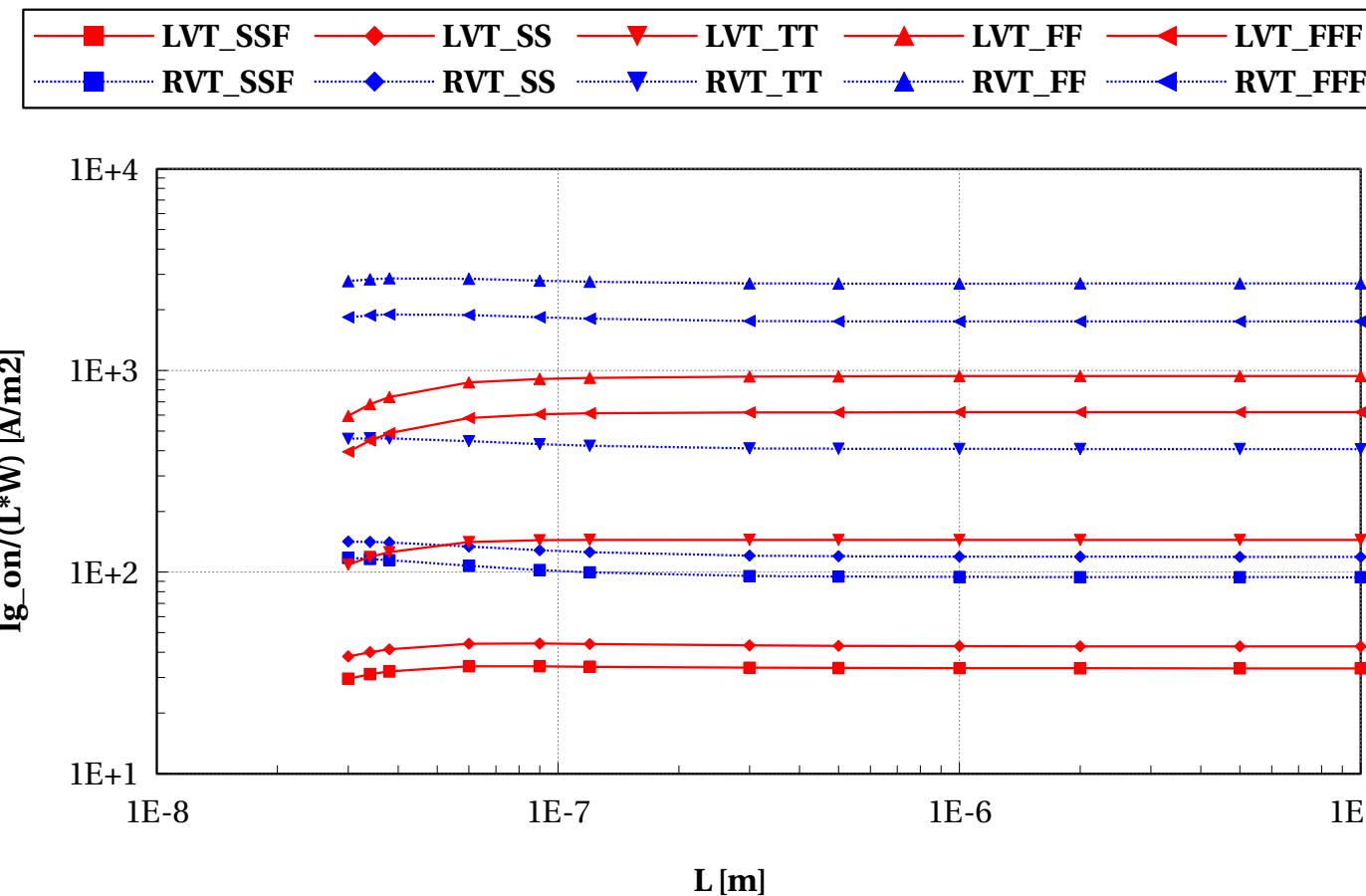
lvtpfet_acc, $I_{eff} \cdot L/W$ [A/sq] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



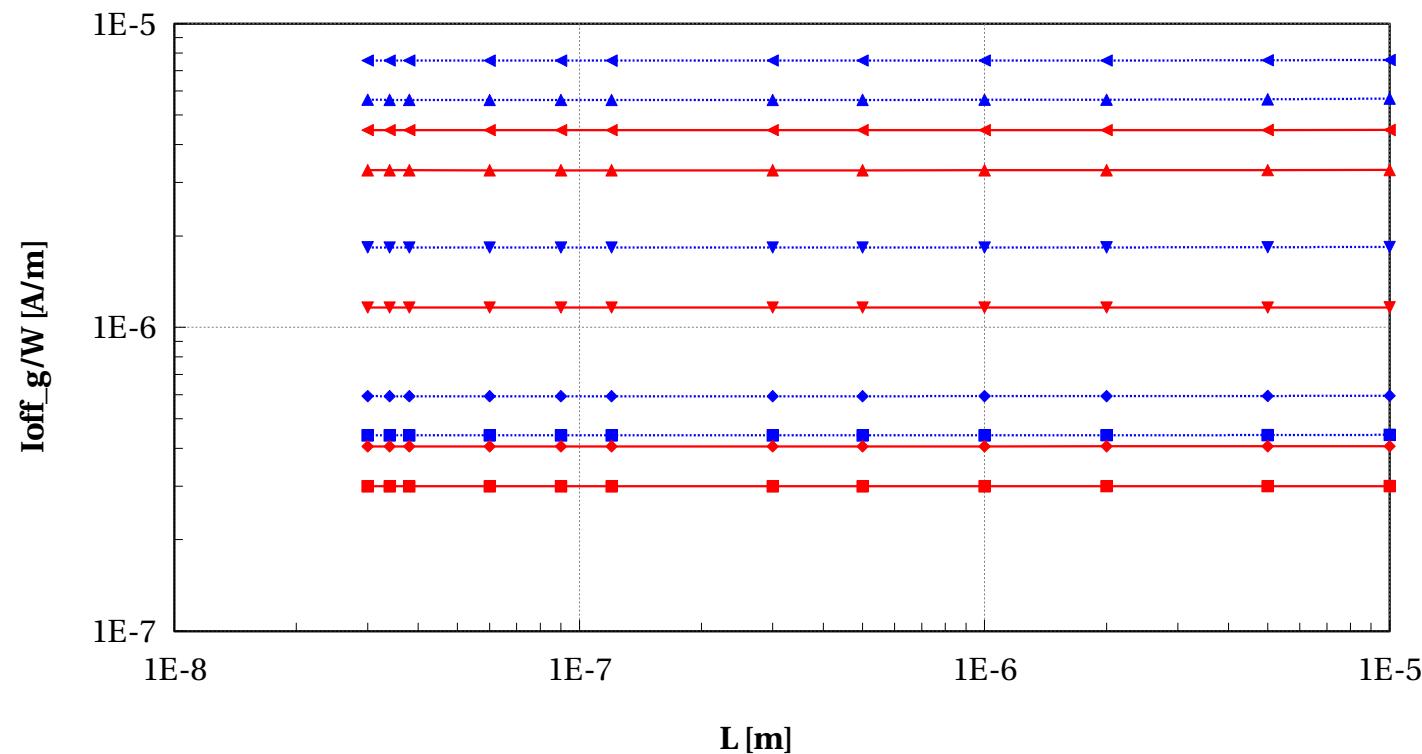
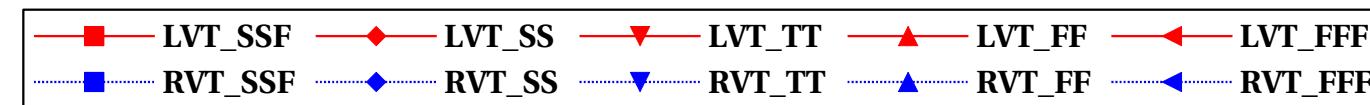
lvtpfet_acc, Ig_on/(L*W) [A/m2] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



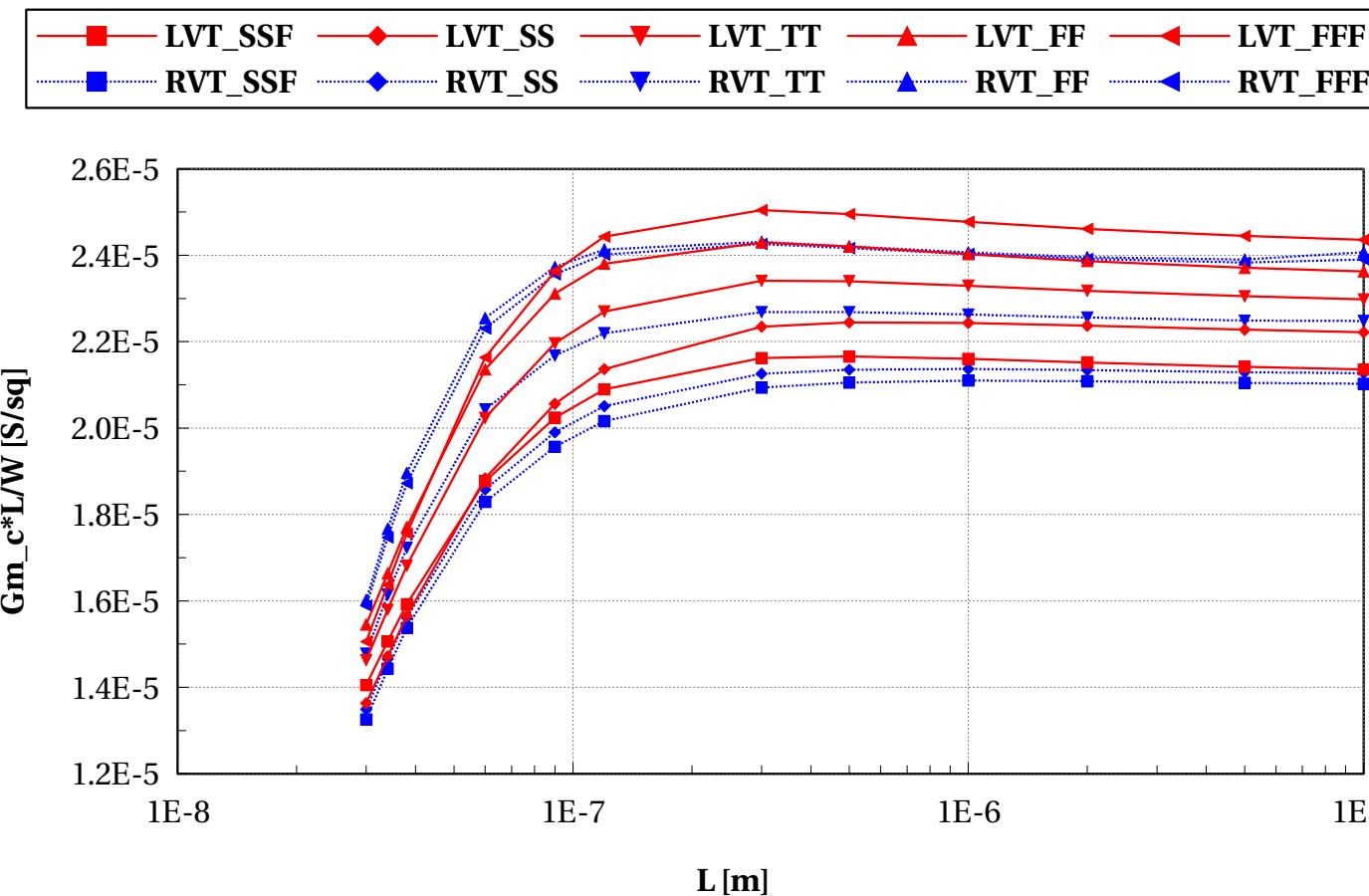
lvtpfet_acc, Ioff_g/W [A/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



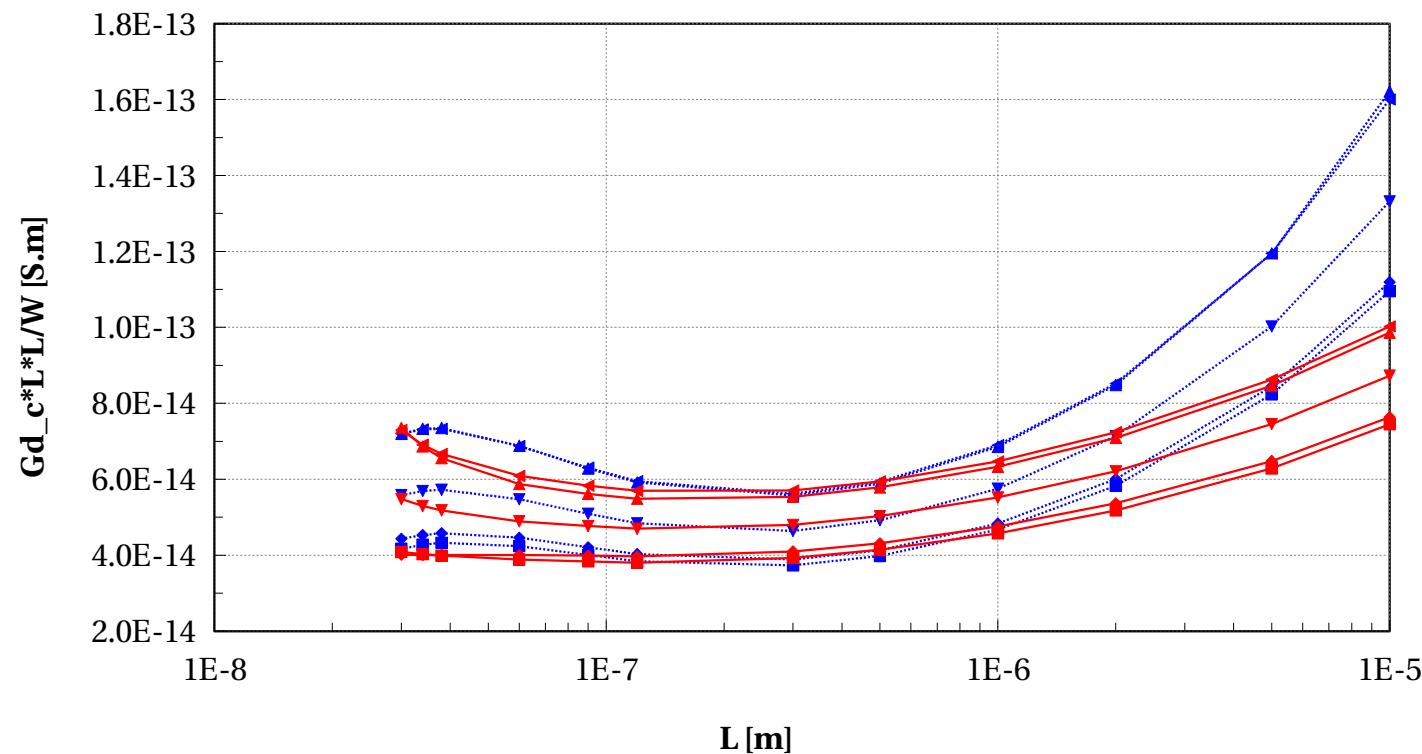
lvtpfet_acc, $Gm_c \cdot L/W$ [S/sq] vs L [m]

$w==1e-6$ and $Temp==25$ and $p_la==0$ and $devType=="PCELLwoWPE"$



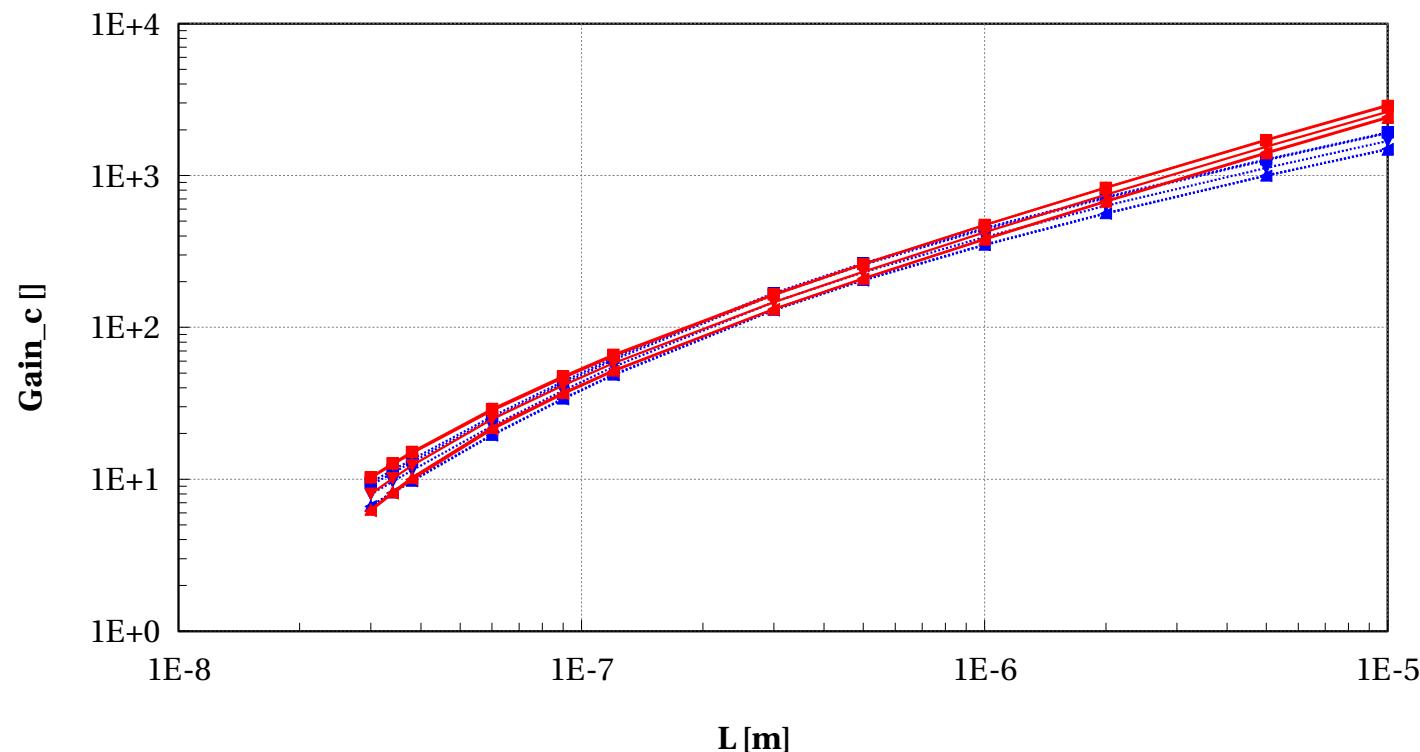
lvtpfet_acc, Gd_c*L*L/W [S.m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



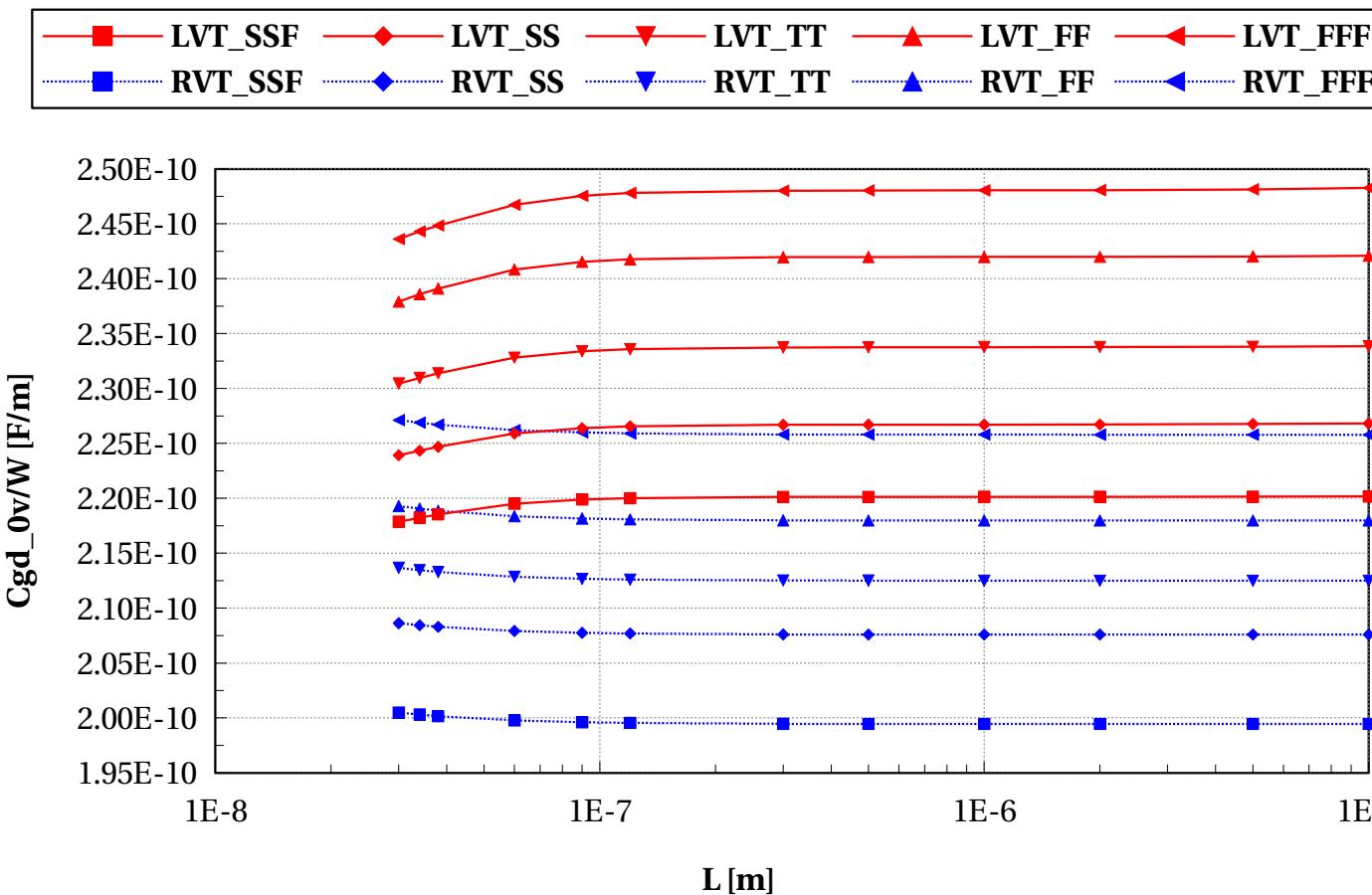
lvtpfet_acc, Gain_c [] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



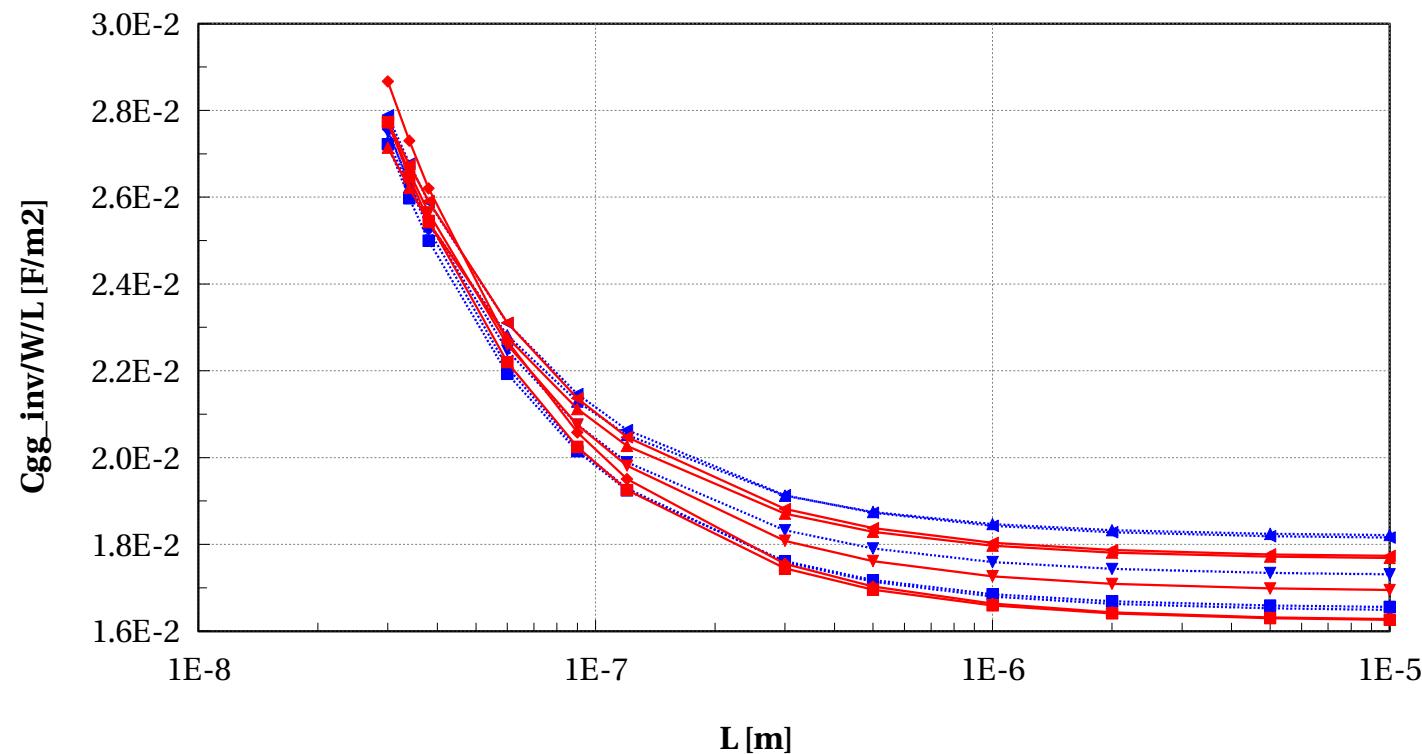
lvtpfet_acc, Cgd_0v/W [F/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



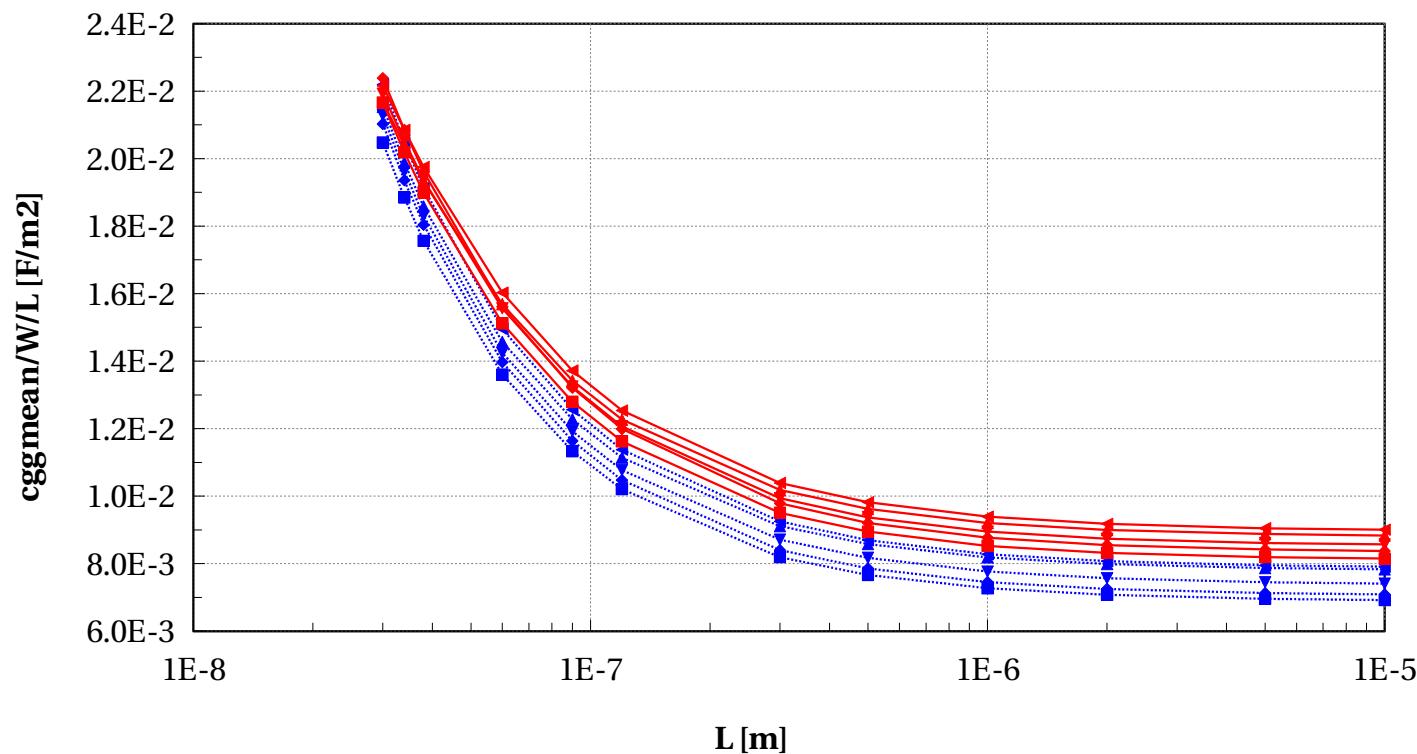
lvtpfet_acc, C_{gg}_inv/W/L [F/m²] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



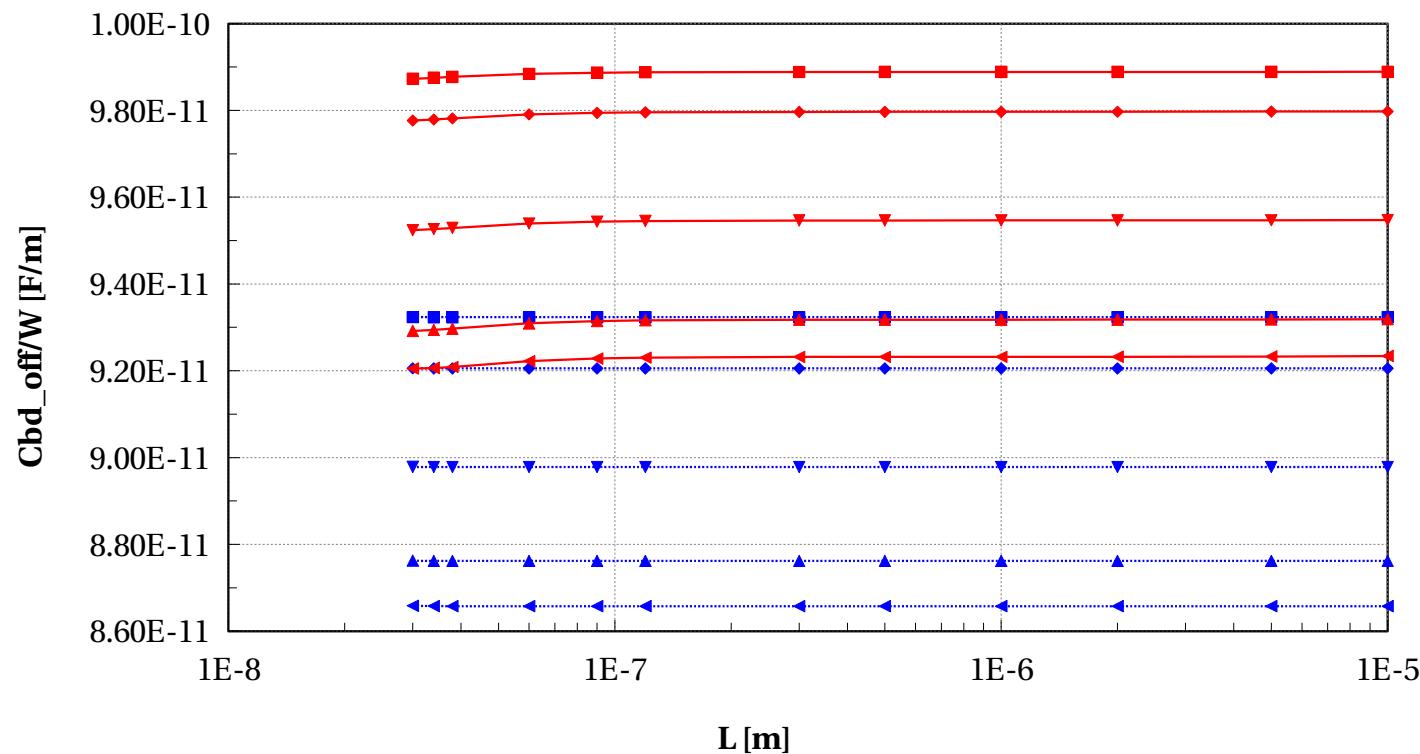
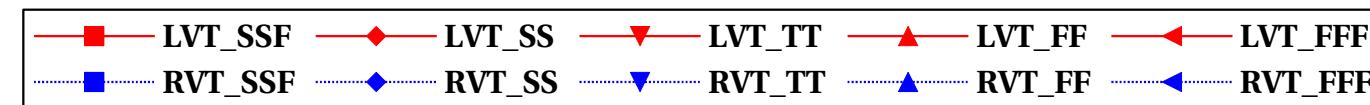
lvtpfet_acc, cggmean/W/L [F/m²] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



lvtpfet_acc, Cbd_off/W [F/m] vs L [m]

w==1e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"

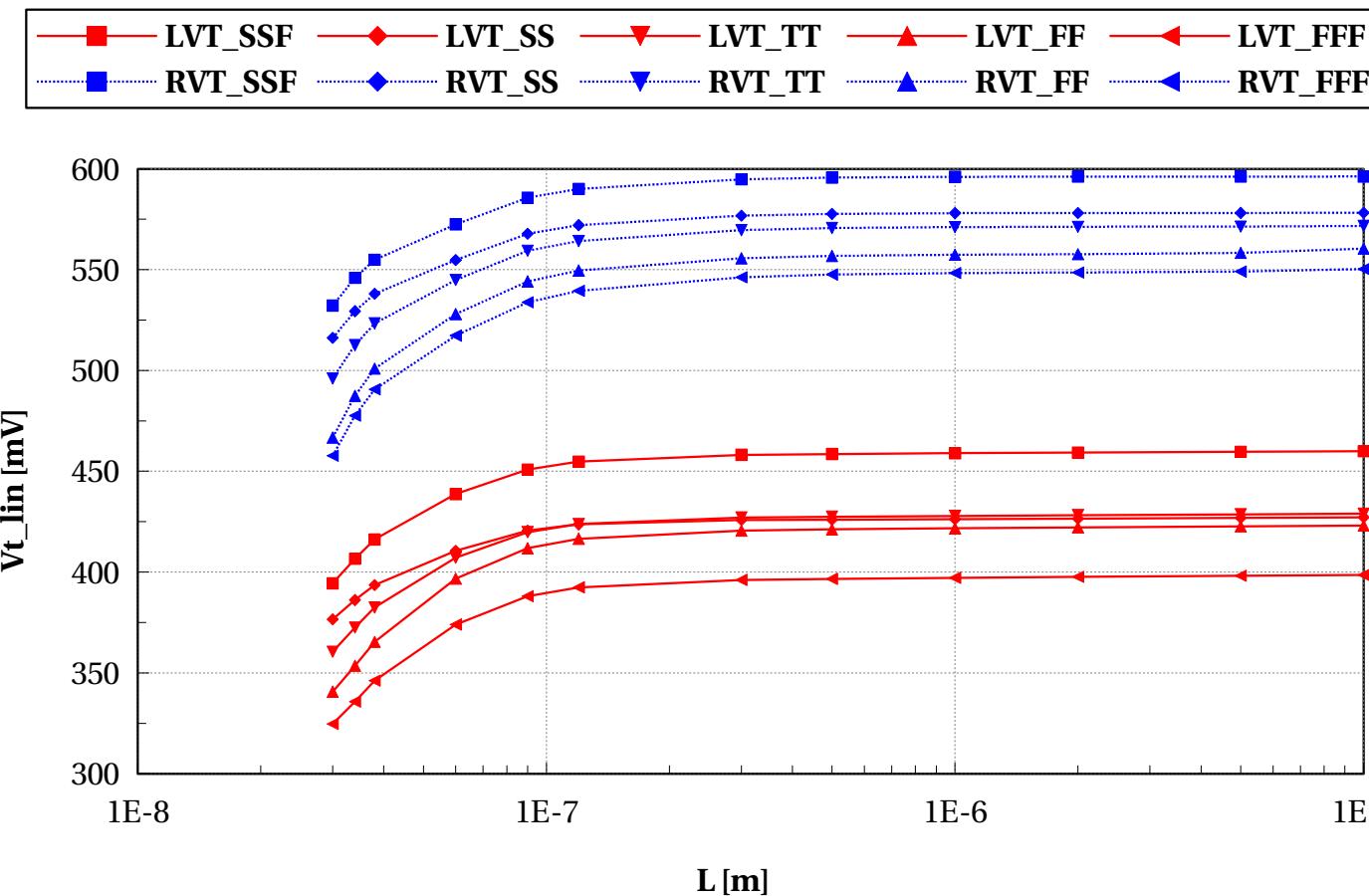


Scaling versus Length (W=300nm)

Scaling versus Length (W=300nm)

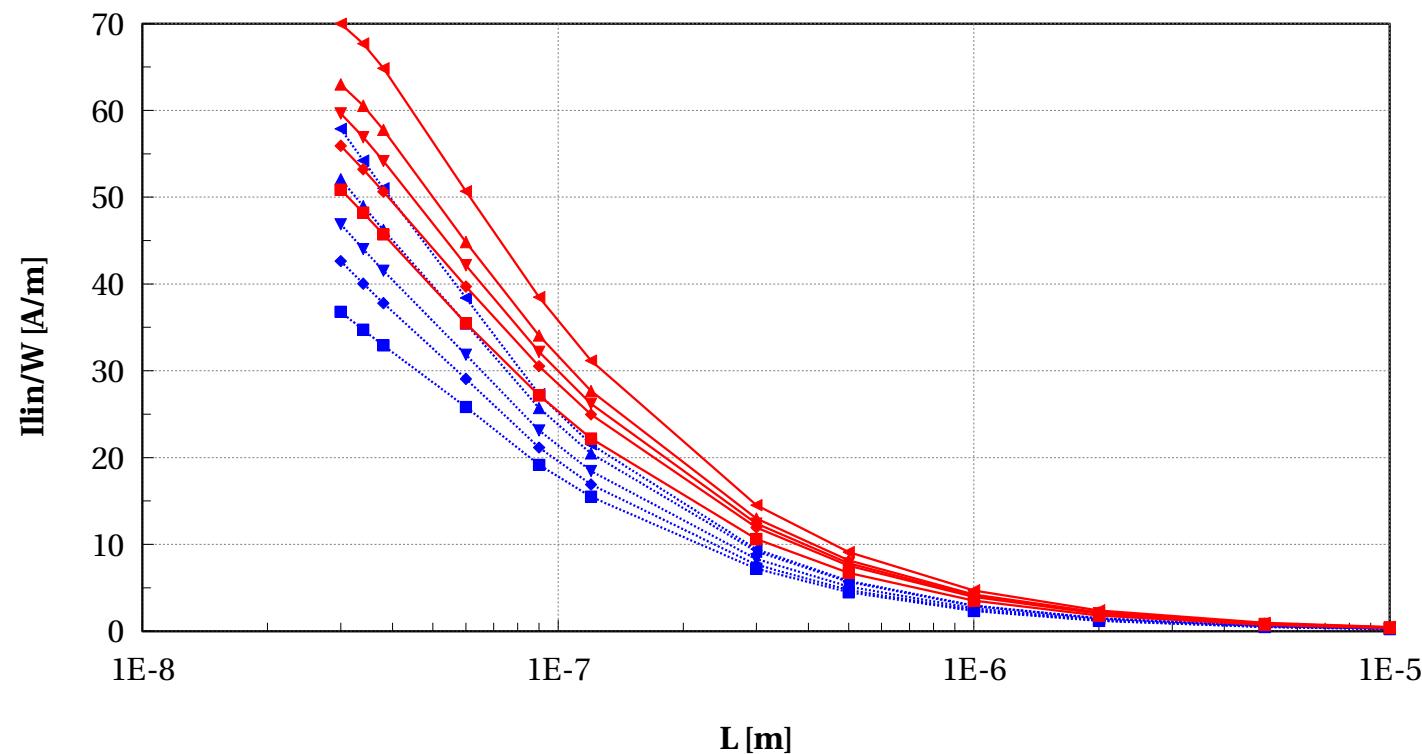
lvtpfet_acc, Vt_lin [mV] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



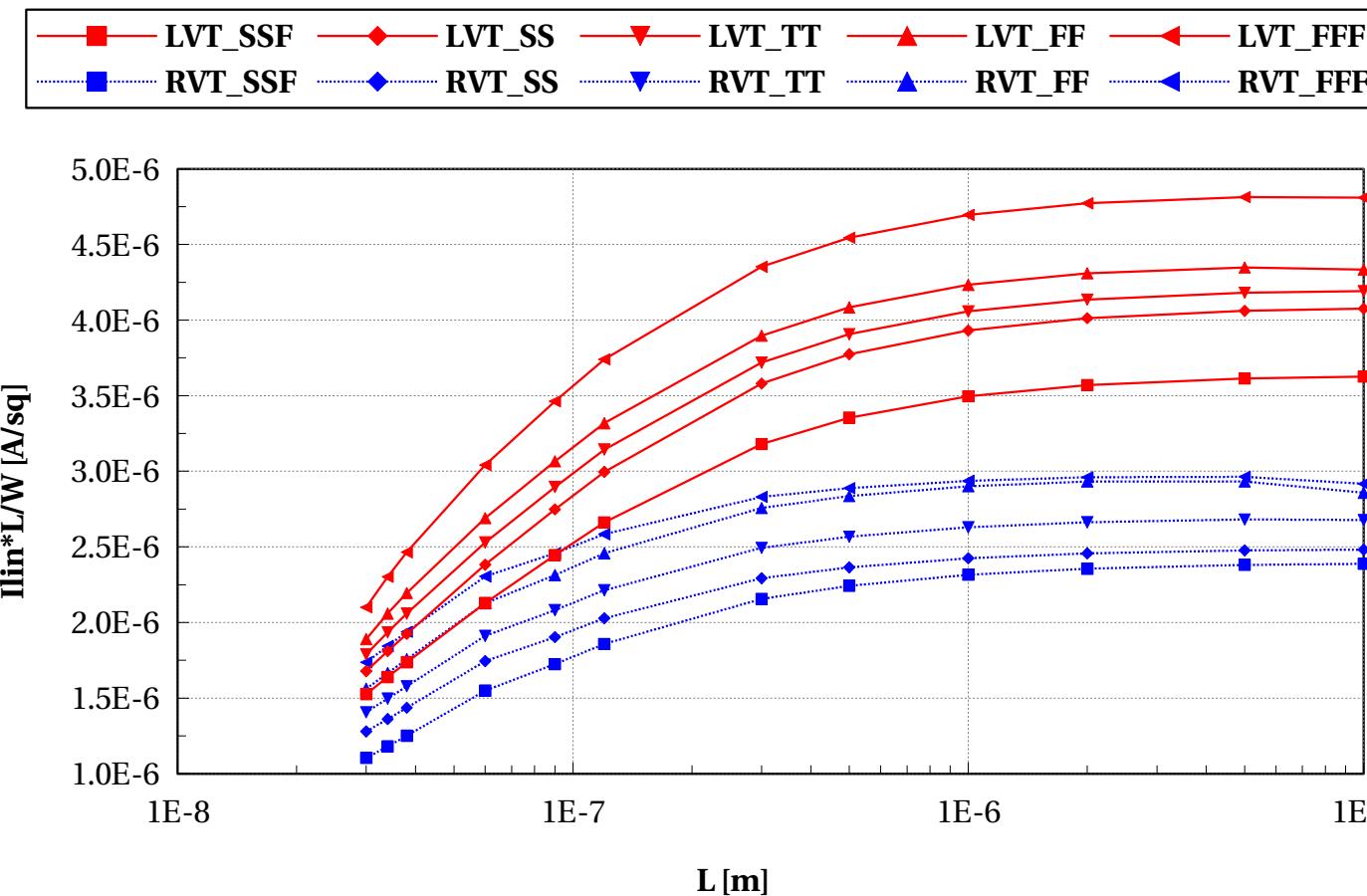
lvtpfet_acc, Ilin/W [A/m] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



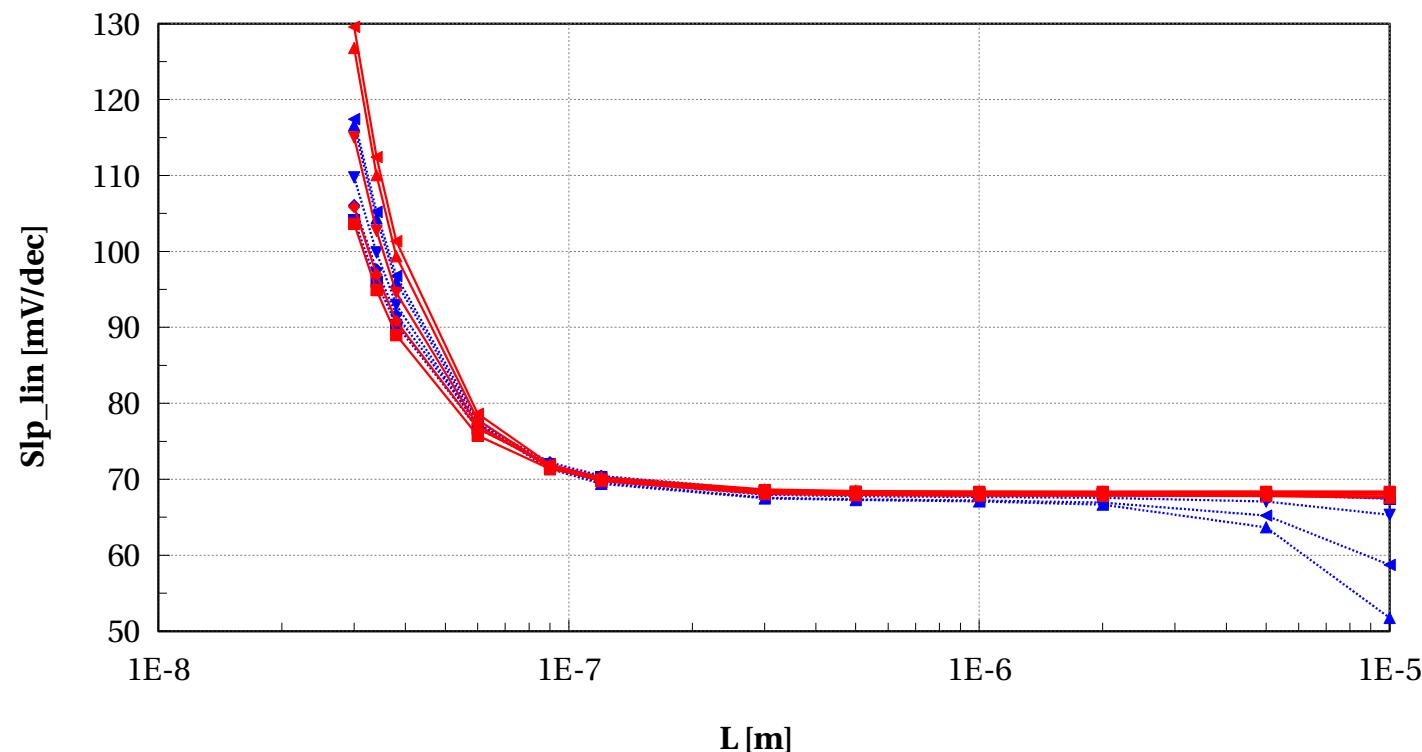
lvtpfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs L [m]

$w=0.300e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



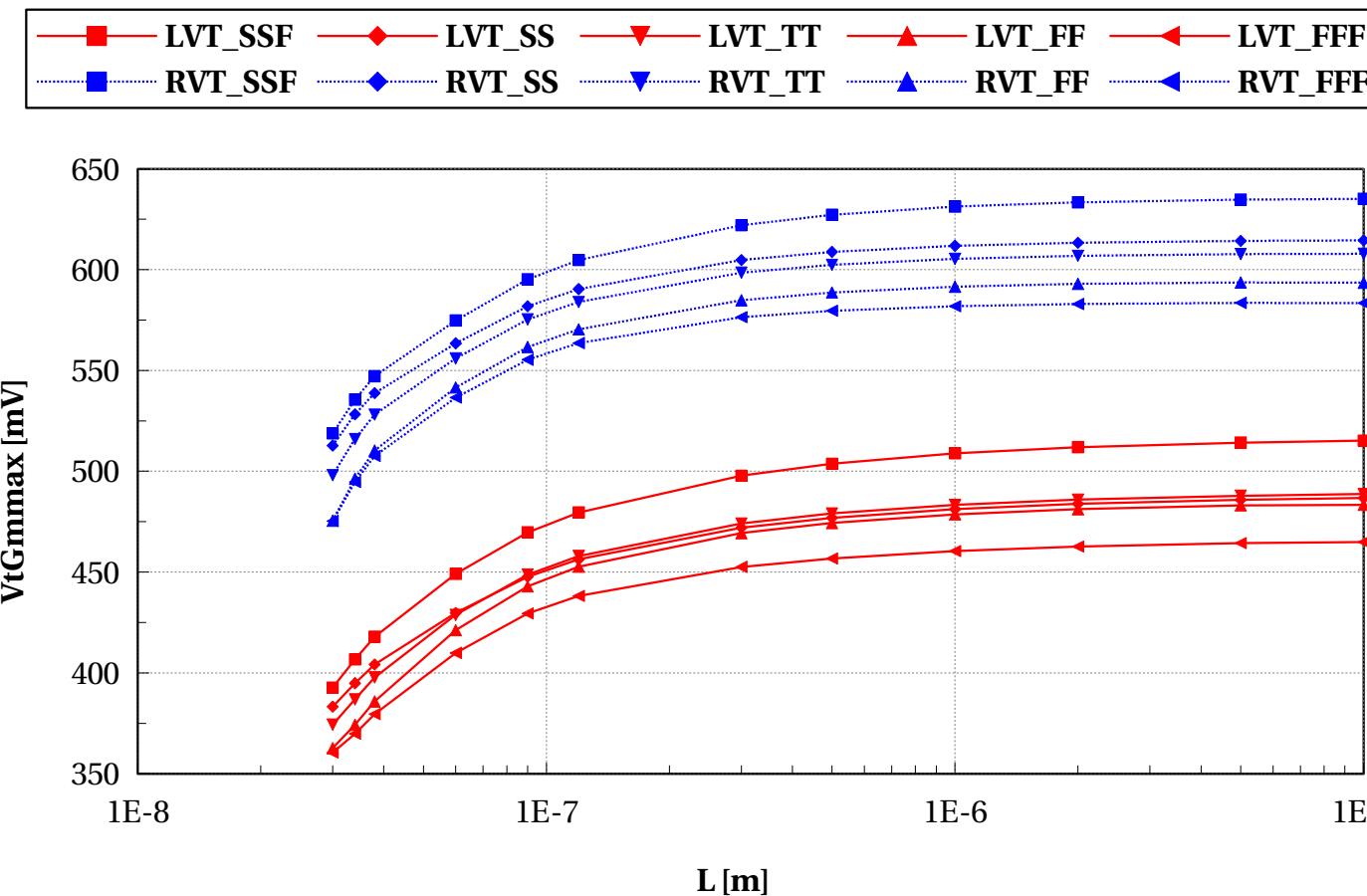
lvtpfet_acc, Slp_lin [mV/dec] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



