



cmos028fdsoi Technology

EG DK1.2_RF_mmW models

LVT

Comparison with RVT model(s)

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General information on EG DK1.2_RF_mmW models

- Maximum supply voltage is 1.8 V.
- Validity domain is defined as follows:
 - ✓ Drawn gate length varies from 150nm to 10um.
 - ✓ Drawn transistor width varies from 0.16um to 10um.
 - ✓ Device temperature varies from -40 °C to 125 °C.

Output parameters definitions

- Model(s): eglvtnfet_acc, eglvtpfet_acc
 - ✓ V_{t_lin} : Threshold voltage defined as V_{gs} value for which drain current is $i_{vt} \cdot M \cdot 1 \cdot W / (1 \cdot L + 0 + 1 \cdot p_la)$ at $V_{ds} = 0.05V$.
 - ✓ I_{g_on} : Gate current at $V_{ds} = 0V$ and $V_{gs} = 1.8V$.
 - ✓ G_{m_c} : Drain transconductance at $V_{gs} = V_{t_lin} + 0.2$, $V_{ds} = V_{dd}/2V$, $f = 100kHz$.
 - ✓ G_{d_c} : Drain conductance at $V_{gs} = V_{t_lin} + 0.2$, $V_{ds} = V_{dd}/2V$, $f = 100kHz$.
 - ✓ I_{g_off} : Gate current at $V_{ds} = V_{dd}V$, $V_{gs} = 0V$.
 - ✓ $Logioff$: $\log_{10}(I_{offsat})$.
 - ✓ $Gain_c$: Voltage gain defined as G_{m_c} / G_{d_c} .
 - ✓ I_{eff} : Average drain current $(I_{low} + I_{high}) / 2$.
 - ✓ I_{lin} : Drain current at $V_{gs} = 1.8V$, $V_{ds} = 0.05V$.
 - ✓ D_{ibl} : $V_{t_lin} - V_{t_sat}$.
 - ✓ I_{off_s} : Source current at $V_{gs} = 0V$, $V_{ds} = v_{ds_sat}V$.
 - ✓ I_{offsat} : Drain current at $V_{gs} = 0V$, $V_{ds} = v_{ds_sat}V$.
 - ✓ I_{off_g} : Gate current at $V_{gs} = 0V$, $V_{ds} = v_{ds_sat}V$.
 - ✓ V_{t_sat} : Threshold voltage defined as V_{gs} value for which drain current is $i_{vt} \cdot M \cdot 1 \cdot W / (1 \cdot L + 0 + 1 \cdot p_la)$ at $V_{ds} = v_{ds_sat}V$.
 - ✓ C_{gg_inv} : Total gate capacitance at $V_{gs} = 1.8V$, $V_{ds} = 0V$, $f = 100kHz$.
 - ✓ I_{sat} : Drain current at $V_{gs} = 1.8V$, $V_{ds} = V_{dd}V$.
 - ✓ C_{gd_0v} : Gate-to-Drain capacitance at $V_{gs} = 0V$, $V_{ds} = 0V$, $f = 100kHz$.
 - ✓ V_{tgmmax} : Threshold voltage at $V_{ds} = 0.05$ derived from G_m max method.

eglvtnfet_acc

Electrical characteristics per geometry

**eglvtnfet_acc wrt egnfet_acc @ w=2e-06, l=1.5e-07, swshe=0, pre_layout_local=1,
sa=1.86e-6, sb=1.86e-6, devtype=PT, as=3.72e-12, ad=3.72e-12, ps=7.72e-06,
pd=7.72e-06, vbs=0, vdd=1.8, temp=25.0**