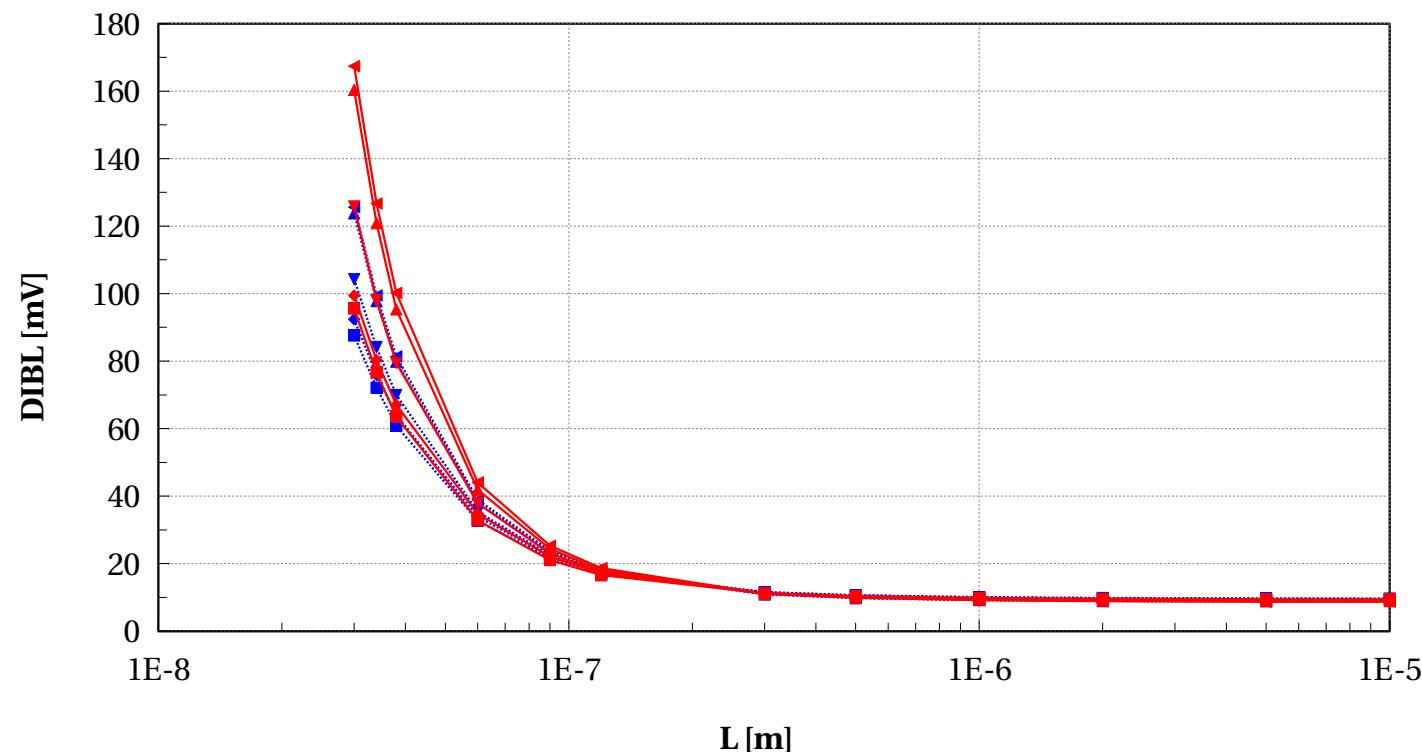
lvtpfet_acc, VtGmmax [mV] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



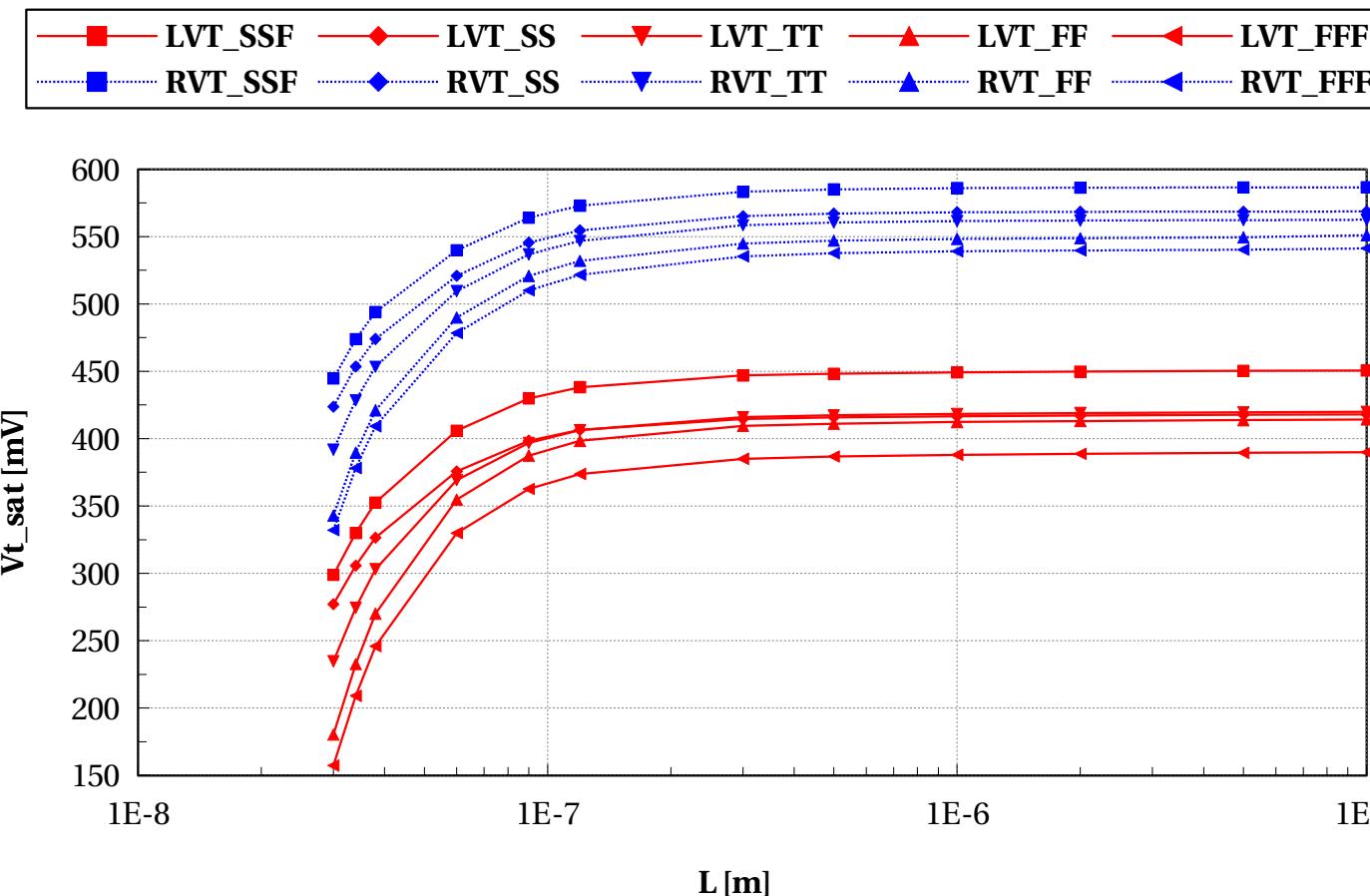
lvtpfet_acc, DIBL [mV] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



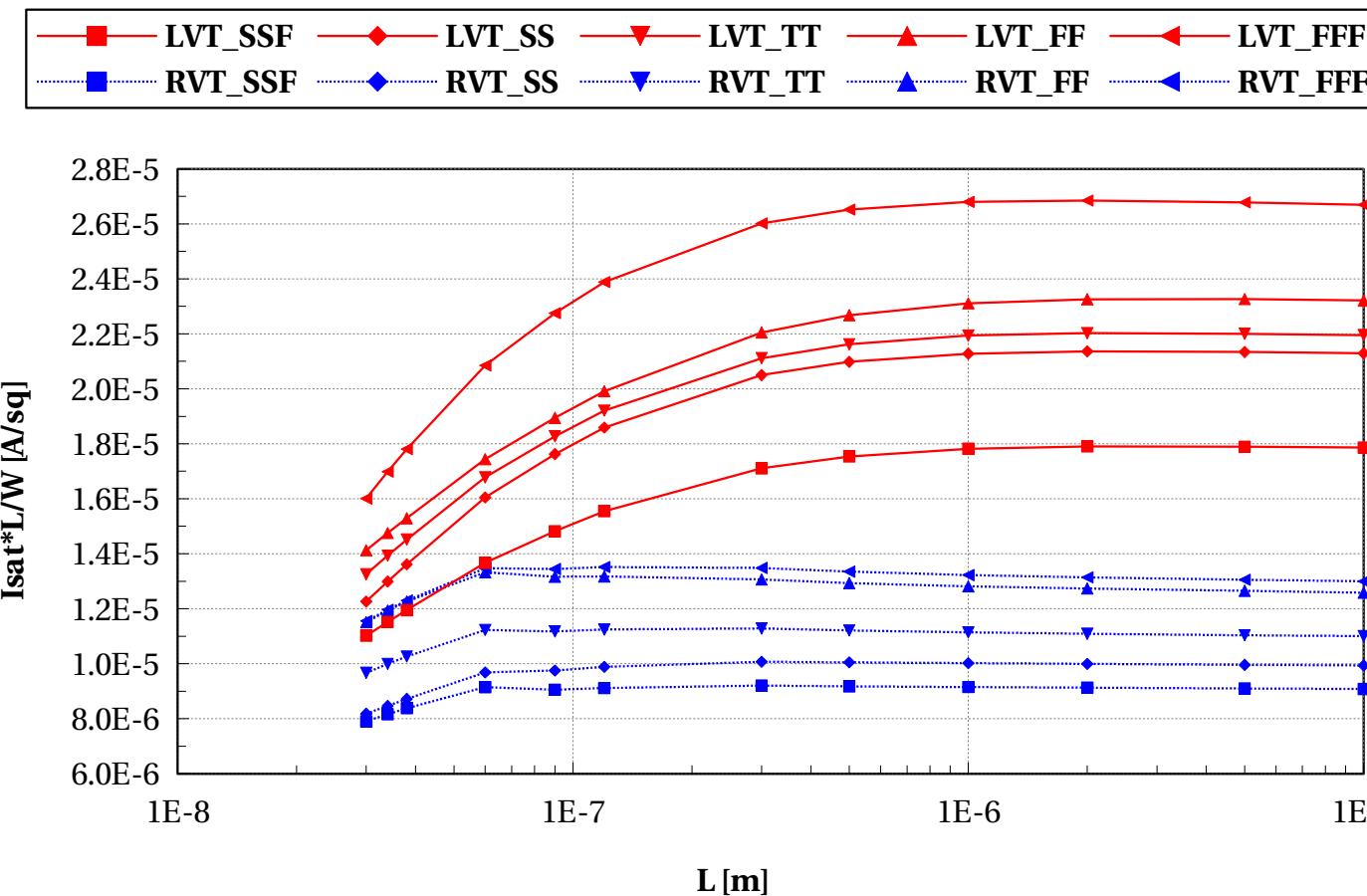
lvtpfet_acc, Vt_sat [mV] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



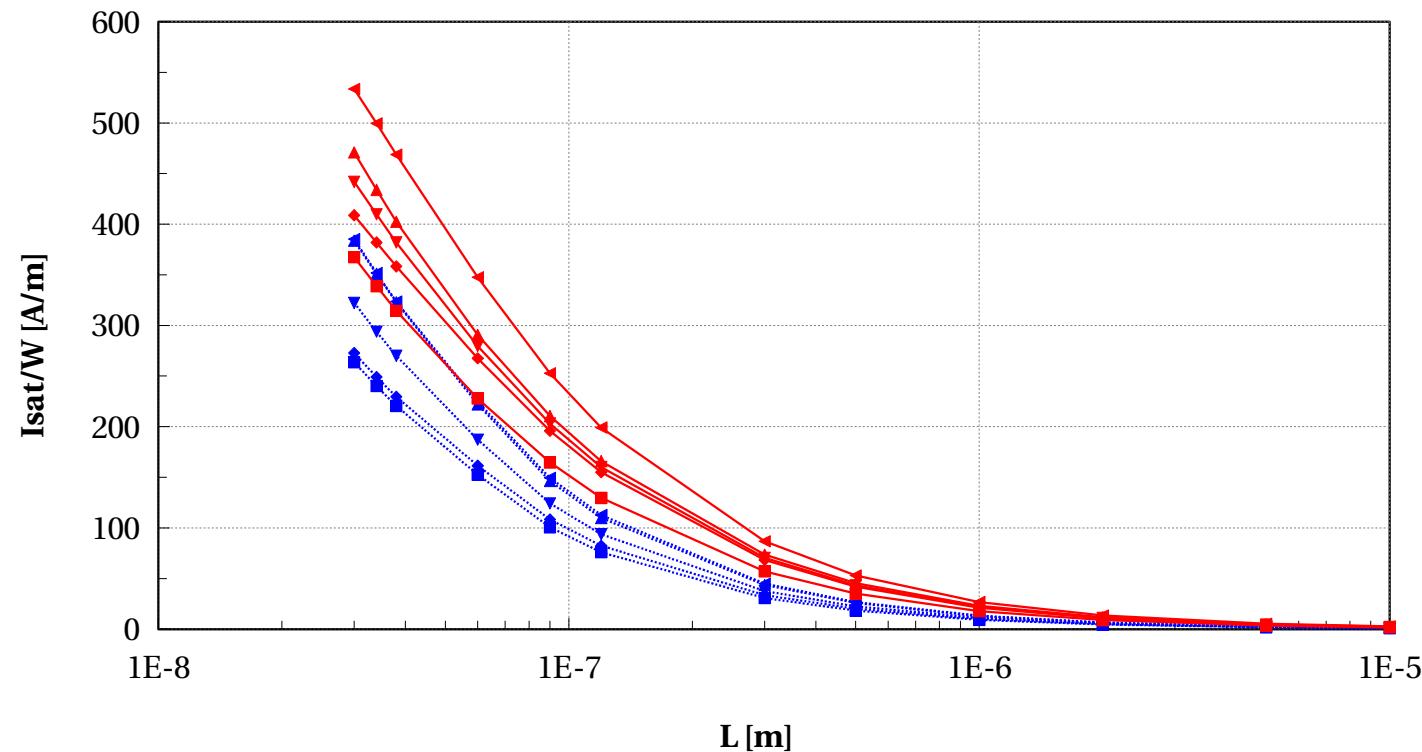
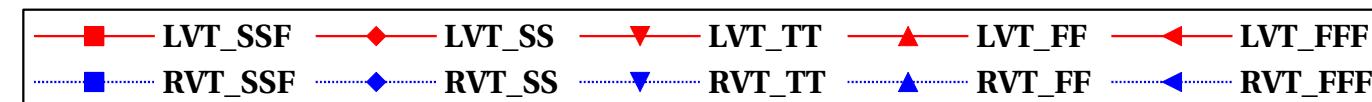
lvtpfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs L [m]

$w=0.300e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



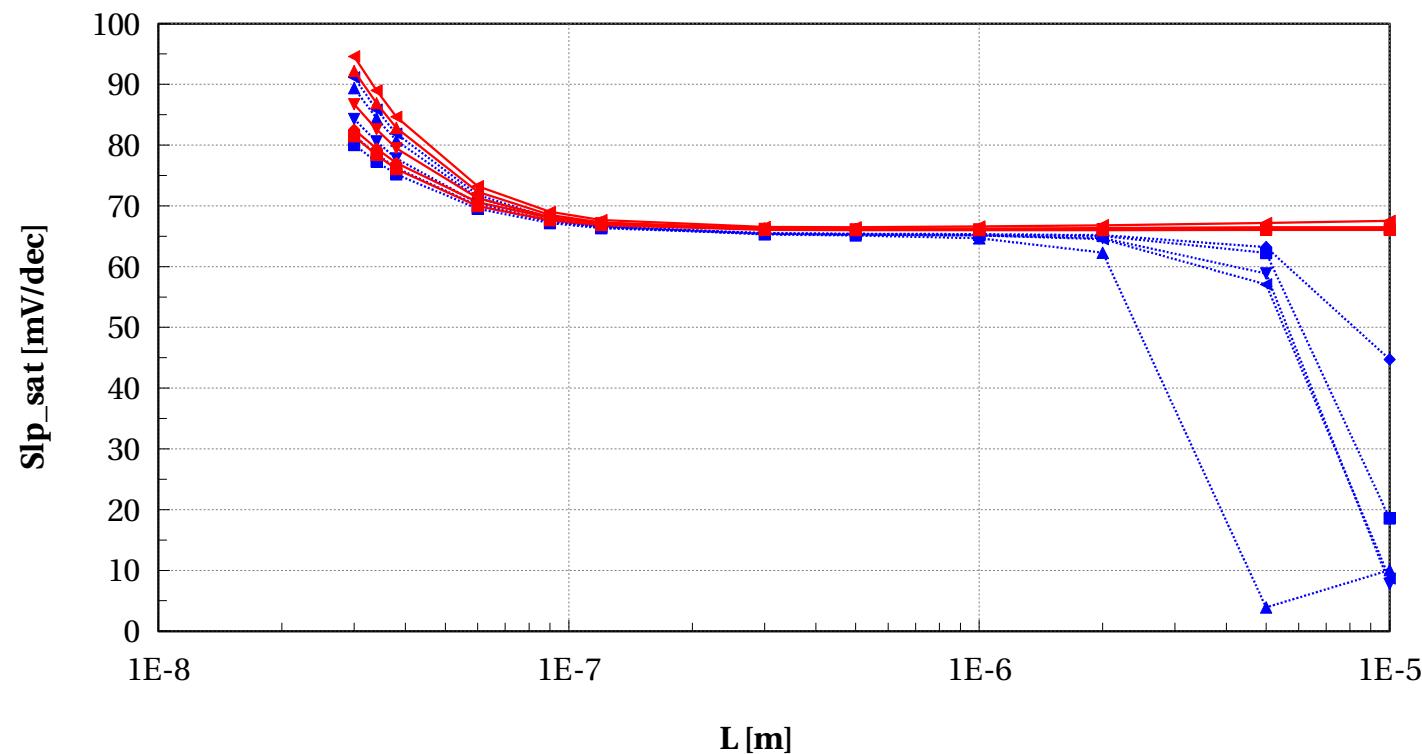
lvtpfet_acc, Isat/W [A/m] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



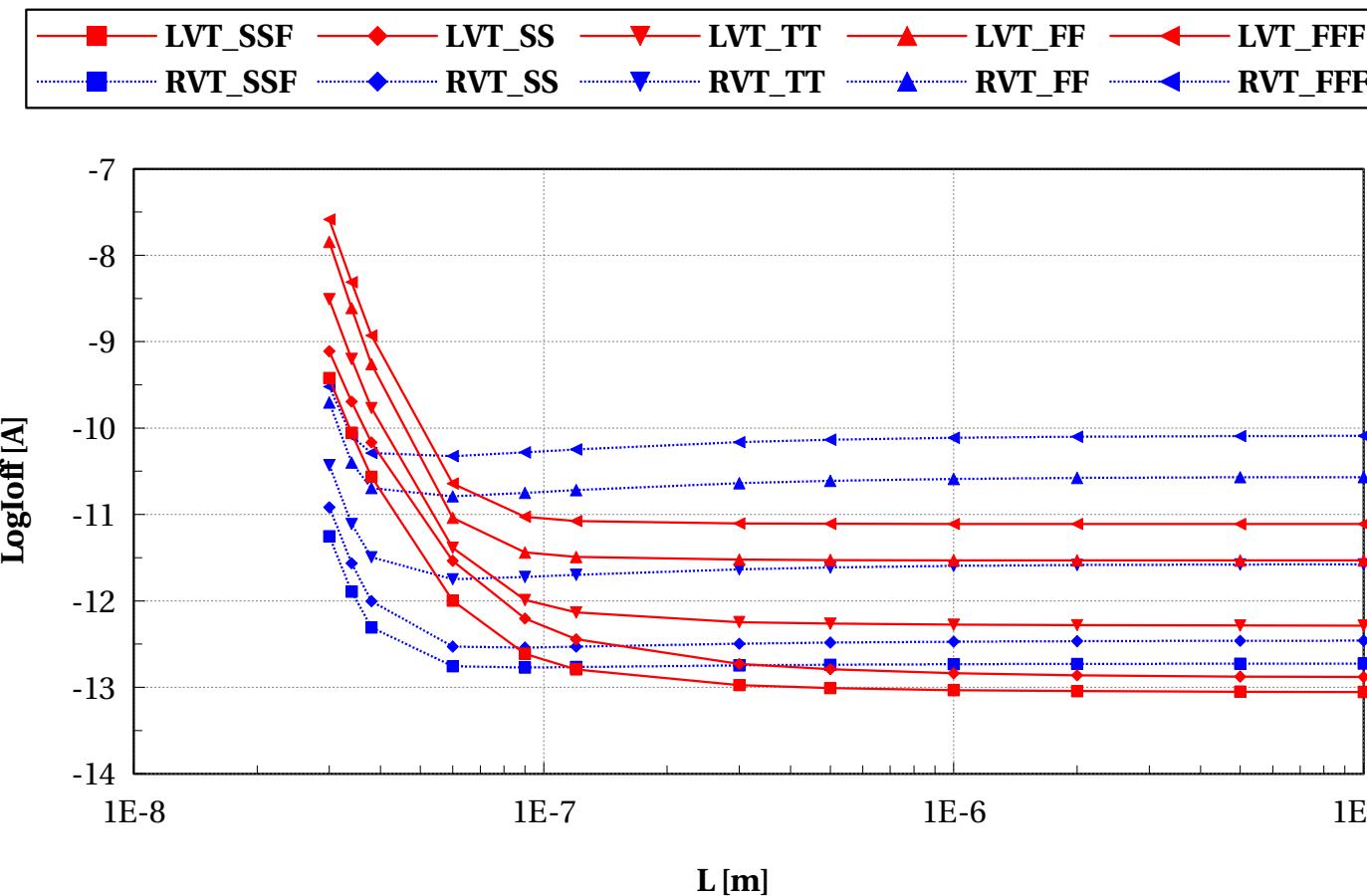
lvtpfet_acc, Slp_sat [mV/dec] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



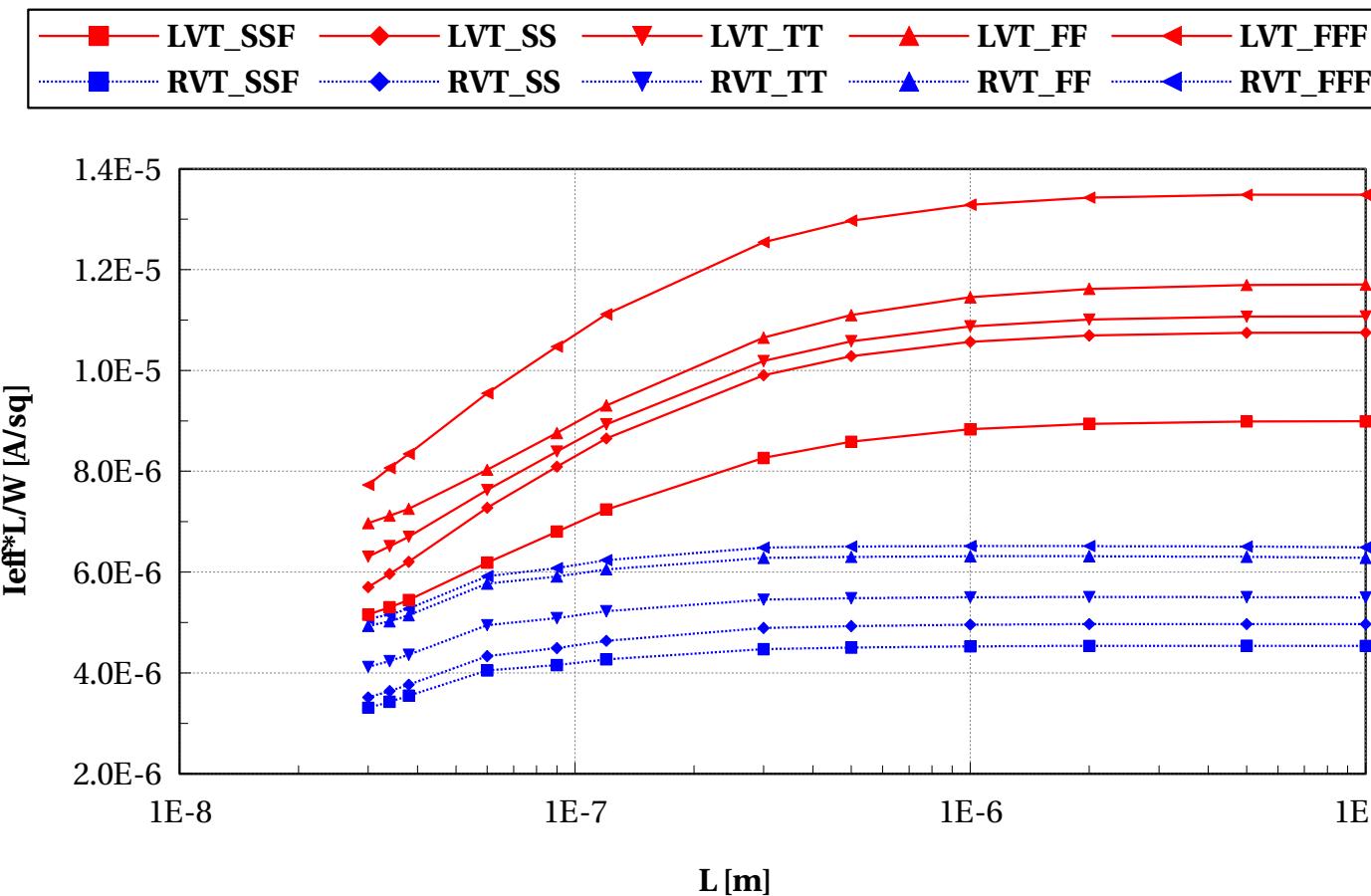
lvtpfet_acc, LogIoff [A] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



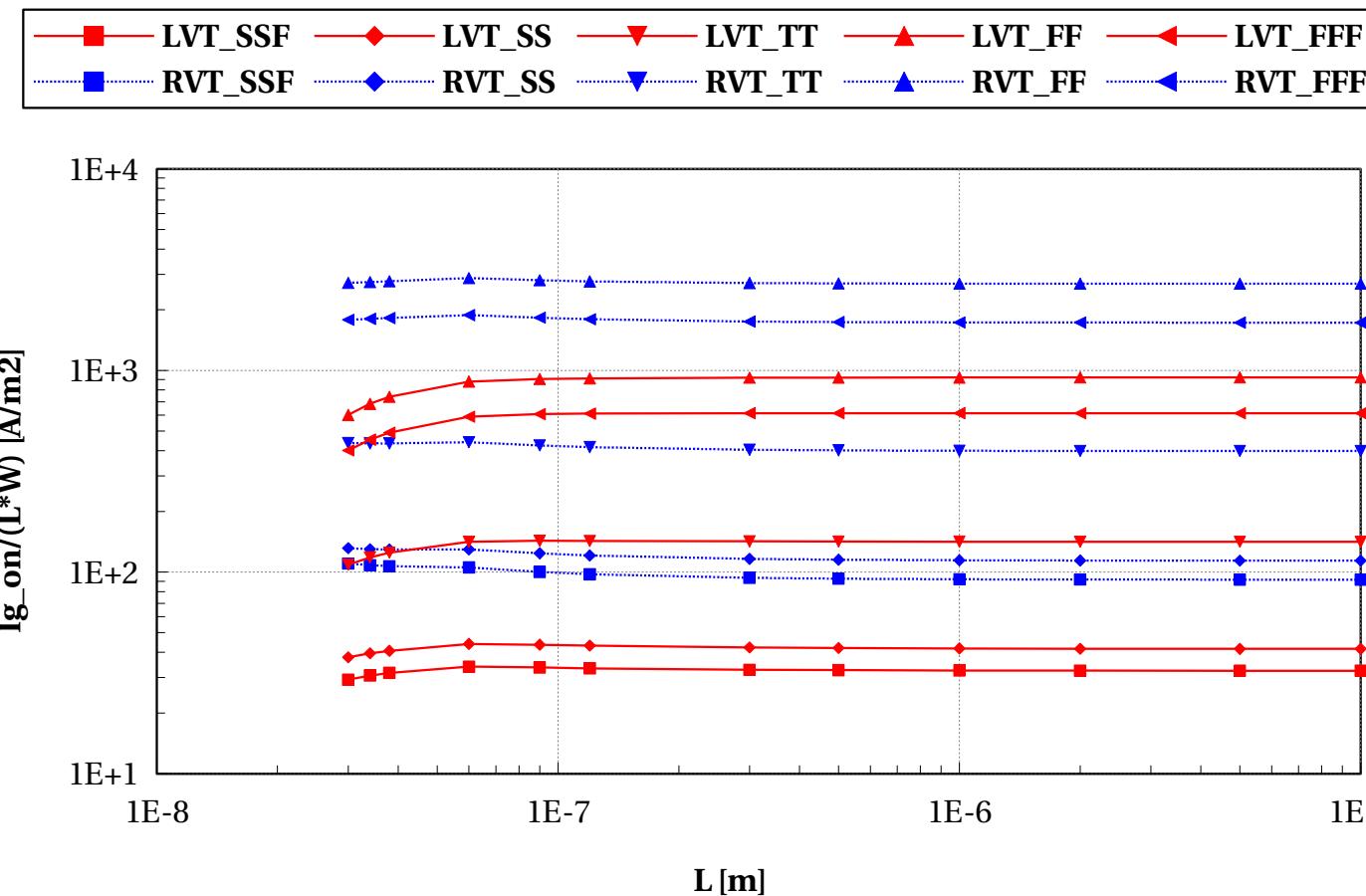
lvtpfet_acc, Ieff*L/W [A/sq] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



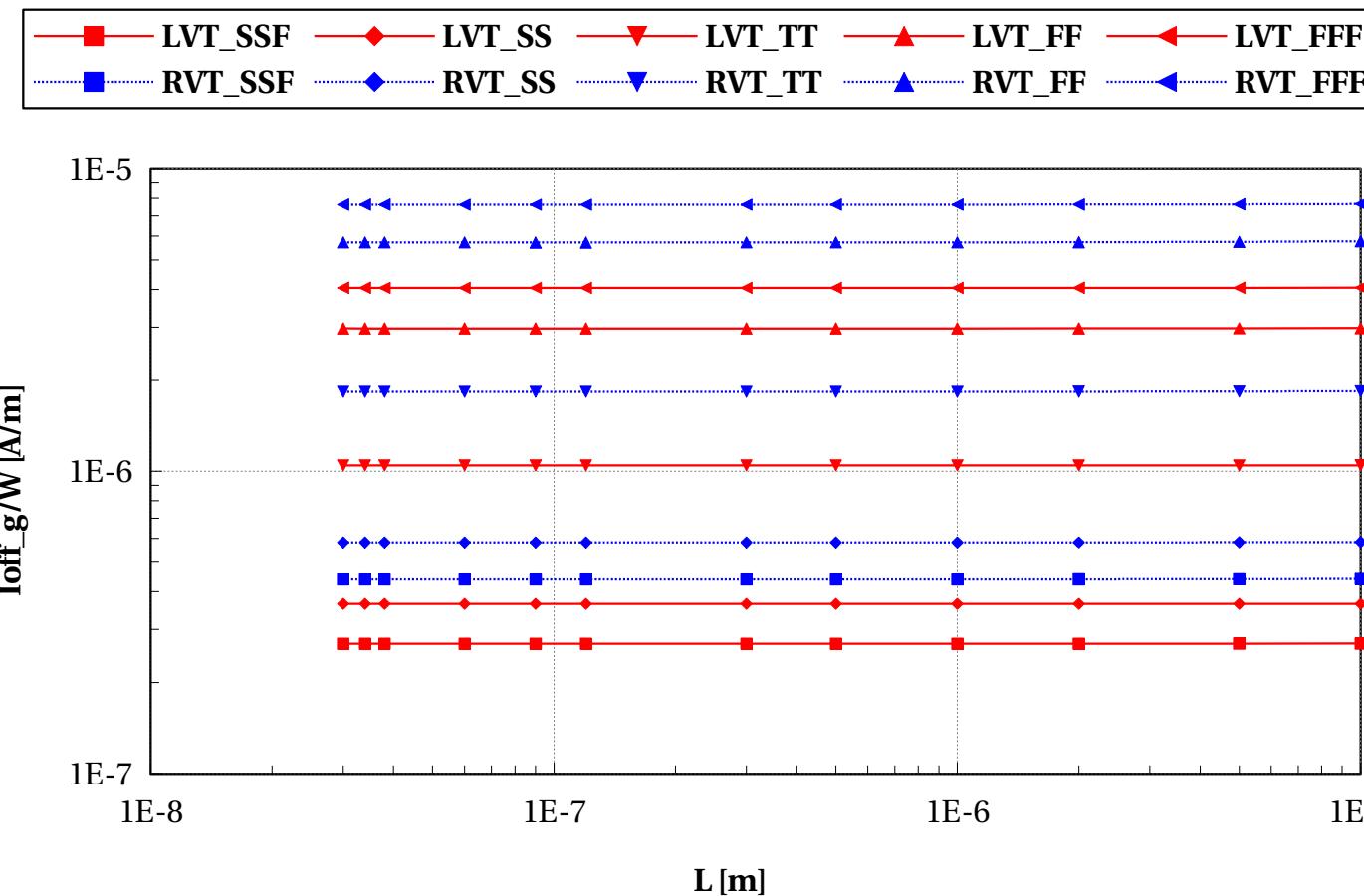
lvtpfet_acc, Ig_on/(L*W) [A/m2] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



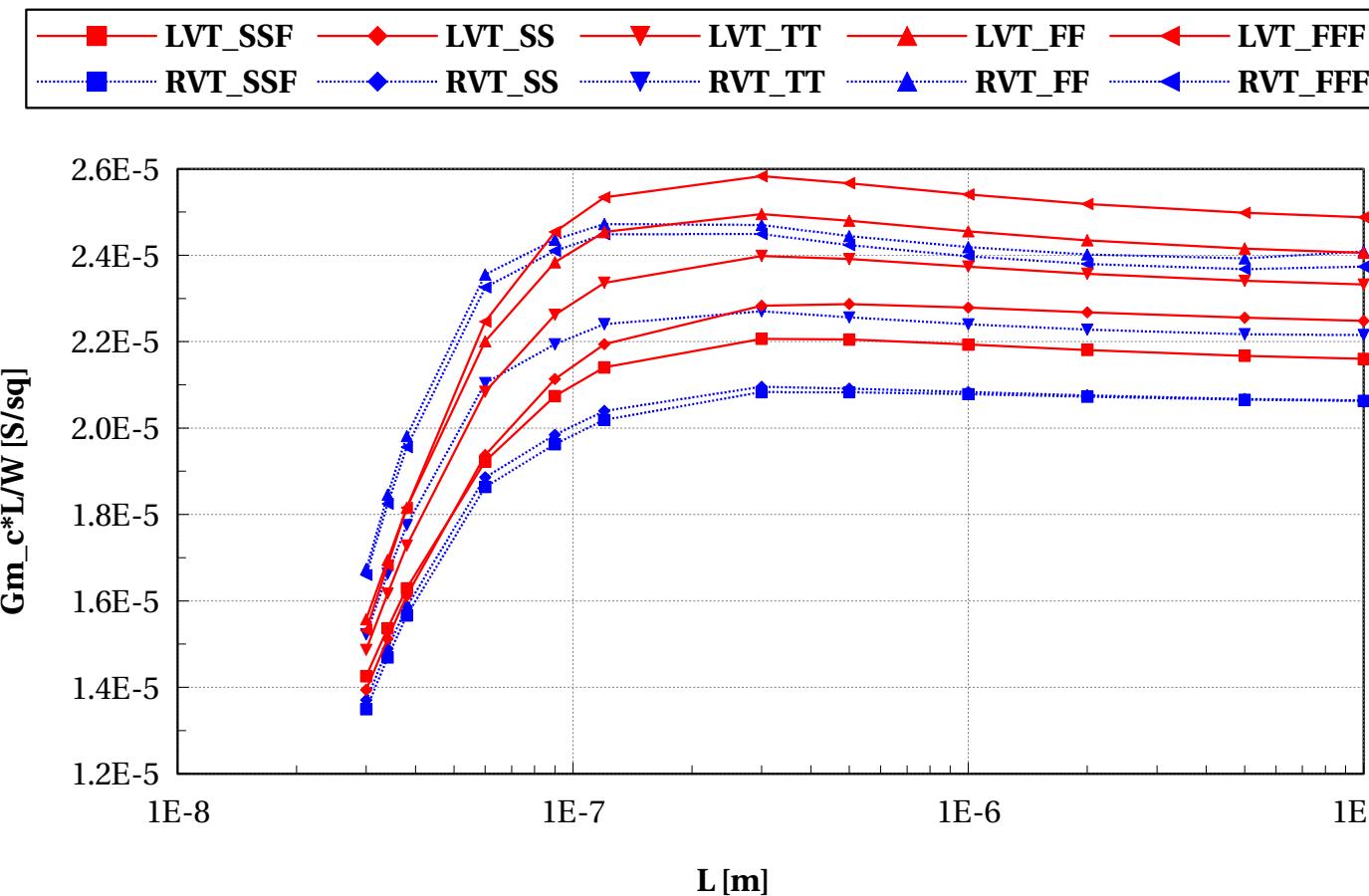
lvtpfet_acc, Ioff_g/W [A/m] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



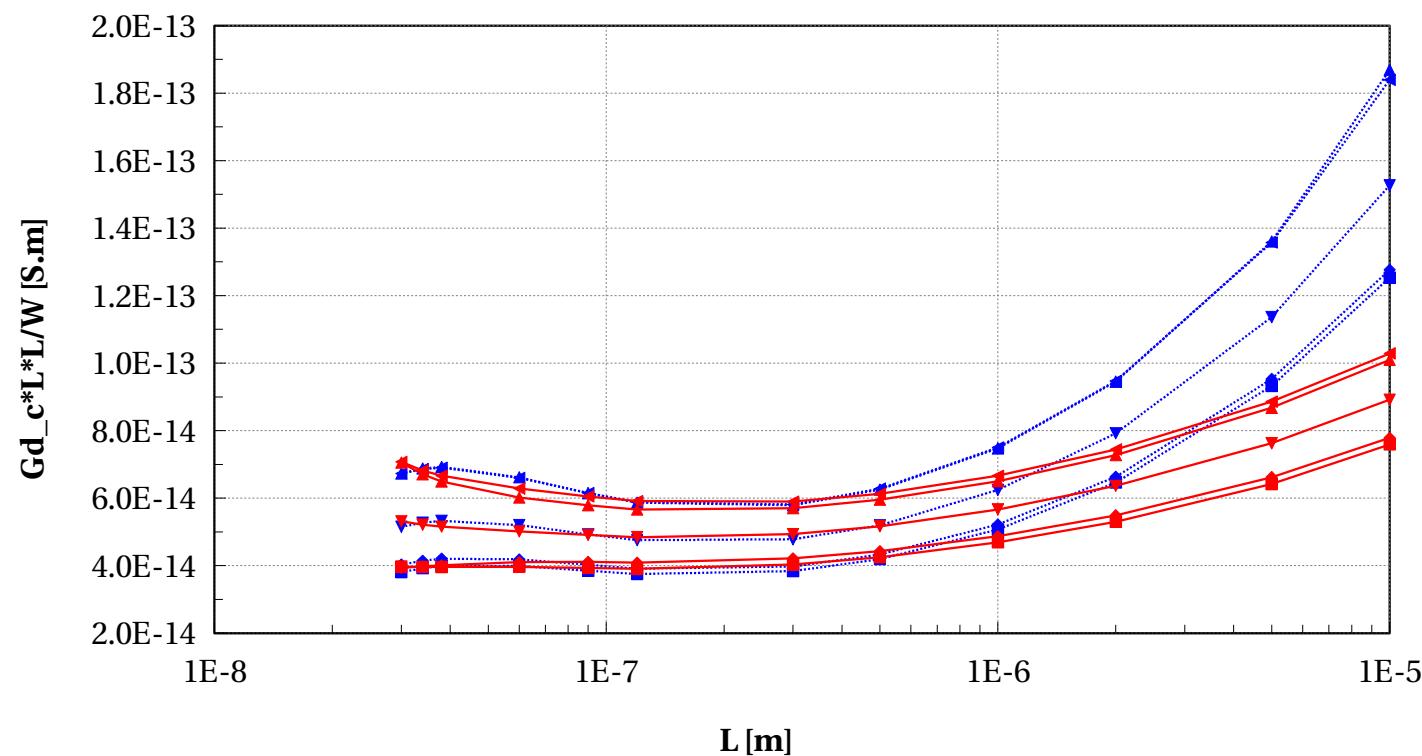
lvtpfet_acc, $Gm_c \cdot L/W$ [S/sq] vs L [m]

$w=0.300e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



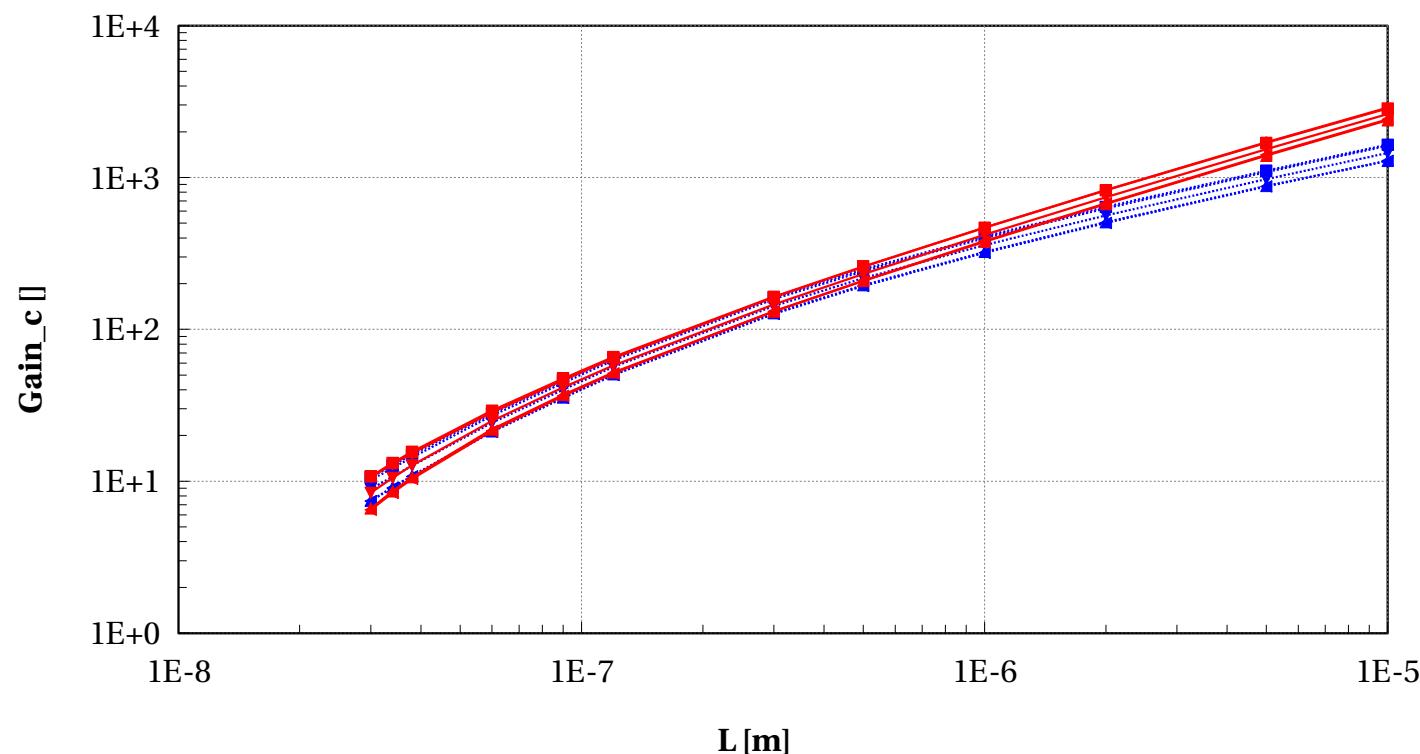
lvtpfet_acc, $G_d \cdot c^* L^* L/W$ [S.m] vs L [m]

$w==0.300e-6$ and $Temp==25$ and $p_la==0$ and $devType=="PCELLwoWPE"$



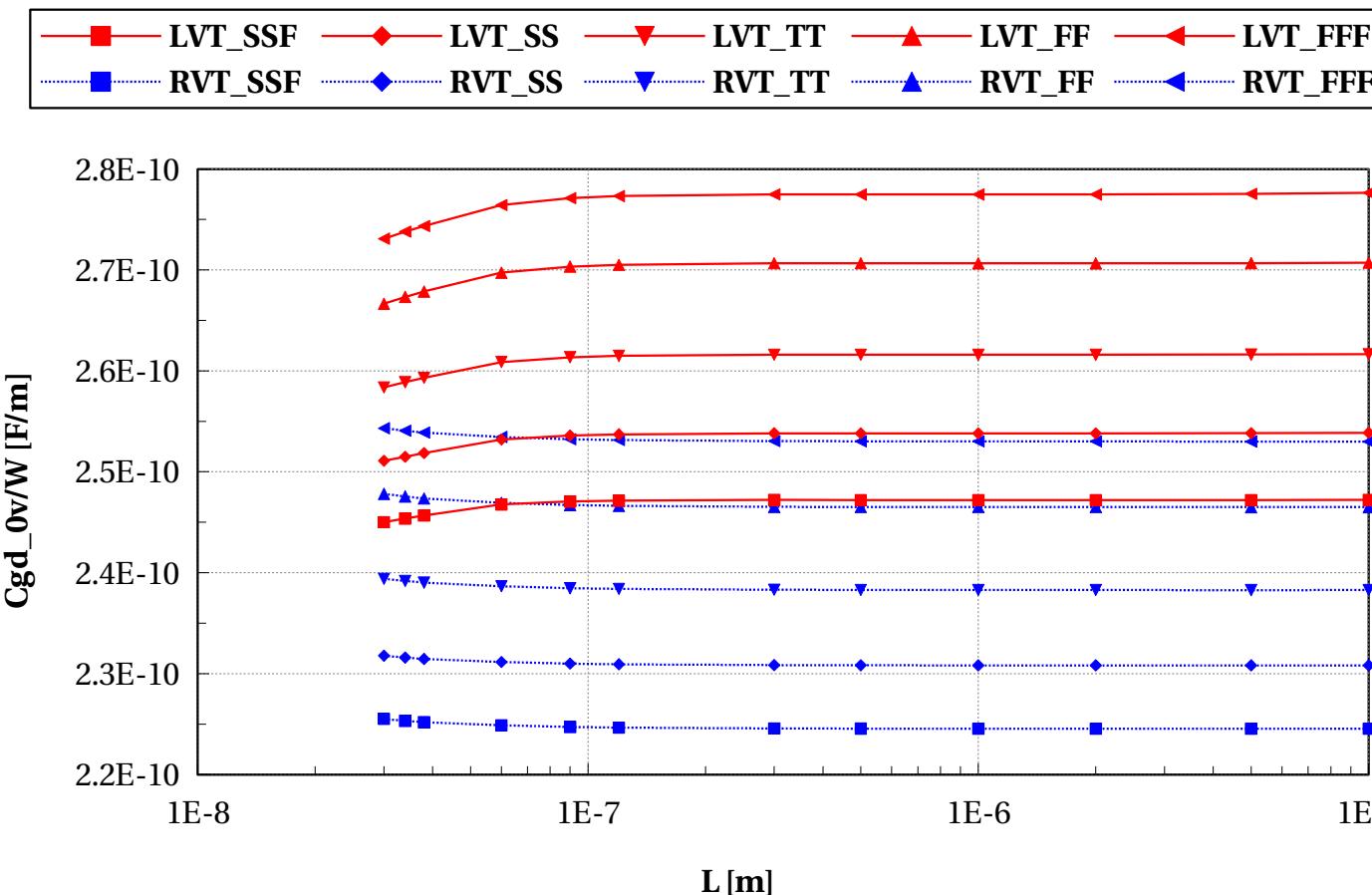
lvtpfet_acc, Gain_c [] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



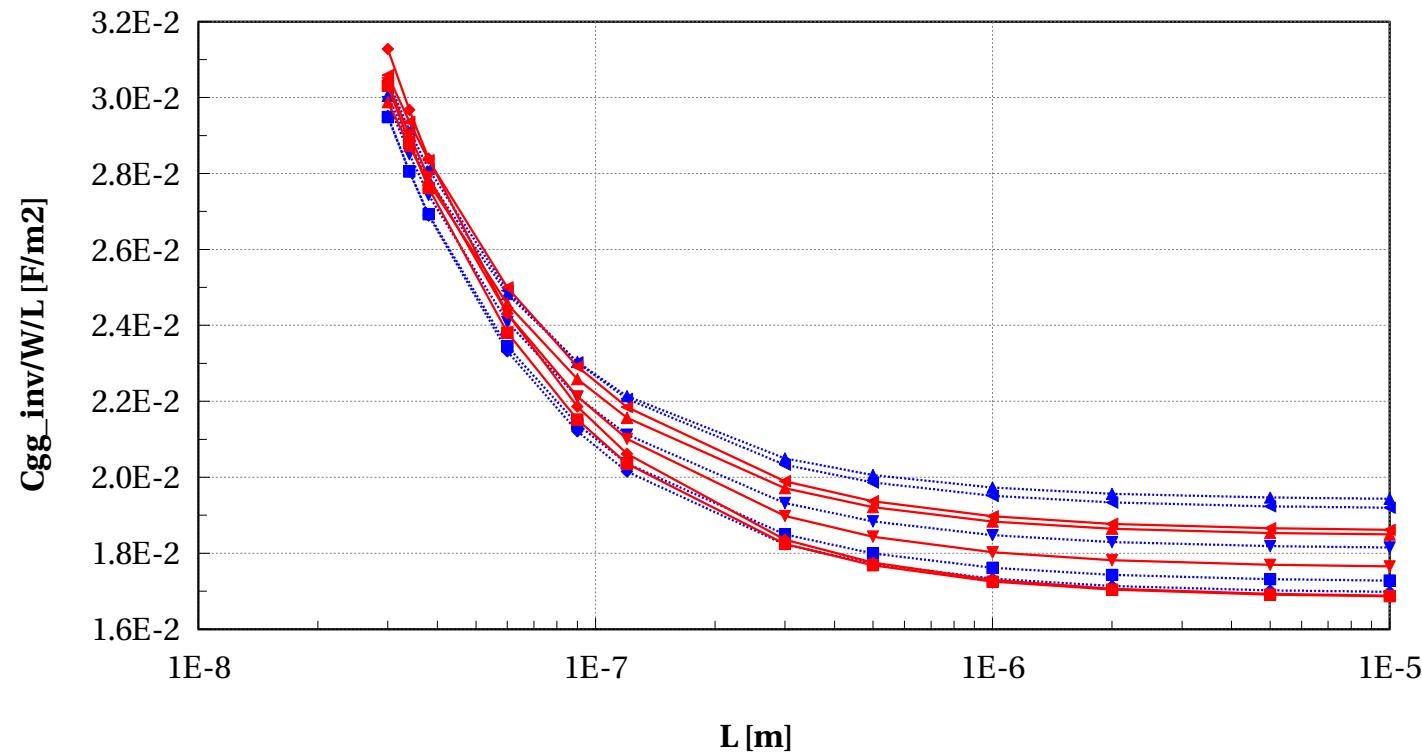
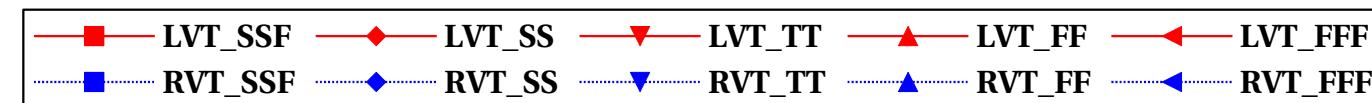
lvtpfet_acc, Cgd_0v/W [F/m] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



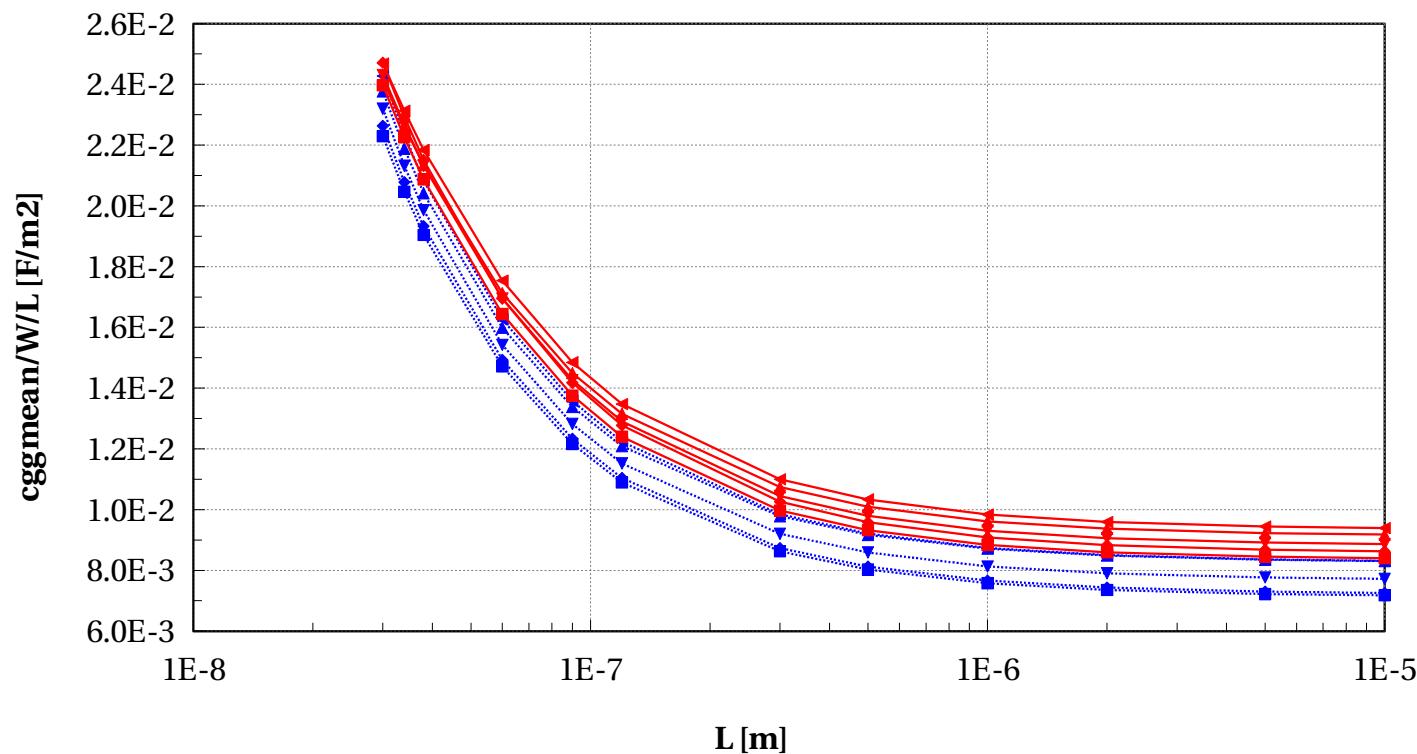
lvtpfet_acc, C_{gg}_inv/W/L [F/m²] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



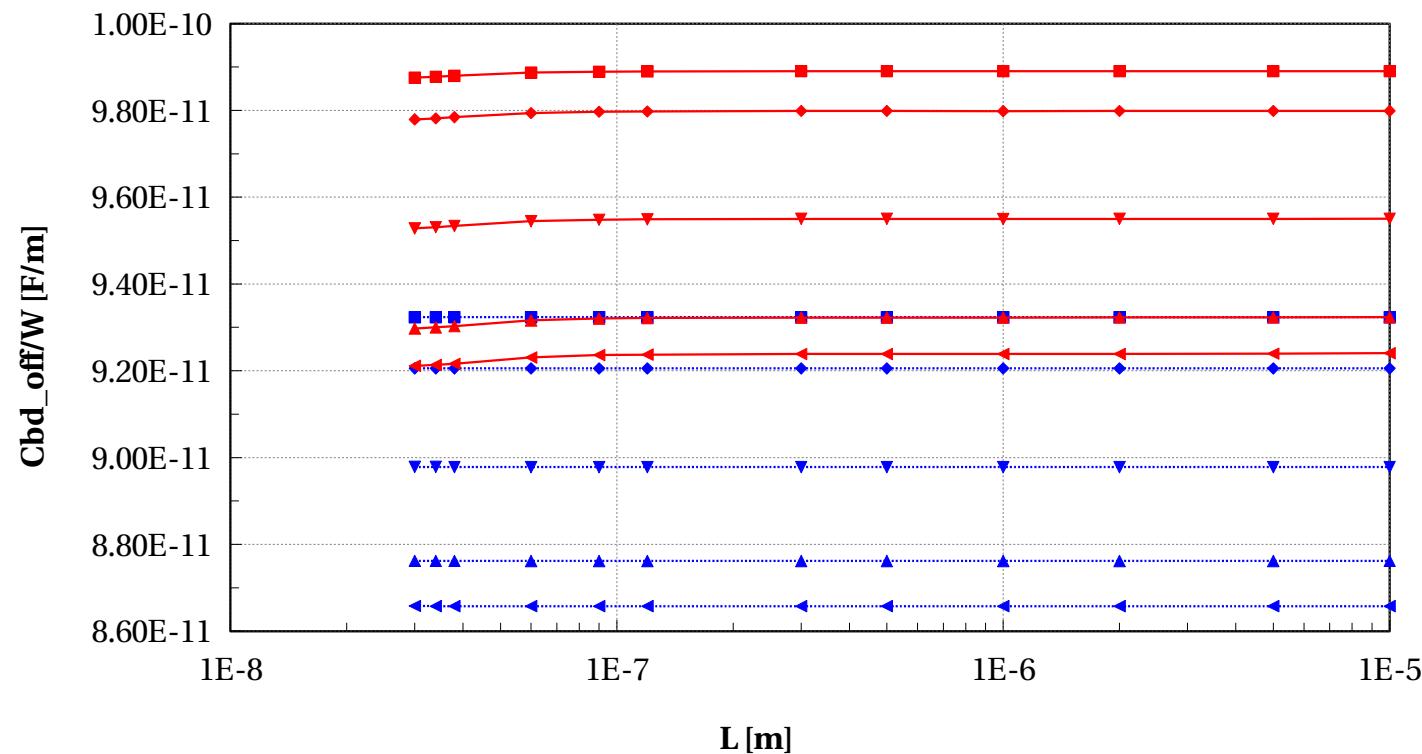
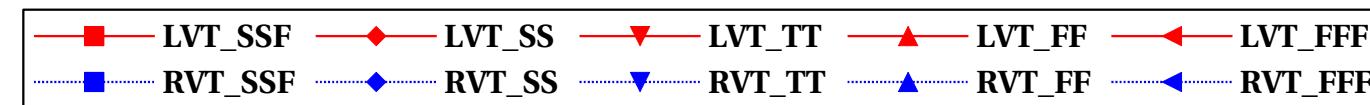
lvtpfet_acc, cggmean/W/L [F/m²] vs L [m]

w==0.300e-6 and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



lvtpfet_acc, C_{bd_off}/W [F/m] vs L [m]

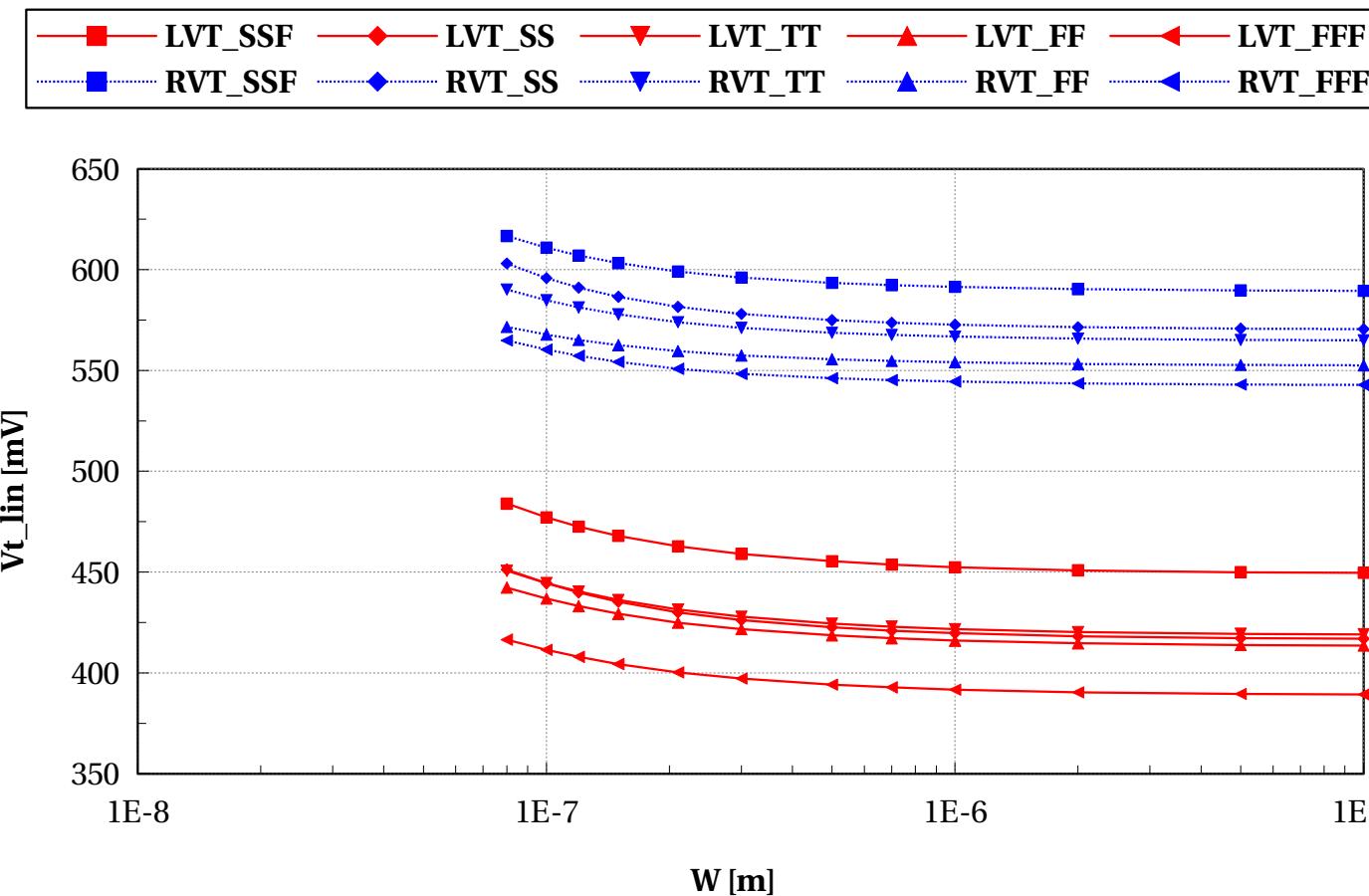
$w==0.300e-6$ and $Temp==25$ and $p_la==0$ and $devType=="PCELLwoWPE"$



Scaling versus Width (L=1um)

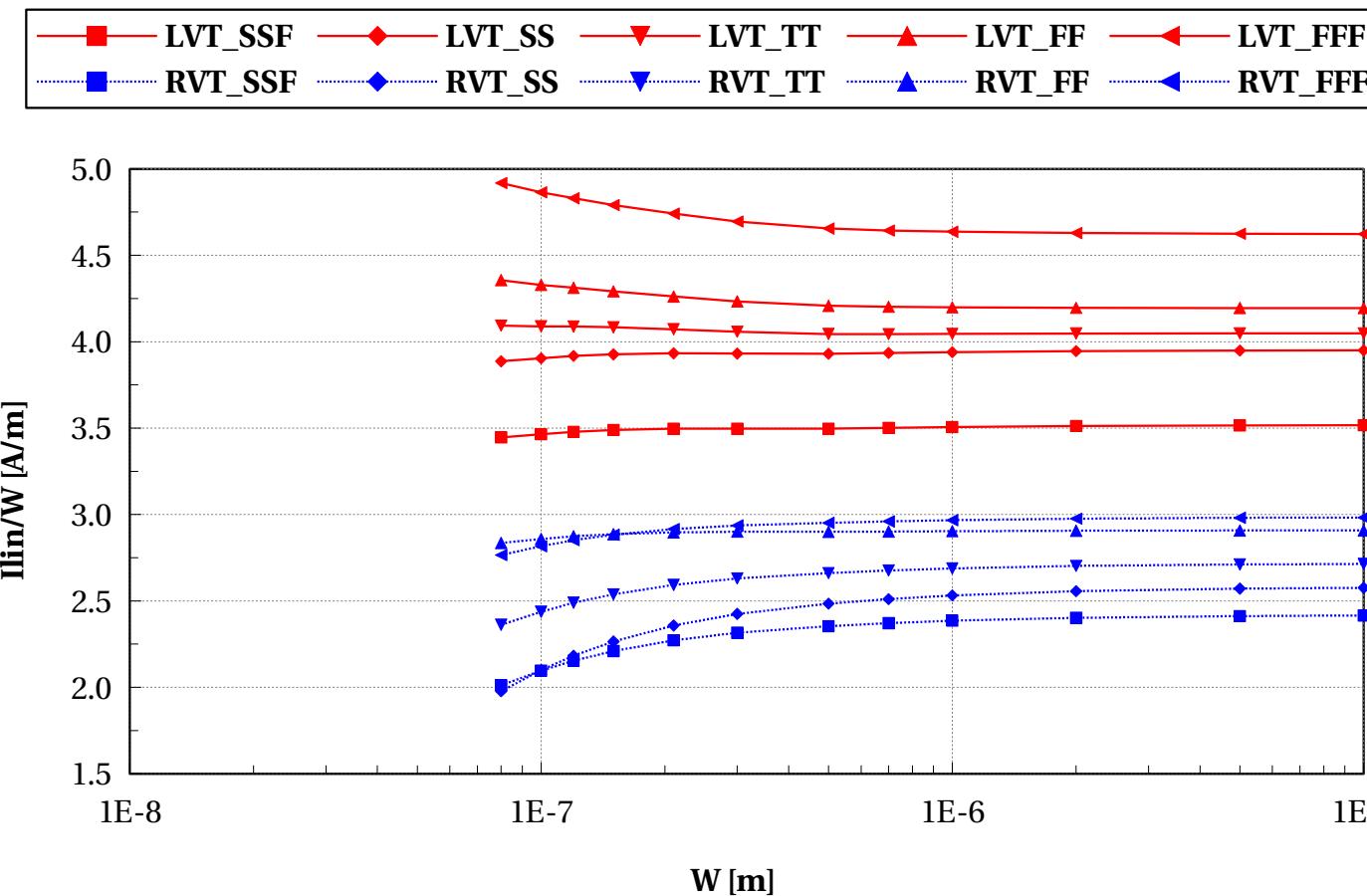
lvtpfet_acc, Vt_lin [mV] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



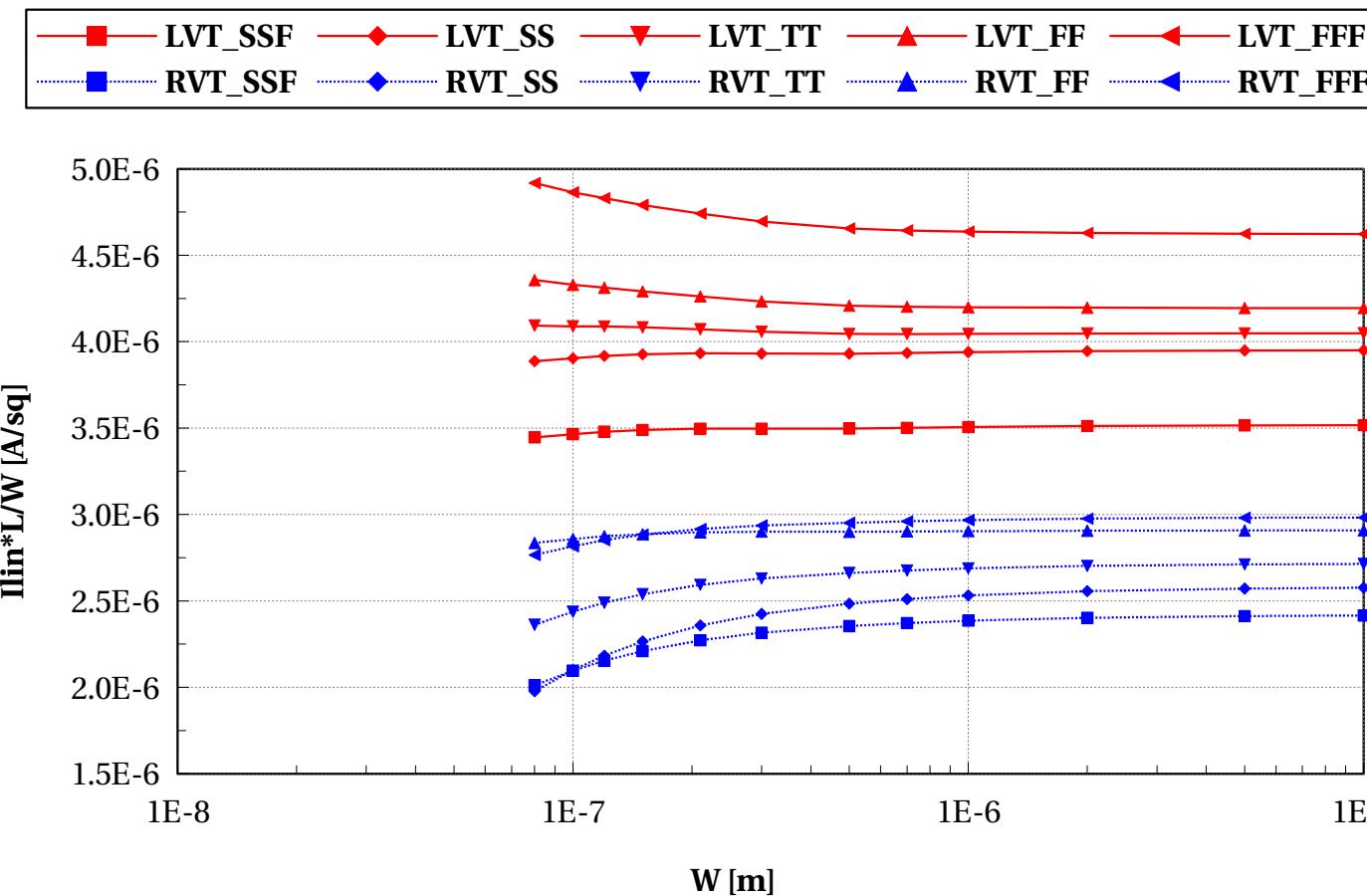
lvtpfet_acc, Ilin/W [A/m] vs W [m]

$I=1e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



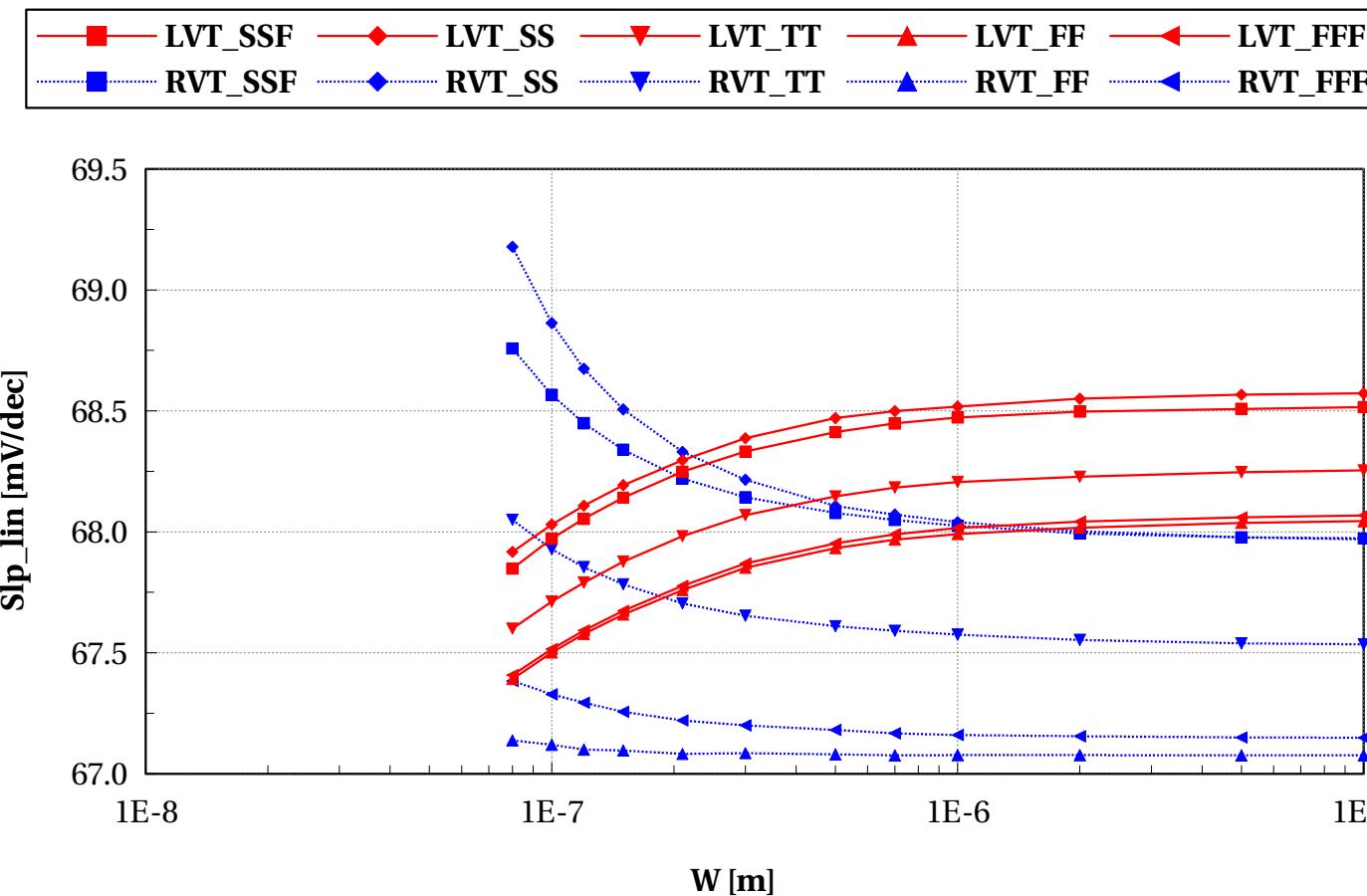
lvtpfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs W [m]

$I=1e-6$ and Temp=25 and p_la==0 and devType=="PCELLwoWPE"



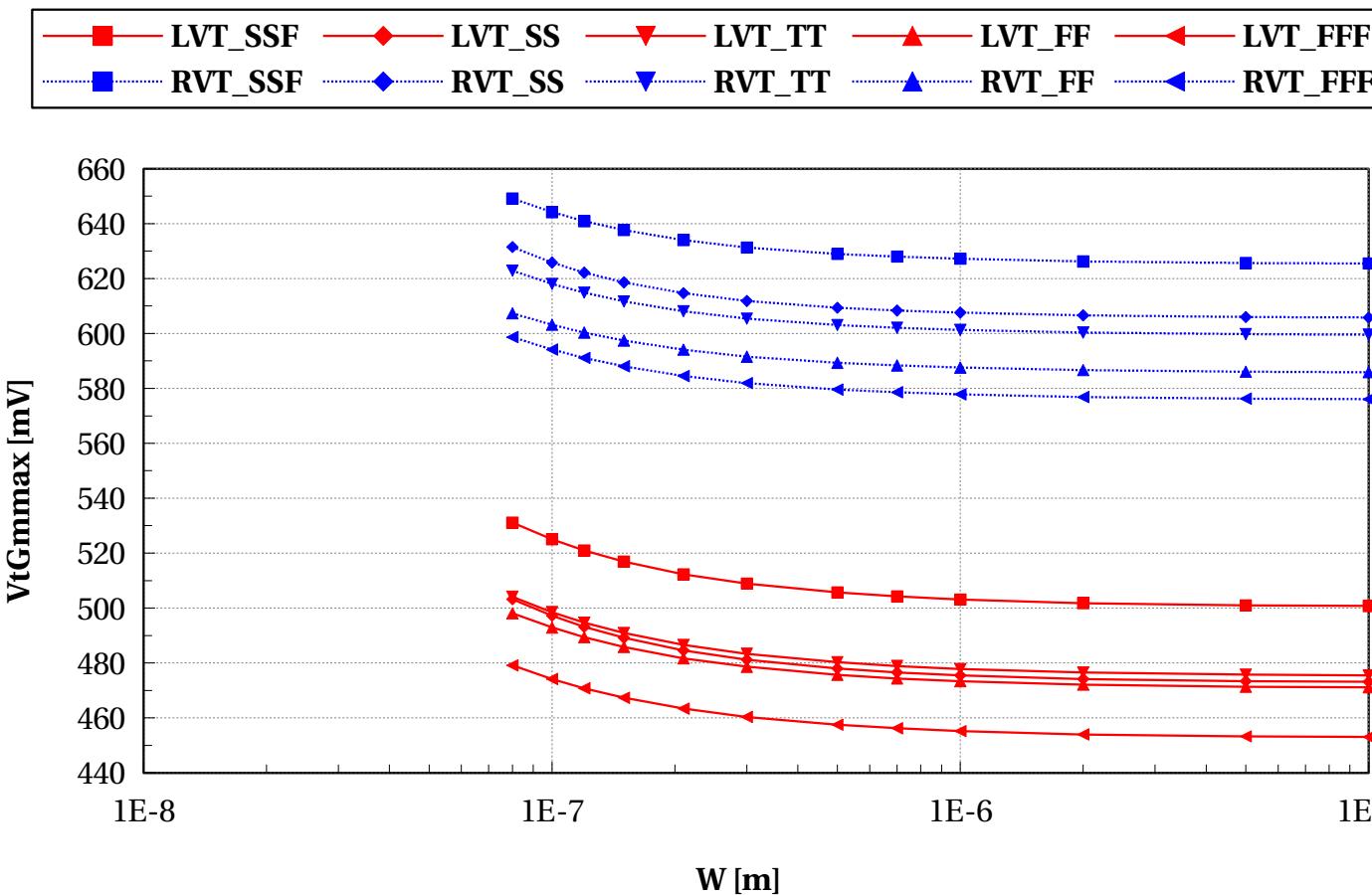
lvtpfet_acc, Slp_lin [mV/dec] vs W [m]

$I = 1e-6$ and Temp == 25 and p_la == 0 and devType == "PCELLwoWPE"



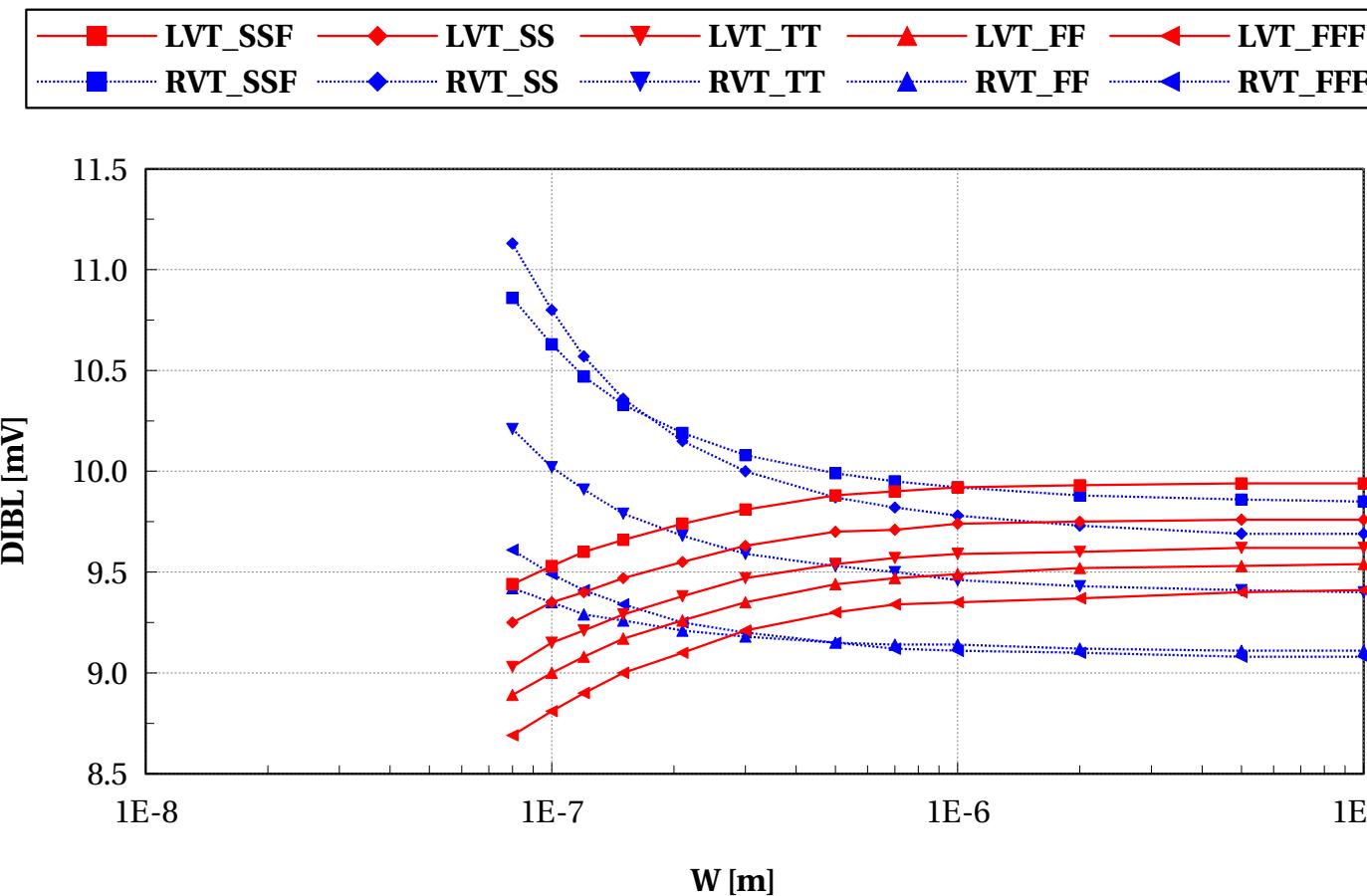
lvtpfet_acc, VtGmmax [mV] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



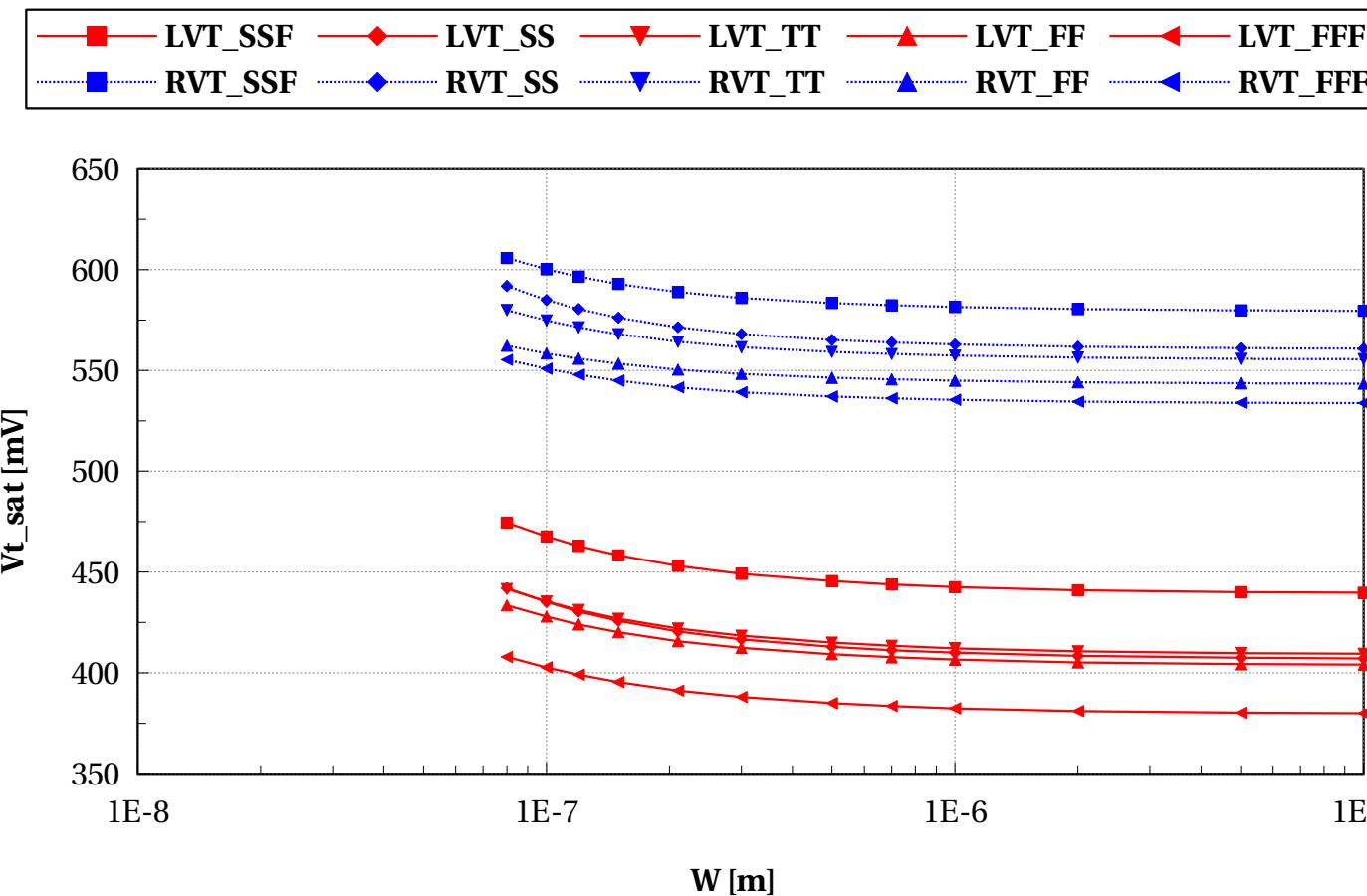
lvtpfet_acc, DIBL [mV] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



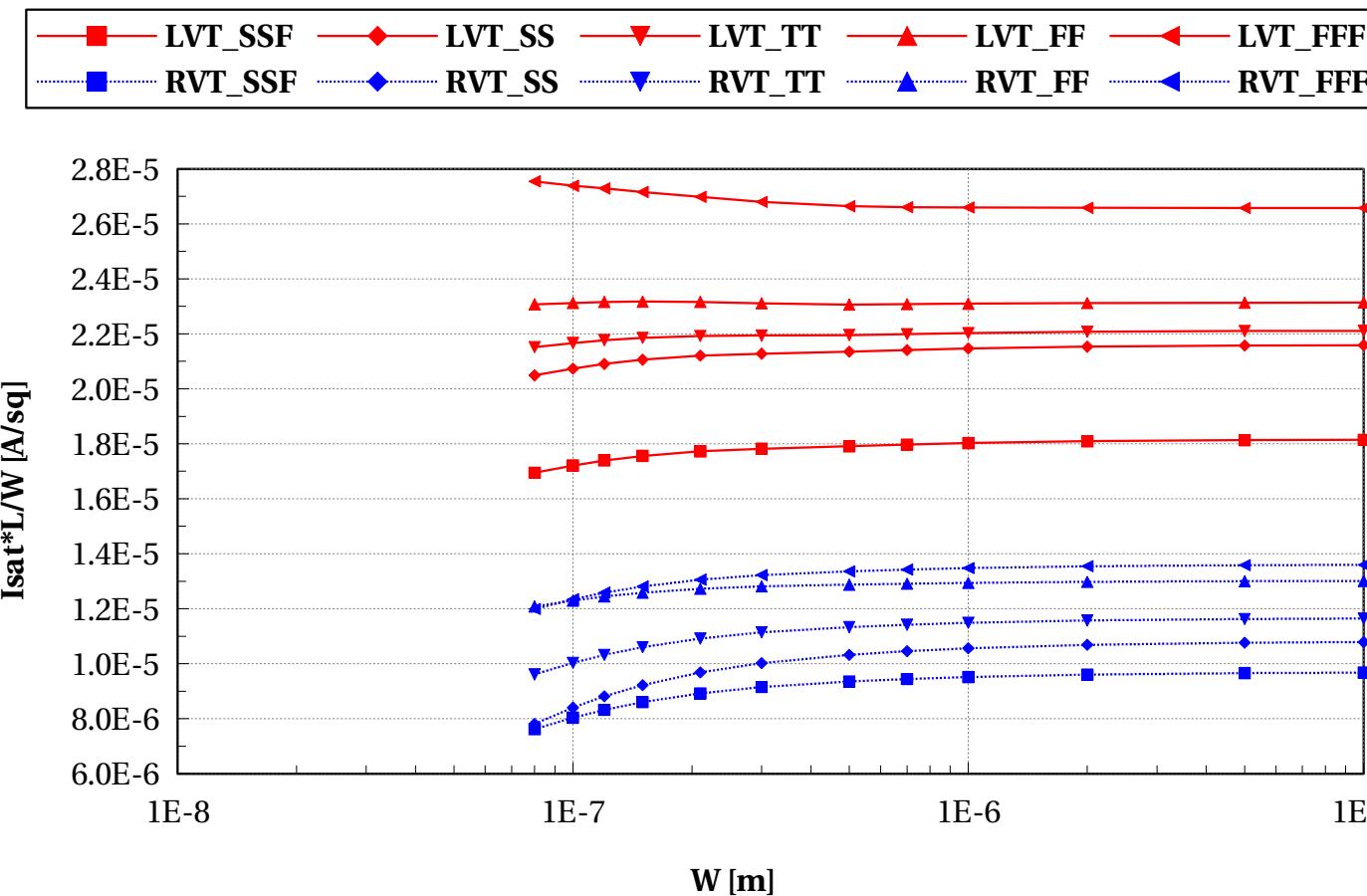
lvtpfet_acc, Vt_sat [mV] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



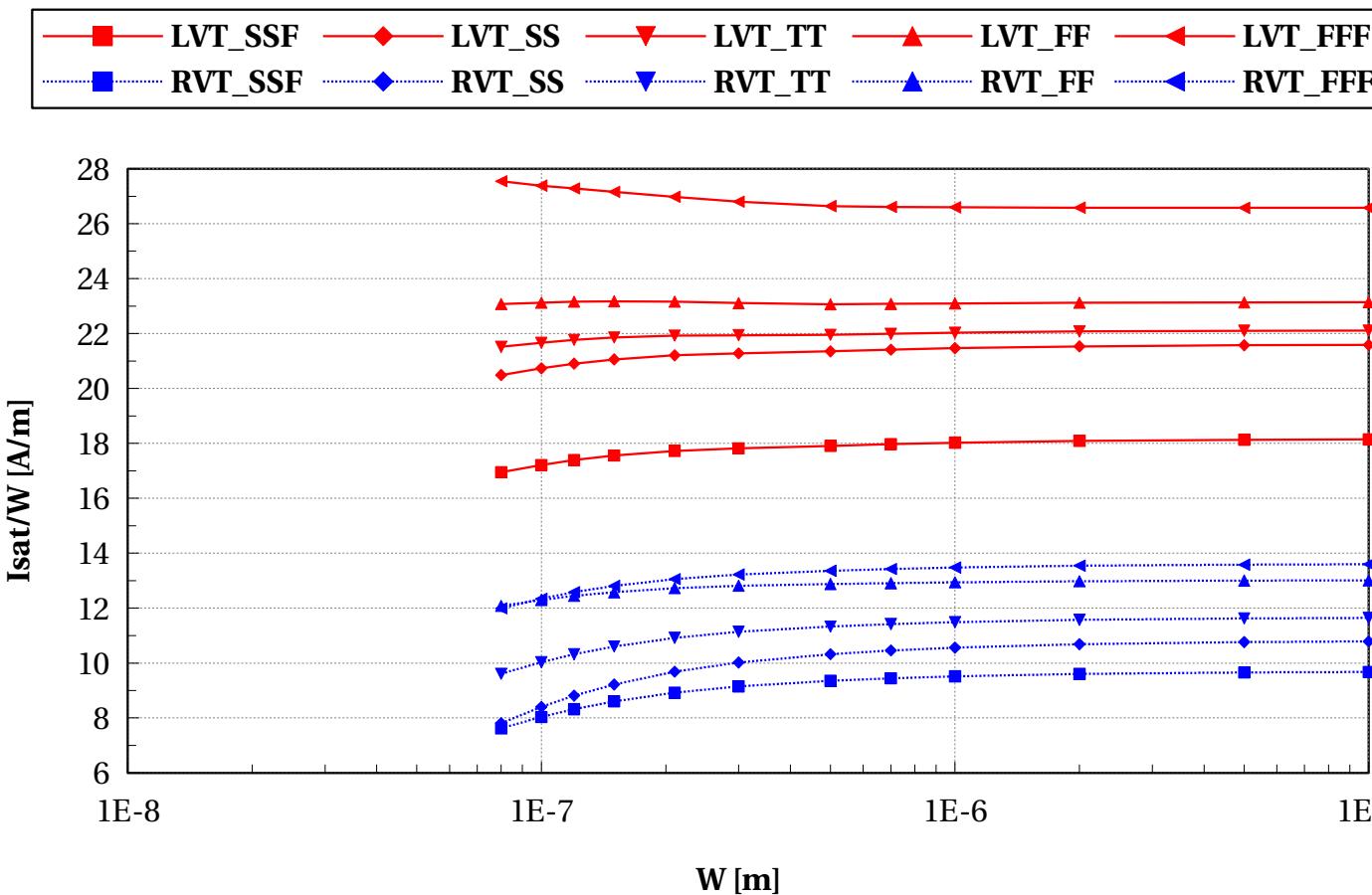
lvtpfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs W [m]

$I=1e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



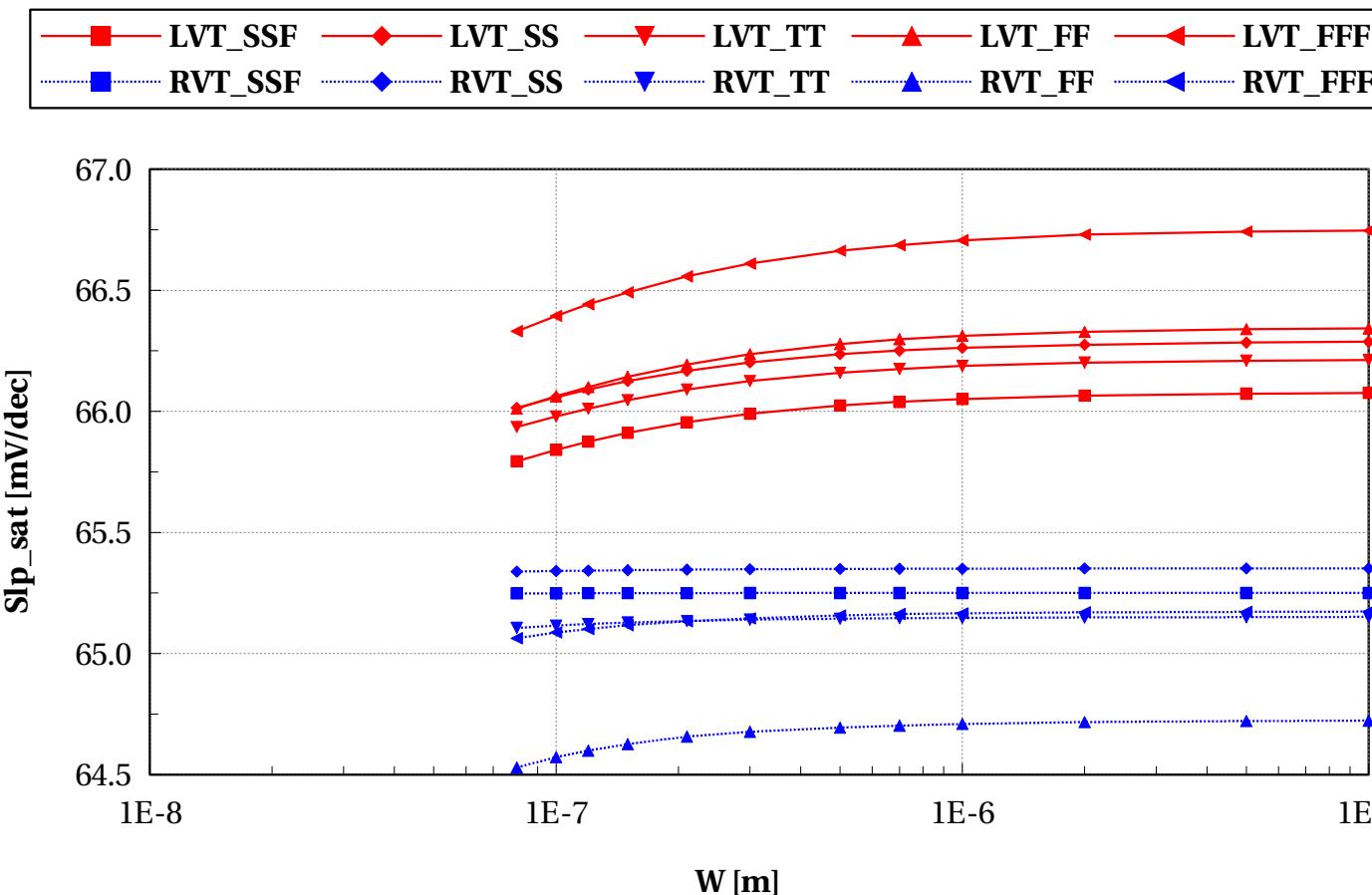
lvtpfet_acc, Isat/W [A/m] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



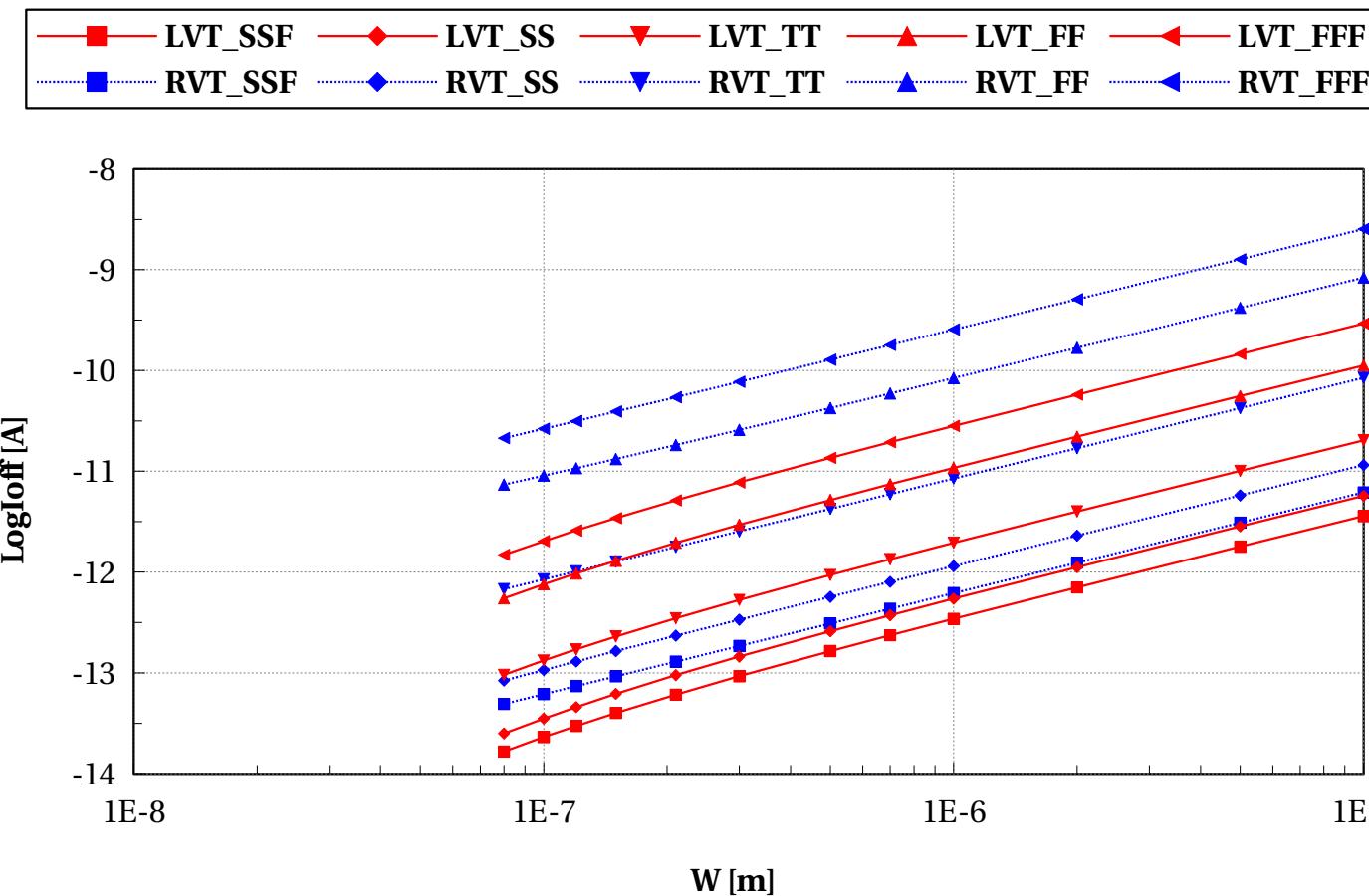
lvtpfet_acc, Slp_sat [mV/dec] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