LVT wrt RVT

| | SSF | SS | TT | FF | FFF |
|---------------------|----------------|----------------|----------------|----------------|----------------|
| Vt_lin [mV] | 425.9 -172.7mV | 421.6 -158.7mV | 376.2 -143.4mV | 334.1 -125.4mV | 327.2 -115.6mV |
| Vt_sat [mV] | 403.8 -172.9mV | 400.1 -159.6mV | 355 -143.9mV | 312.9 -125.8mV | 306.6 -116.3mV |
| Isat [mA] | 1.24 17.9% | 1.27 16.3% | 1.36 14.4% | 1.43 11.7% | 1.48 11.4% |
| Ilin [μA] | 159.2 14.4% | 168.2 7.2% | 182.1 9.1% | 194.9 10.9% | 204.5 7.1% |
| Gm_c [μS] | 603.4 0.5% | 634.1 -2.3% | 679.7 -0.3% | 722.2 1.0% | 760 0.2% |
| Gd_c [μS] | 4.41 -7.8% | 4.63 -9.6% | 5.29 -9.0% | 5.98 -7.8% | 6.22 -7.9% |
| Gain_c [] | 136.8 9.0% | 137 8.1% | 128.5 9.5% | 120.8 9.5% | 122.2 8.8% |
| VtGmmax [mV] | 404 -167.8mV | 401.9 -157.1mV | 359.1 -141.0mV | 318.9 -122.4mV | 314.4 -113.8mV |
| Cgd_0v [aF] | 438 -0.4% | 460.4 -0.8% | 458.2 -1.4% | 449.9 -1.6% | 478.2 -2.1% |
| Cgg_inv [fF] | 3.23 0.5% | 3.33 0.4% | 3.34 0.5% | 3.35 0.5% | 3.46 -0.3% |
| Ieff [μA] | 754.6 28.9% | 777.1 25.4% | 854.2 22.4% | 925.5 18.5% | 960.5 17.1% |
| Ig_on [fA] | 0.37 -20.4% | 3.12 155.4% | 3.23 -25.9% | 3.65 -86.2% | 34.54 -31.1% |
| Ioffsat [pA] | 14.16 2357.1% | 15.6 1485.7% | 56.25 1139.5% | 200.9 606.2% | 229.7 362.3% |
| Ioff_g [aA] | -7.4 4121.1% | -19.11 4118.5% | -62.89 4116.5% | -221.2 4114.4% | -545.8 4115.1% |
| Ioff_s [pA] | -14.16 2357.1% | -15.6 1485.7% | -56.25 1139.5% | -200.9 606.2% | -229.7 362.3% |

**eglvtnfet_acc wrt egnfet_acc @ w=2e-06, l=2.0e-06, swshe=0, pre_layout_local=1,
sa=2.26e-6, sb=2.26e-6, devtype=PT, as=4.52e-12, ad=4.52e-12, ps=8.52e-06,
pd=8.52e-06, vbs=0, vdd=1.8, temp=25.0**

LVT wrt RVT

| | SSF | SS | TT | FF | FFF |
|---------------------|-------------------|----------------|----------------|----------------|----------------|
| Vt_lin [mV] | 431.3 -172.3mV | 433.7 -158.4mV | 392.7 -139.6mV | 354.7 -118.3mV | 352.6 -108.0mV |
| Vt_sat [mV] | 420.3 -172.9mV | 422.8 -159.2mV | 382.4 -139.9mV | 344.9 -118.3mV | 342.8 -108.2mV |
| Isat [μA] | 237.2 23.4% | 234.5 16.7% | 264.2 17.2% | 292.6 16.4% | 293.5 12.2% |
| Ilin [μA] | 19.16 9.6% | 18.75 3.4% | 20.46 5.8% | 21.98 7.5% | 21.73 3.2% |
| Gm_c [μS] | 54.8 -5.3% | 54.69 -8.5% | 58.68 -4.9% | 62.42 -2.0% | 62.48 -4.6% |
| Gd_c [nS] | 45.05 45.8% | 45.35 42.6% | 51.69 49.2% | 58.17 56.6% | 58.3 53.4% |
| Gain_c [] | 1217 -35.1% | 1206 -35.9% | 1135 -36.3% | 1073 -37.4% | 1072 -37.8% |
| VtGmmax [mV] | 438 -169.8mV | 438.7 -158.9mV | 400.1 -139.3mV | 364.1 -117.3mV | 361.4 -108.6mV |
| Cgd_0v [aF] | 438.1 -0.3% | 460.4 -0.8% | 458.3 -1.3% | 450.3 -1.4% | 478.7 -1.9% |
| Cgg_inv [fF] | 30.82 1.2% | 31.6 1.2% | 32.15 1.2% | 32.8 1.1% | 33.6 1.1% |
| Ieff [μA] | 127.3 26.5% | 125.5 19.0% | 142.3 18.9% | 158.7 17.7% | 158.7 12.7% |
| Ig_on [fA] | 4.24 -8.0% | 33.28 181.7% | 32.85 -22.4% | 35.04 -86.5% | 315.9 -34.2% |
| Ioffsat [pA] | 0.75 343.9% | 0.92 219.4% | 1.98 57.1% | 5.11 -33.4% | 5.22 -61.9% |
| Ioff_g [fA] | -8.95e-02 4121.1% | -0.23 4118.6% | -0.76 4116.4% | -2.68 4114.4% | -6.6 4115.2% |
| Ioff_s [pA] | -0.75 343.8% | -0.92 219.3% | -1.98 57.1% | -5.11 -33.5% | -5.21 -61.9% |