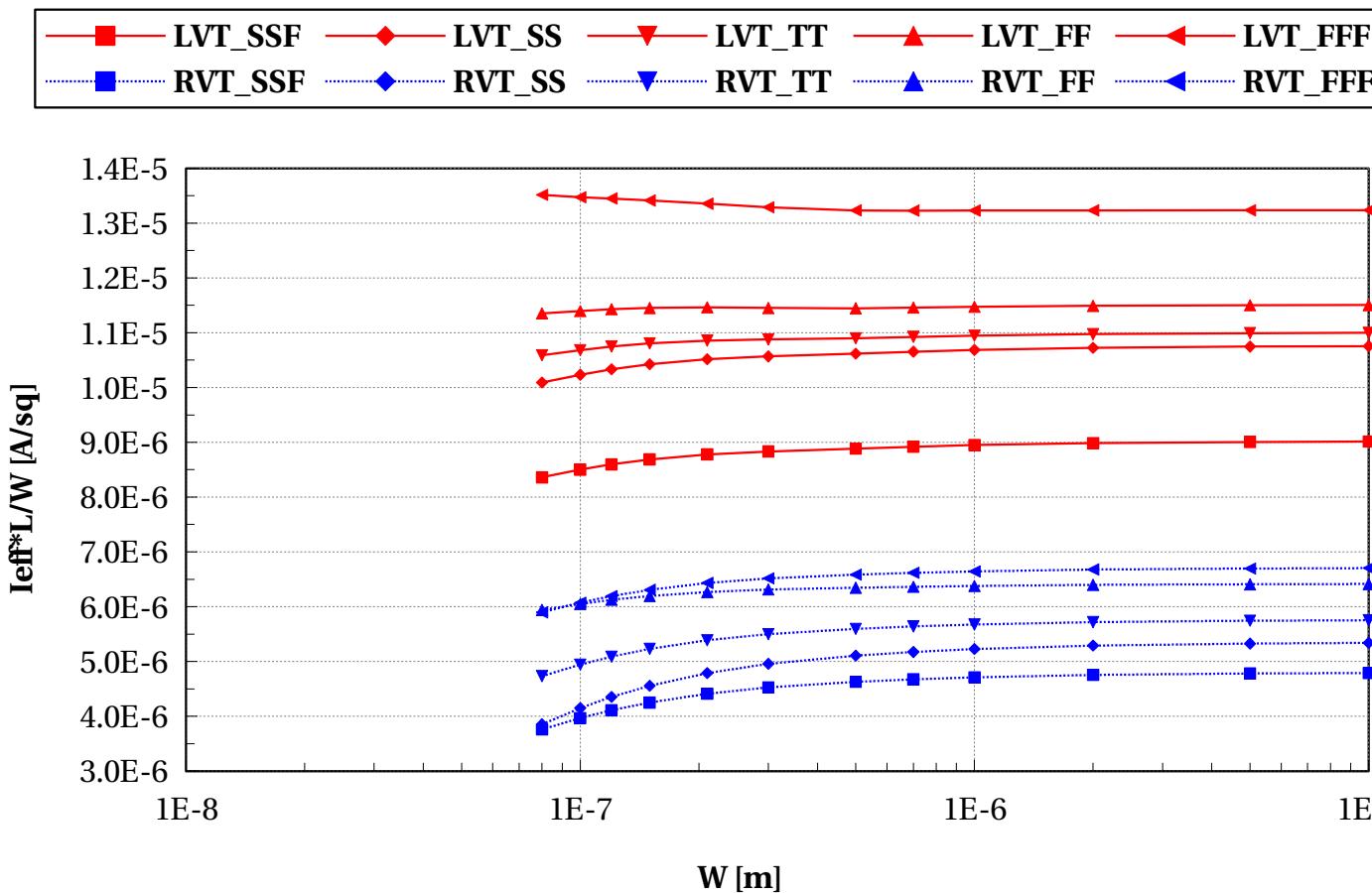
lvtpfet_acc, LogIoff [A] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



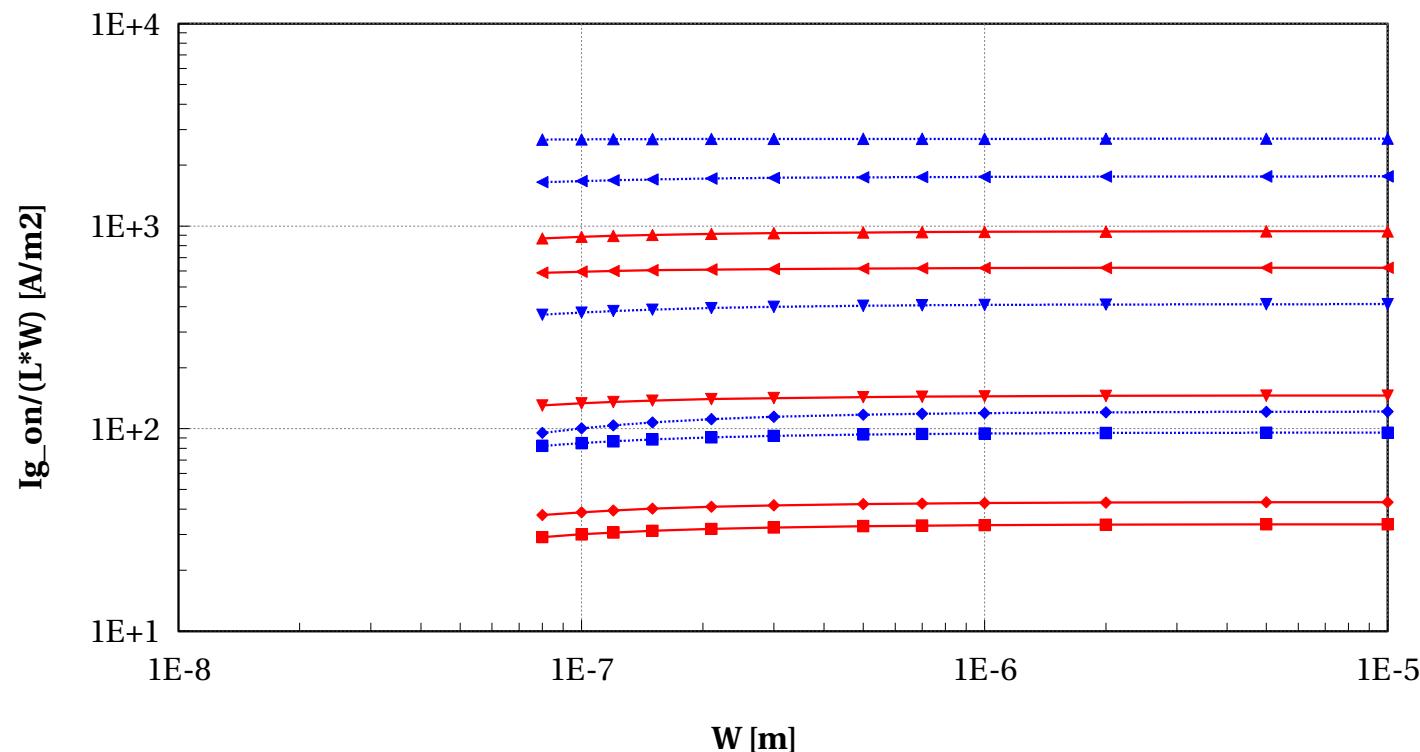
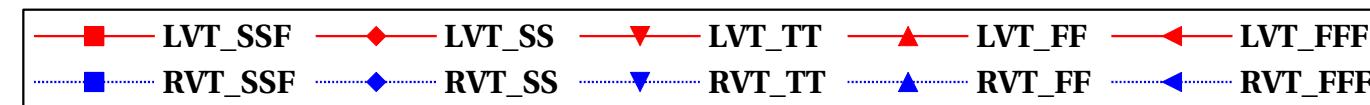
lvtpfet_acc, $I_{eff} \cdot L/W$ [A/sq] vs W [m]

$I=1e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



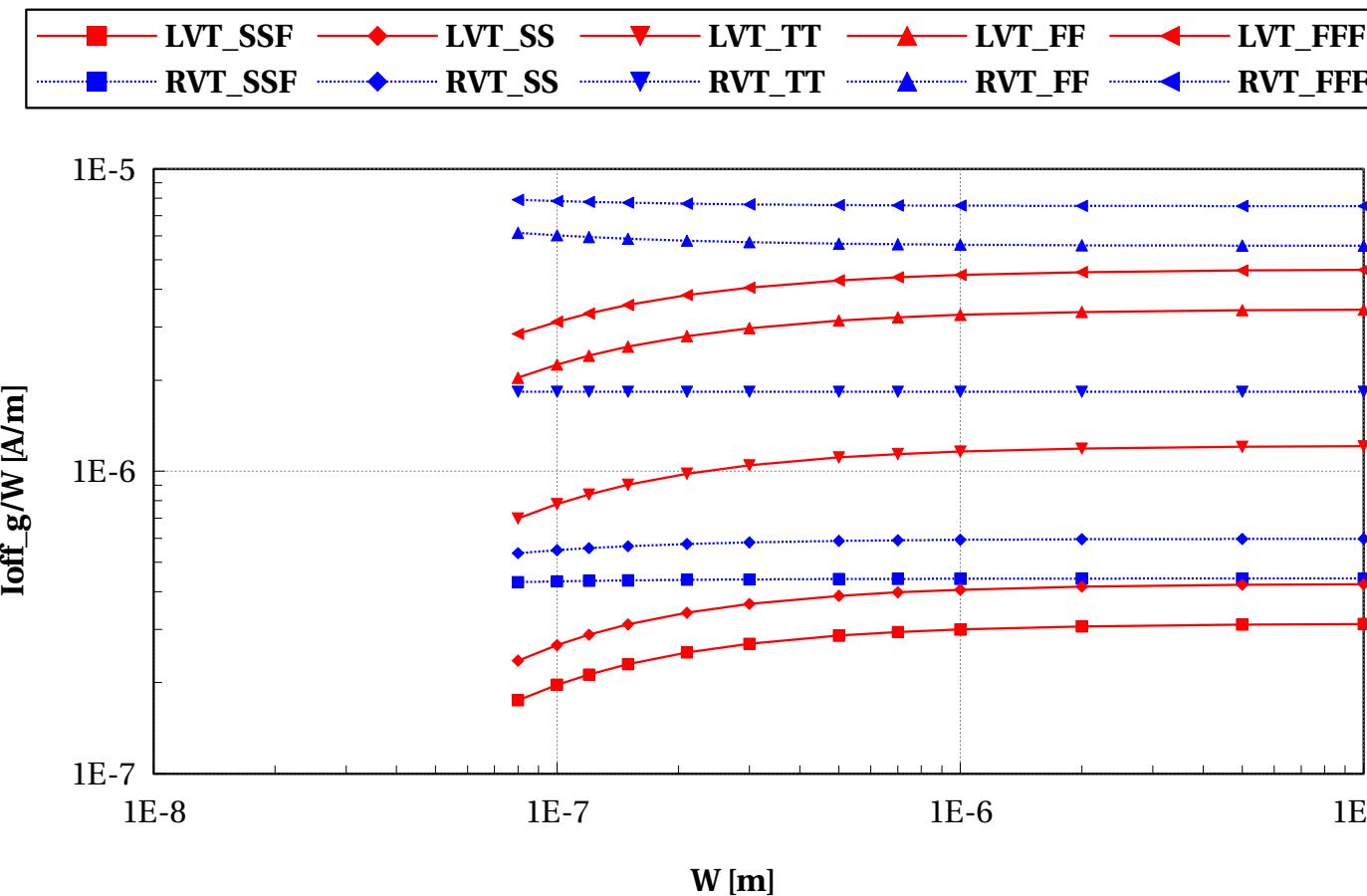
lvtpfet_acc, Ig_on/(L*W) [A/m2] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



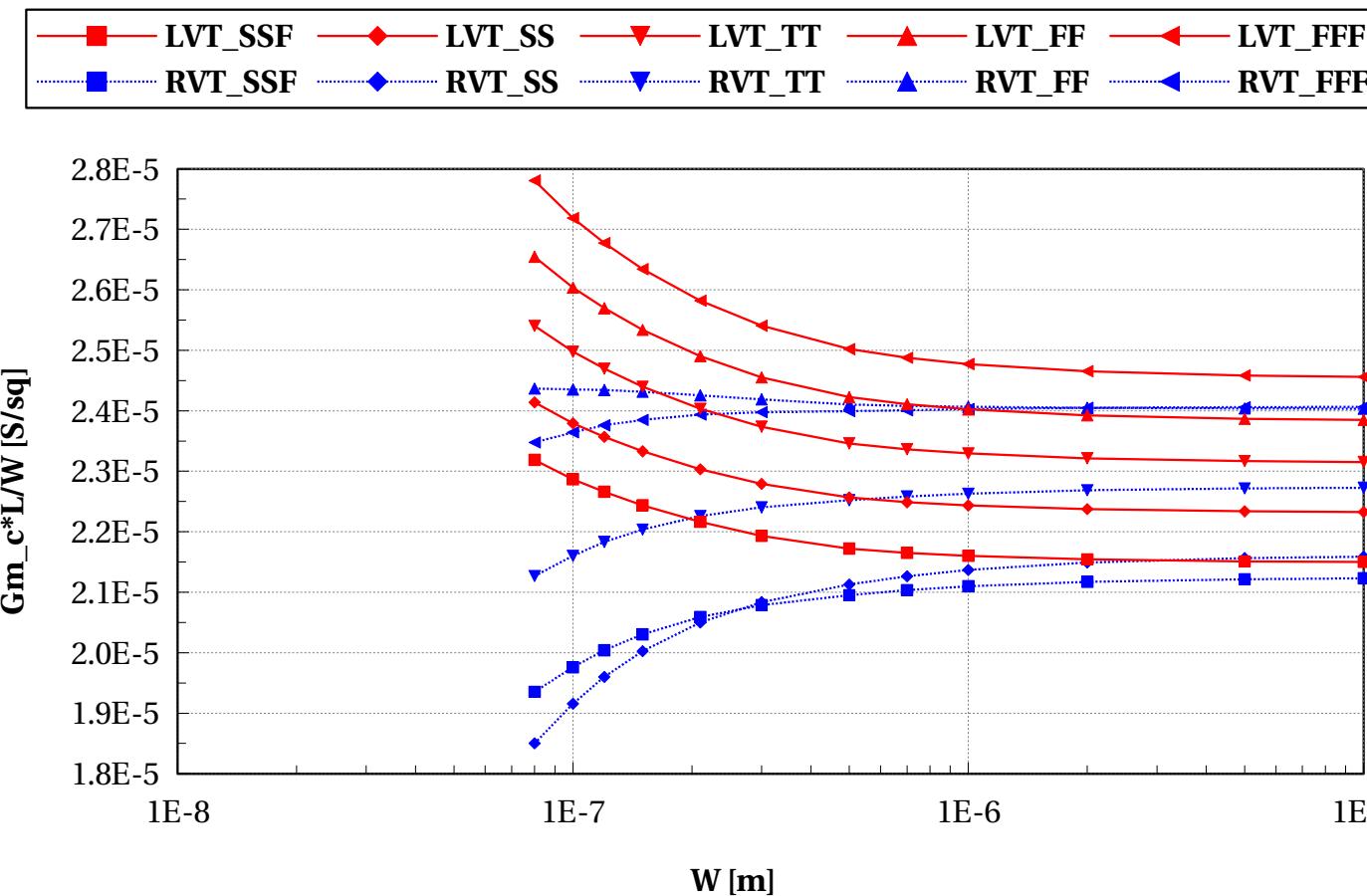
lvtpfet_acc, Ioff_g/W [A/m] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



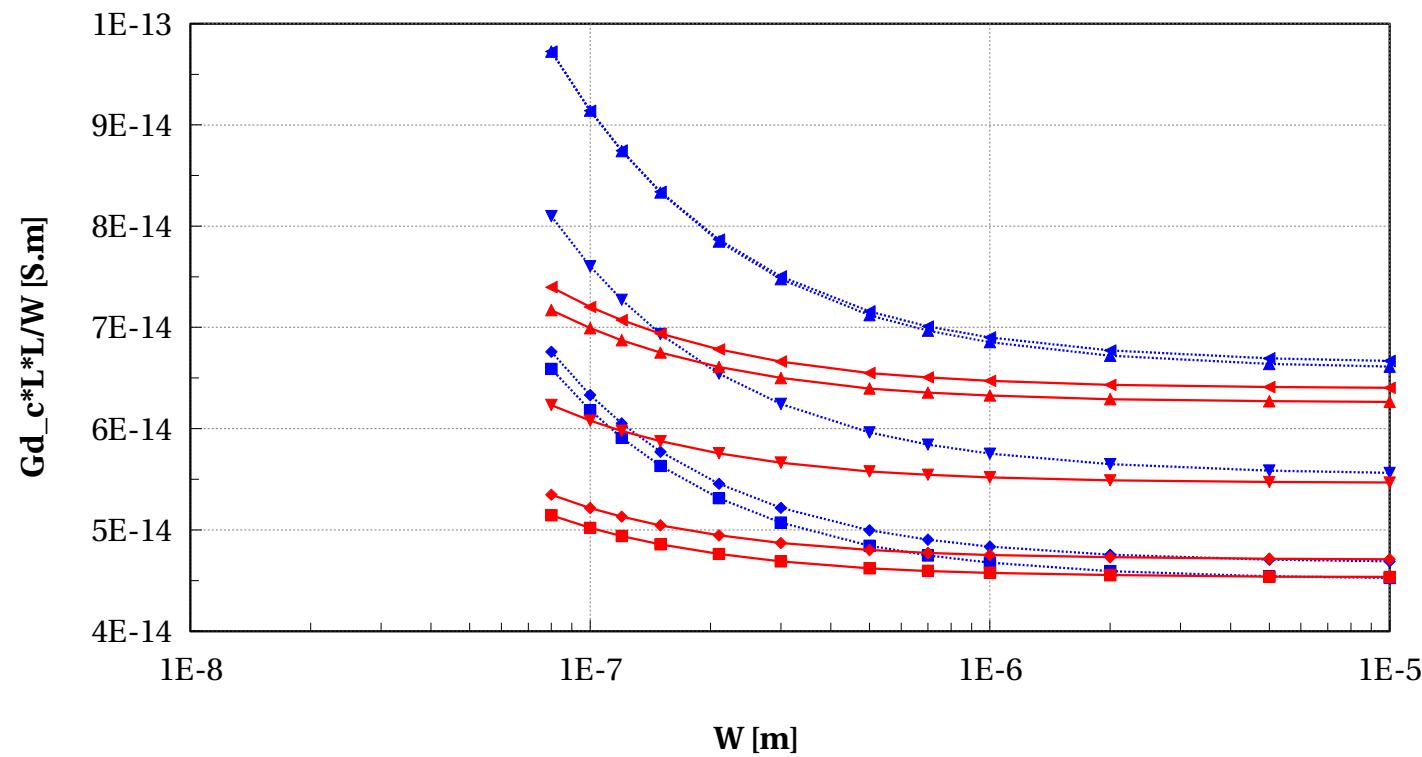
lvtpfet_acc, Gm_c*L/W [S/sq] vs W [m]

$I=1e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



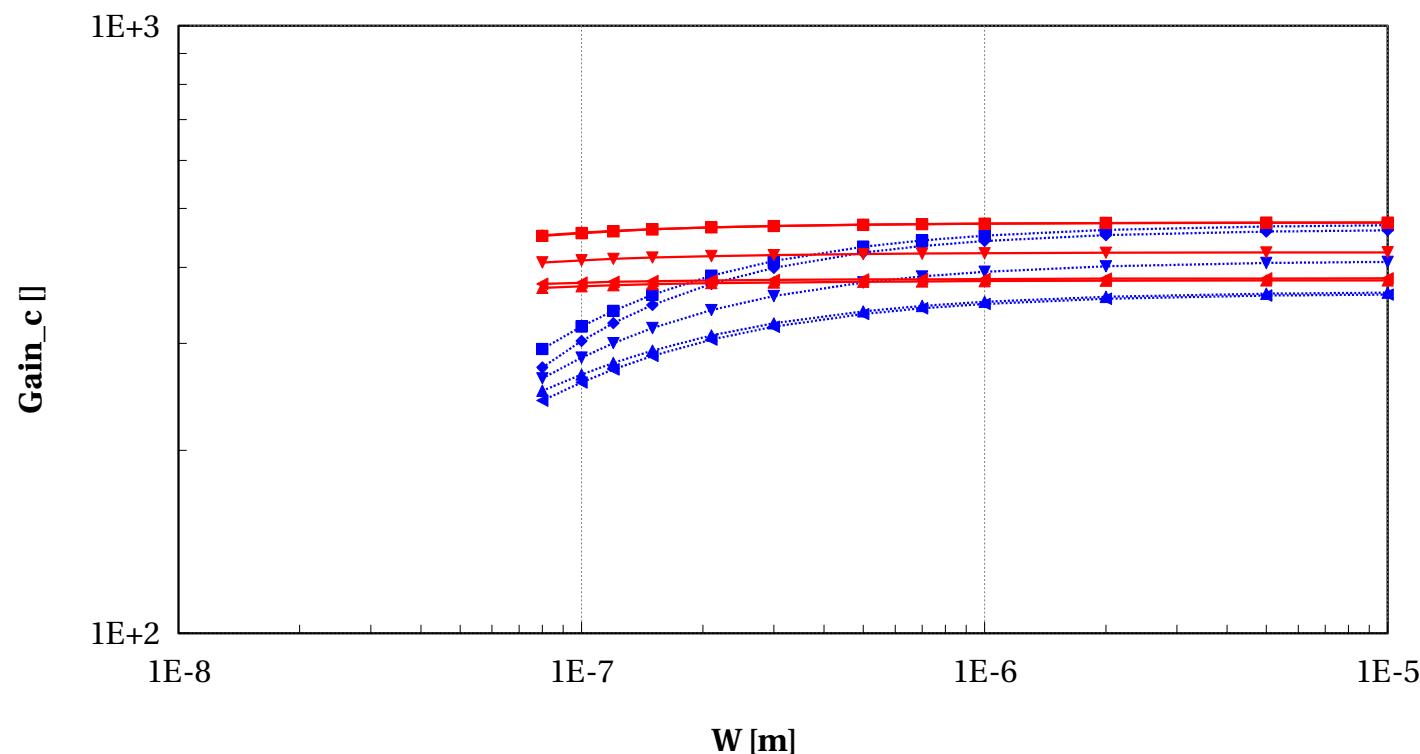
lvtpfet_acc, $G_d \cdot c^* L^* L/W$ [S.m] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



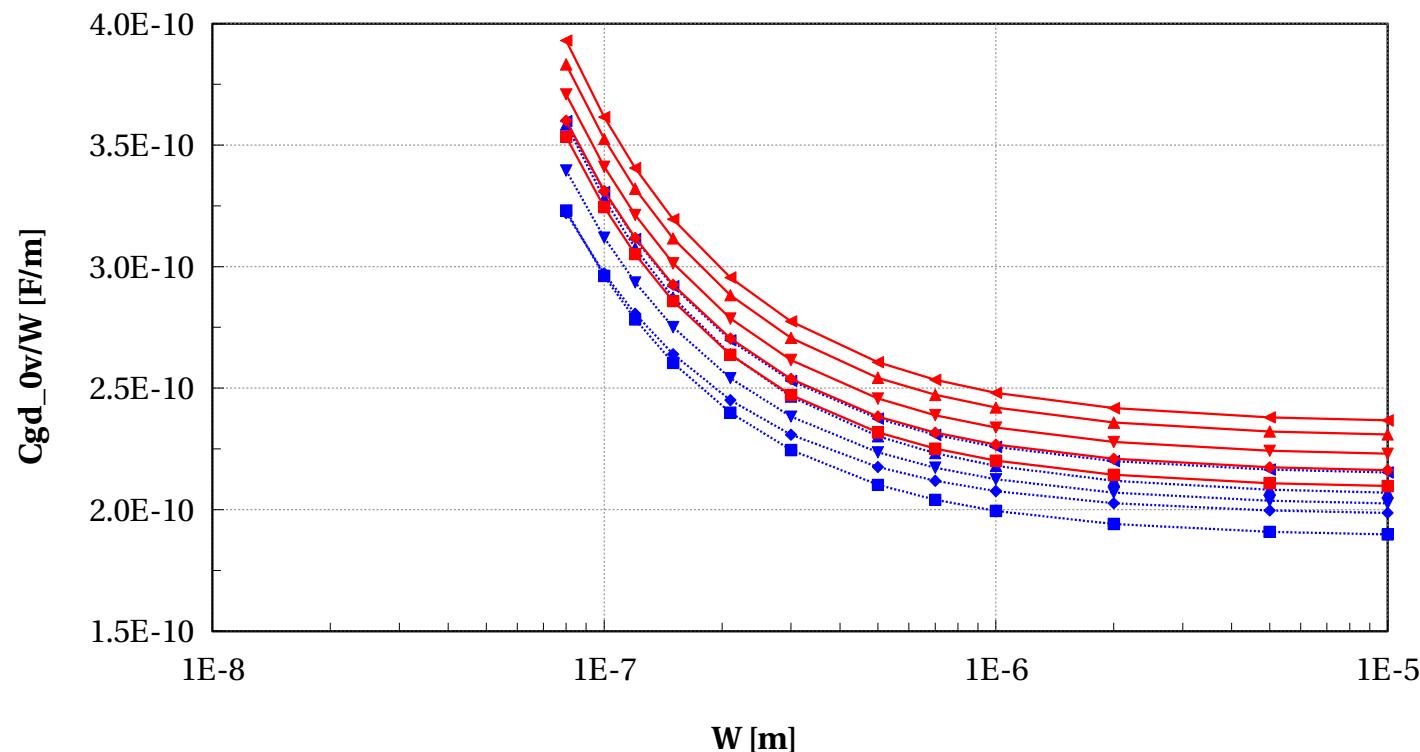
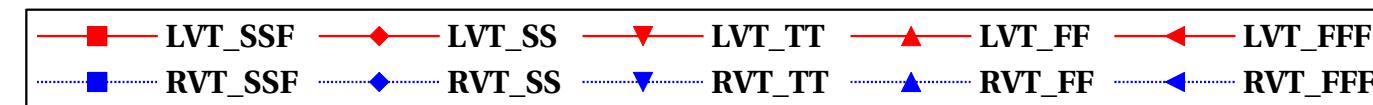
lvtpfet_acc, Gain_c [] vs W [m]

$I=1e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



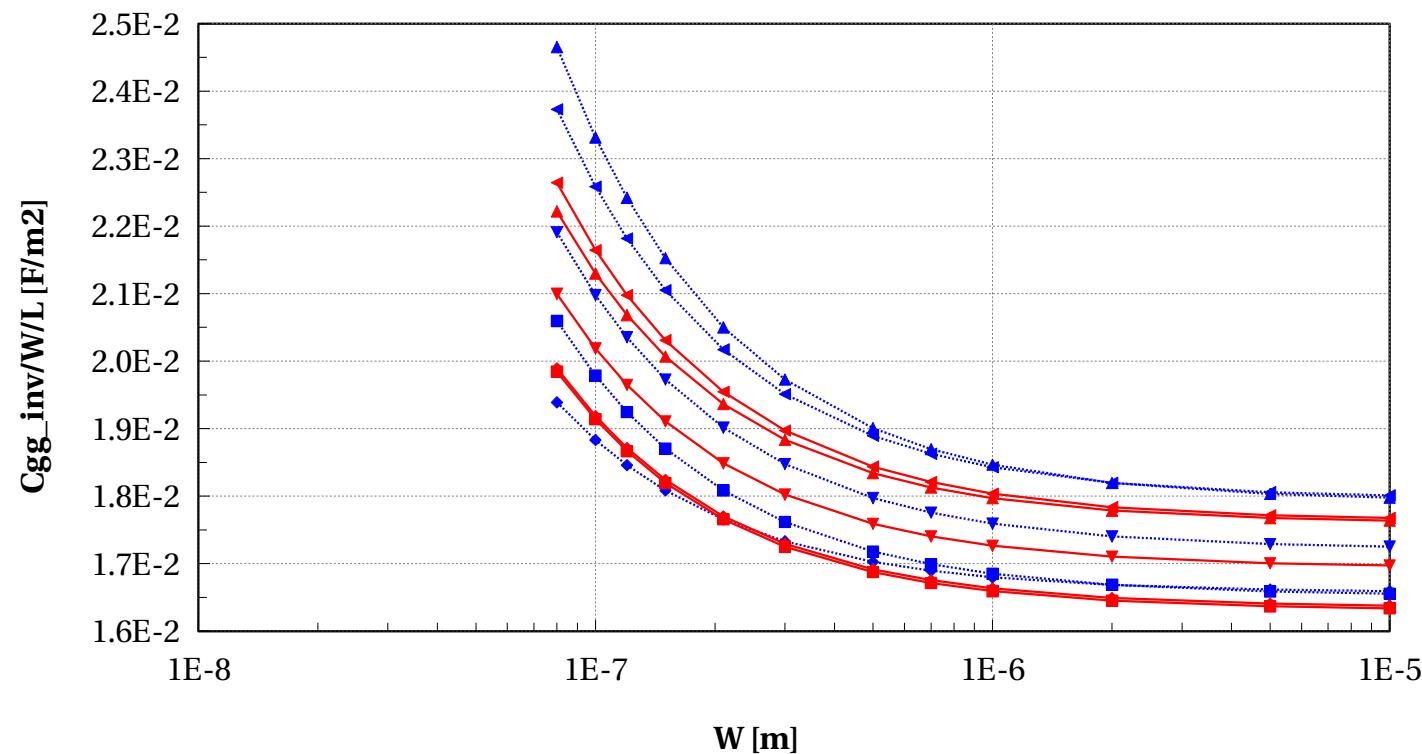
lvtpfet_acc, Cgd_0v/W [F/m] vs W [m]

$I = 1e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



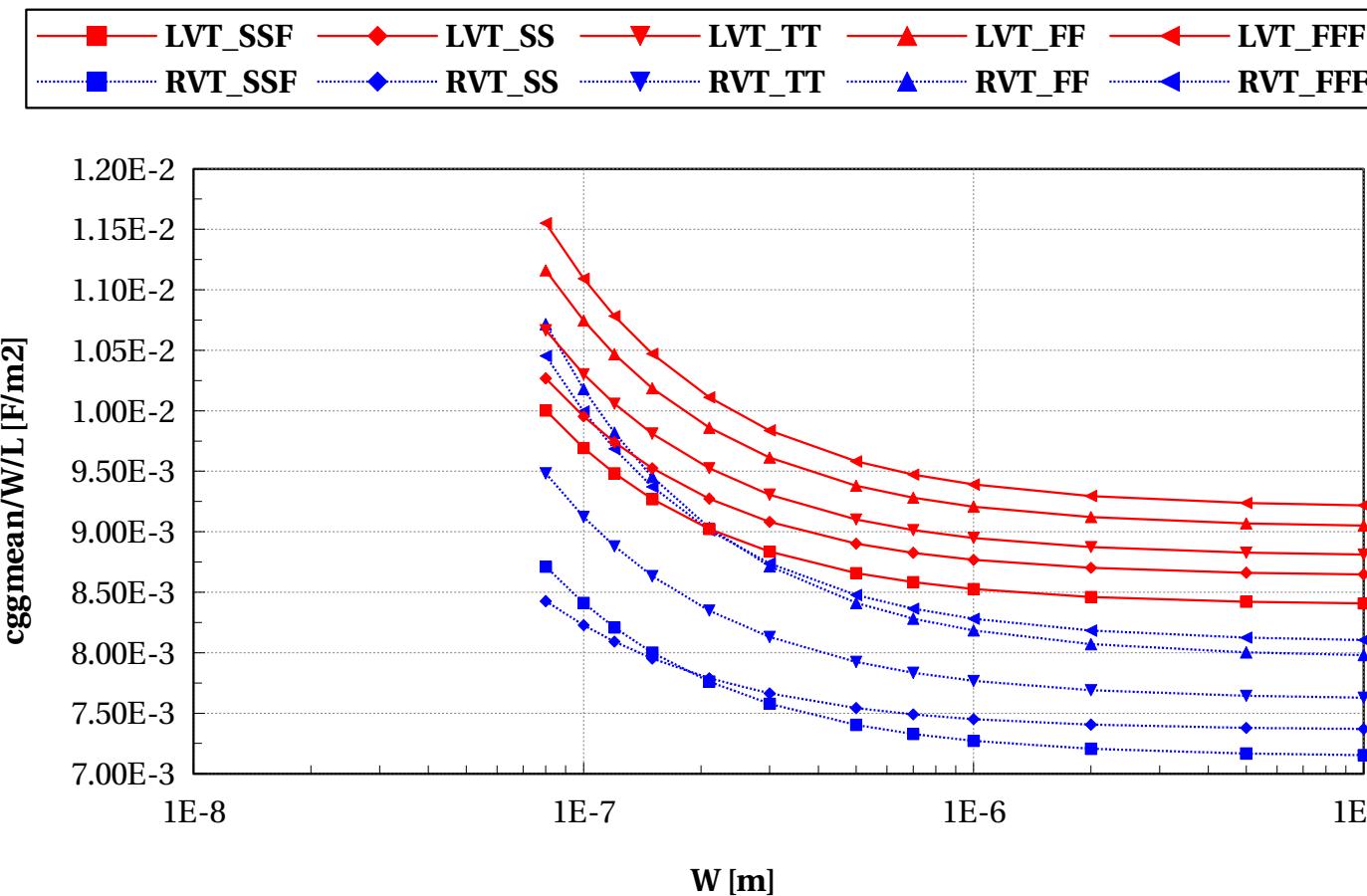
lvtpfet_acc, C_{gg}_inv/W/L [F/m²] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



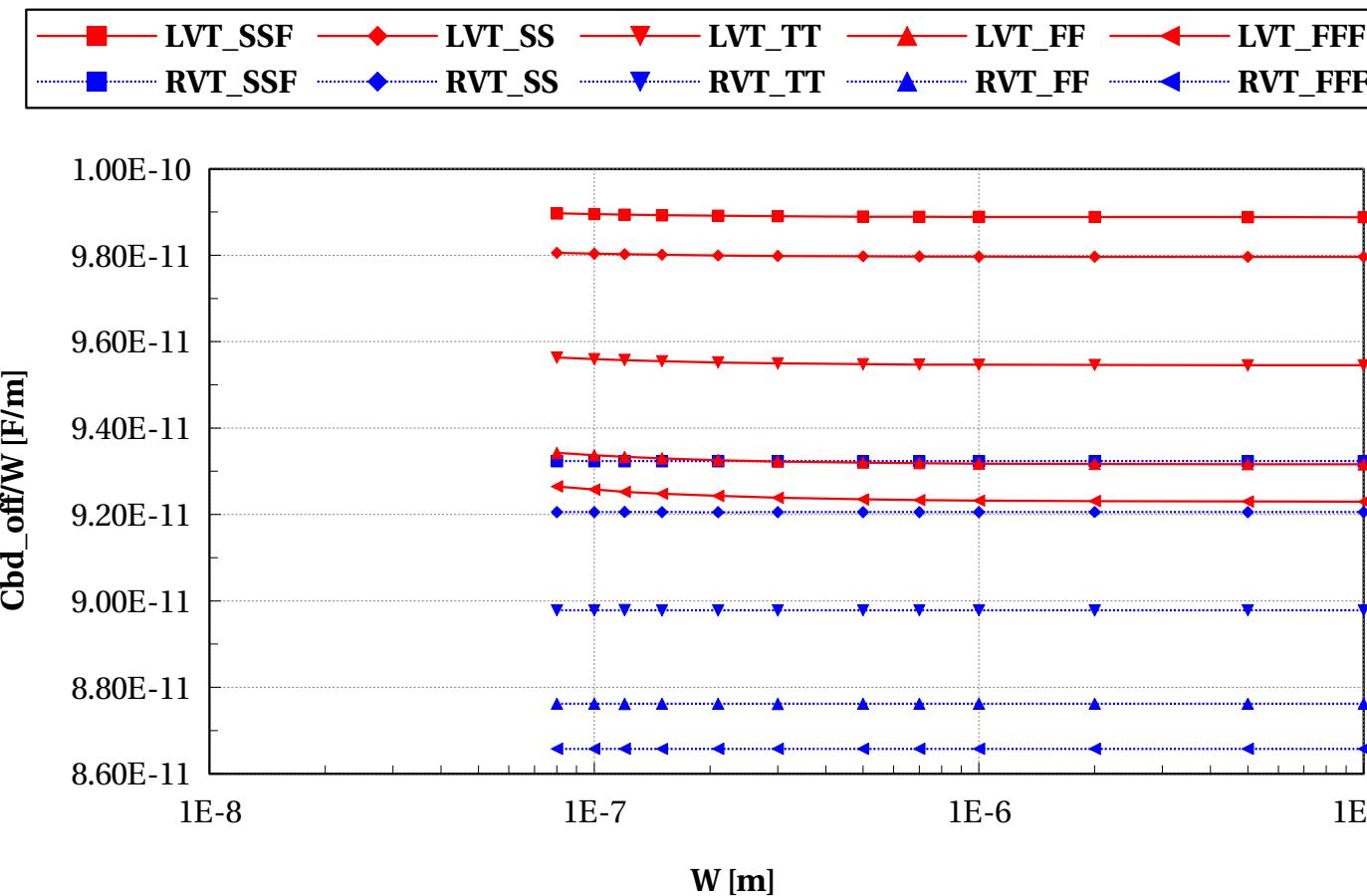
lvtpfet_acc, cggmean/W/L [F/m²] vs W [m]

$I = 1e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



lvtpfet_acc, Cbd_off/W [F/m] vs W [m]

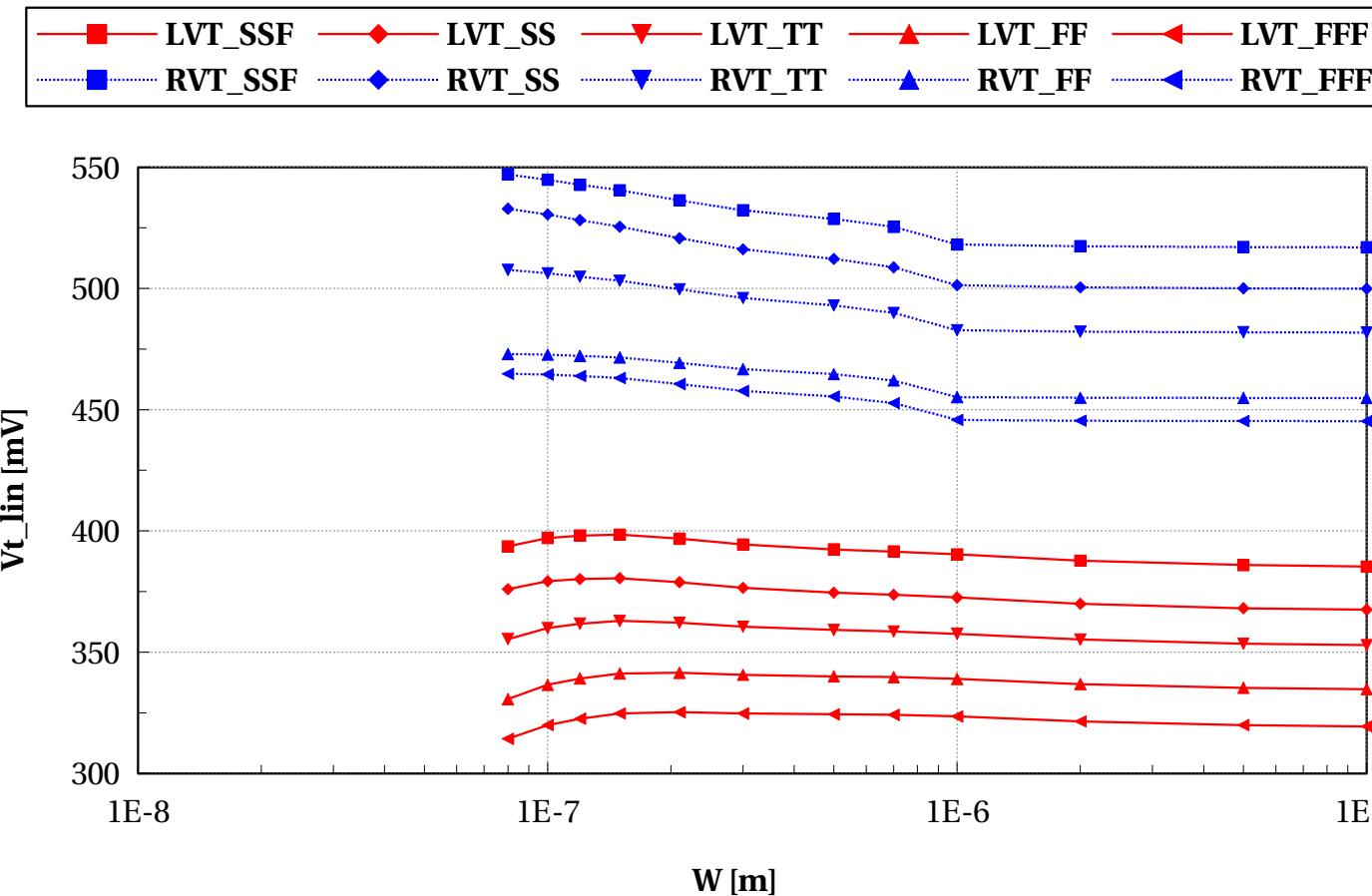
$I=1e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



Scaling versus Width (L=30nm)

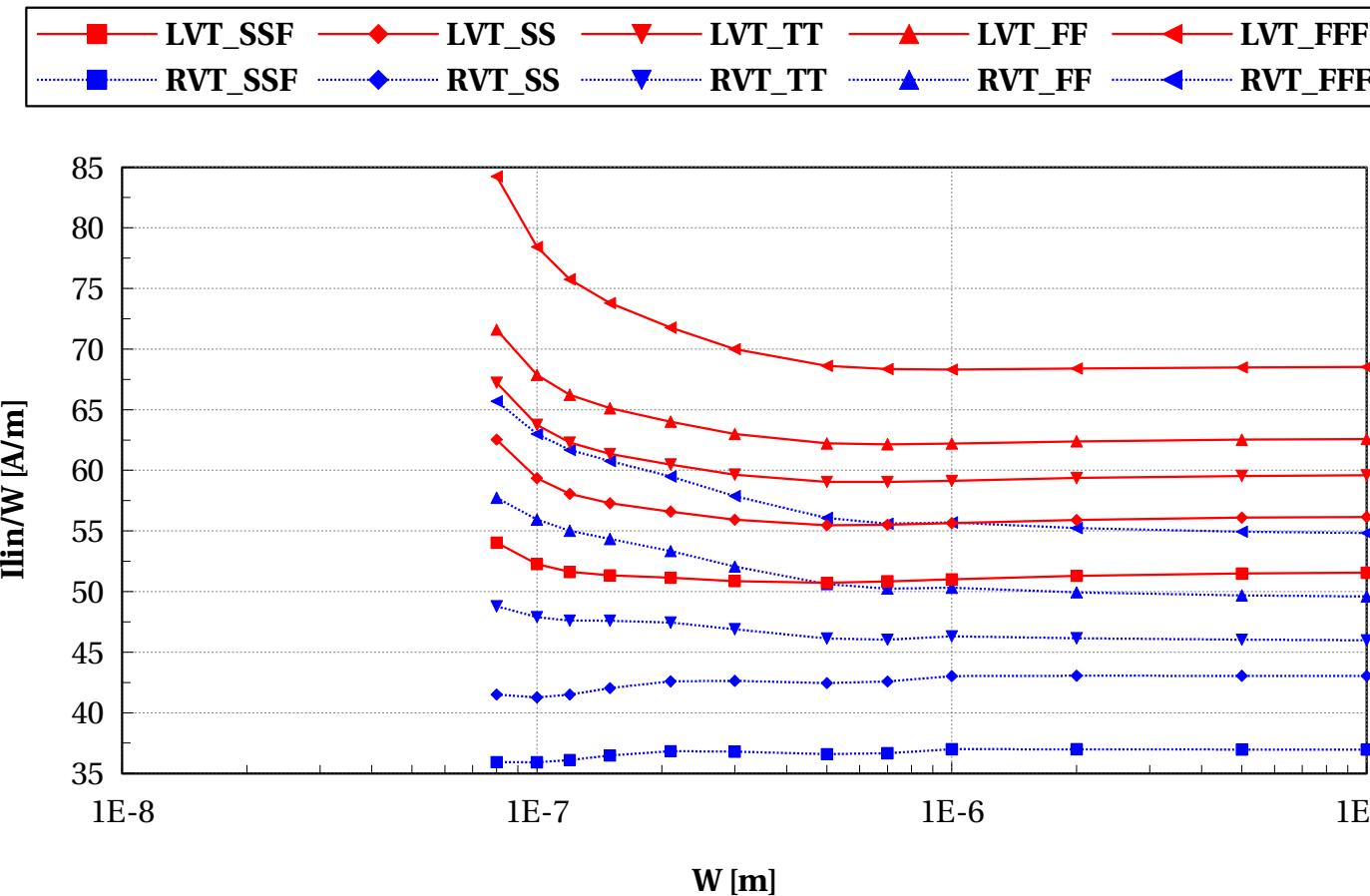
lvtpfet_acc, Vt_lin [mV] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



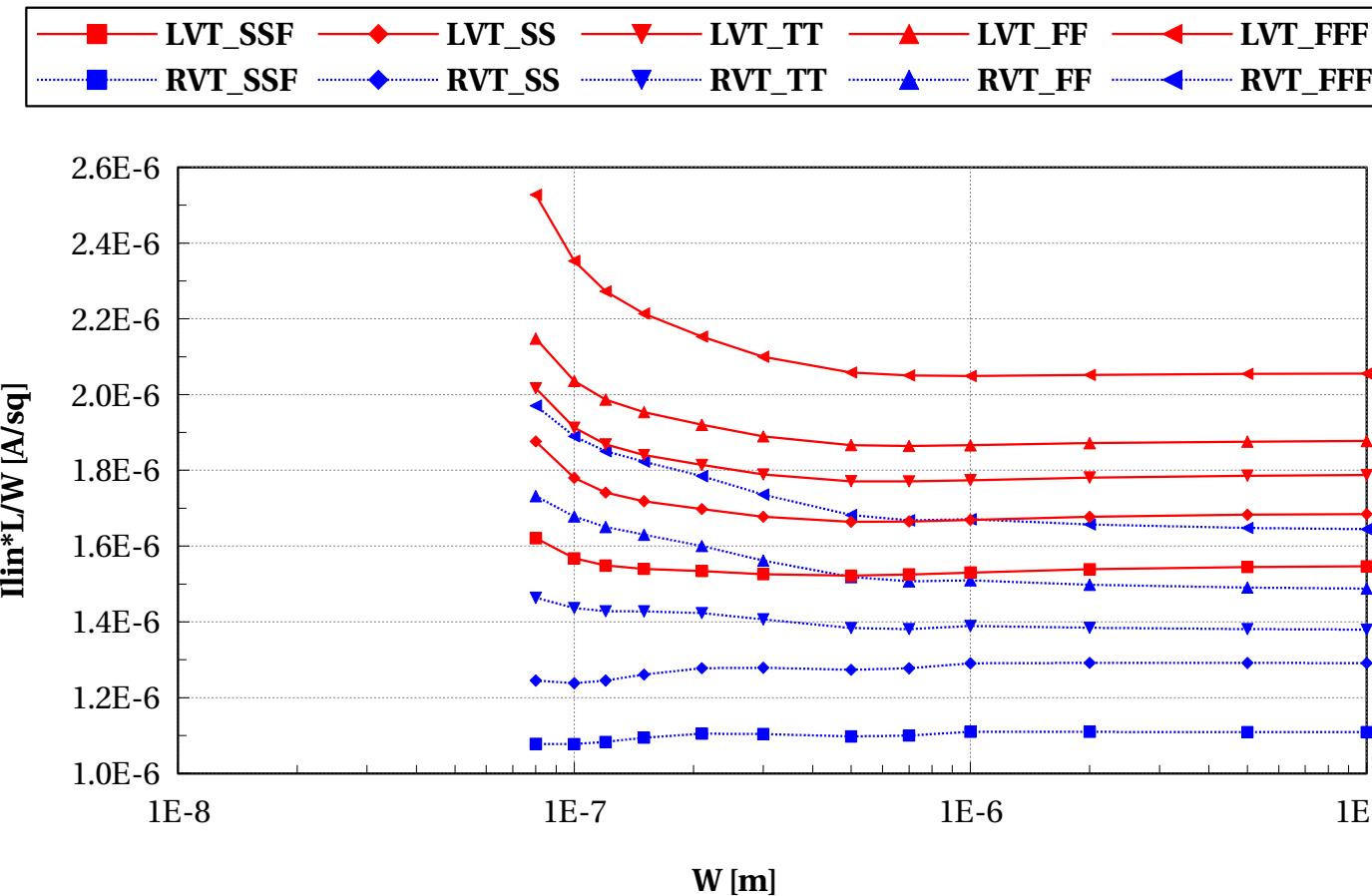
lvtpfet_acc, Ilin/W [A/m] vs W [m]

$I=0.030e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



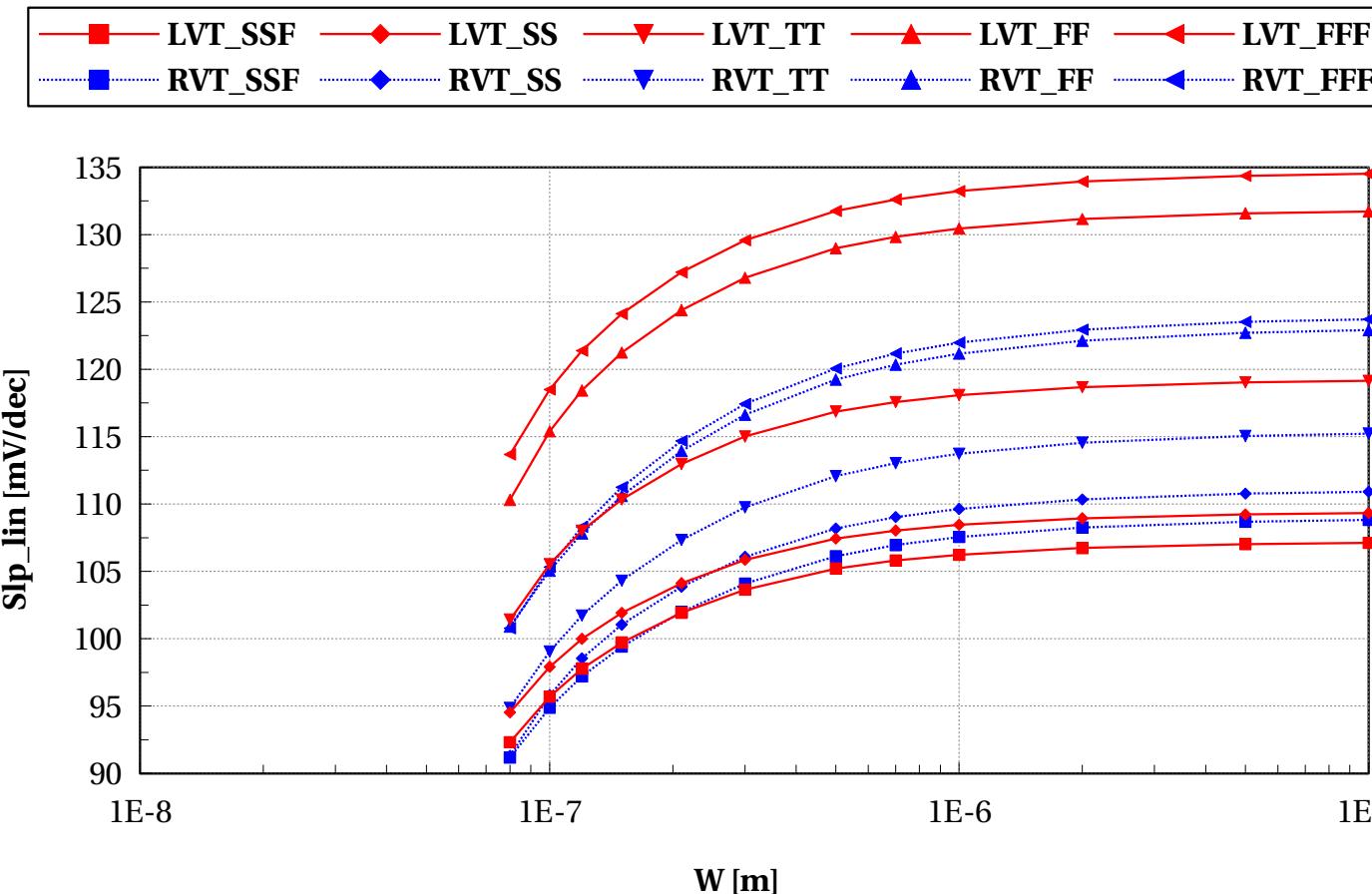
lvtpfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs W [m]