eglvtpfet_acc

Electrical characteristics per geometry

**eglvtpfet_acc wrt egpfet_acc @ w=2e-06, l=2.0e-06, swshe=0, pre_layout_local=1,
sa=2.26e-6, sb=2.26e-6, devtype=PT, as=4.52e-12, ad=4.52e-12, ps=8.52e-06,
pd=8.52e-06, vdd=1.8, temp=25.0
sd=1.4e-07 wrt vbs=0**

LVT wrt RVT

| | SSF | SS | TT | FF | FFF |
|---------------------|-----------------|-----------------|----------------|----------------|----------------|
| Vt_lin [mV] | 325 -279.8mV | 294.8 -291.7mV | 287.9 -196.7mV | 281.9 -107.1mV | 249.8 -118.0mV |
| Vt_sat [mV] | 315.3 -268.9mV | 285 -281.4mV | 278.3 -186.8mV | 272.5 -97.3mV | 240.3 -108.5mV |
| Isat [μA] | 87.69 108.6% | 89.92 103.5% | 94.98 83.9% | 99.56 69.5% | 102.4 67.1% |
| Ilin [μA] | 6.23 53.9% | 6.18 48.7% | 6.47 46.4% | 6.72 44.4% | 6.69 40.2% |
| Gm_c [μS] | 15.89 72.3% | 15.74 66.8% | 16.42 72.5% | 17.04 80.0% | 16.86 76.1% |
| Gd_c [nS] | 18.29 167.2% | 18.56 171.6% | 21.07 208.1% | 23.68 257.4% | 23.88 268.2% |
| Gain_c [] | 868.9 -35.5% | 848.1 -38.6% | 779.4 -44.0% | 719.3 -49.6% | 705.8 -52.2% |
| VtGmmax [mV] | 375.2 -315.0mV | 346.4 -324.4mV | 342.4 -225.5mV | 339.1 -135.5mV | 309.1 -145.8mV |
| Cgd_0v [aF] | 363.9 -32.9% | 381.7 -33.3% | 381.5 -32.6% | 377.4 -31.9% | 403 -32.1% |
| Cgg_inv [fF] | 29.33 -0.8% | 30.06 -0.9% | 30.54 -1.6% | 31.1 -2.1% | 31.85 -2.1% |
| Ieff [μA] | 46.88 117.9% | 48.2 112.9% | 50.92 91.0% | 53.38 75.0% | 55.02 72.7% |
| Ig_on [fA] | 1.06e-02 -27.0% | 4.29e-02 -29.4% | 0.11 -51.6% | 0.32 -67.0% | 1.12 -68.2% |
| Ioffsat [pA] | 3.87 114.9% | 7.68 92.8% | 10.12 -30.0% | 14.11 -74.5% | 28.46 -76.8% |
| Ioff_g [fA] | -1.42 -1.6% | -4.3 -1.6% | -11.13 -1.6% | -32.14 -1.7% | -87.09 -1.7% |
| Ioff_s [pA] | -3.87 115.0% | -7.67 92.9% | -10.1 -30.1% | -14.08 -74.6% | -28.37 -76.8% |