$I = 0.030e-6$ and $Temp = 25$ and $p_la = 0$ and $devType = "PCELLwoWPE"$



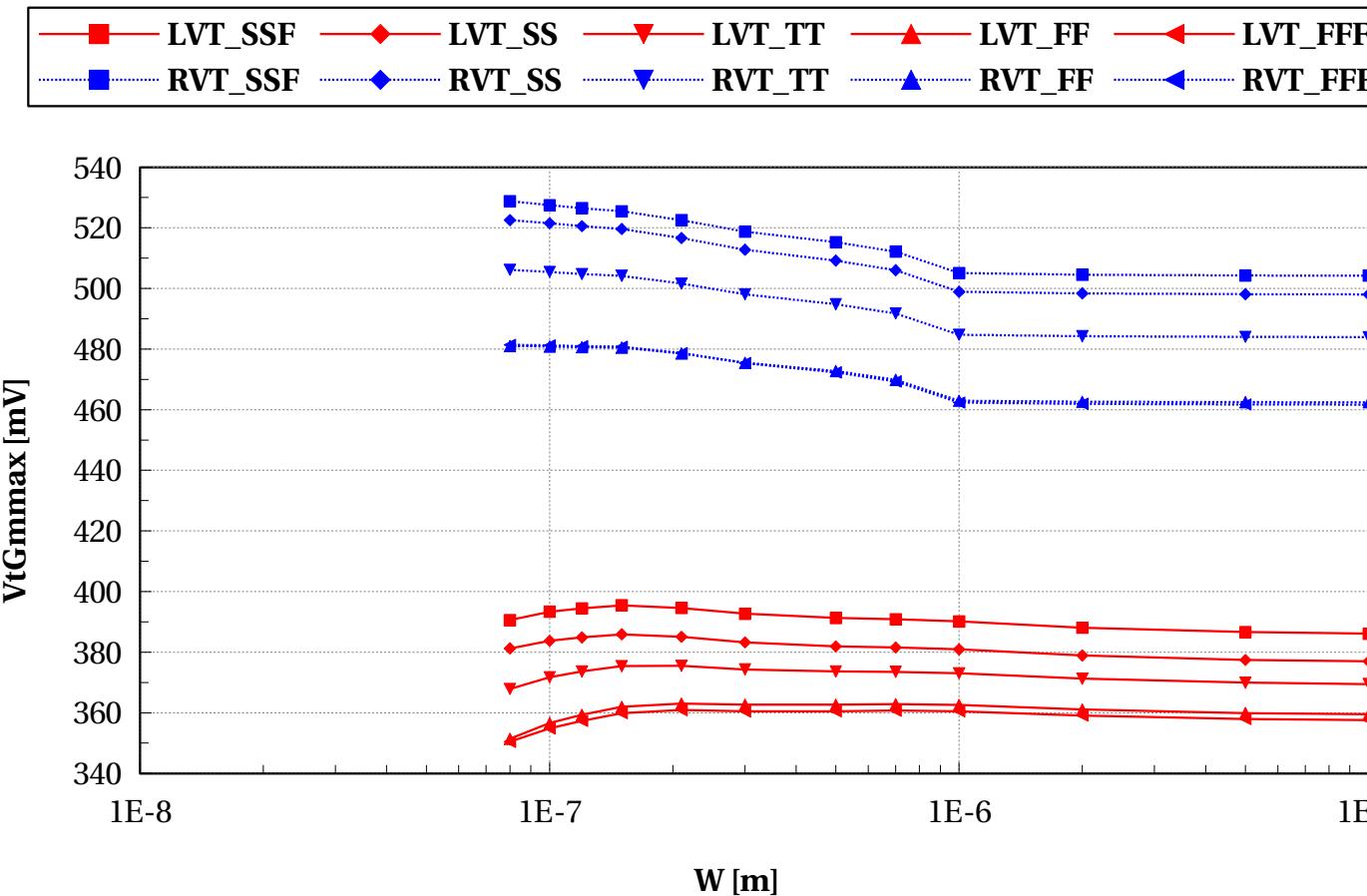
lvtpfet_acc, Slp_lin [mV/dec] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



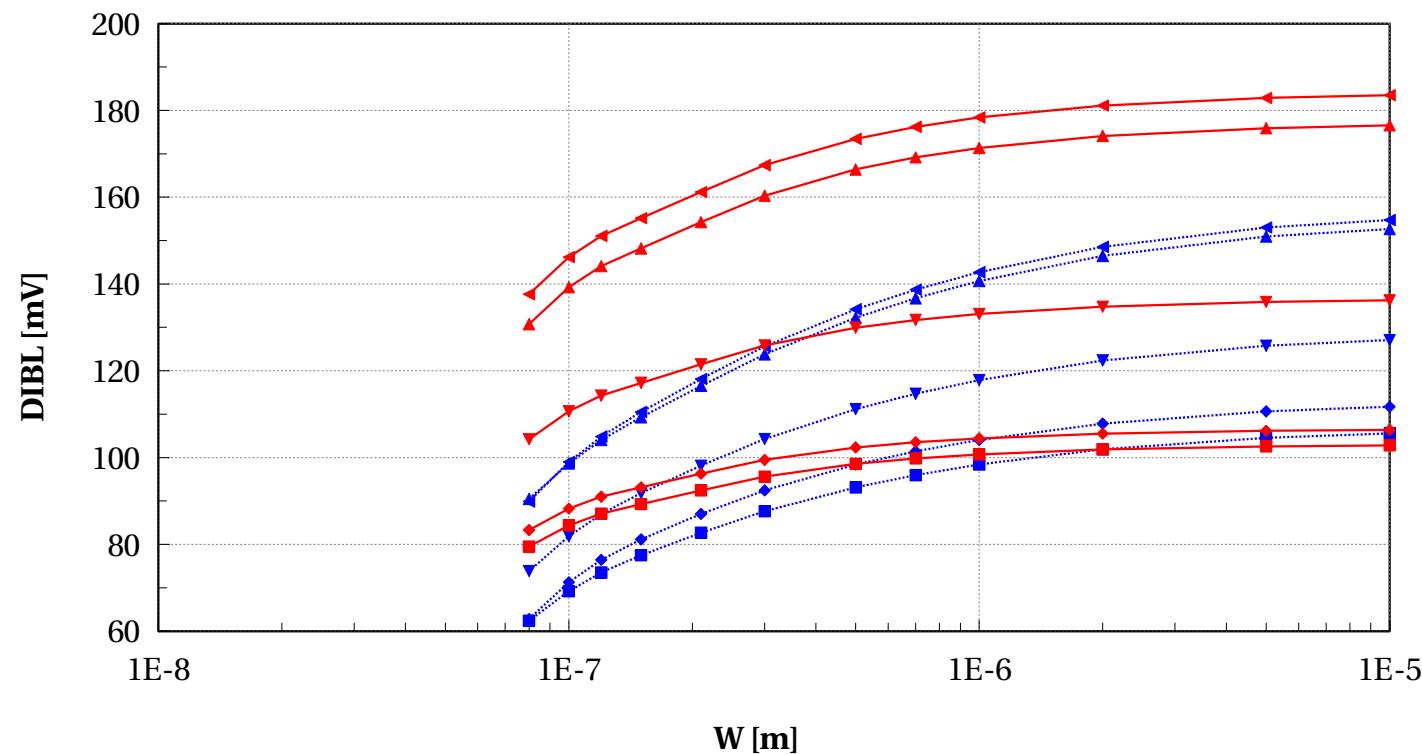
lvtpfet_acc, VtGmmax [mV] vs W [m]

$I=0.030e-6$ and Temp==25 and p_la==0 and devType=="PCELLwoWPE"



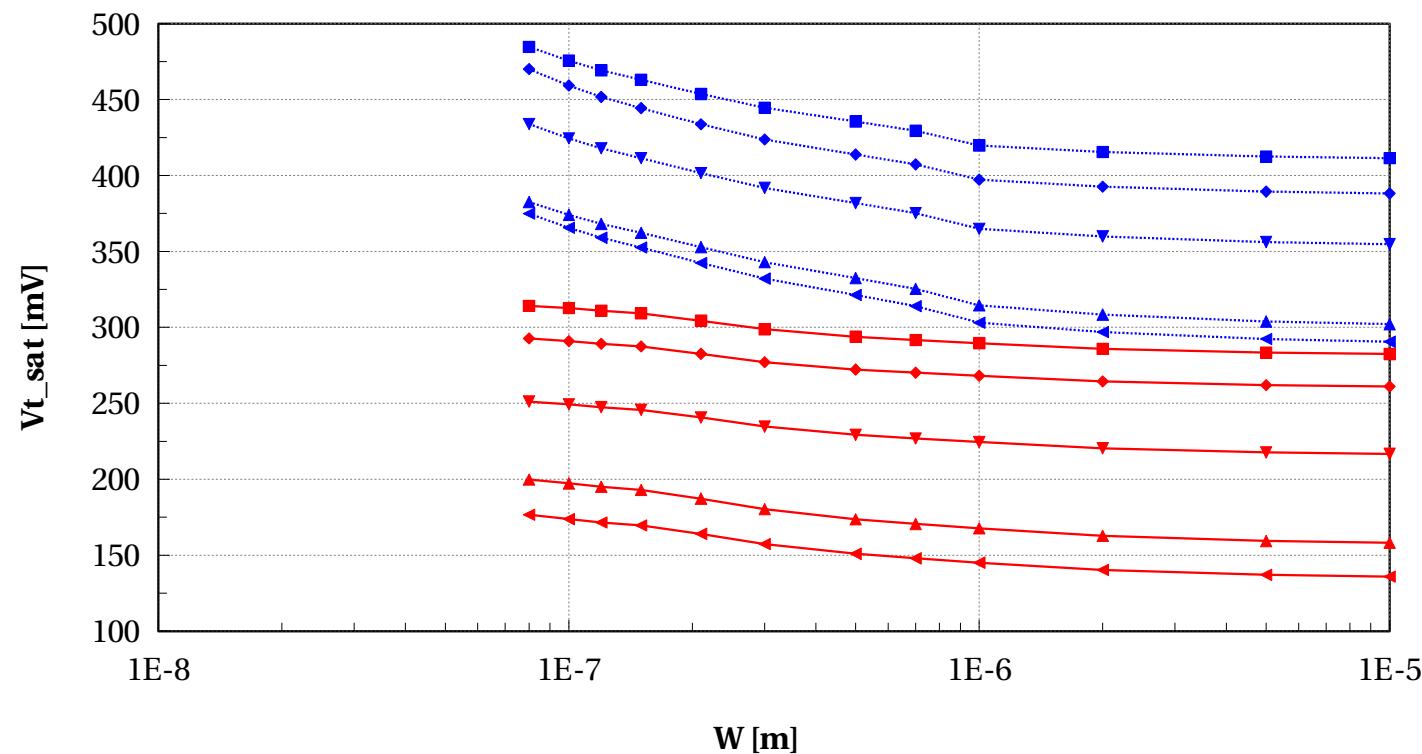
lvtpfet_acc, DIBL [mV] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



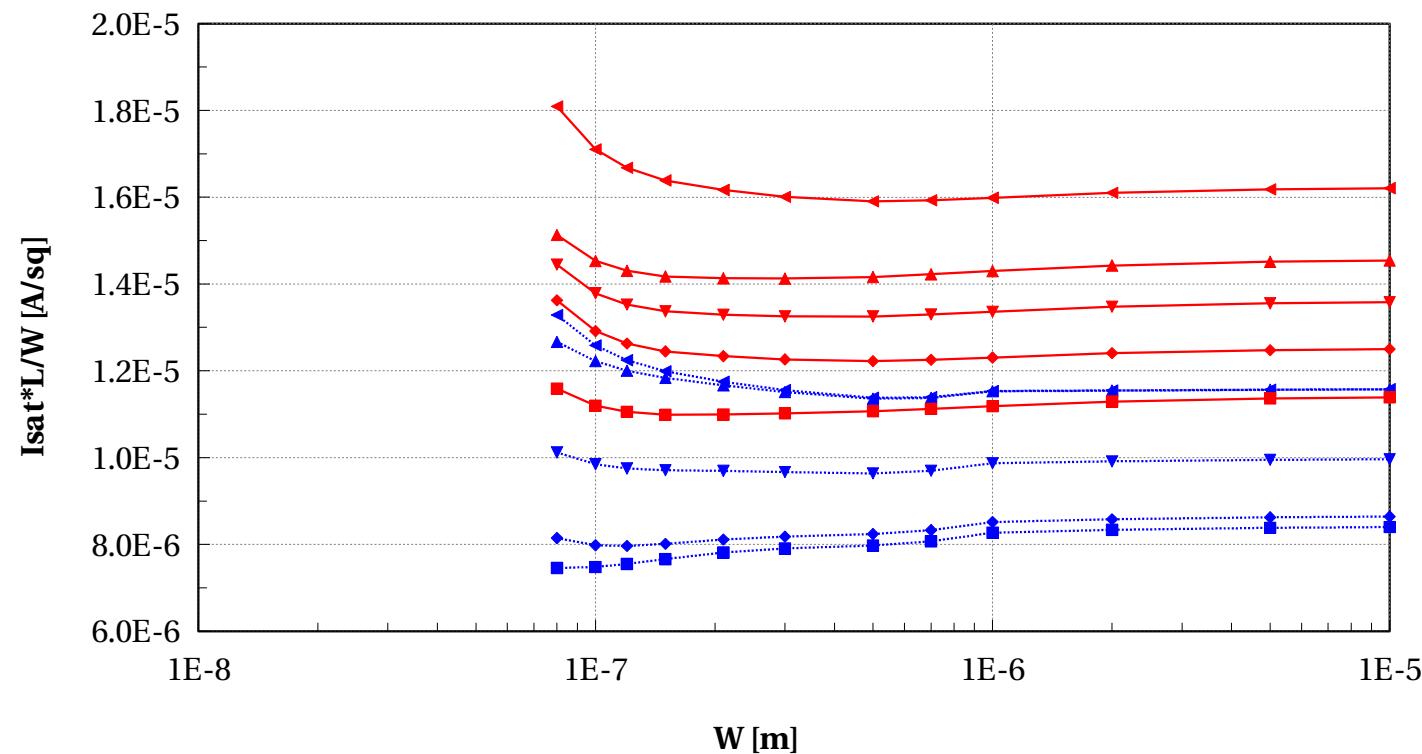
lvtpfet_acc, Vt_sat [mV] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



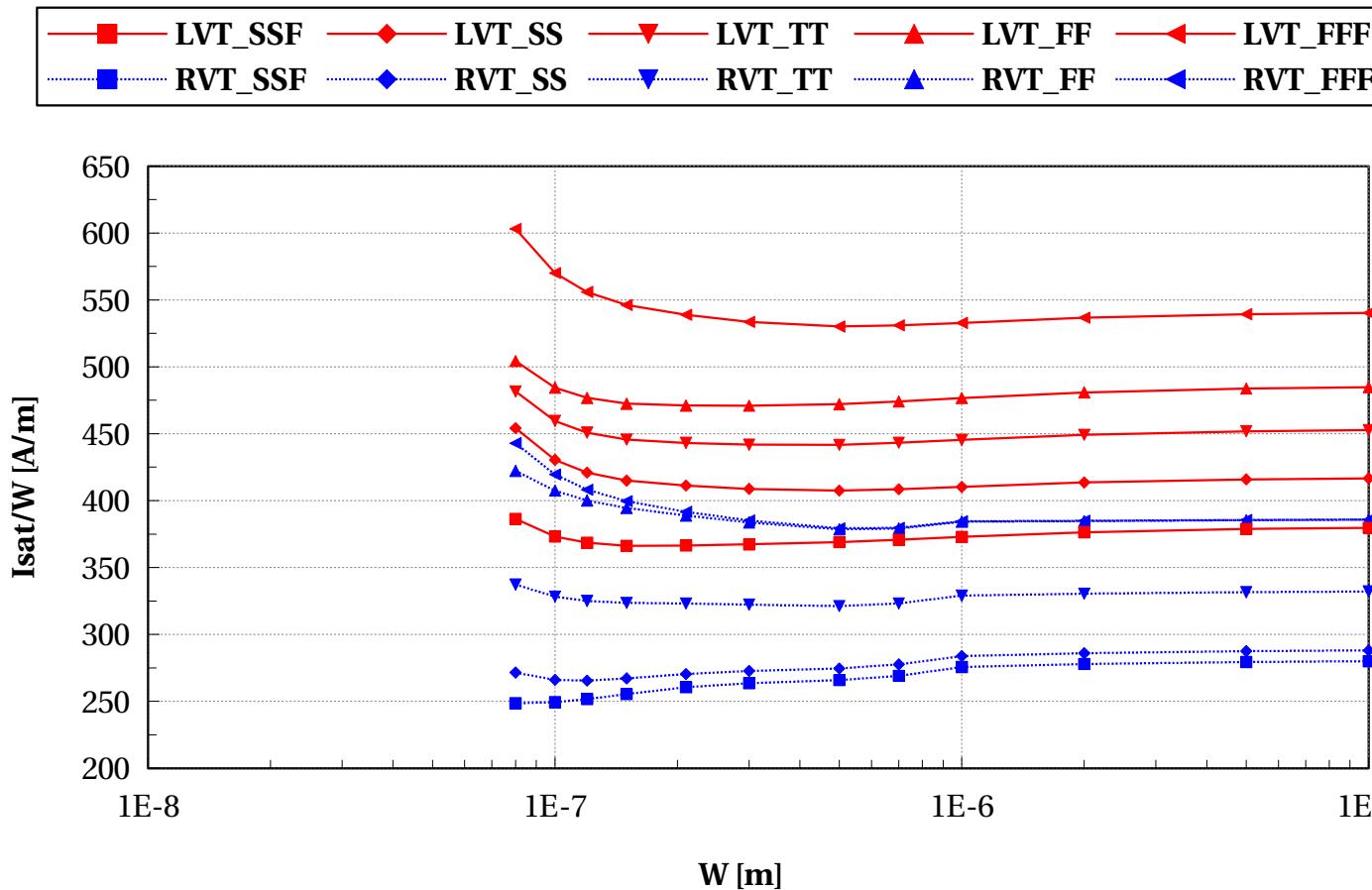
lvtpfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs W [m]

$I = 0.030e-6$ and $Temp = 25$ and $p_la = 0$ and $devType = "PCELLwoWPE"$



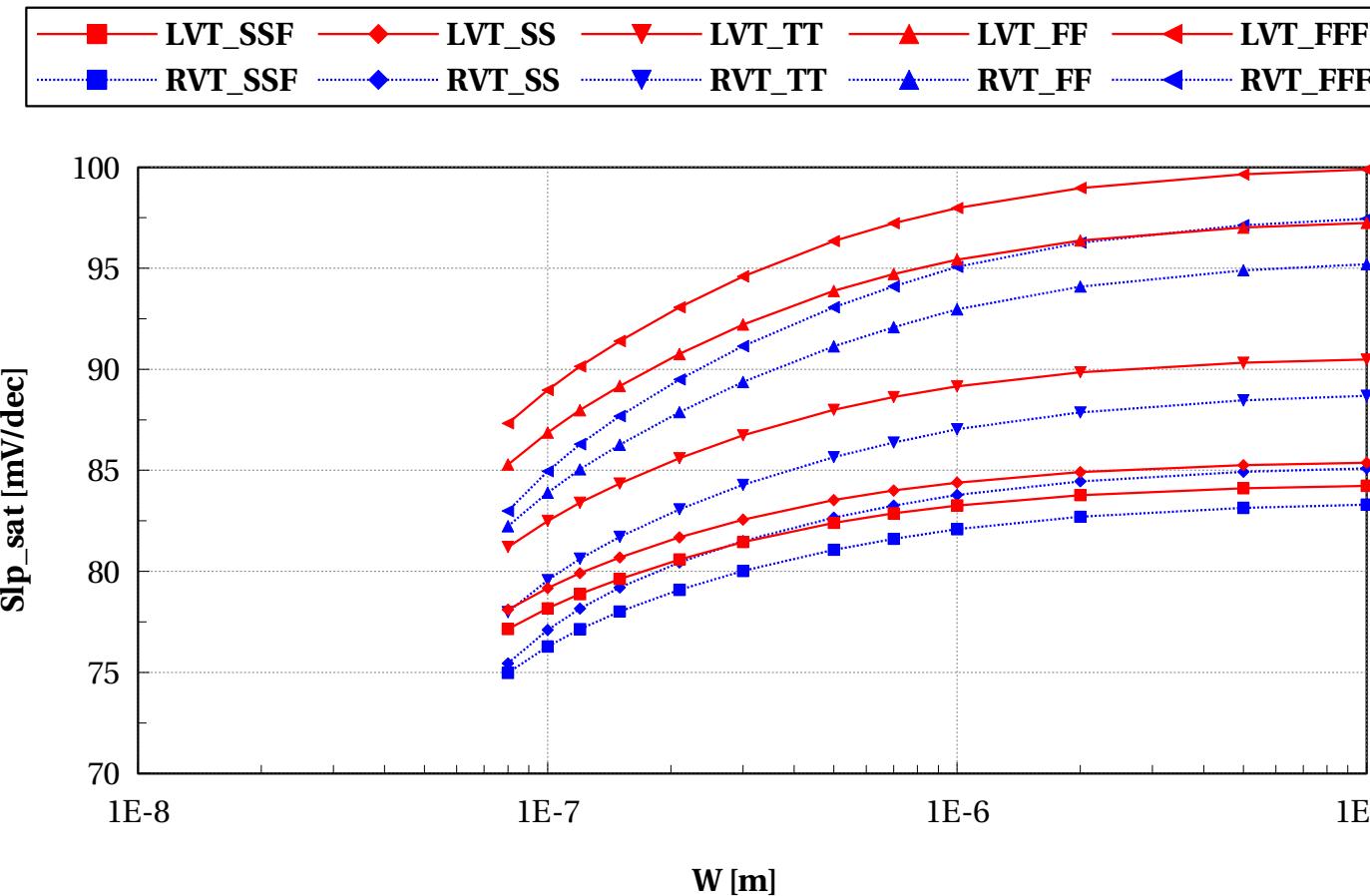
lvtpfet_acc, Isat/W [A/m] vs W [m]

$I=0.030e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



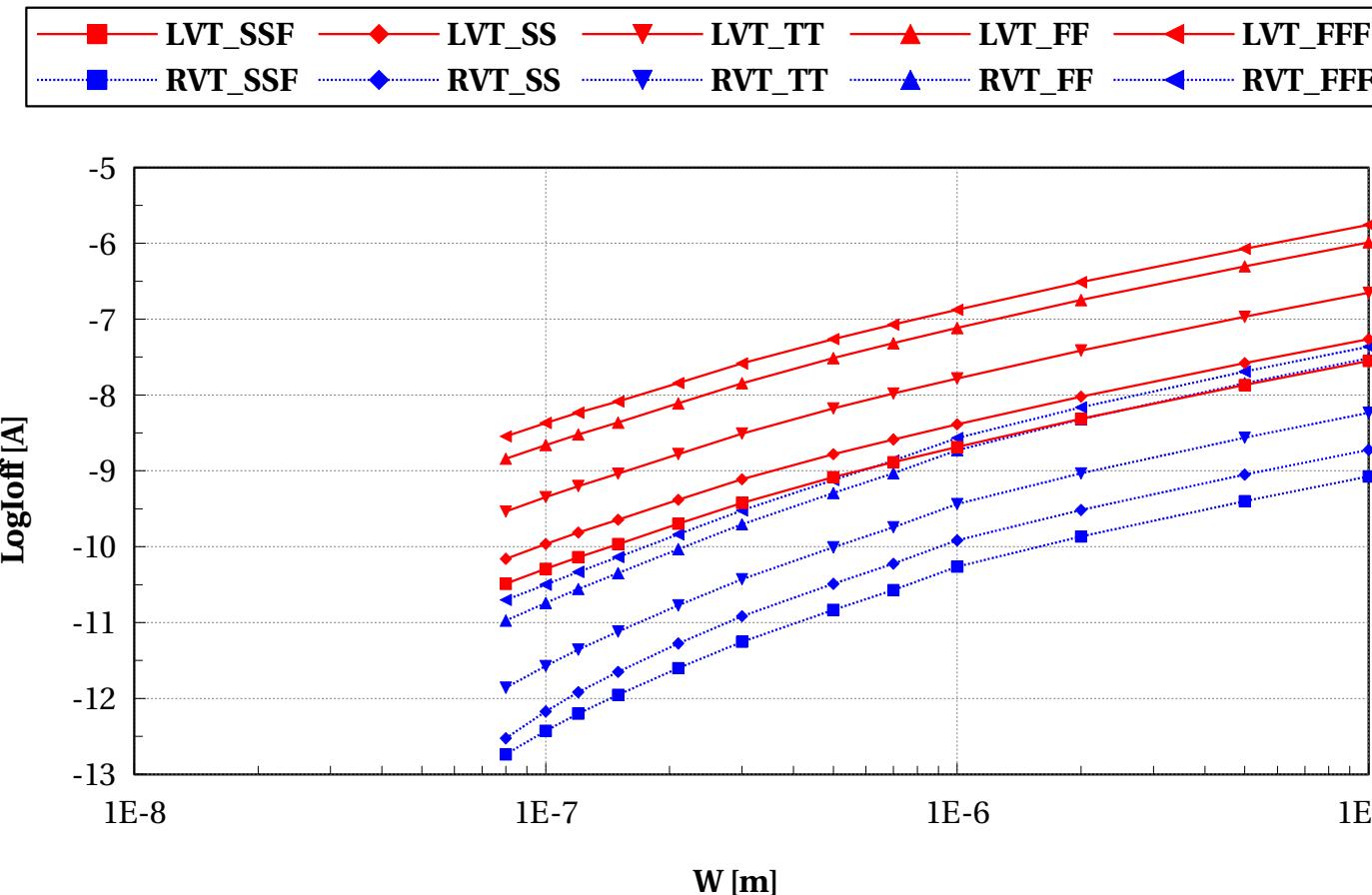
lvtpfet_acc, Slp_sat [mV/dec] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



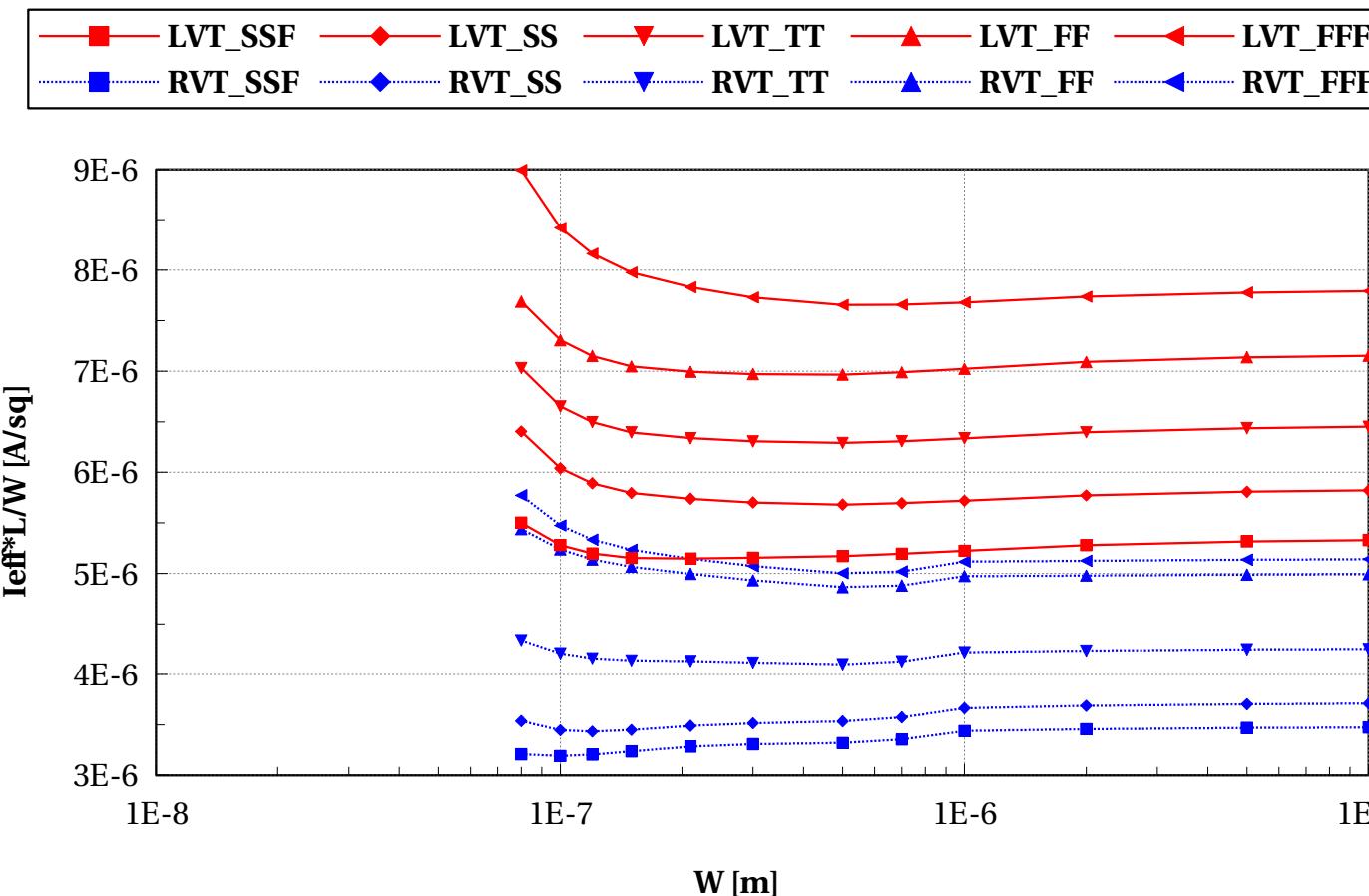
lvtpfet_acc, LogIoff [A] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



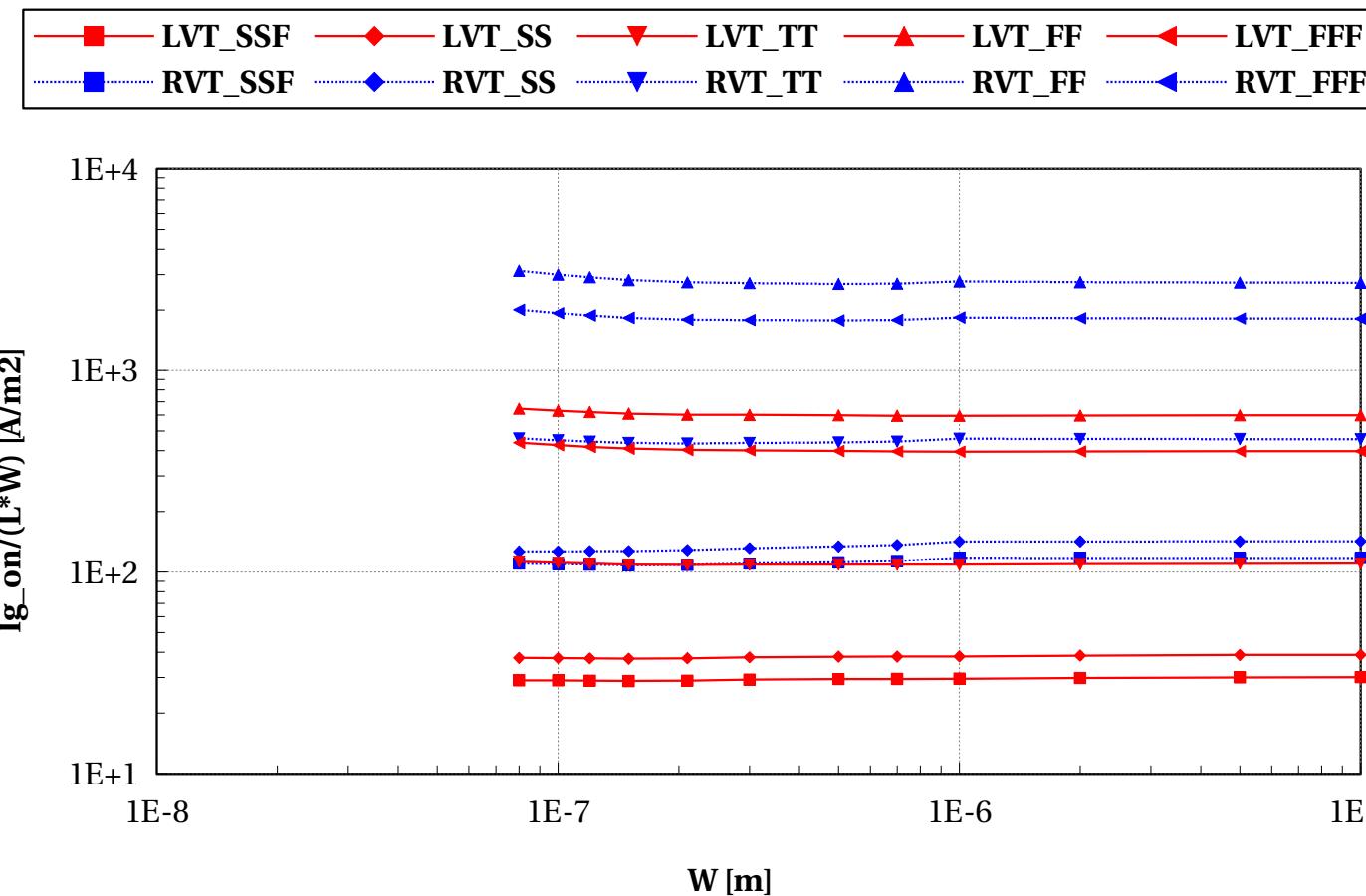
lvtpfet_acc, $I_{eff} \cdot L/W$ [A/sq] vs W [m]

$I = 0.030e-6$ and $Temp = 25$ and $p_la = 0$ and $devType = "PCELLwoWPE"$



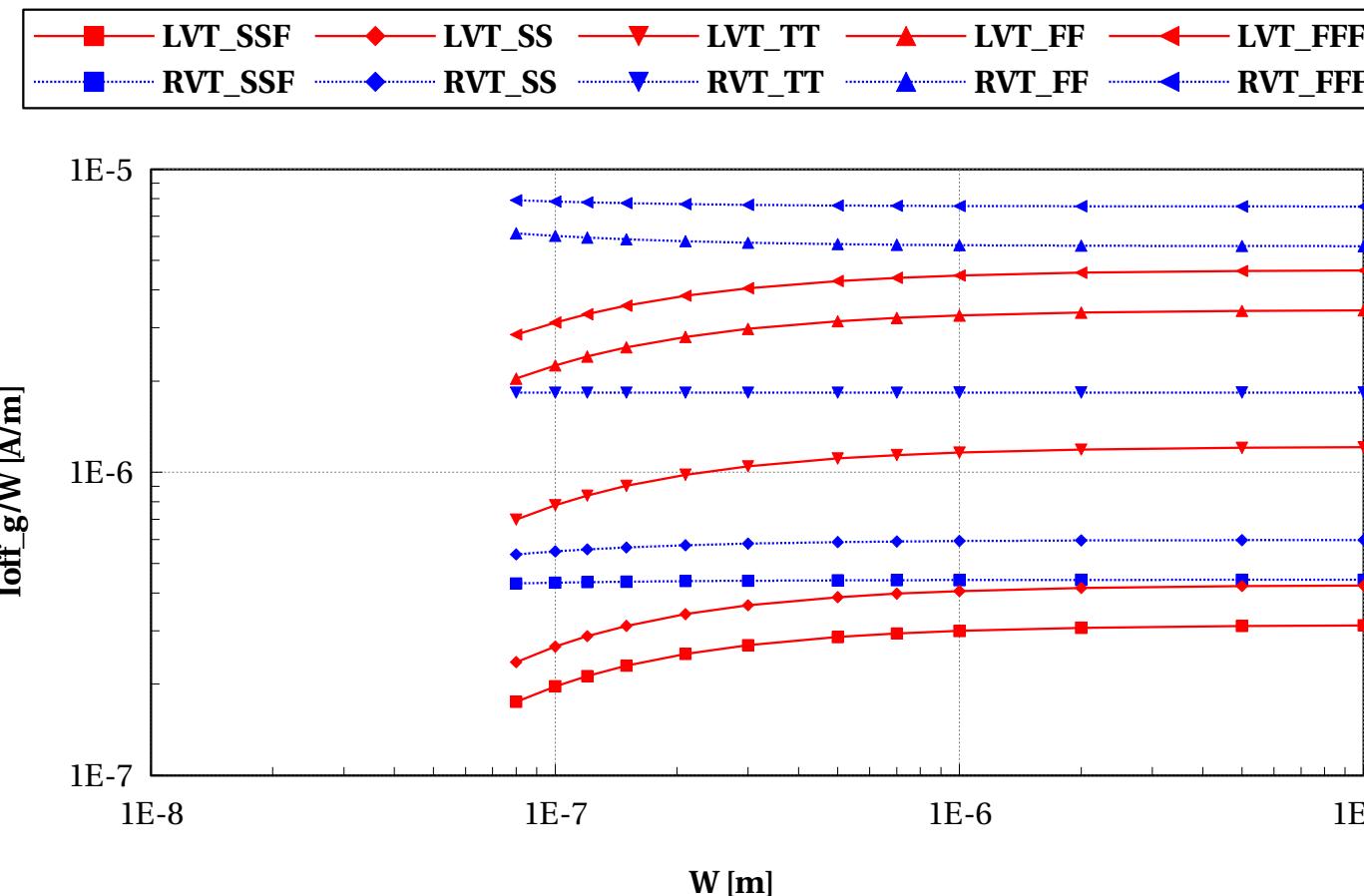
lvtpfet_acc, Ig_on/(L*W) [A/m²] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



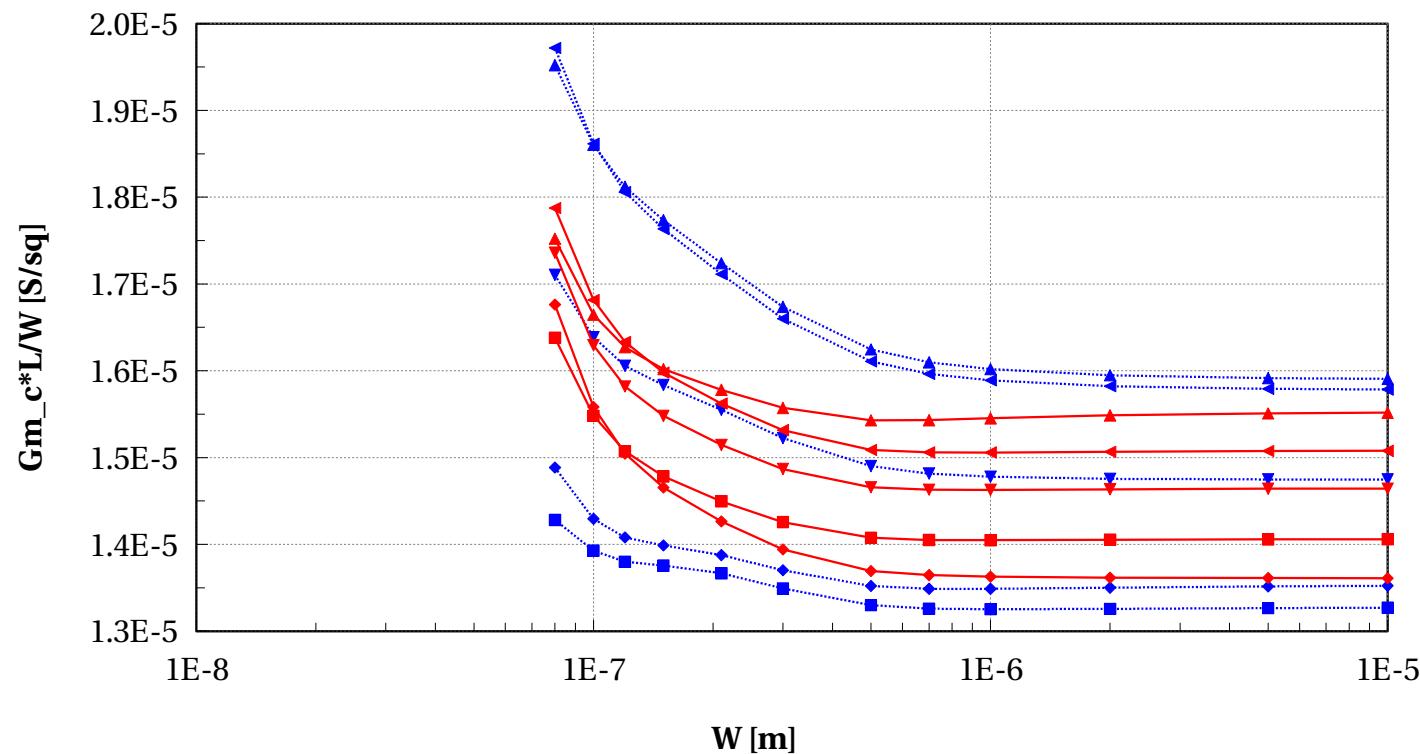
lvtpfet_acc, Ioff_g/W [A/m] vs W [m]

$I = 0.030e-6$ and $\text{Temp} = 25$ and $p_{\text{la}} = 0$ and $\text{devType} = \text{"PCELLwoWPE"}$



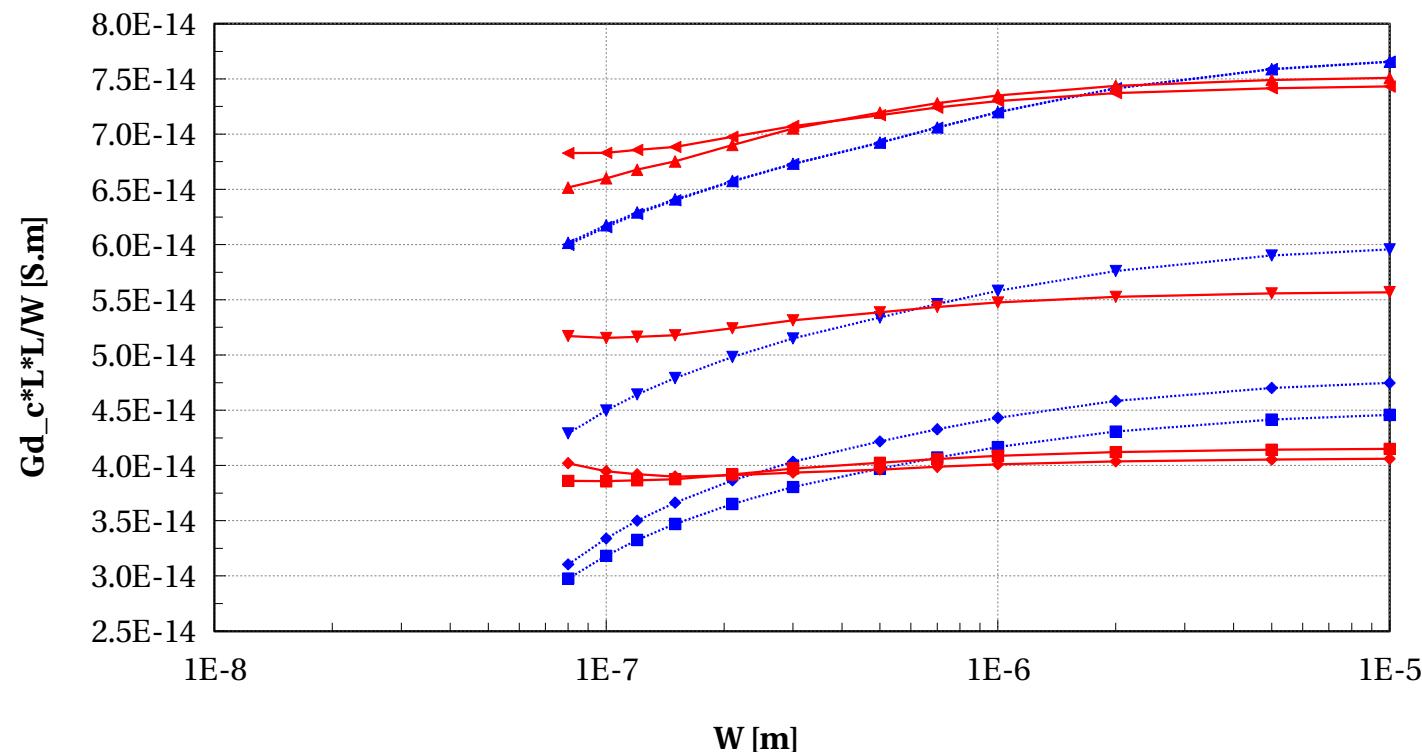
lvtpfet_acc, Gm_c*L/W [S/sq] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



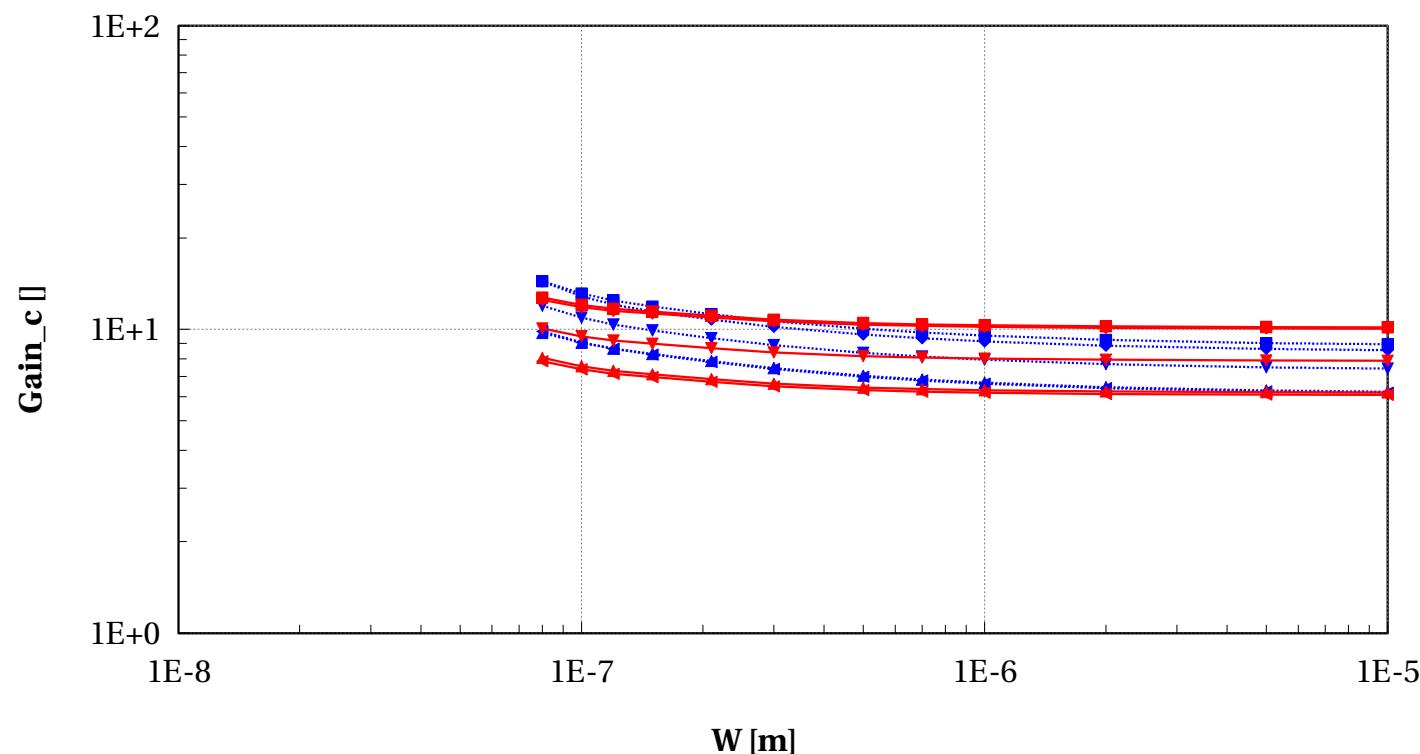
lvtpfet_acc, $G_d \cdot c^* L/W$ [S.m] vs W [m]

$I = 0.030e-6$ and $Temp = 25$ and $p_la = 0$ and $devType = "PCELLwoWPE"$



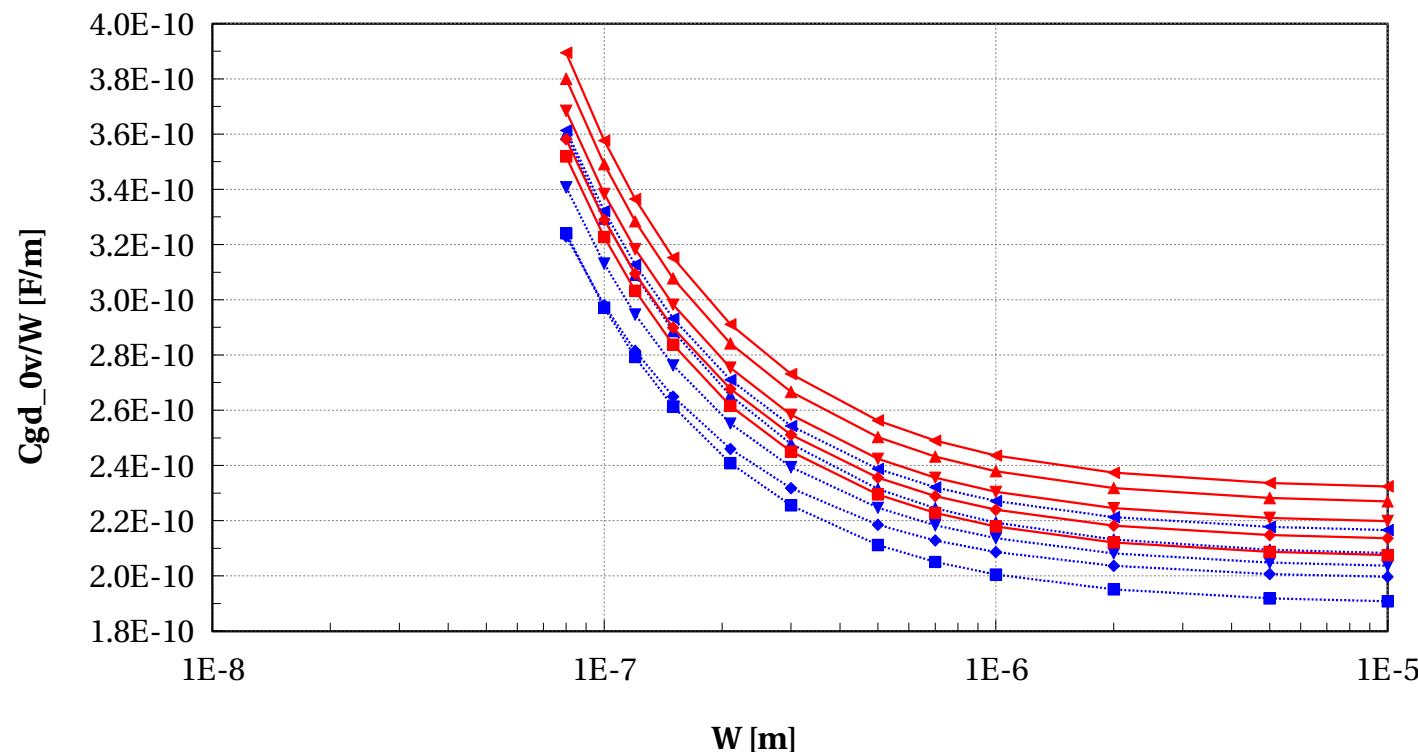
lvtpfet_acc, Gain_c [] vs W [m]

$I=0.030e-6$ and $\text{Temp}=25$ and $p_{\text{la}}=0$ and $\text{devType}=\text{"PCELLwoWPE"}$



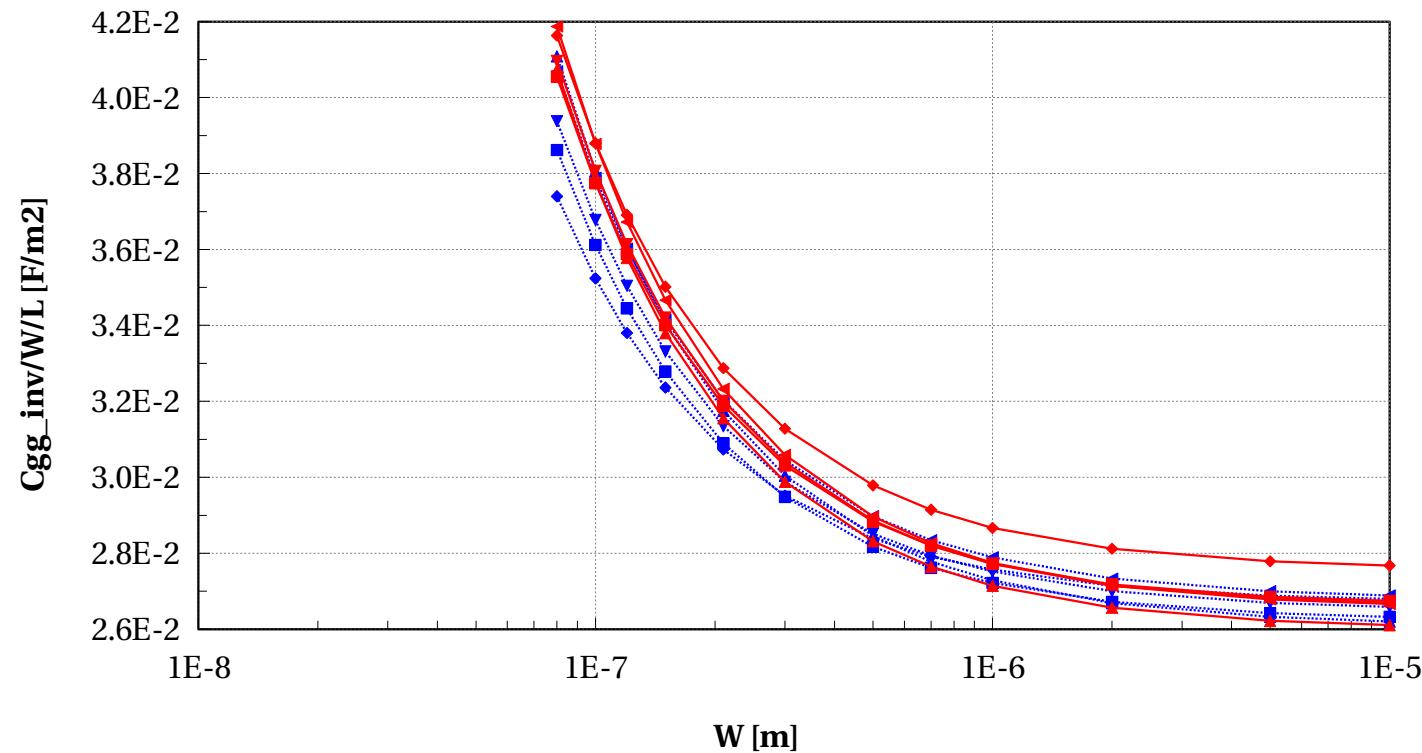
lvtpfet_acc, Cgd_0v/W [F/m] vs W [m]

$I=0.030e-6$ and $Temp=25$ and $p_la=0$ and $devType="PCELLwoWPE"$



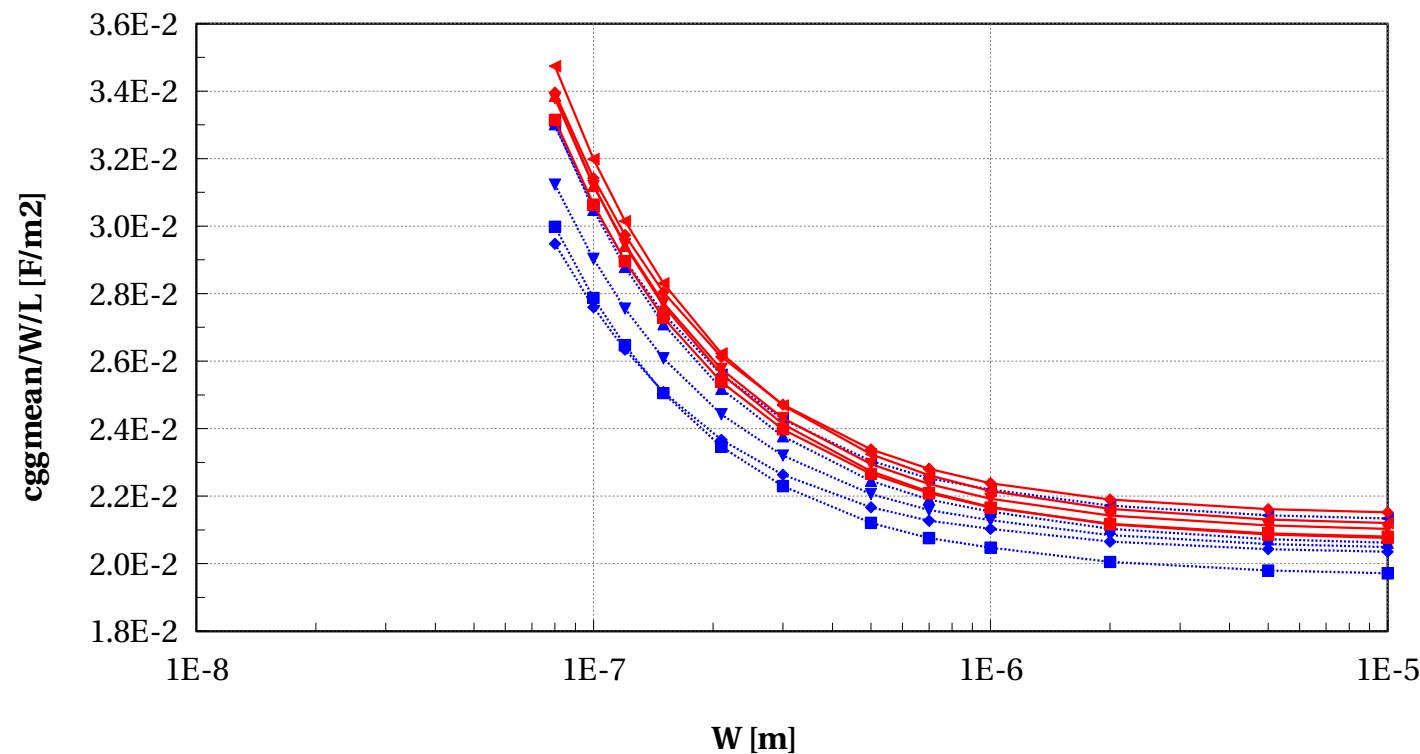
lvtpfet_acc, C_{gg}_inv/W/L [F/m²] vs W [m]

$I = 0.030e-6$ and Temp = 25 and p_la = 0 and devType = "PCELLwoWPE"



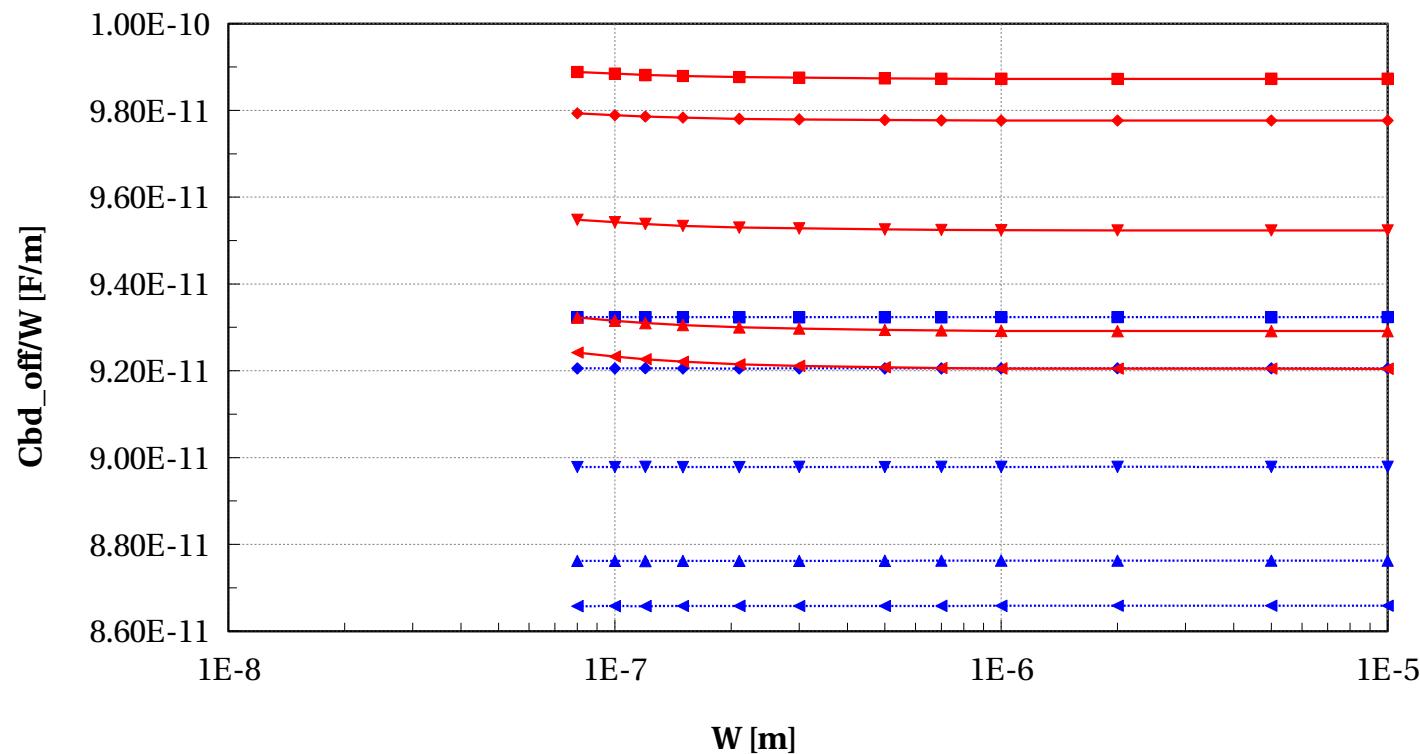
lvtpfet_acc, cggmean/W/L [F/m²] vs W [m]

$I = 0.030e-6$ and Temp = 25 and $p_{la} = 0$ and devType = "PCELLwoWPE"



lvtpfet_acc, Cbd_off/W [F/m] vs W [m]

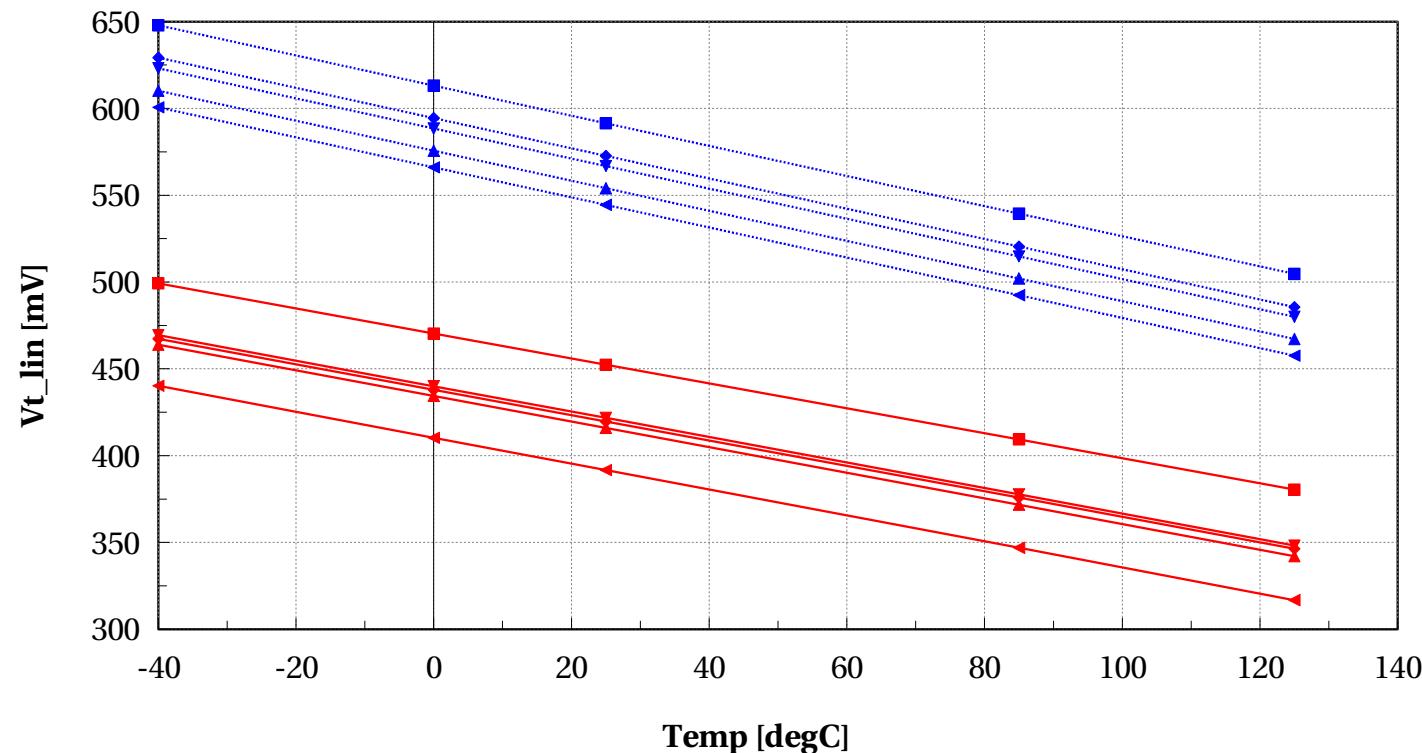
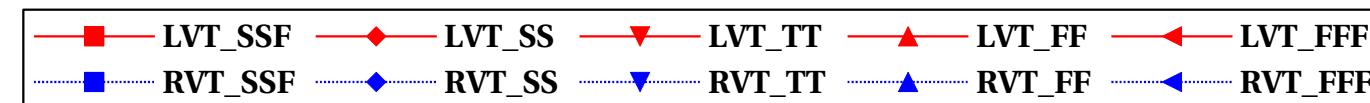
$I = 0.030e-6$ and $Temp = 25$ and $p_la = 0$ and $devType = "PCELLwoWPE"$



Scaling versus Temp (L=1um,W=1um)

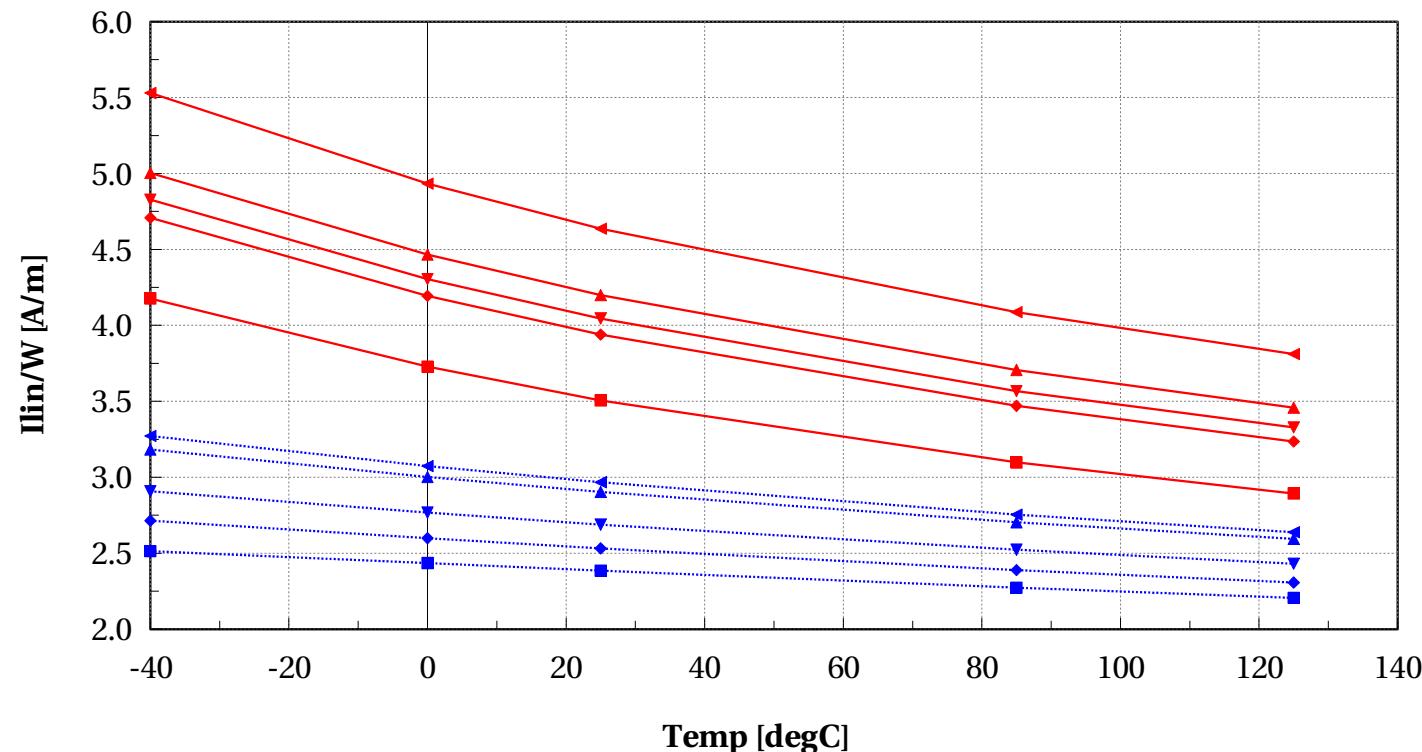
lvtpfet_acc, Vt_lin [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



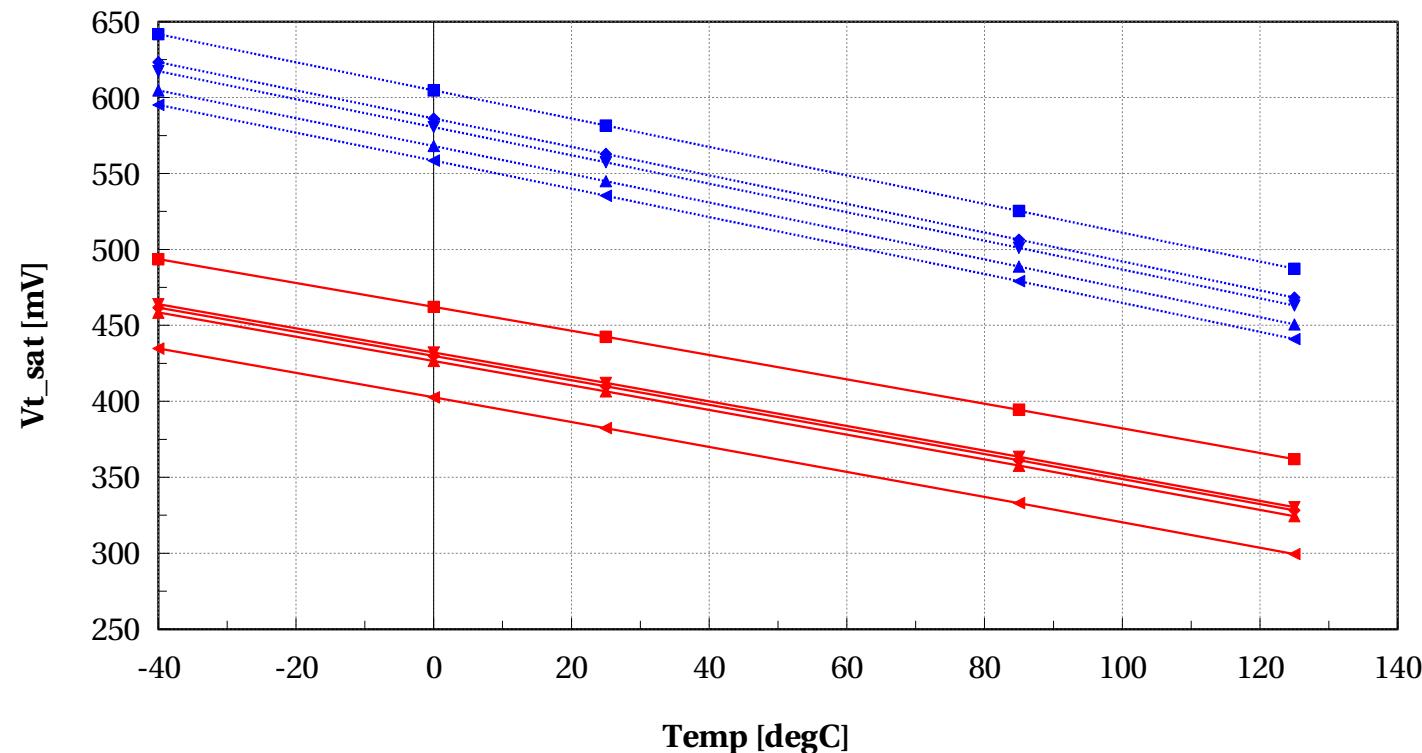
lvtpfet_acc, Ilin/W [A/m] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



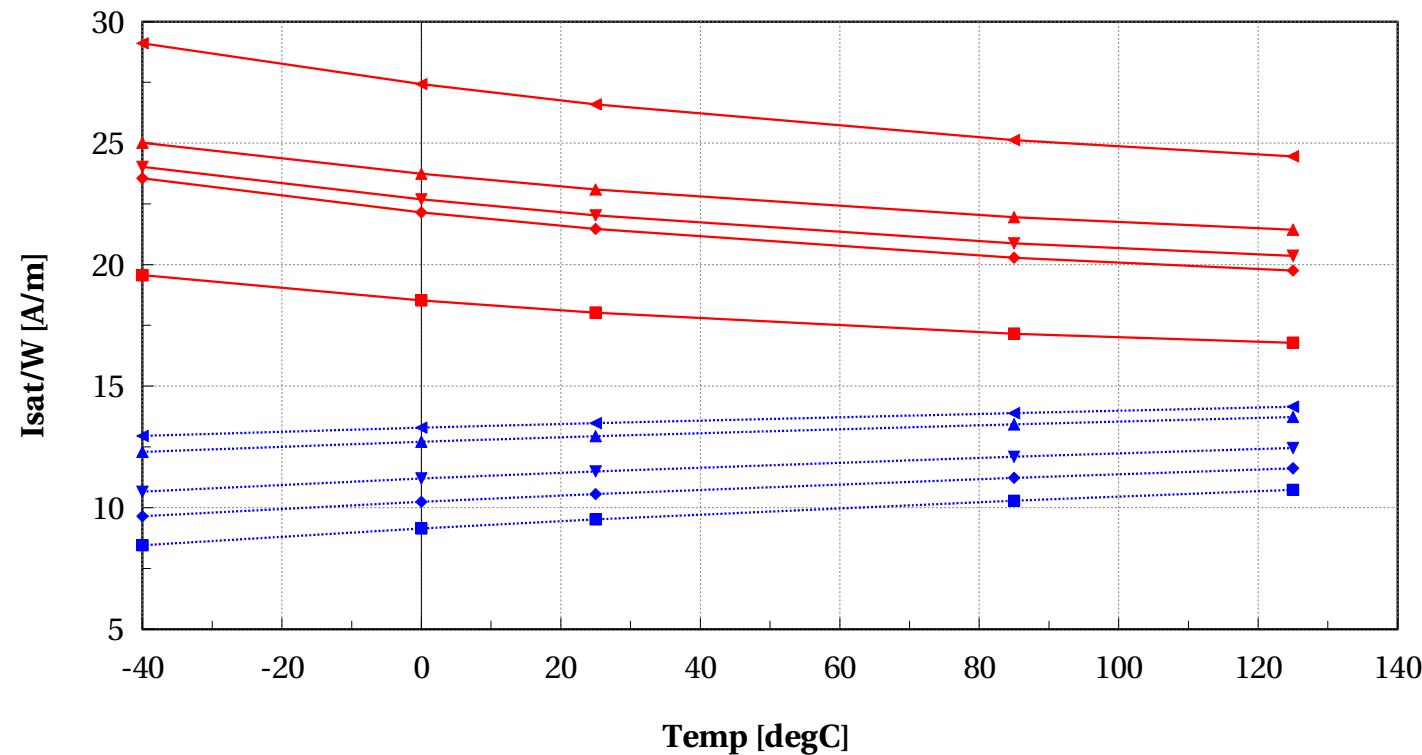
lvtpfet_acc, Vt_sat [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



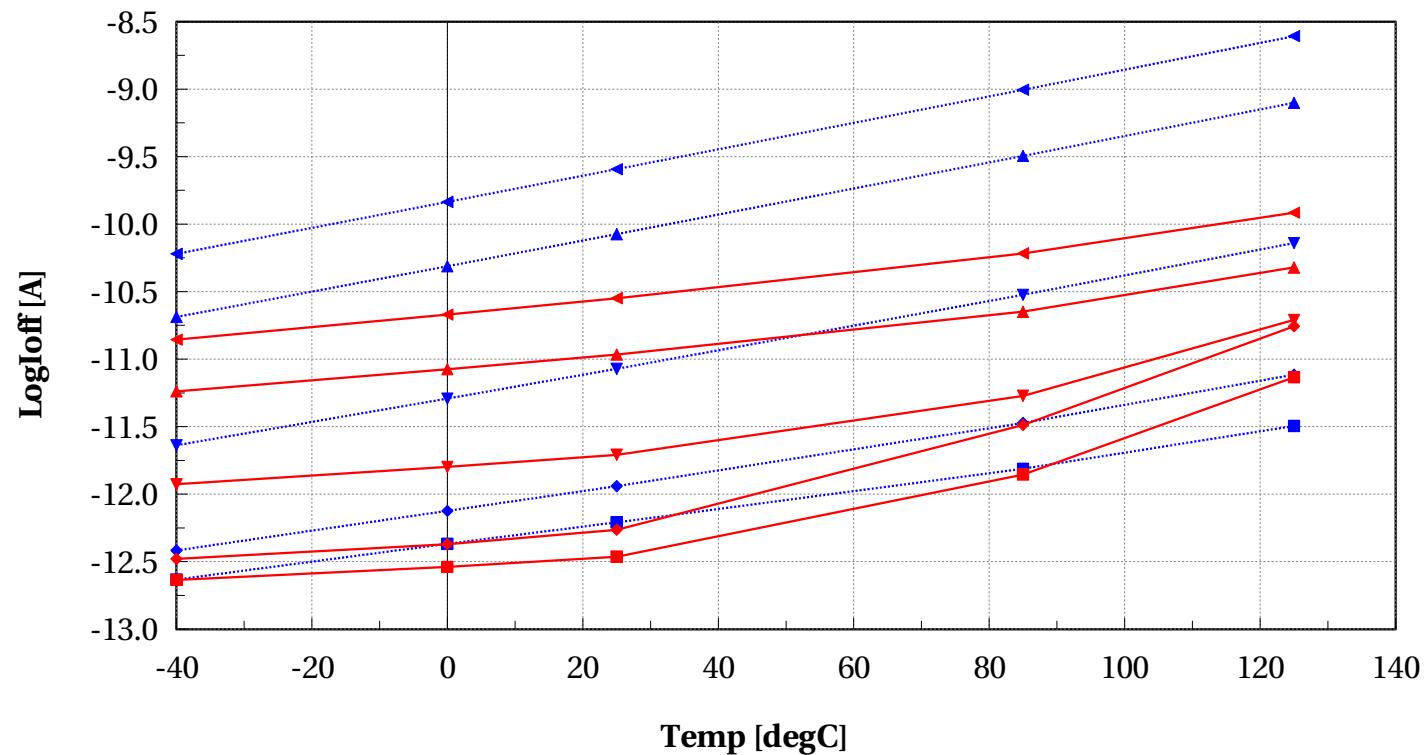
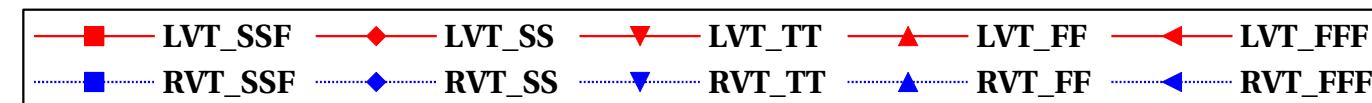
lvtpfet_acc, Isat/W [A/m] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



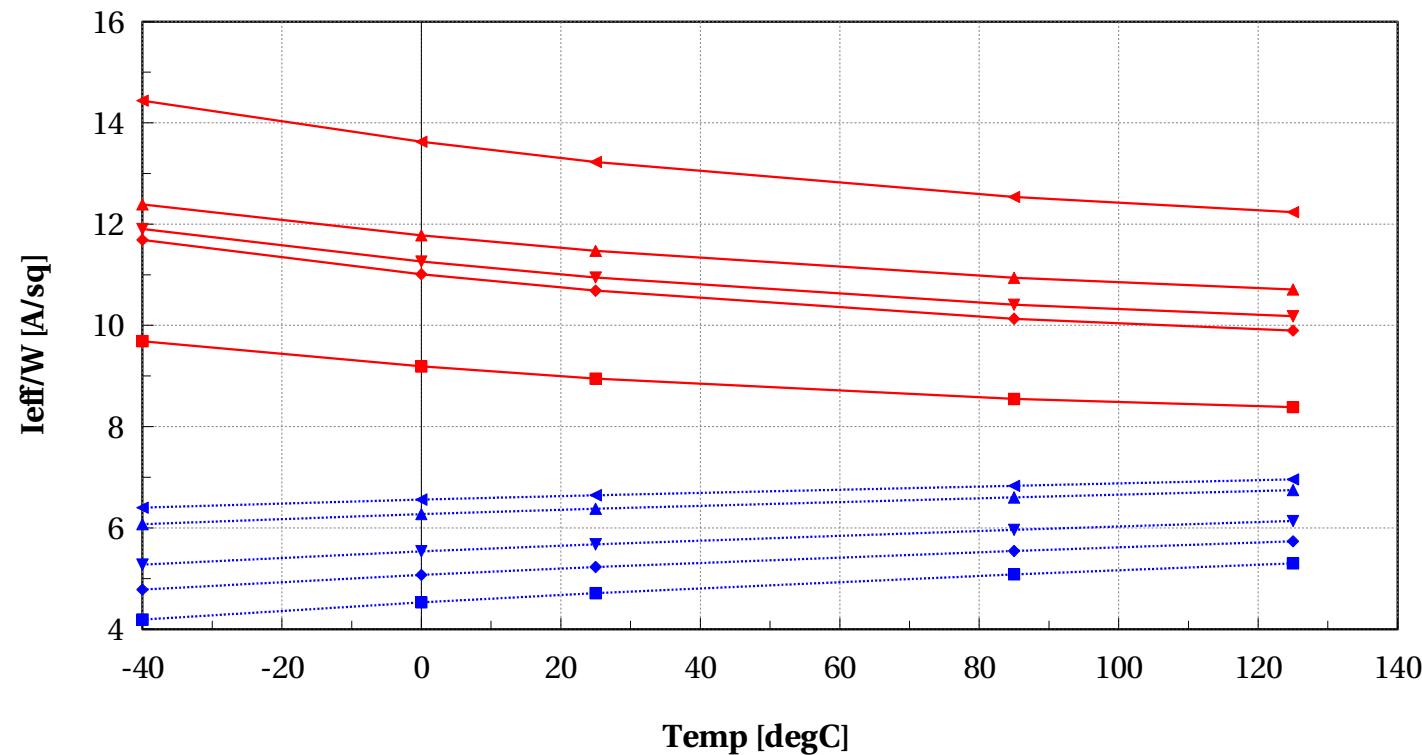
lvtpfet_acc, LogIoff [A] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



lvtpfet_acc, Ieff/W [A/sq] vs Temp [degC]

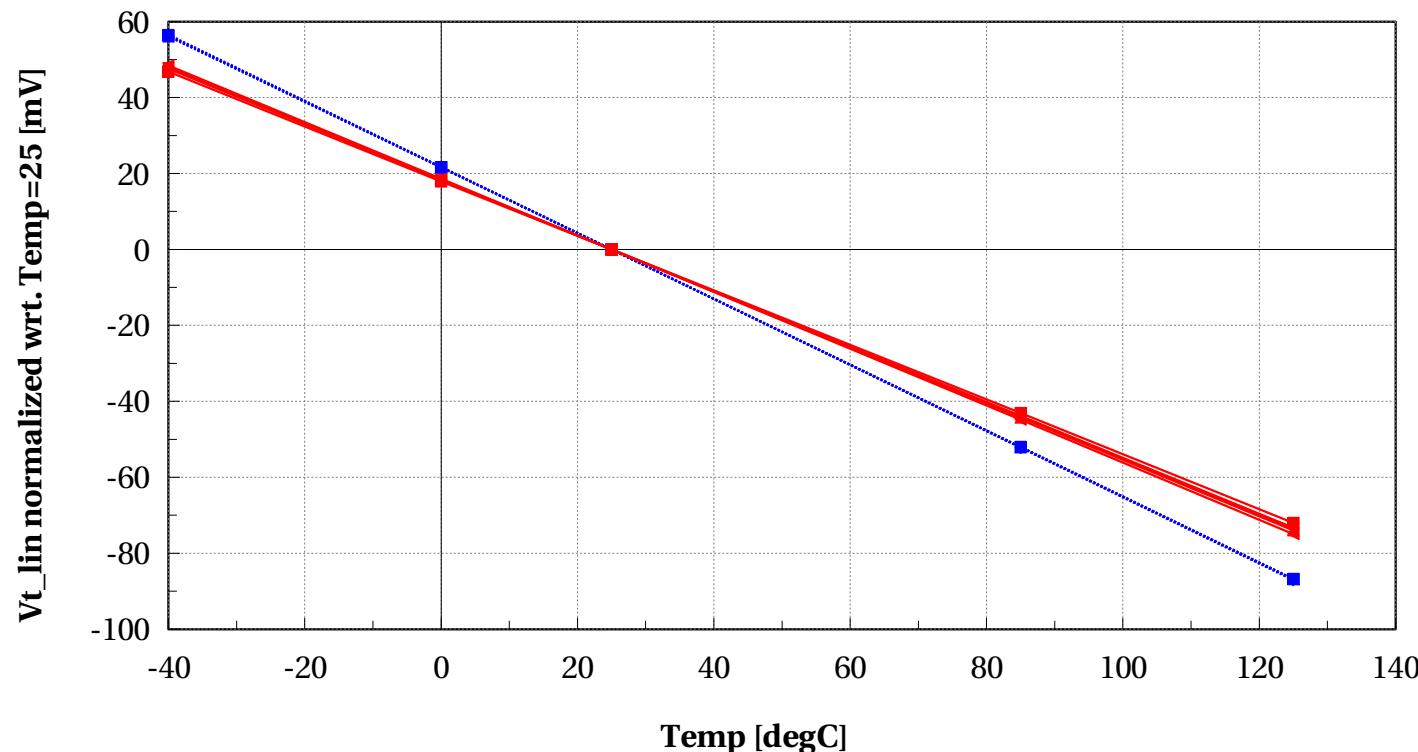
w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



Scaling versus Temp normalized (L=1um,W=1um)

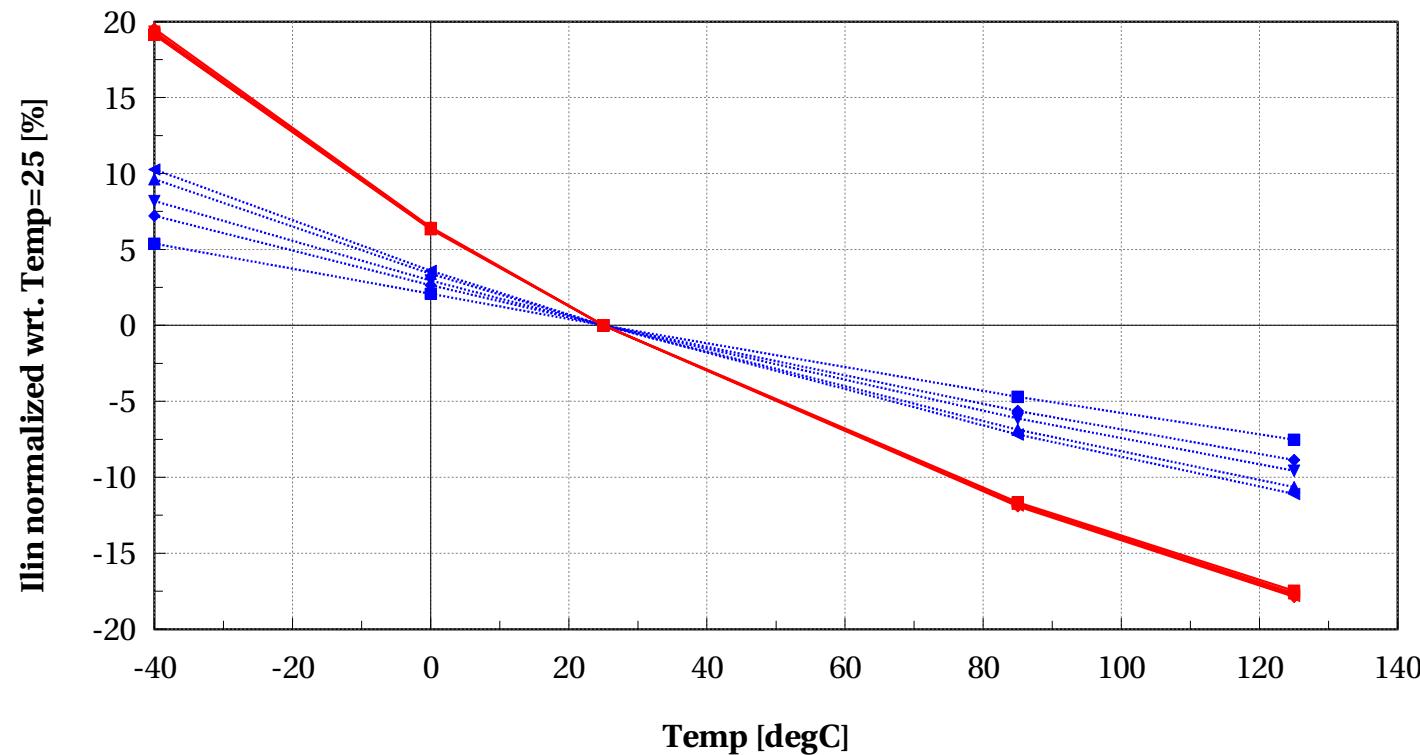
lvtpfet_acc, Vt_lin normalized wrt. Temp=25 [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



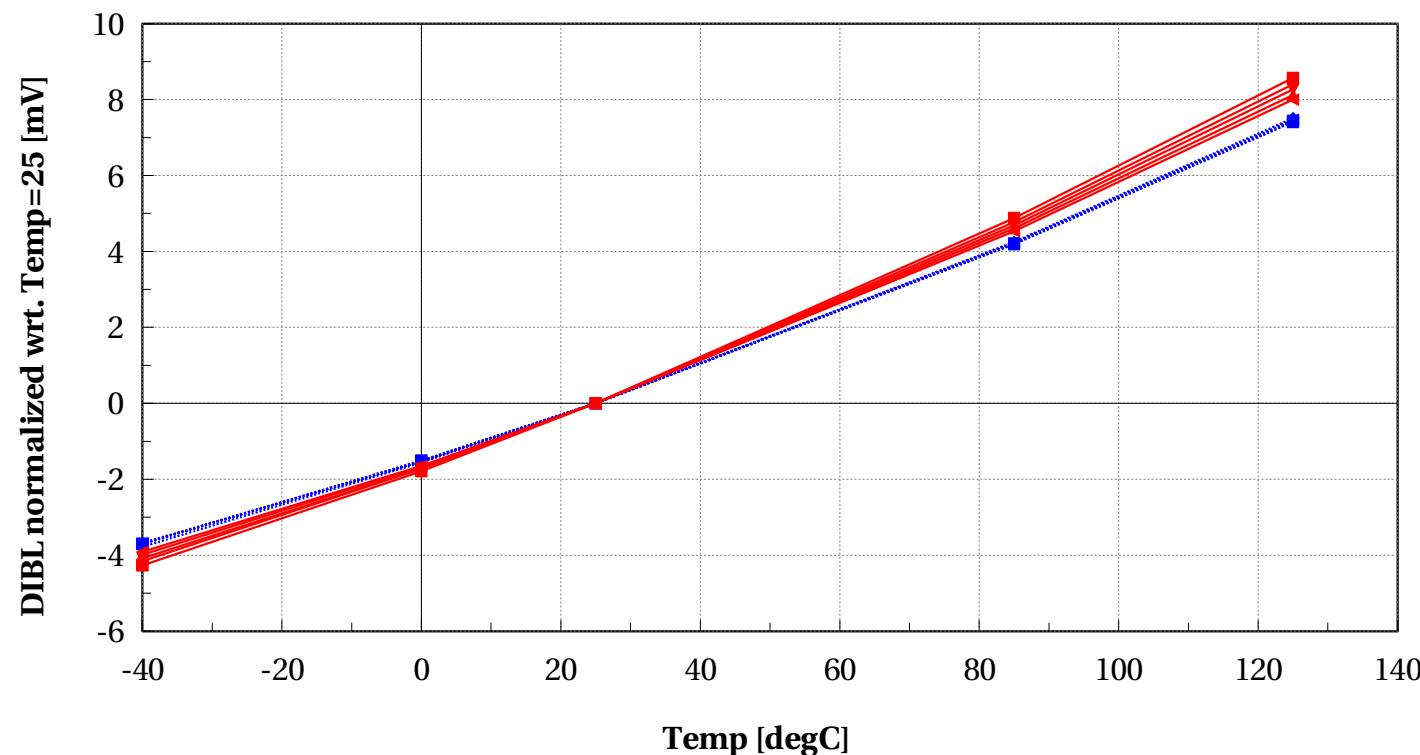
lvtpfet_acc, Ilin normalized wrt. Temp=25 [%] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



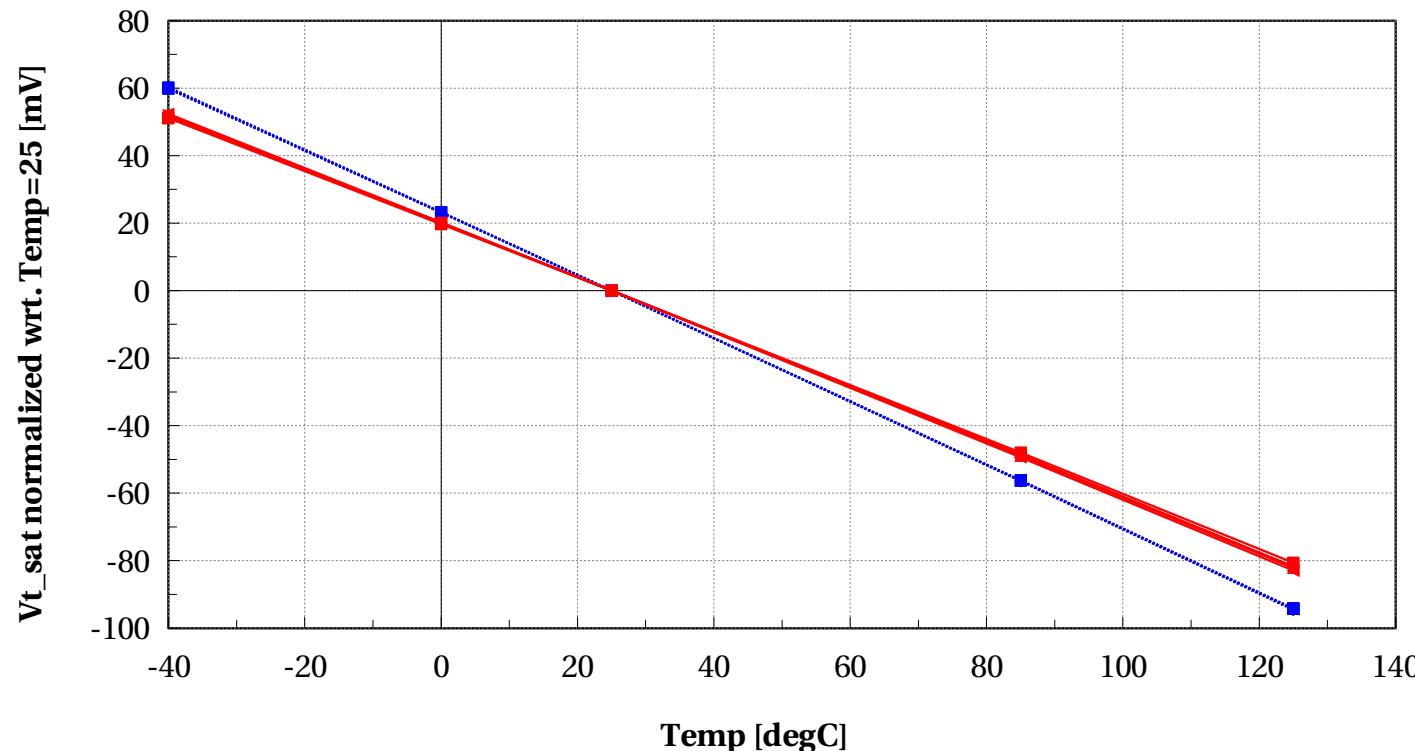
lvtpfet_acc, DIBL normalized wrt. Temp=25 [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



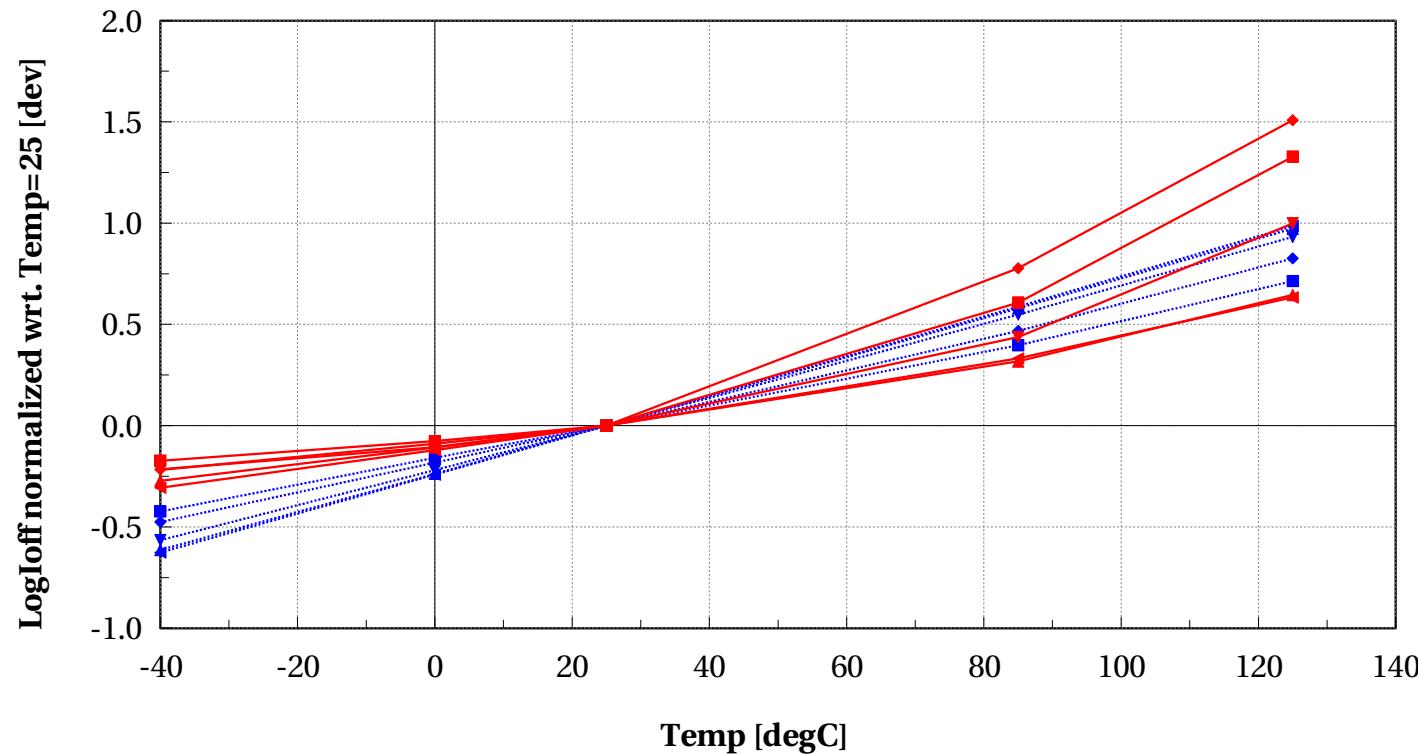
lvtpfet_acc, Vt_sat normalized wrt. Temp=25 [mV] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