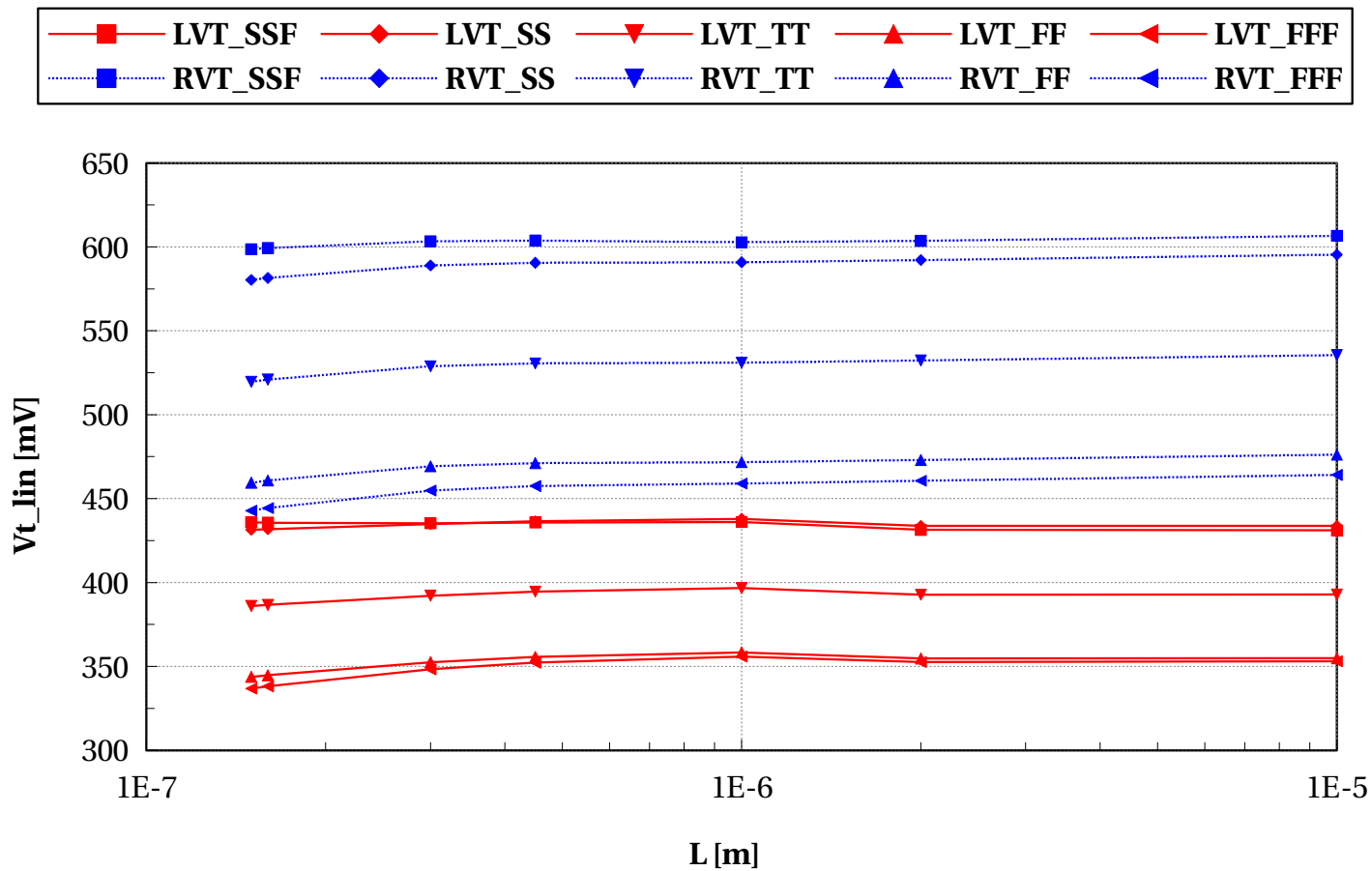
eglvtnfet_acc

Electrical characteristics scaling

Scaling versus Length ($W=2e-6$, Temp=25)