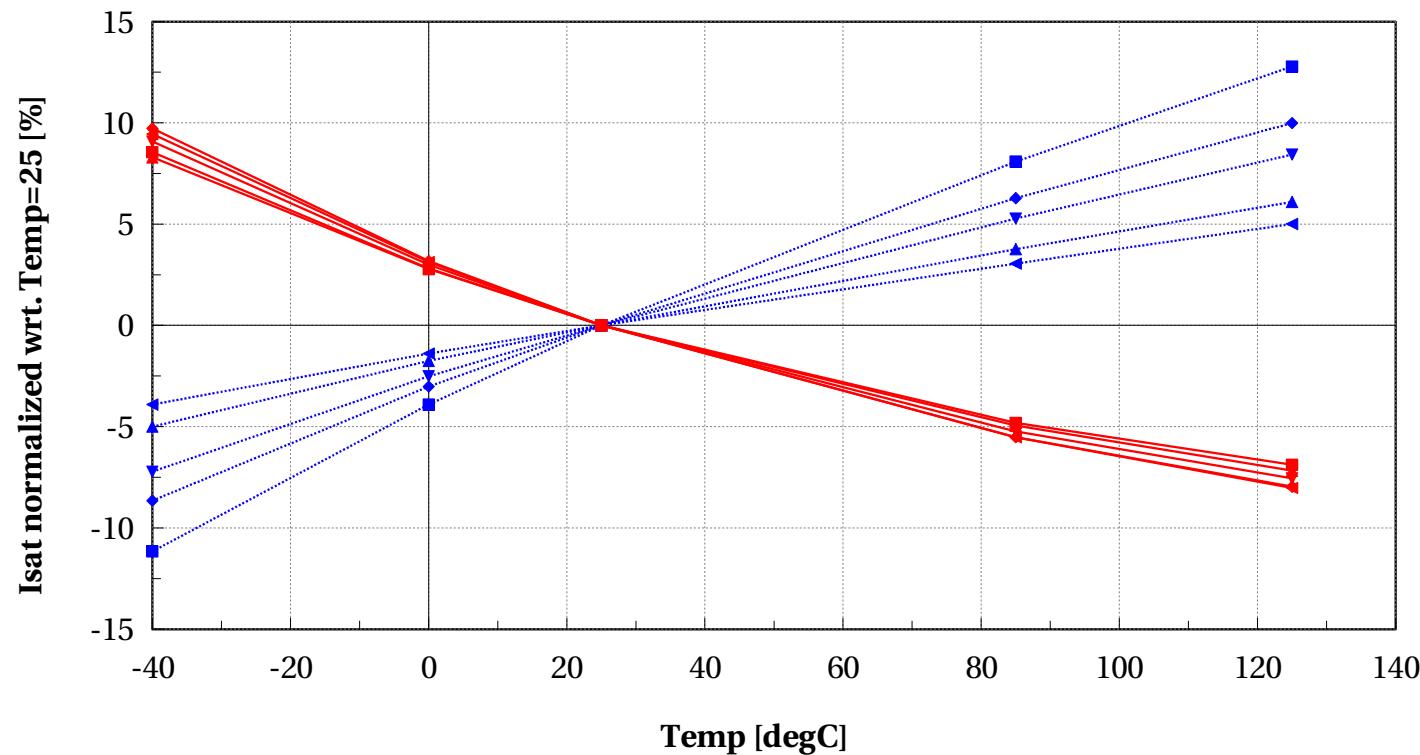
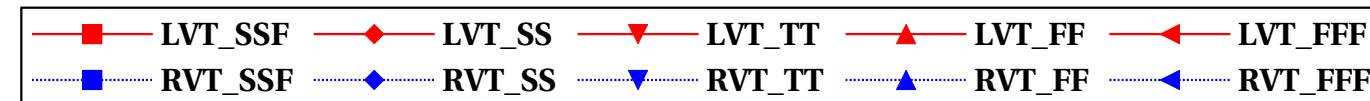
lvtpfet_acc, LogIoff normalized wrt. Temp=25 [dev] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



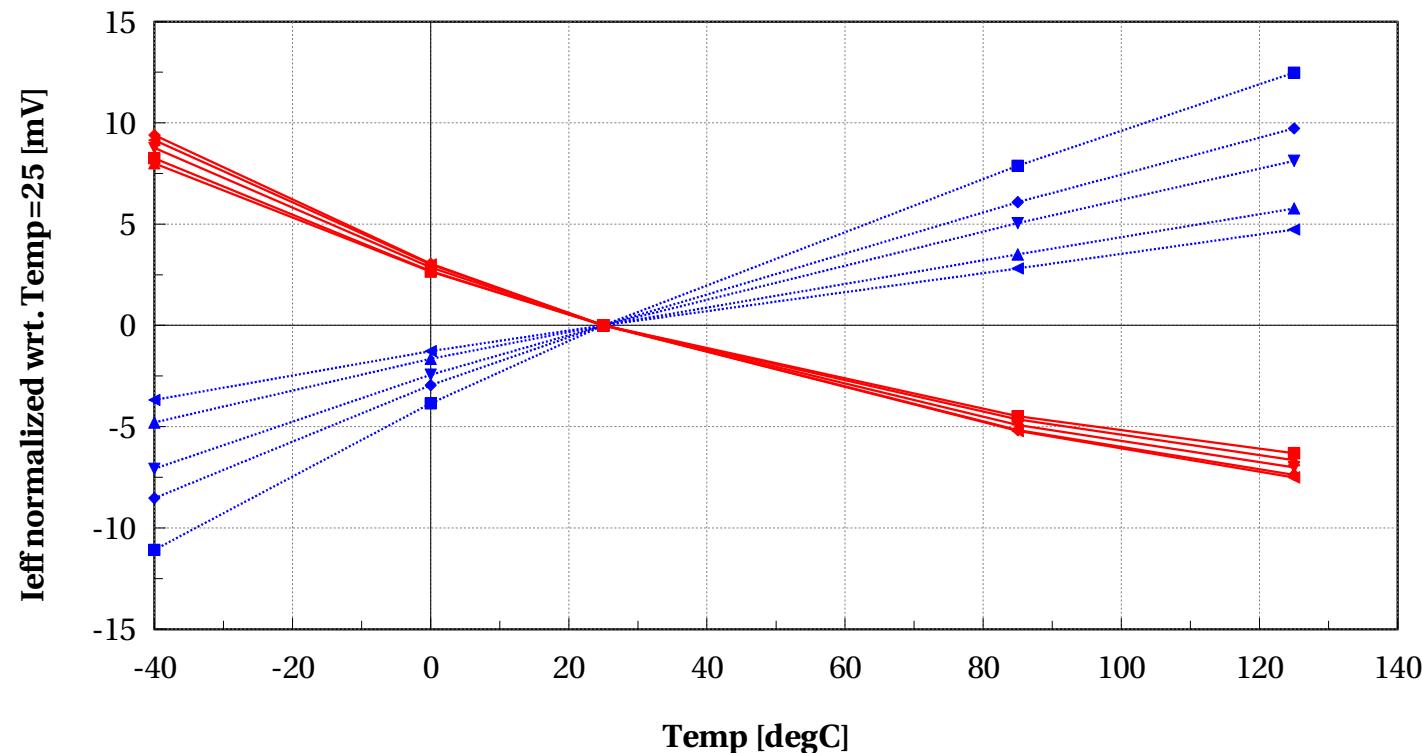
lvtpfet_acc, Isat normalized wrt. Temp=25 [%] vs Temp [degC]

w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



lvtpfet_acc, Ieff normalized wrt. Temp=25 [mV] vs Temp [degC]

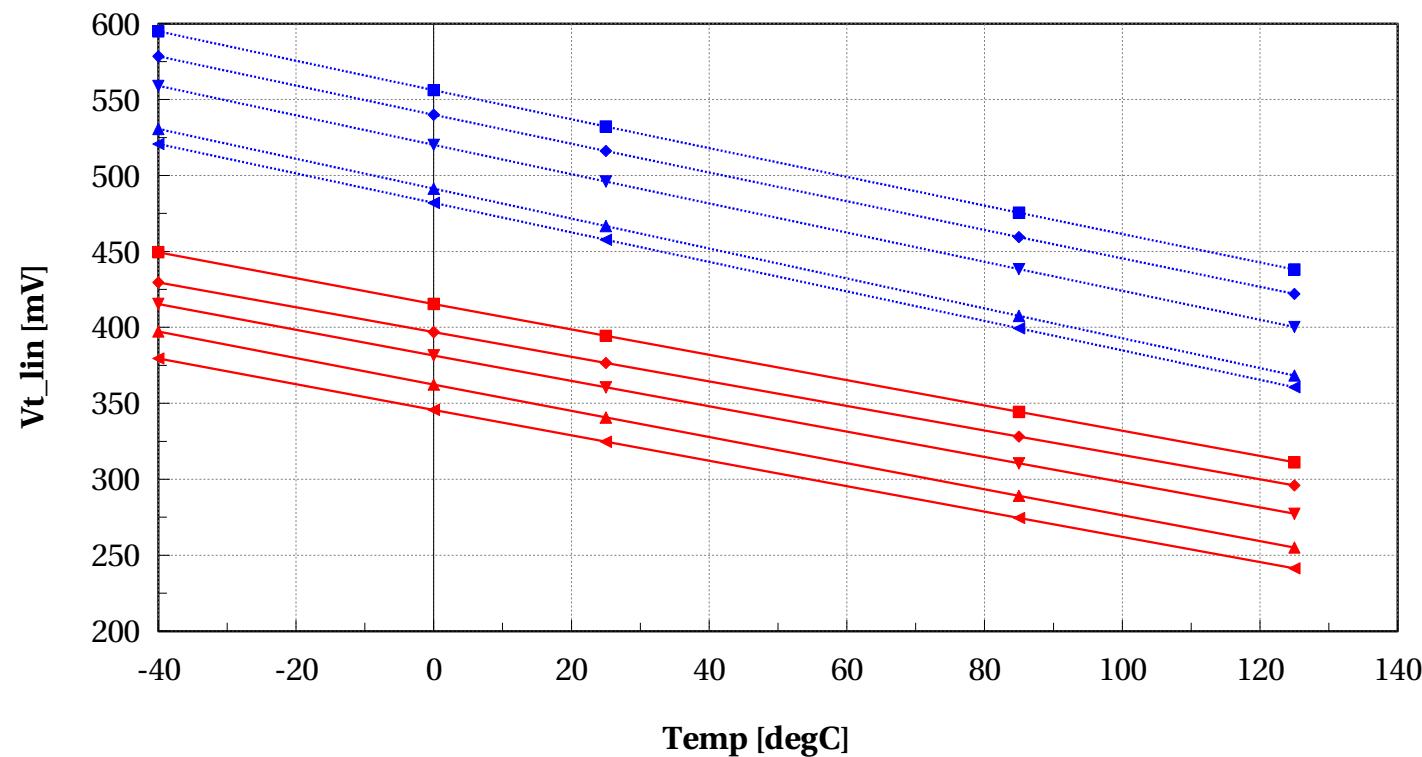
w==1e-6 and L==1e-6 and p_la==0 and devType=="PCELLwoWPE"



Scaling versus Temp (L=30nm,W=300nm)

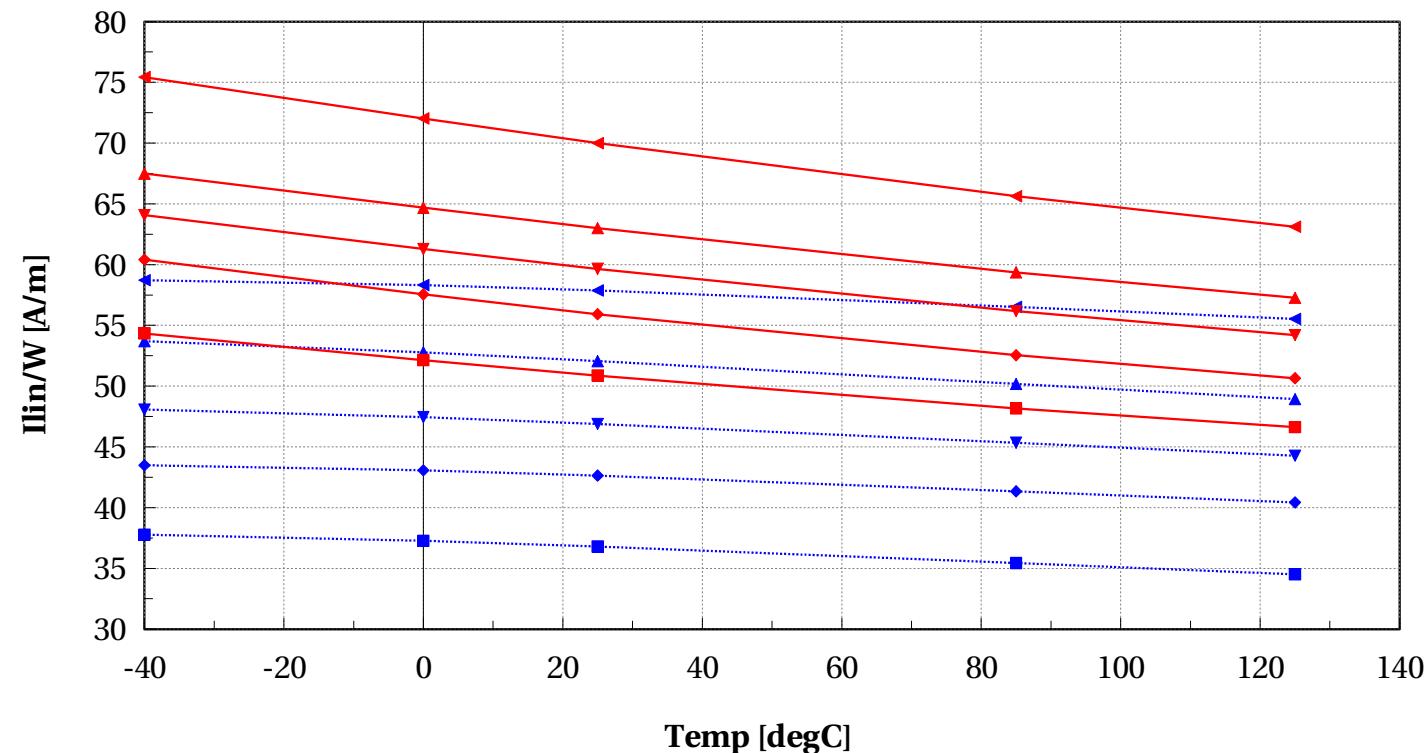
lvtpfet_acc, Vt_lin [mV] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



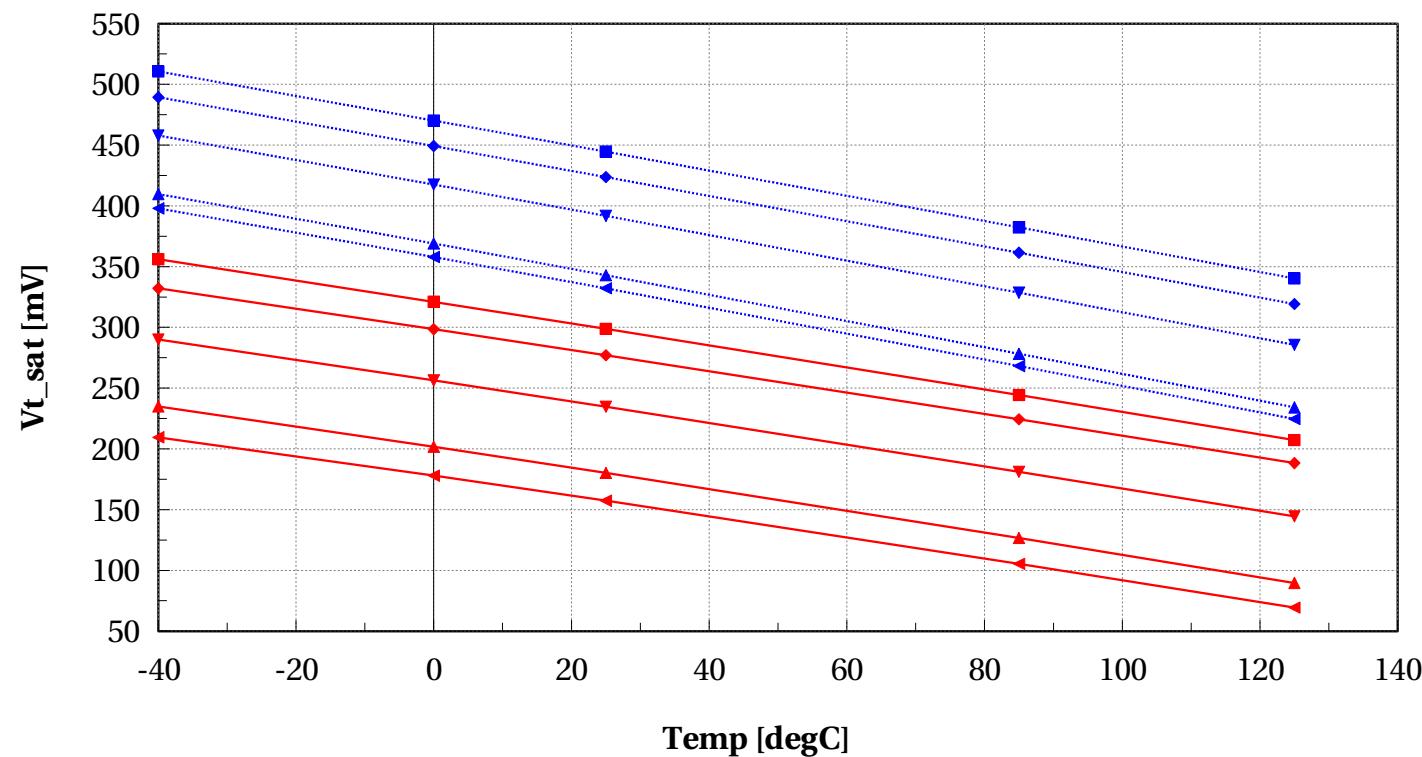
lvtpfet_acc, Ilin/W [A/m] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



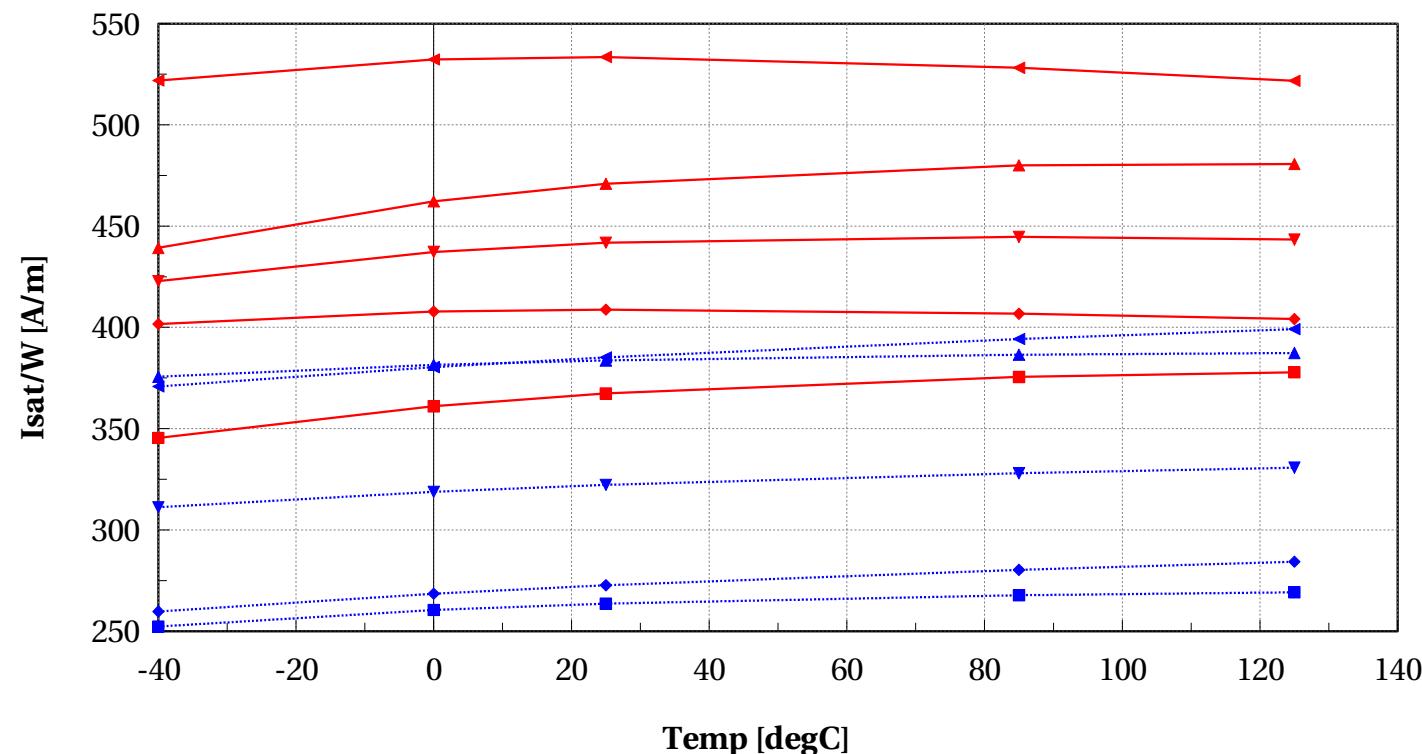
lvtpfet_acc, Vt_sat [mV] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



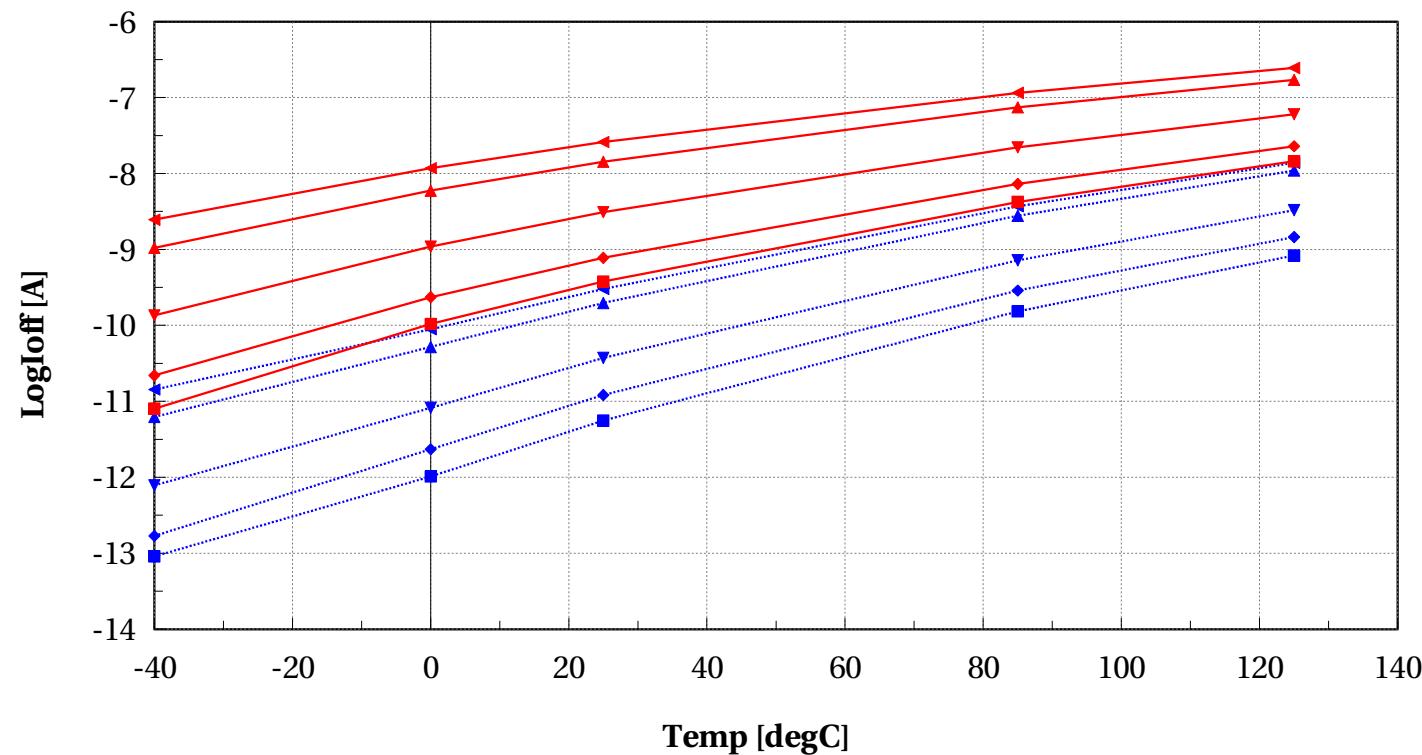
lvtpfet_acc, Isat/W [A/m] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



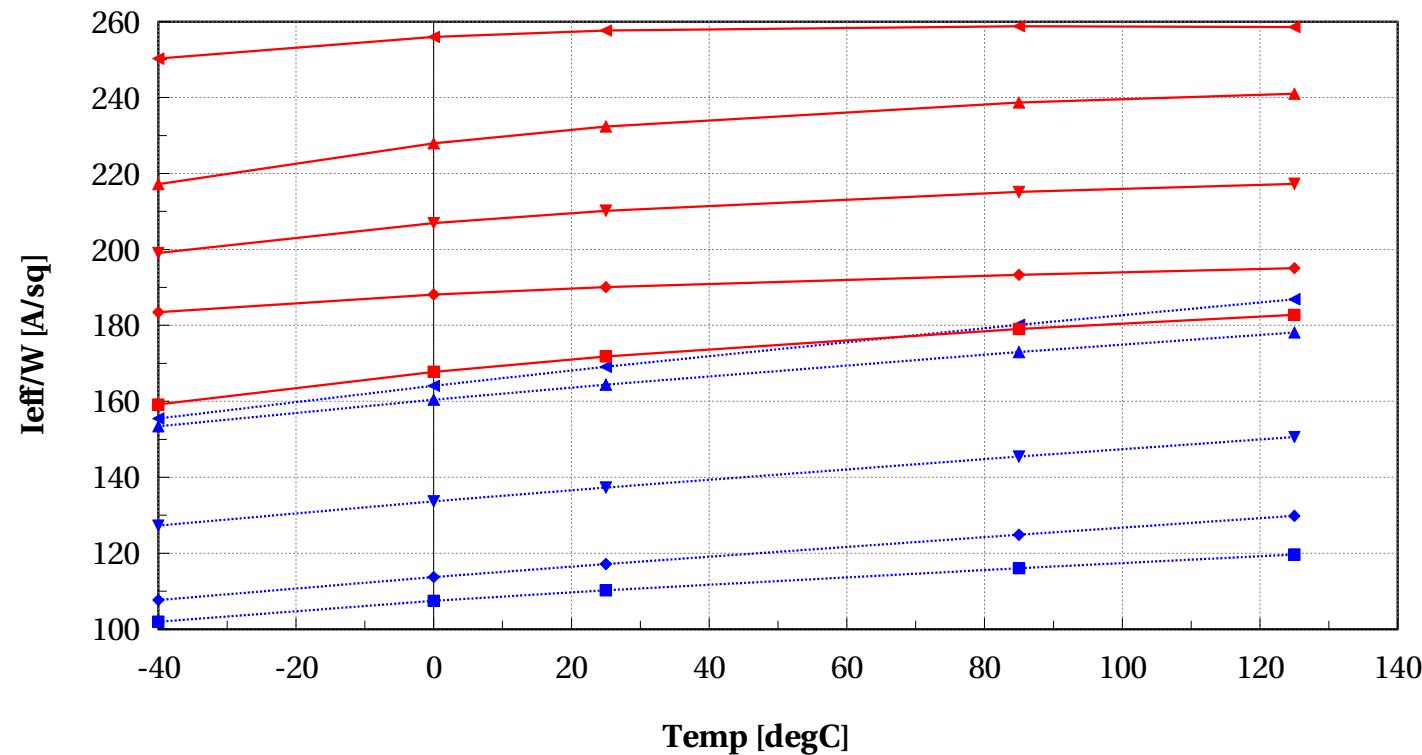
lvtpfet_acc, LogIoff [A] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



lvtpfet_acc, Ieff/W [A/sq] vs Temp [degC]

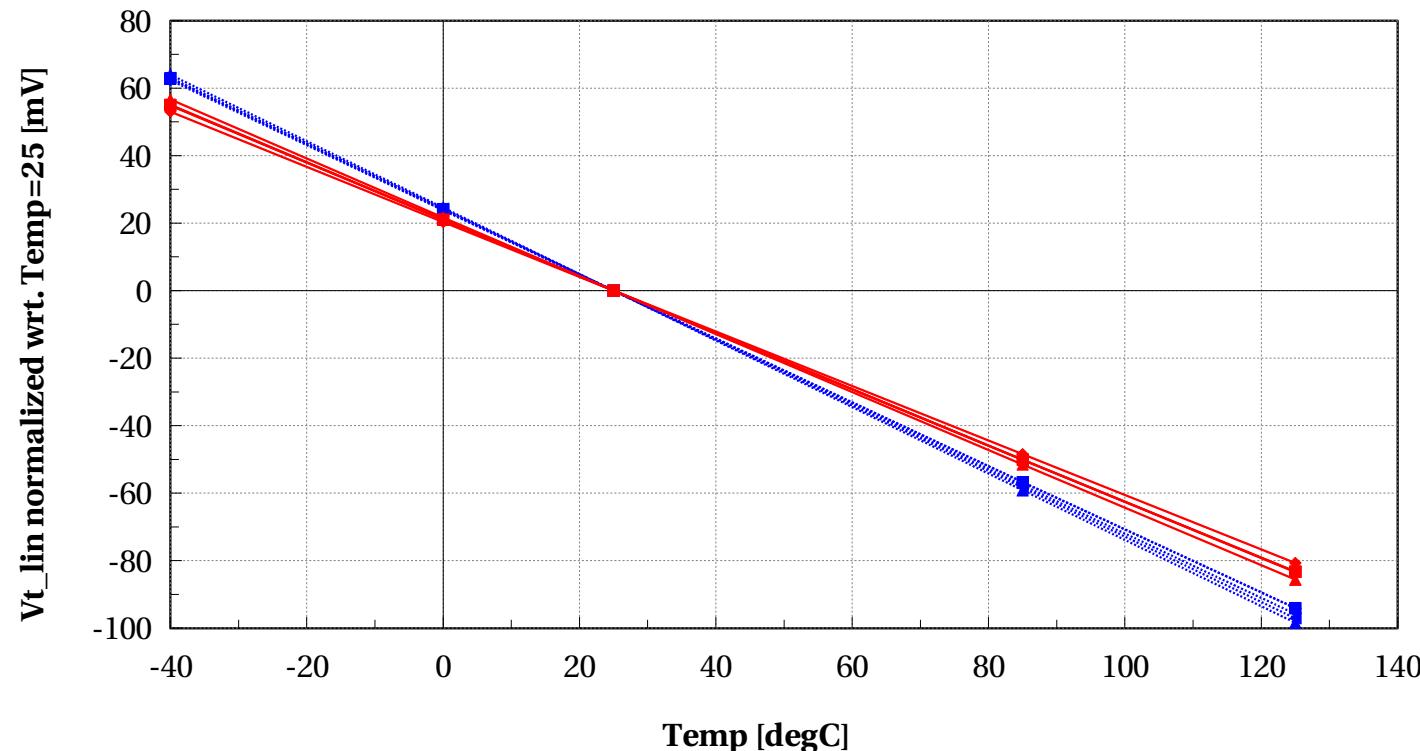
w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



Scaling versus Temp normalized (L=30nm,W=300nm)

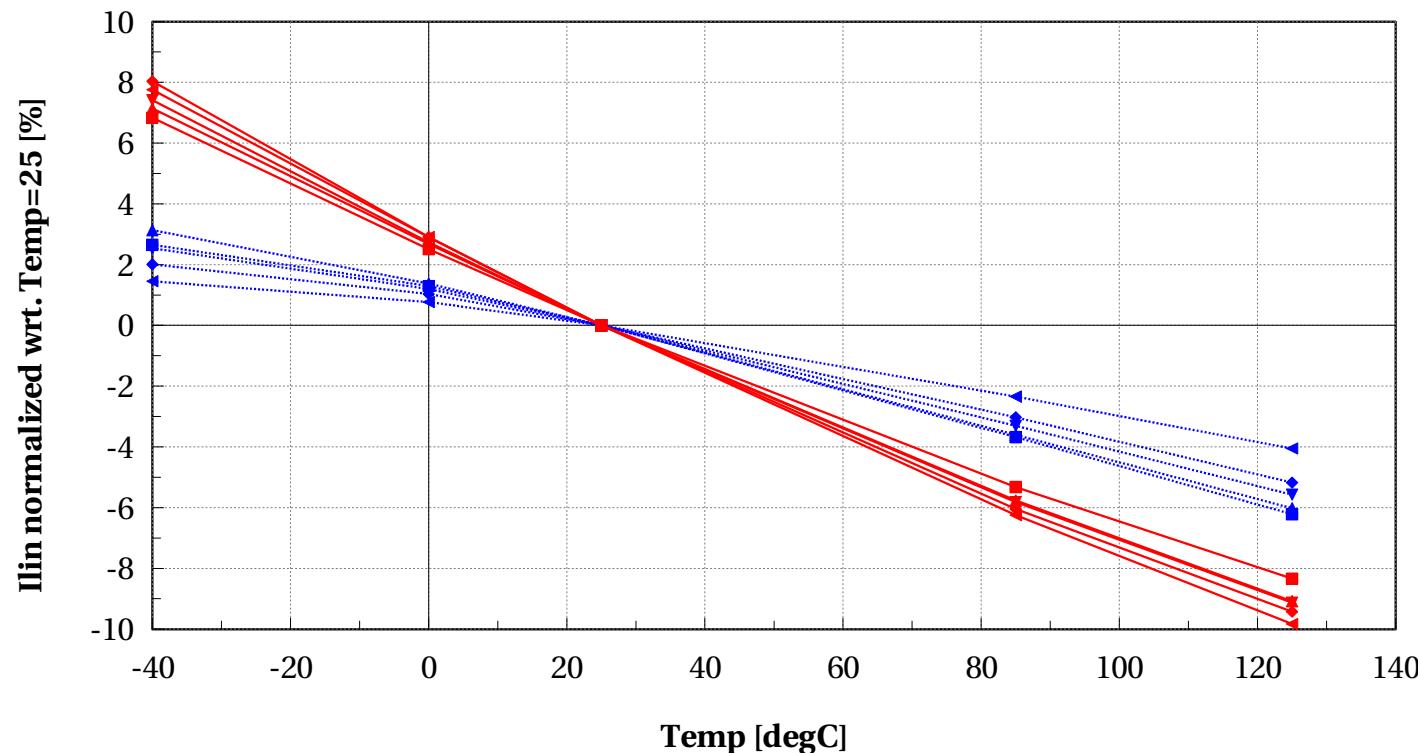
lvtpfet_acc, Vt_lin normalized wrt. Temp=25 [mV] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



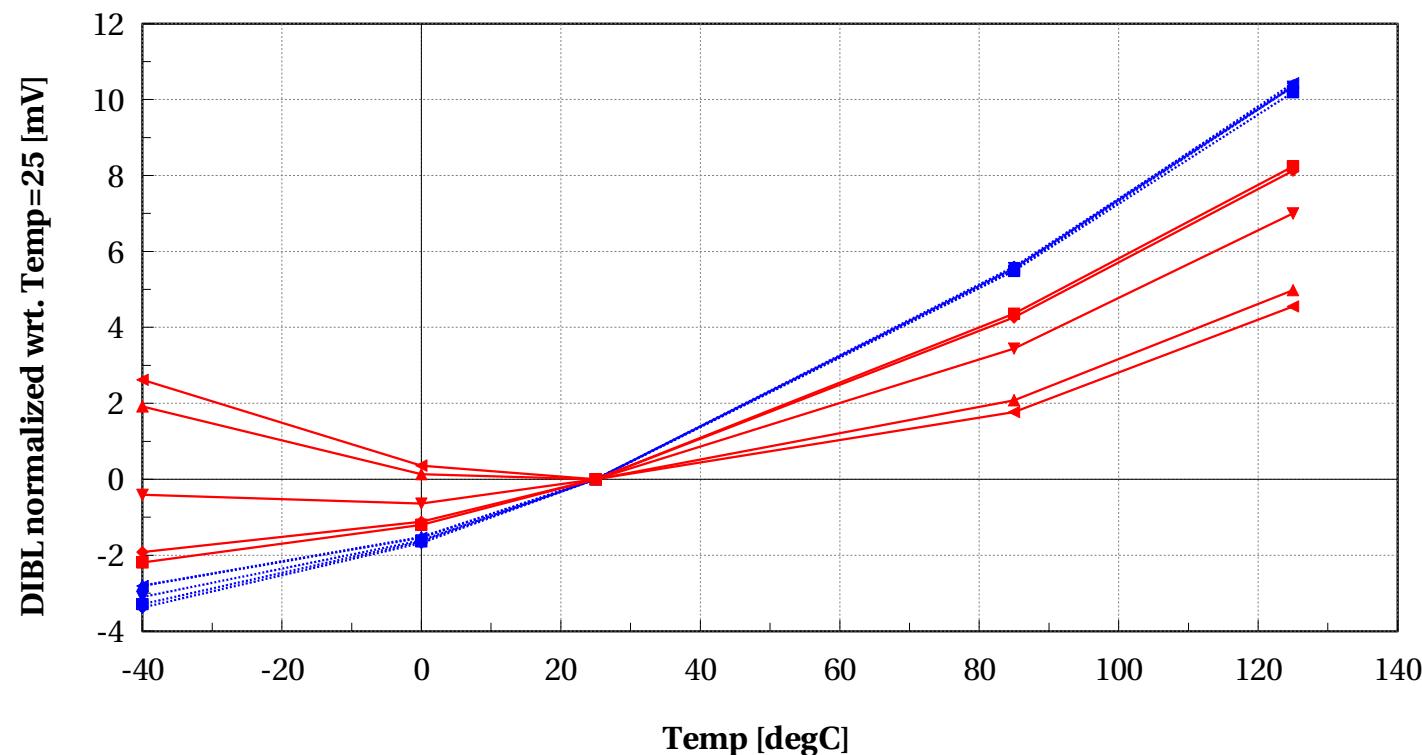
lvtpfet_acc, Ilin normalized wrt. Temp=25 [%] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



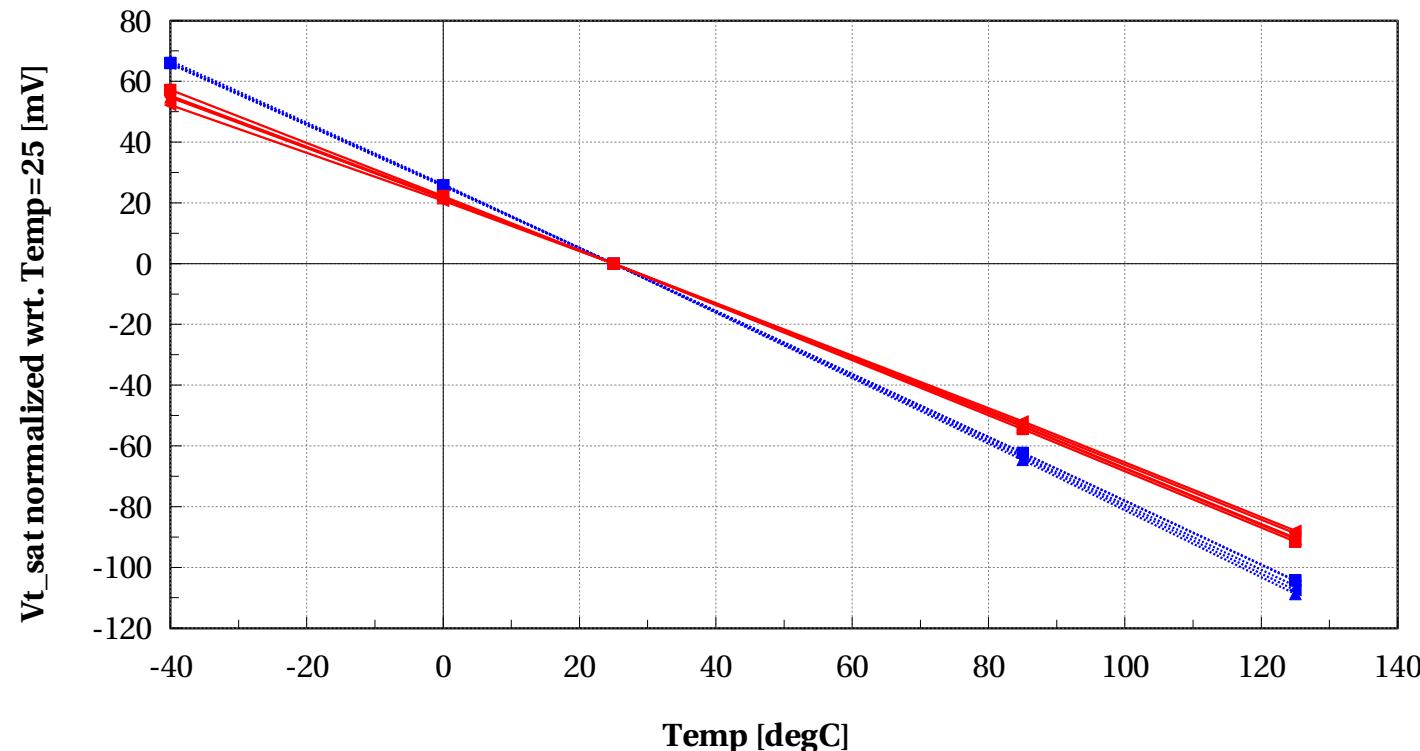
lvtpfet_acc, DIBL normalized wrt. Temp=25 [mV] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



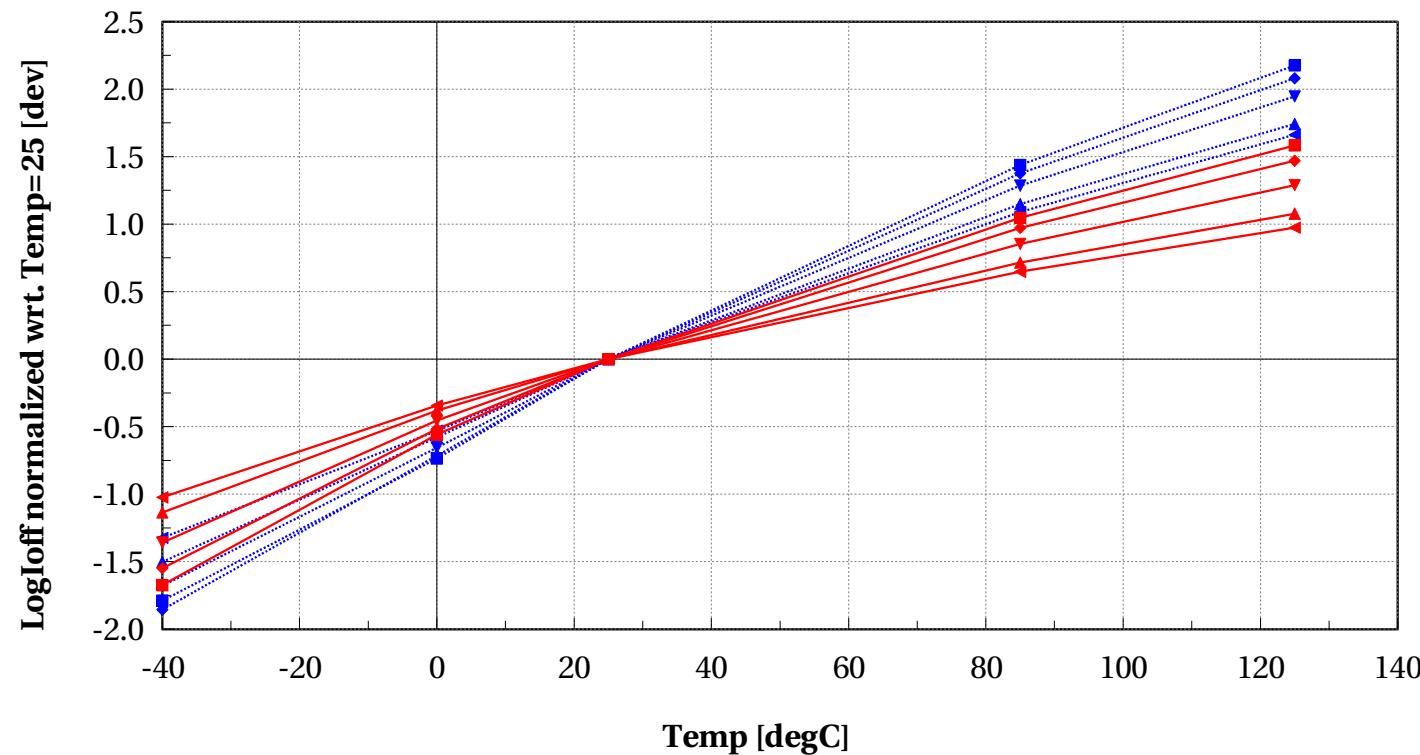
lvtpfet_acc, Vt_sat normalized wrt. Temp=25 [mV] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



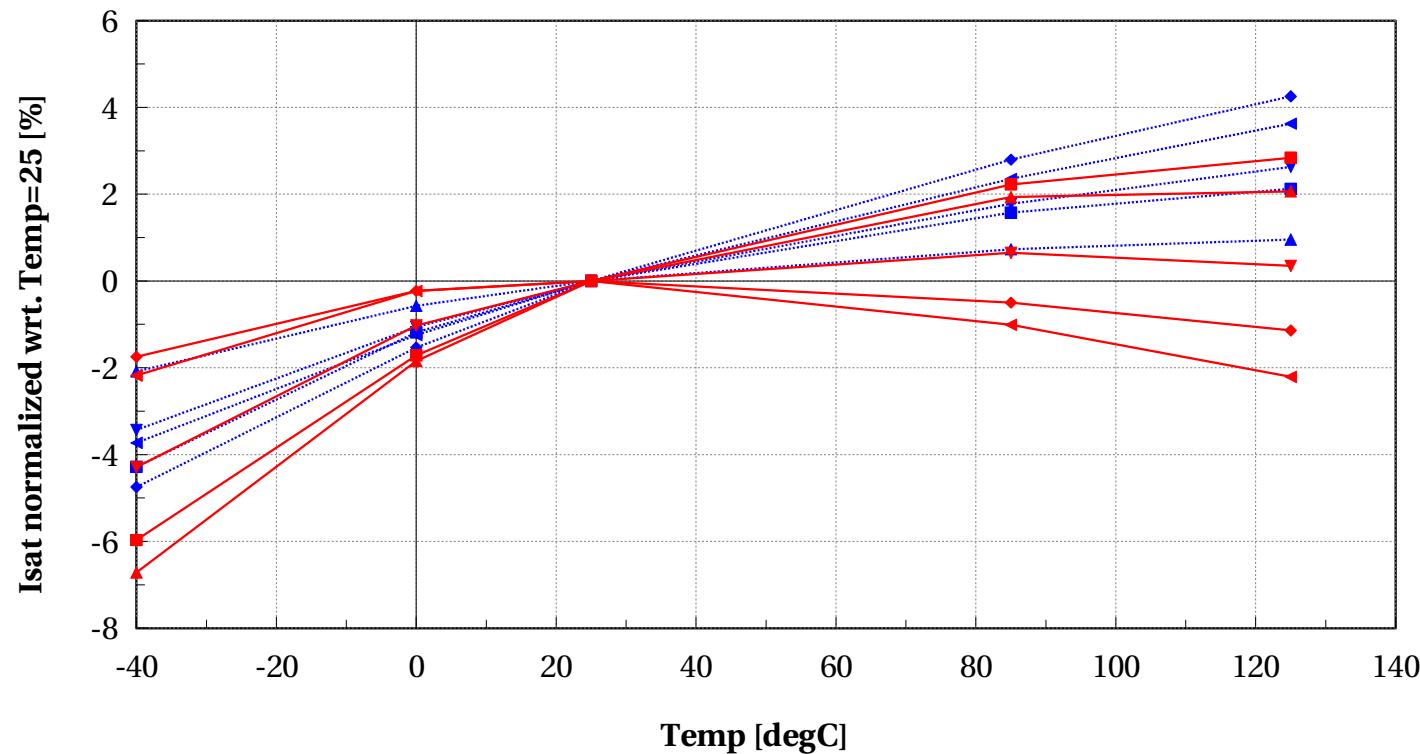
lvtpfet_acc, LogIoff normalized wrt. Temp=25 [dev] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



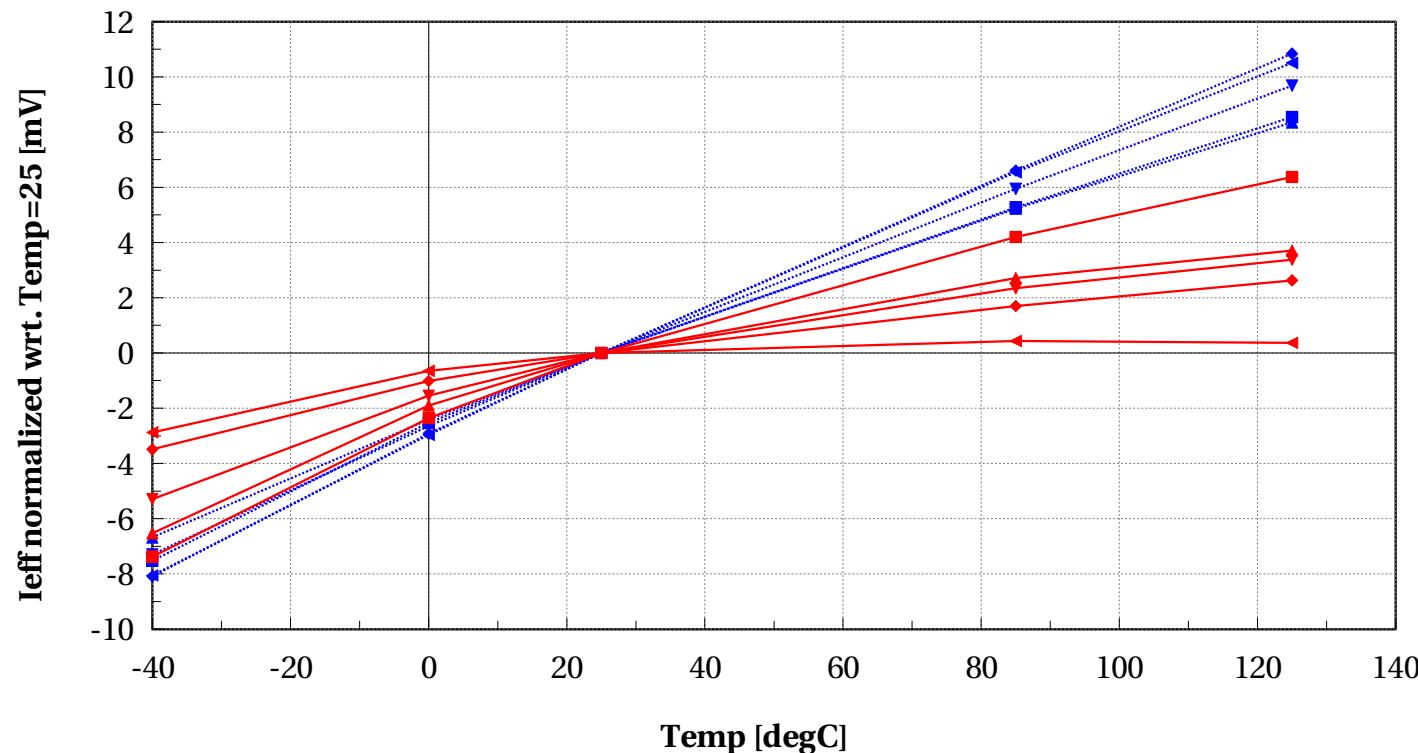
lvtpfet_acc, Isat normalized wrt. Temp=25 [%] vs Temp [degC]

w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



lvtpfet_acc, Ieff normalized wrt. Temp=25 [mV] vs Temp [degC]