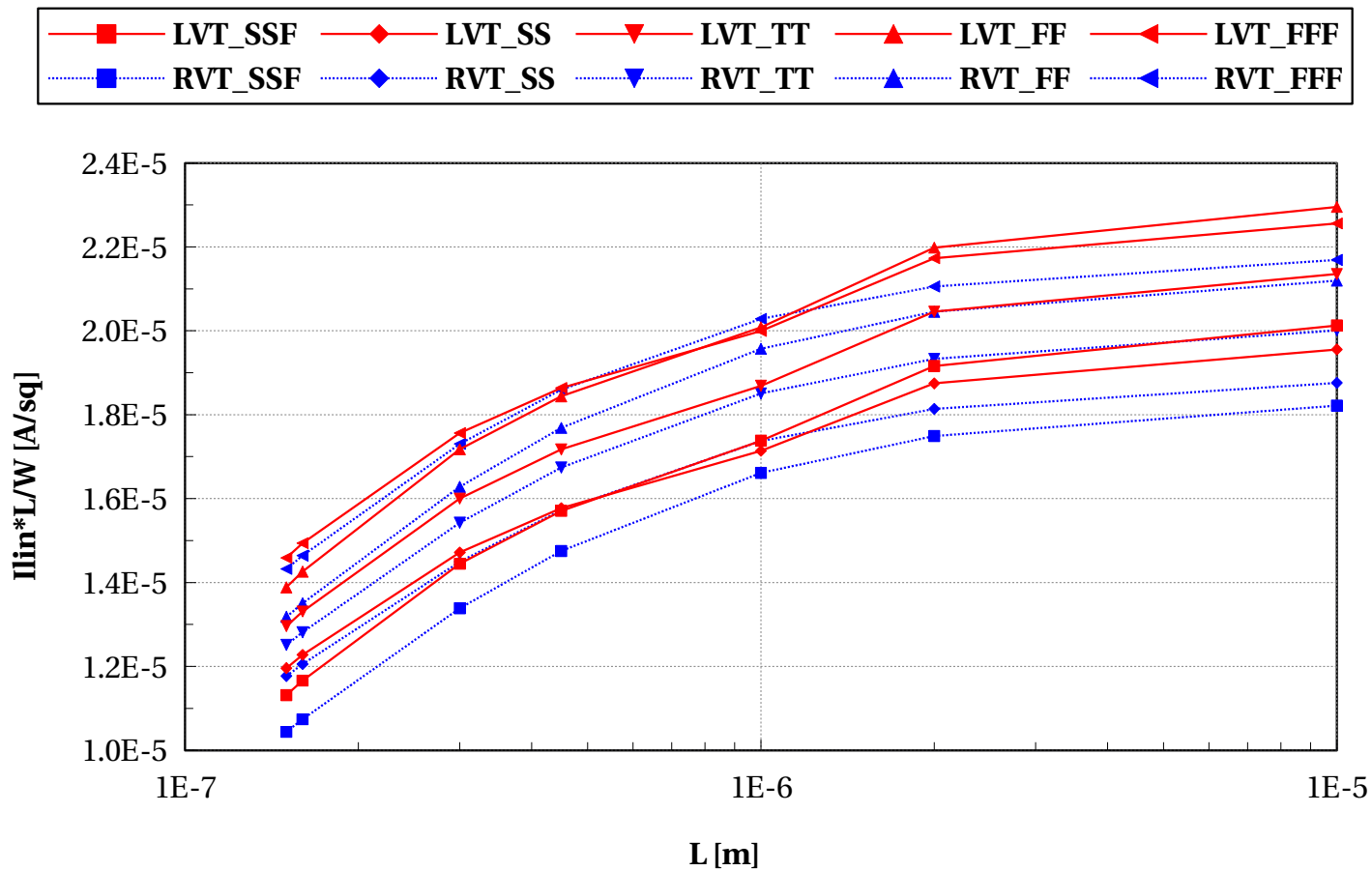
eglvtnfet_acc, Vt_lin [mV] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



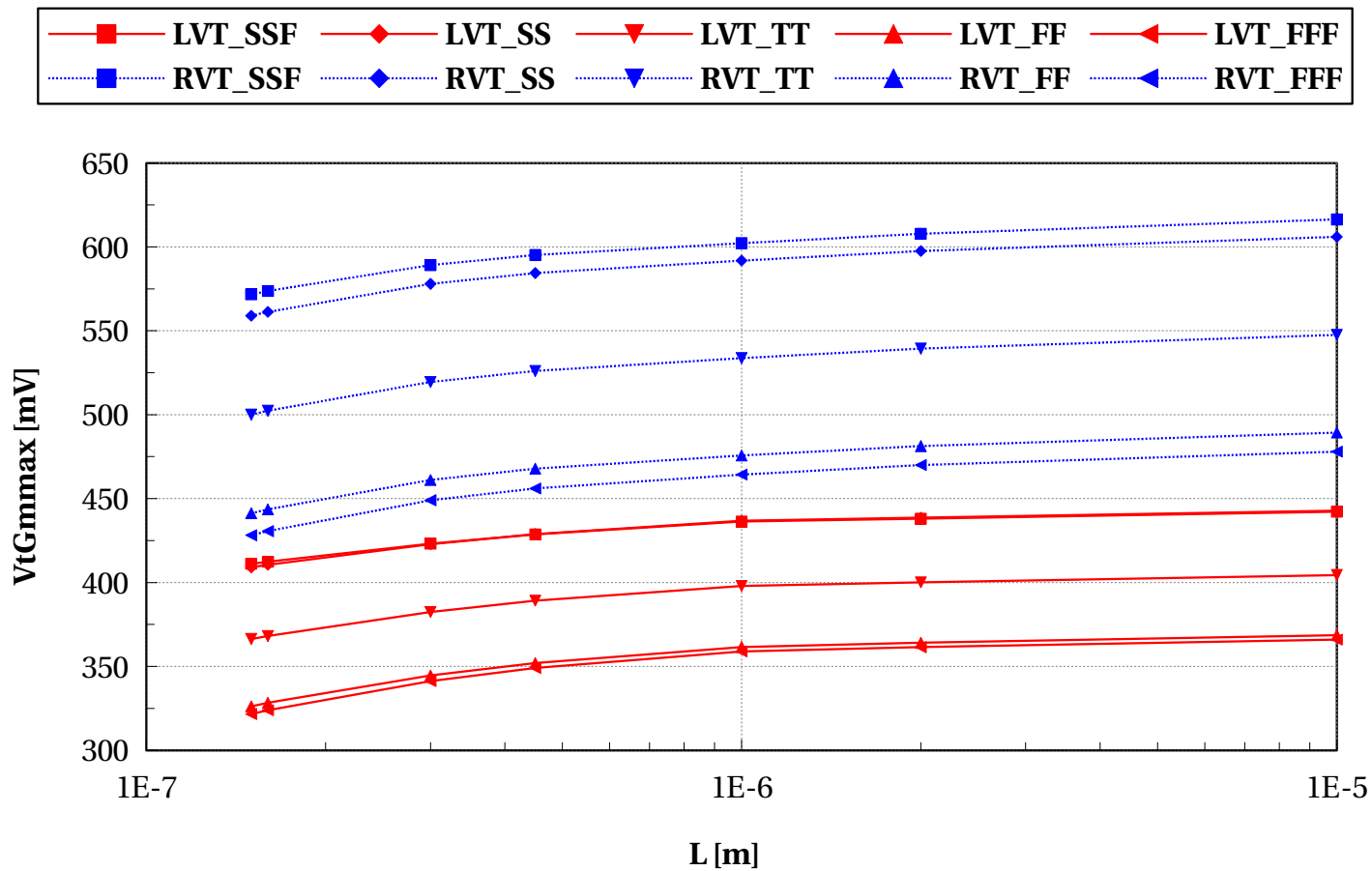
eglvtnfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