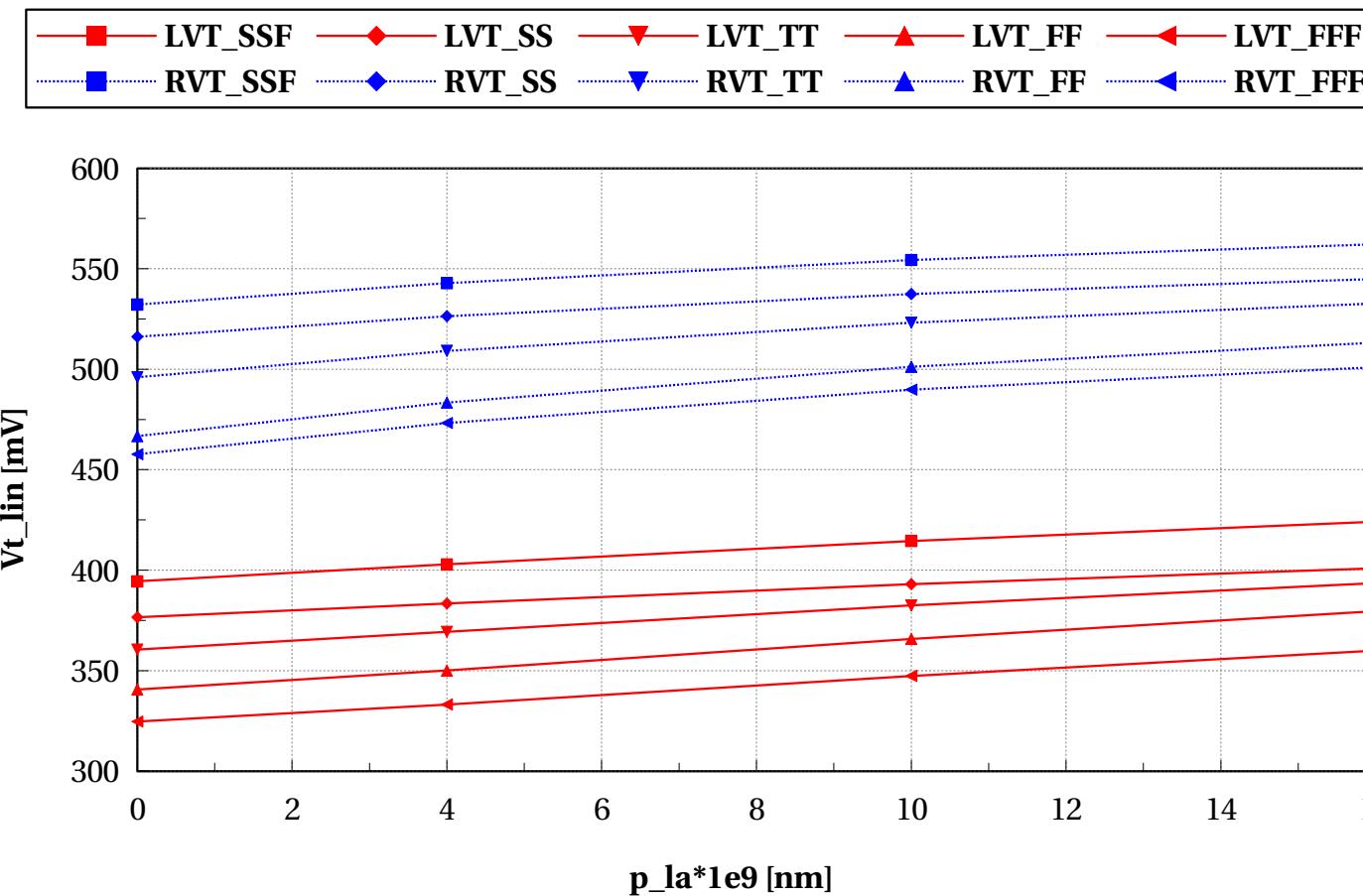
w==300e-9 and L==0.03e-6 and p_la==0 and devType=="PCELLwoWPE"



Poly bias effect (L=30nm, W=300nm)

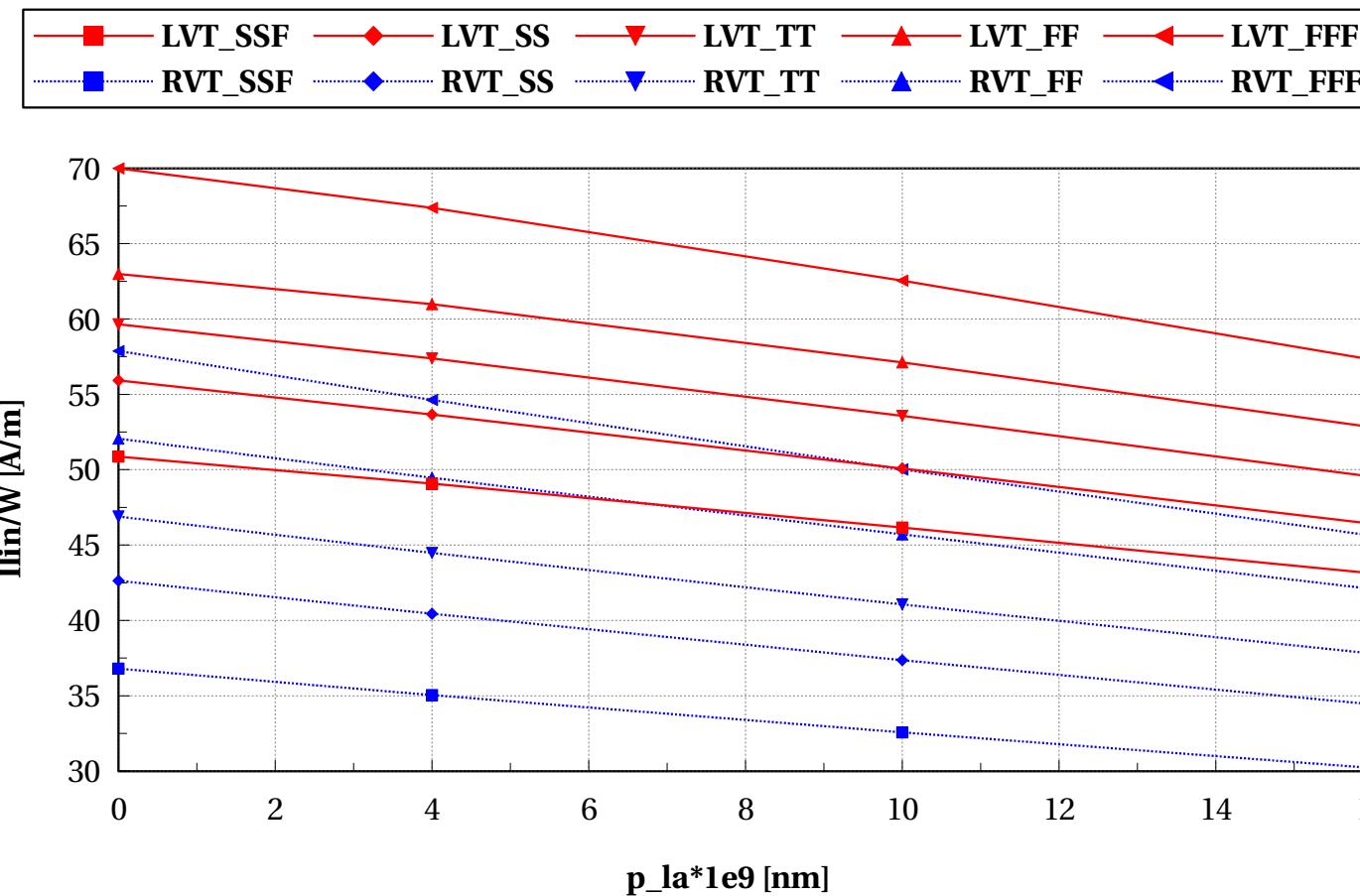
lvtpfet_acc, Vt_lin [mV] vs p_la*1e9 [nm]

$I=30e-9$ and $w=0.300e-6$ and $\text{Temp}=25$ and $\text{devType}=\text{"PCELLwoWPE"}$



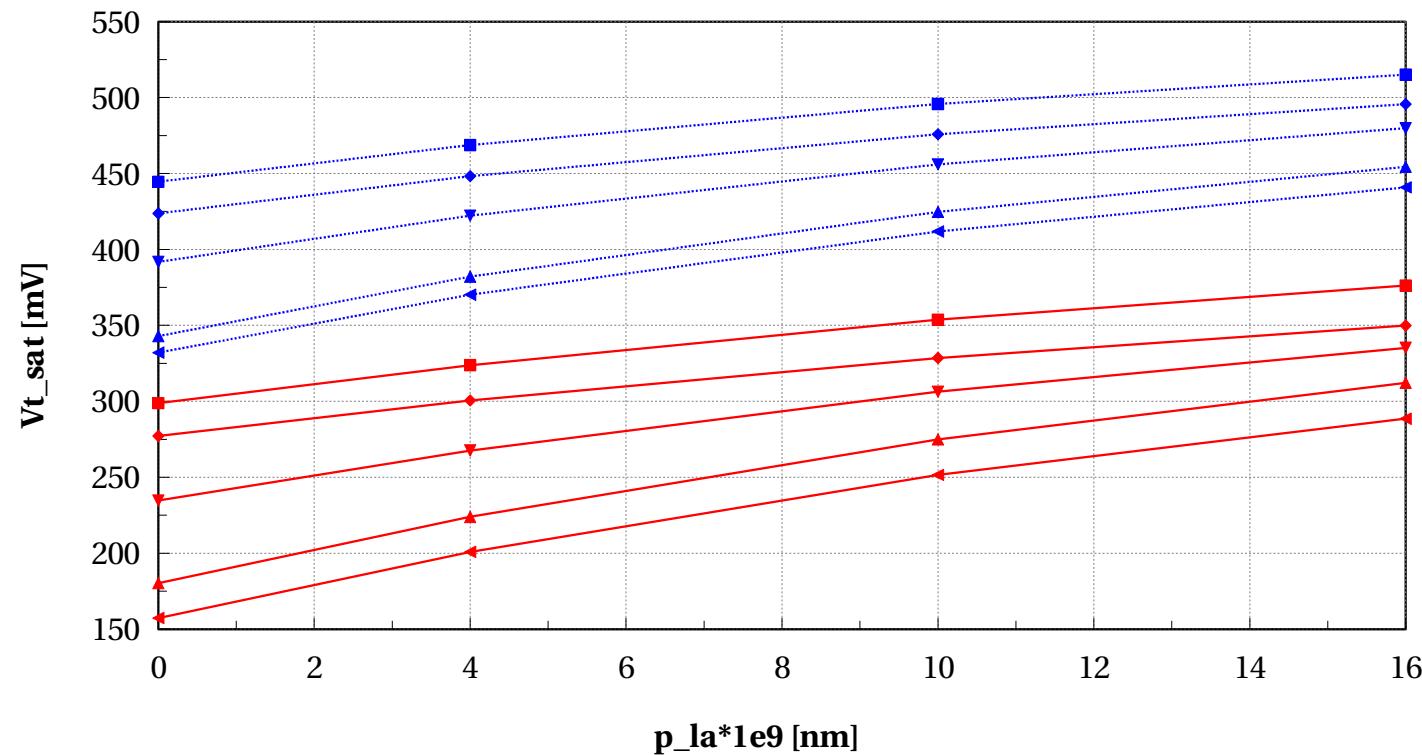
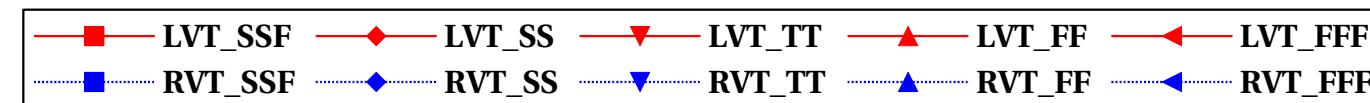
lvtpfet_acc, Ilin/W [A/m] vs p_la*1e9 [nm]

$I=30e-9$ and $w=0.300e-6$ and Temp=25 and devType=="PCELLwoWPE"



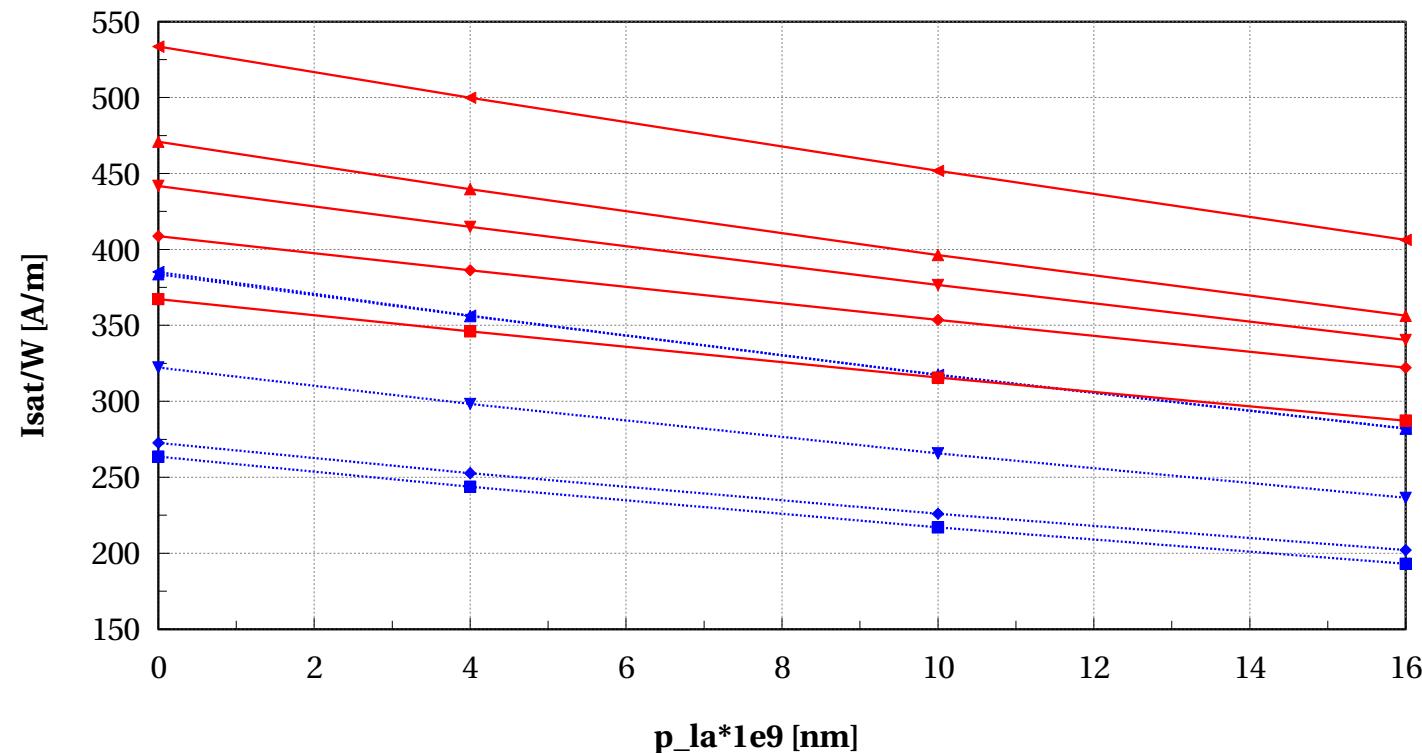
lvtpfet_acc, Vt_sat [mV] vs p_la*1e9 [nm]

$I=30e-9$ and $w=0.300e-6$ and Temp=25 and devType=="PCELLwoWPE"



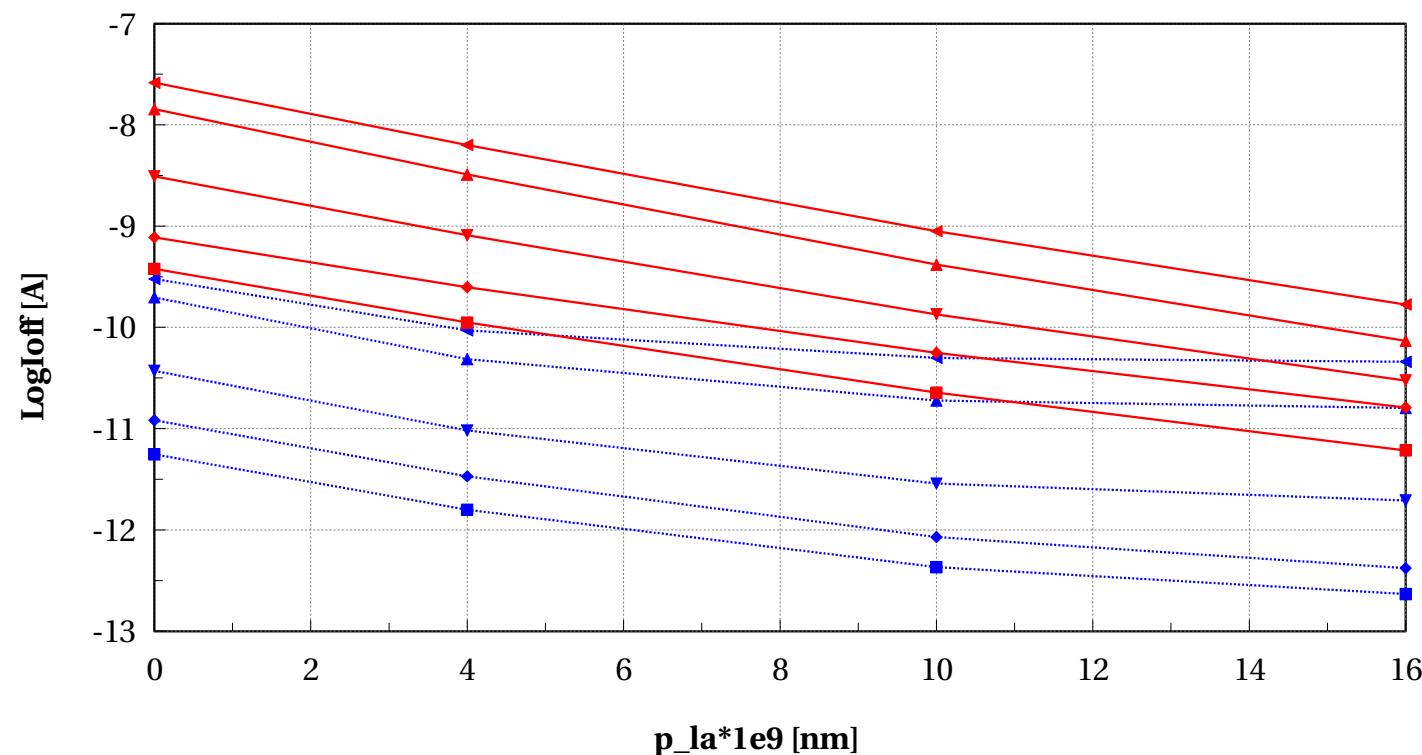
lvtpfet_acc, Isat/W [A/m] vs p_la*1e9 [nm]

$l==30e-9$ and $w==0.300e-6$ and Temp==25 and devType=="PCELLwoWPE"



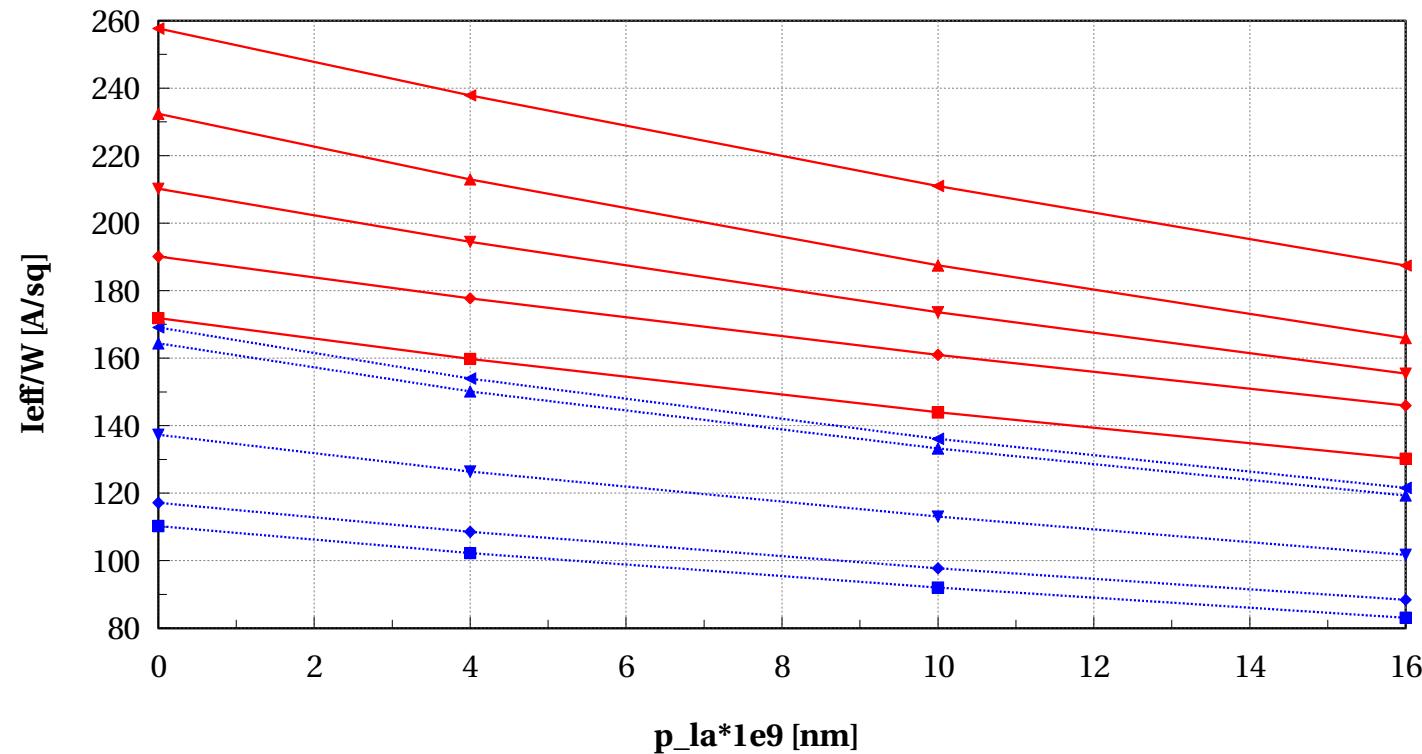
lvtpfet_acc, LogIoff [A] vs p_la*1e9 [nm]

$I = 30e-9$ and $w = 0.300e-6$ and Temp = 25 and devType == "PCELLwoWPE"



lvtpfet_acc, Ieff/W [A/sq] vs p_la*1e9 [nm]

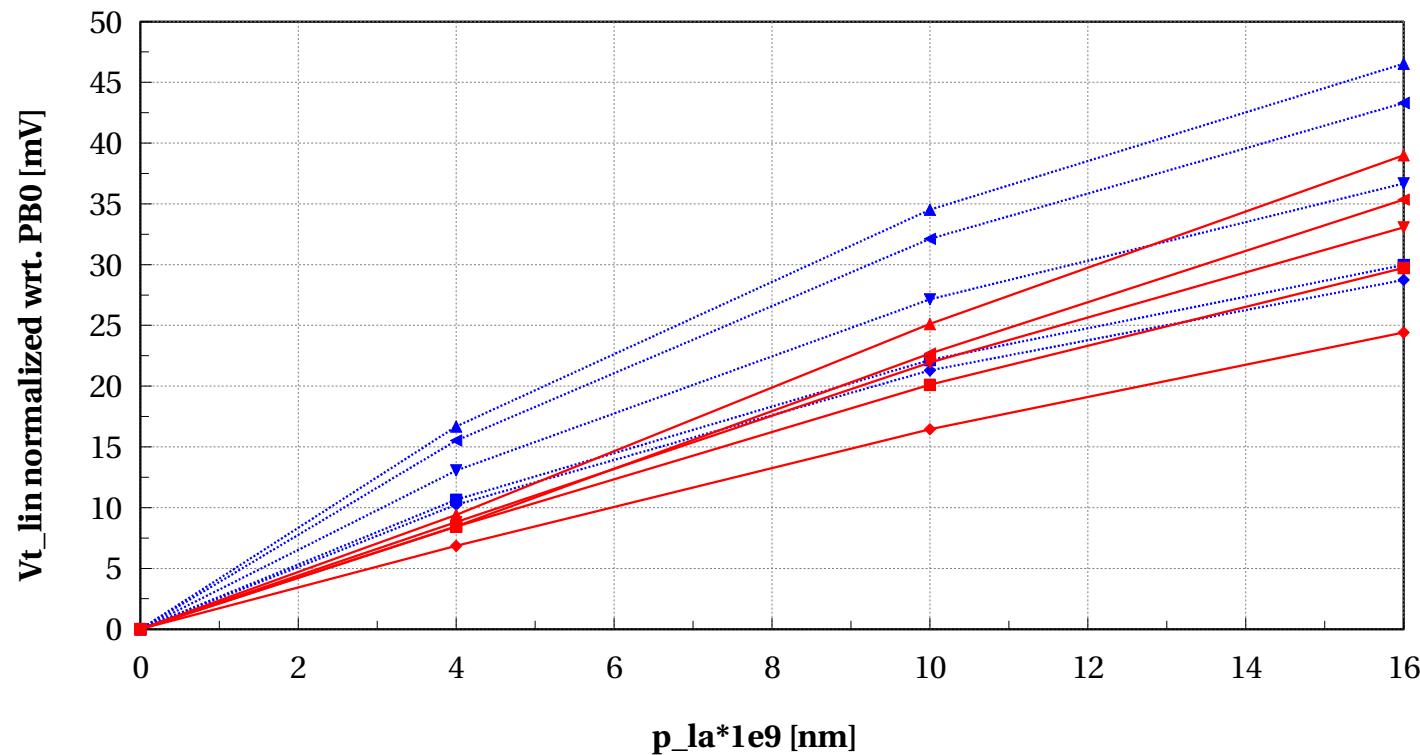
$I = 30e-9$ and $w = 0.300e-6$ and Temp = 25 and devType == "PCELLwoWPE"



Poly bias effect normalized (L=30nm,W=300nm)

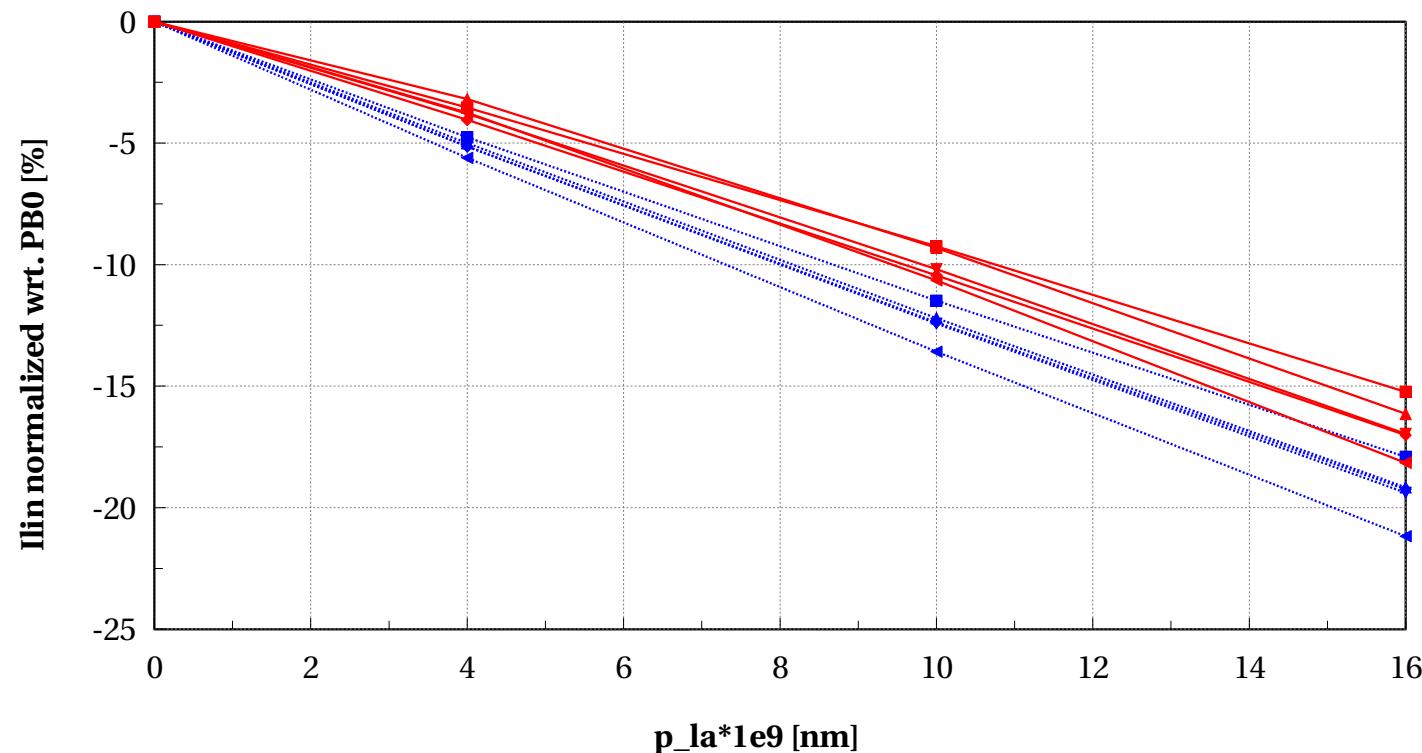
lvtpfet_acc, Vt_lin normalized wrt. PB0 [mV] vs p_la*1e9 [nm]

$I=30e-9$ and $w=0.300e-6$ and $\text{Temp}=25$ and $\text{devType}=\text{"PCELLwoWPE"}$



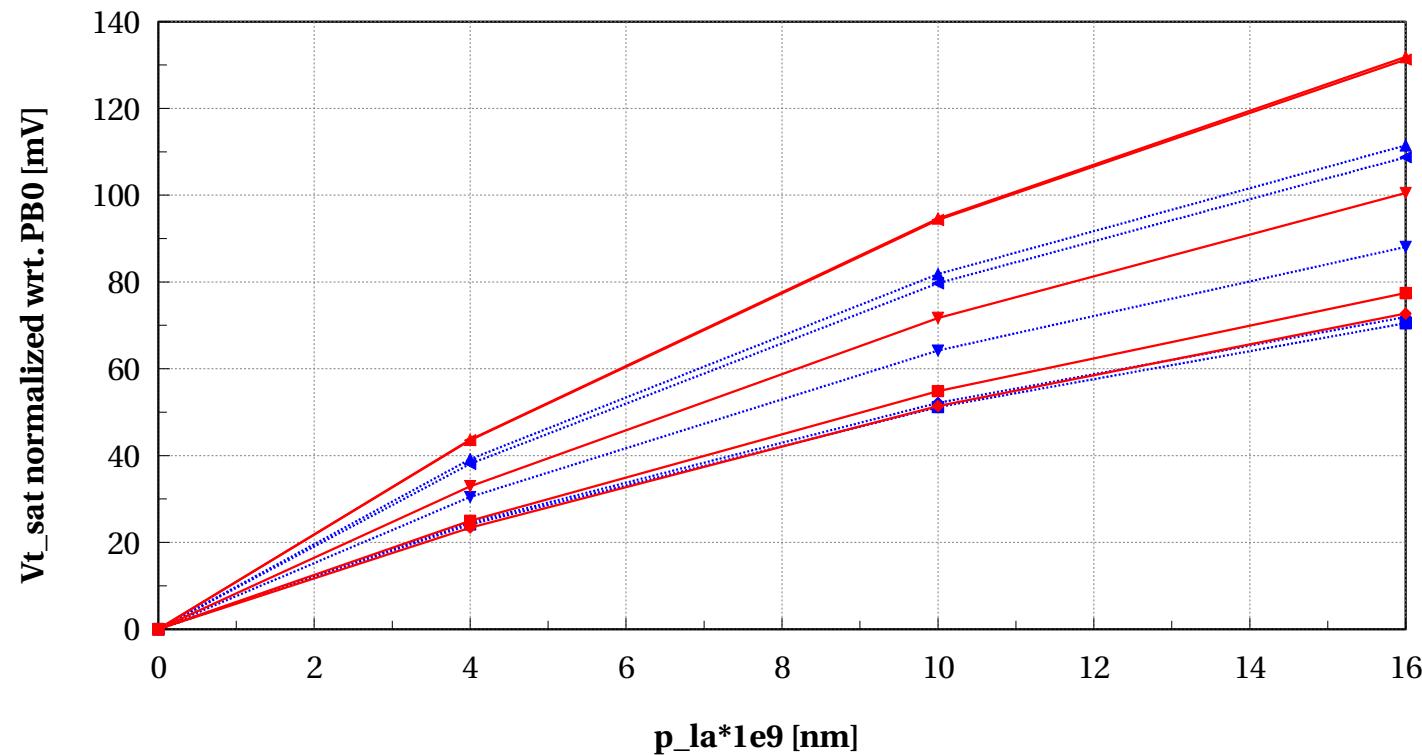
lvtpfet_acc, Ilin normalized wrt. PB0 [%] vs p_la*1e9 [nm]

$I_l=30e-9$ and $w=0.300e-6$ and $\text{Temp}=25$ and $\text{devType}=\text{"PCELLwoWPE"}$



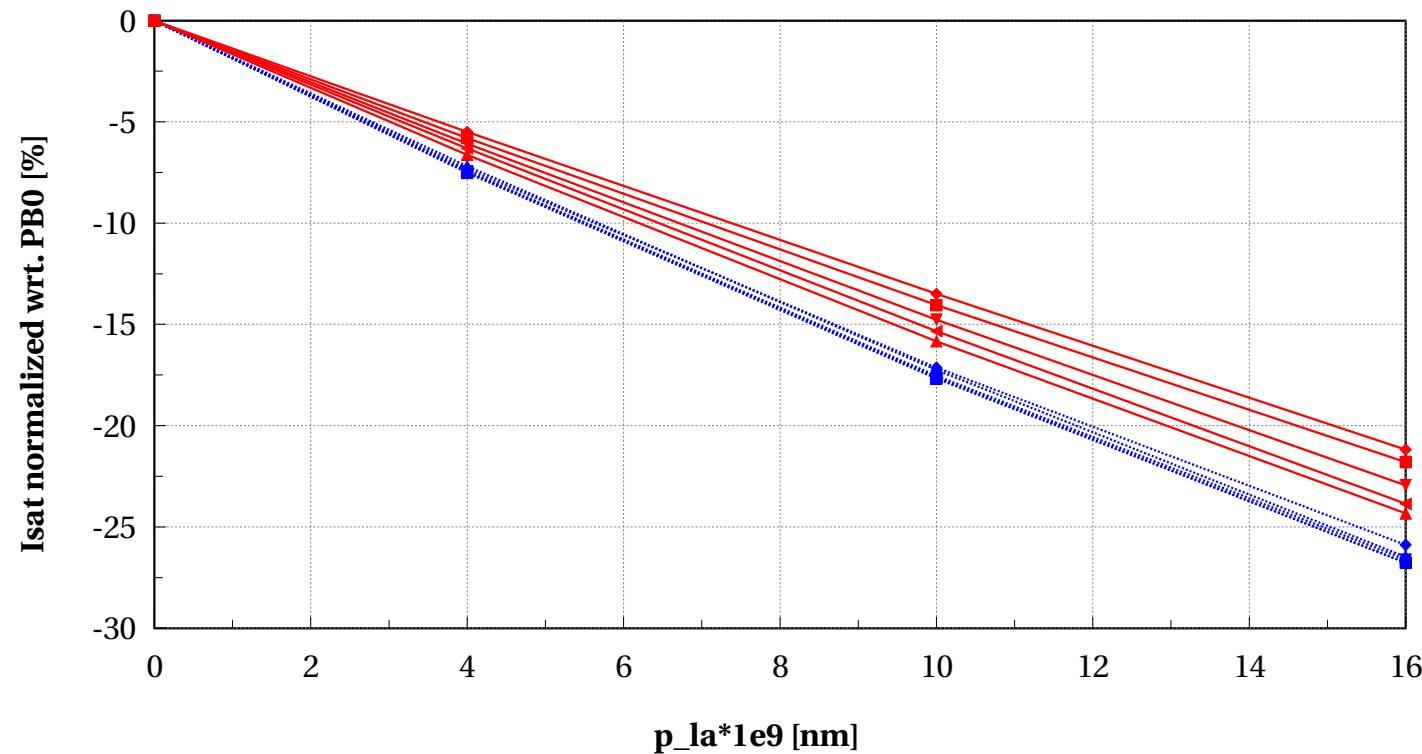
lvtpfet_acc, Vt_sat normalized wrt. PB0 [mV] vs p_la*1e9 [nm]

$I=30e-9$ and $w=0.300e-6$ and $\text{Temp}=25$ and $\text{devType}=\text{"PCELLwoWPE"}$



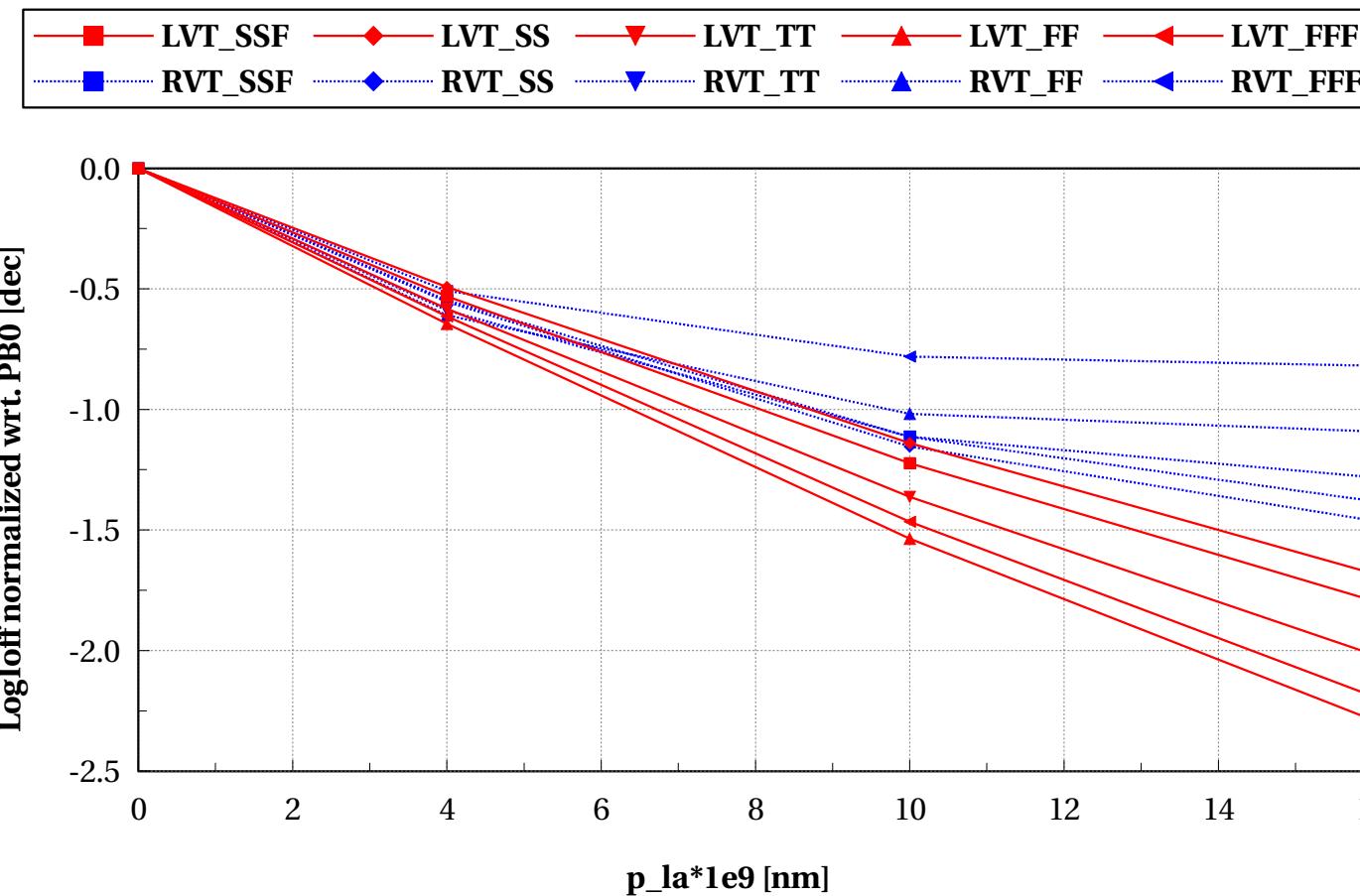
lvtpfet_acc, Isat normalized wrt. PB0 [%] vs p_la*1e9 [nm]

$I = 30e-9$ and $w = 0.300e-6$ and $\text{Temp} = 25$ and $\text{devType} = \text{"PCELLwoWPE"}$



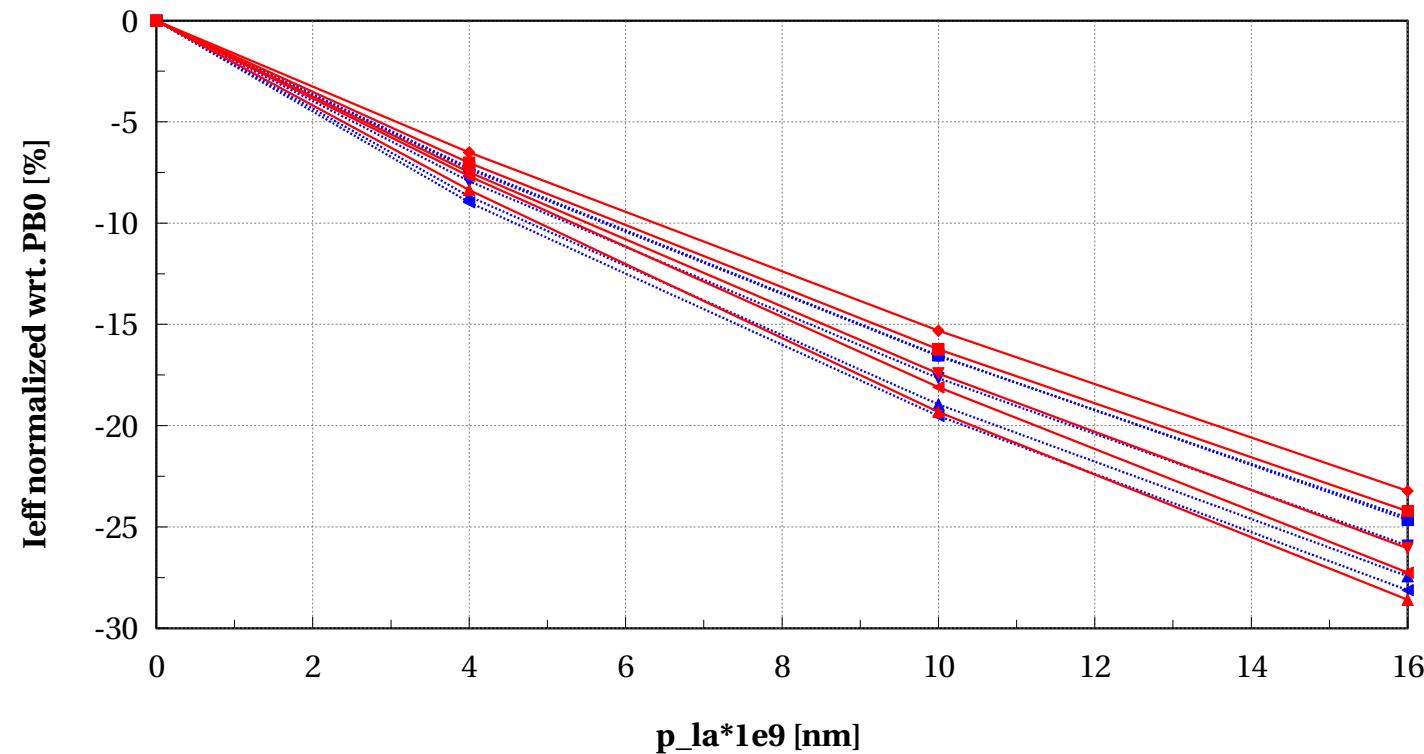
lvtpfet_acc, LogIoff normalized wrt. PB0 [dec] vs p_la*1e9 [nm]

$l==30e-9$ and $w==0.300e-6$ and $\text{Temp}==25$ and $\text{devType}=="\text{PCELLwoWPE}"$



lvtpfet_acc, Ieff normalized wrt. PB0 [%] vs p_la*1e9 [nm]

$I = 30e-9$ and $w = 0.300e-6$ and $\text{Temp} = 25$ and $\text{devType} = \text{"PCELLwoWPE"}$



Annex

Conditions of simulations

The simulations were done with SBenchLSF Alpha using Eldo simulator 2018.3.

- Model lvtnfet_acc (LVT)

- ✓ Input Parameters

- ✗ vds_off = vds_sat V
 - ✗ vds_cgd = 0 V
 - ✗ vds_cgg = 0 V
 - ✗ mc_sens = 0
 - ✗ vds_lin = 0.05 V
 - ✗ ivt = 300e-9 A
 - ✗ model_version = 1.3.e
 - ✗ ams_release = 2018.3
 - ✗ vgs_stop = vdd V
 - ✗ dlshrink_ivt = 0
 - ✗ sbenchlsf_release = Alpha
 - ✗ vds_sat = Vdd V
 - ✗ mc_nsigma = 3
 - ✗ shrink_ivt = 1

- ✗ dlshrink_tinv = 3e-9
- ✗ vgs_start = -0.5 V
- ✗ plashrink_ivt = 1
- ✗ ithslwi = 10e-9 A
- ✗ vds_cbd = 0 V
- ✗ vddmax = vdd
- ✗ voffset = 0.2 V
- ✗ mc_runs = 1000
- ✗ vstep_ivt = 0.005 V
- ✗ vgs_off = 0 V
- ✗ temp = 25 °C
- ✗ f_ext = 100k Hz
- ✗ vbs = 0 V
- ✗ vdd = 1 V
- ✗ shrink_tinv = 0.9
- ✗ vds_gmfd = Vdd/2 V
- ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
- ✓ Extra parameters
 - ✗ lvt_dev = 0
 - ✗ gflag_noisedev_lvt_cmos028fdsoi = 0
- Model lvtpfet_acc (LVT)
 - ✓ Input Parameters
 - ✗ vds_off = vds_sat V
 - ✗ vds_cgd = 0 V

~~x~~ vds_cgg = 0 V
~~x~~ mc_sens = 0
~~x~~ vds_lin = 0.05 V
~~x~~ ivt = 70e-9 A
~~x~~ model_version = 1.3.e
~~x~~ ams_release = 2018.3
~~x~~ vgs_stop = vdd V
~~x~~ dlshrink_ivt = 0
~~x~~ sbenchlsf_release = Alpha
~~x~~ vds_sat = Vdd V
~~x~~ mc_nsigma = 3
~~x~~ shrink_ivt = 1
~~x~~ dlshrink_tinv = 3e-9
~~x~~ vgs_start = -0.5 V
~~x~~ plashrink_ivt = 1
~~x~~ ithslwi = 10e-9 A
~~x~~ vds_cbd = 0 V
~~x~~ vddmax = vdd
~~x~~ voffset = 0.2 V
~~x~~ mc_runs = 1000
~~x~~ vstep_ivt = 0.005 V
~~x~~ vgs_off = 0 V
~~x~~ temp = 25 °C
~~x~~ f_ext = 100k Hz
~~x~~ vbs = 1 V

- vdd = 1 V
- shrink_tinv = 0.9
- vds_gmgd = Vdd/2 V
- Sweep Parameters
 - temp = -40.0, 0.0, 25.0, 85.0, 125.0
- Extra parameters
 - lvt_dev = 0
 - gflag_noisedev_lvt_cmos028fdsoi = 0

● Model nfet_acc (RVT)

- Input Parameters
 - vds_off = vds_sat V
 - vds_cgd = 0 V
 - vds_cgg = 0 V
 - mc_sens = 0
 - vds_lin = 0.05 V
 - ivt = 300e-9 A
 - model_version = 1.2.d
 - ams_release = 2018.3
 - vgs_stop = vdd V
 - dlshrink_ivt = 0
 - sbenchlsf_release = Alpha
 - vds_sat = Vdd V
 - mc_nsigma = 3
 - shrink_ivt = 1
 - dlshrink_tinv = -3e-9

- ✗ vgs_start = -0.5 V
- ✗ plashrink_ivt = 1
- ✗ ithslwi = 10e-9 A
- ✗ vds_cbd = 0 V
- ✗ vddmax = vdd
- ✗ voffset = 0.2 V
- ✗ mc_runs = 1000
- ✗ vstep_ivt = 0.005 V
- ✗ vgs_off = 0 V
- ✗ temp = 25 °C
- ✗ f_ext = 100k Hz
- ✗ vbs = 0 V
- ✗ vdd = 1 V
- ✗ shrink_tinv = 0.9
- ✗ vds_gmgd = Vdd/2 V
- ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
- ✓ Extra parameters
 - ✗ gflag_noisedev_rvt_cmos028fdsoi = 0
 - ✗ rvt_dev = 0
- Model pfet_acc (RVT)
 - ✓ Input Parameters
 - ✗ vds_off = vds_sat V
 - ✗ vds_cgd = 0 V
 - ✗ vds_cgg = 0 V

x mc_sens = 0
x vds_lin = 0.05 V
x ivt = 70e-9 A
x model_version = 1.2.d
x ams_release = 2018.3
x vgs_stop = vdd V
x dlshrink_ivt = 0
x sbenchlsf_release = Alpha
x vds_sat = Vdd V
x mc_nsigma = 3
x shrink_ivt = 1
x dlshrink_tinv = -3e-9
x vgs_start = -0.5 V
x plashrink_ivt = 1
x ithslwi = 10e-9 A
x vds_cbd = 0 V
x vddmax = vdd
x voffset = 0.2 V
x mc_runs = 1000
x vstep_ivt = 0.005 V
x vgs_off = 0 V
x temp = 25 °C
x f_ext = 100k Hz
x vbs = 0 V
x vdd = 1 V

- ✗ shrink_tinv = 0.9
- ✗ vds_gmgd = Vdd/2 V
- ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
- ✓ Extra parameters
 - ✗ gflag_noisedev_rvt_cmos028fdsoi = 0
 - ✗ rvt_dev = 0