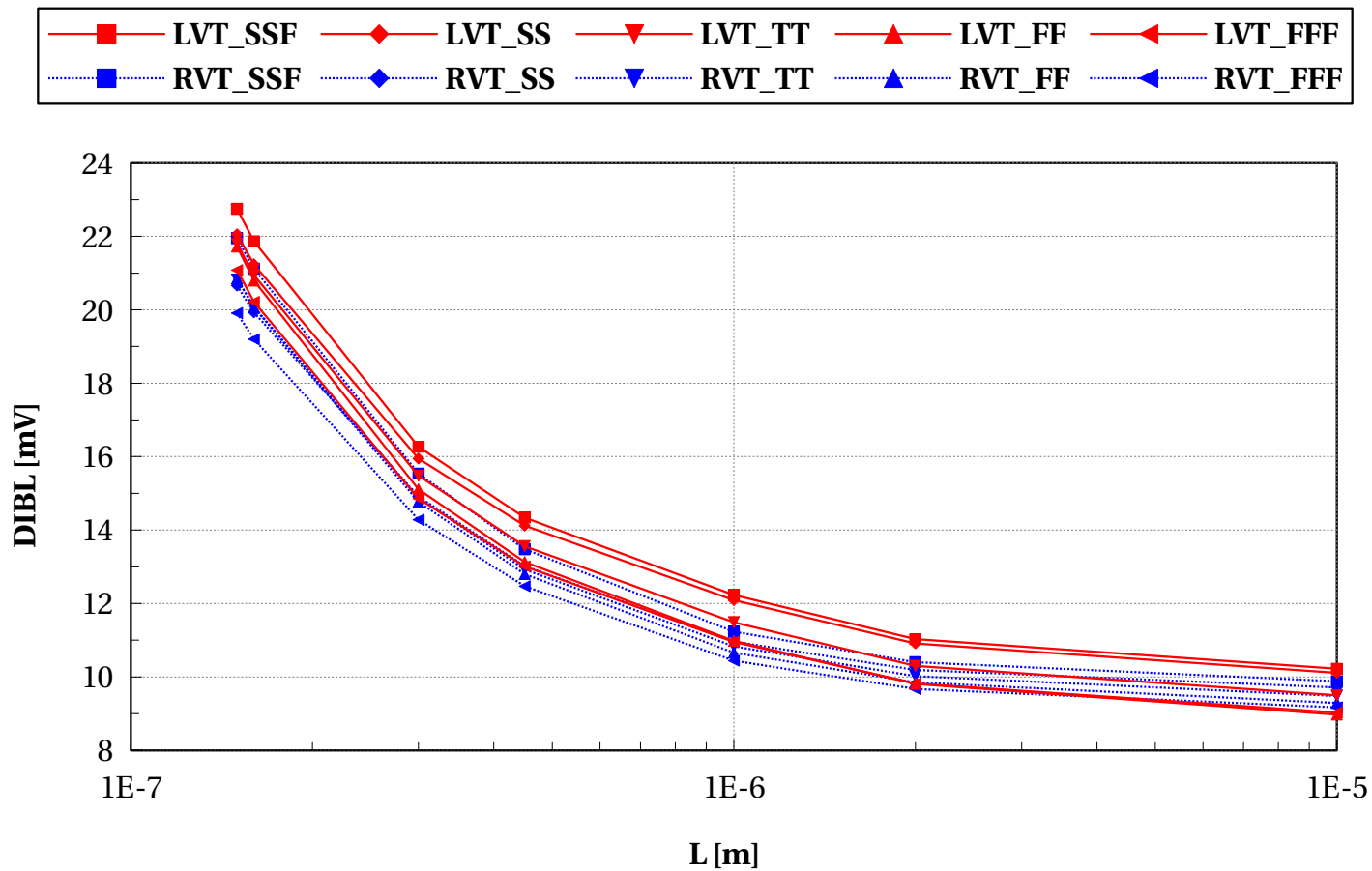
eglvtnfet_acc, VtGmmax [mV] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



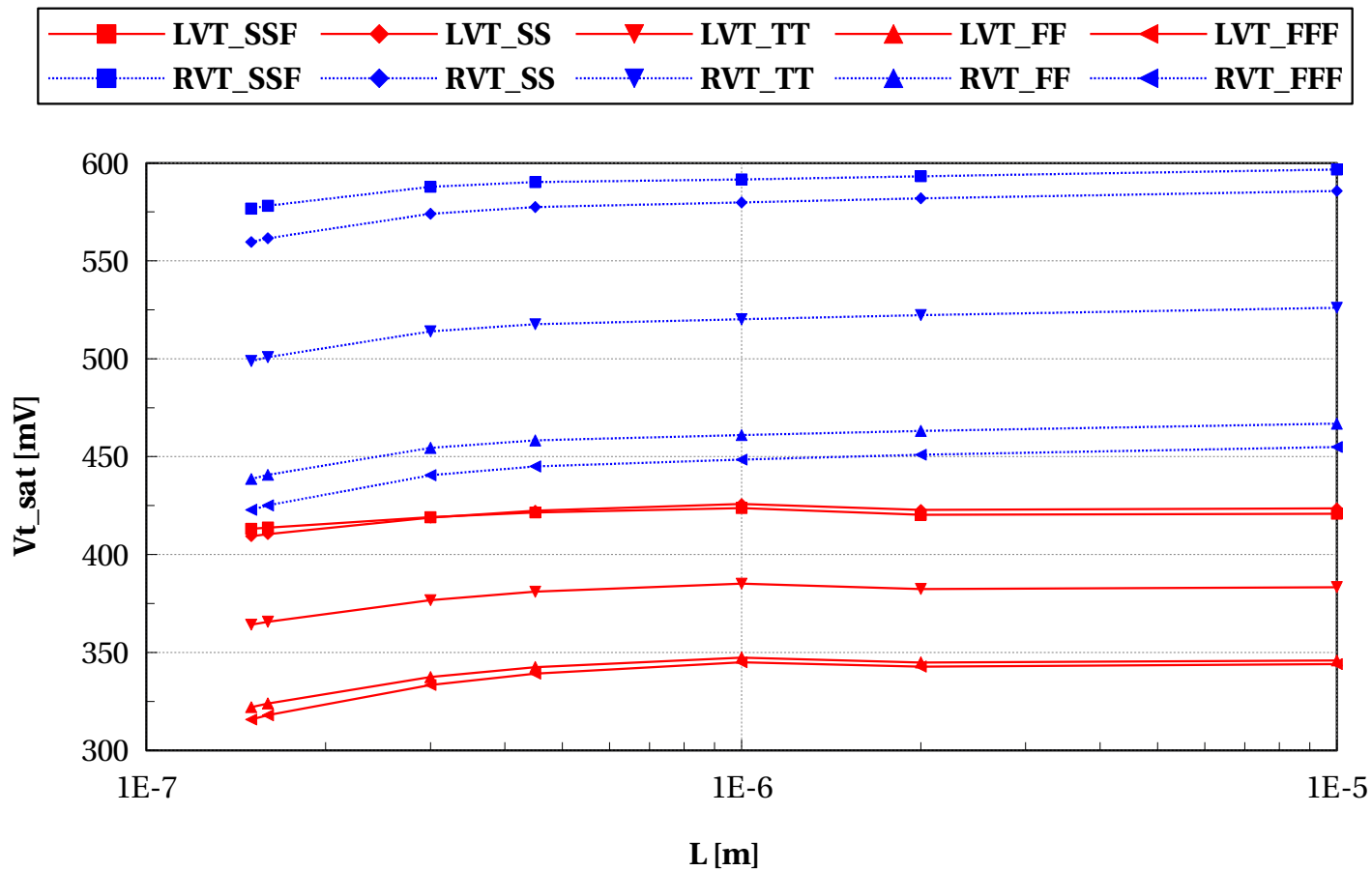
eglvtnfet_acc, DIBL [mV] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



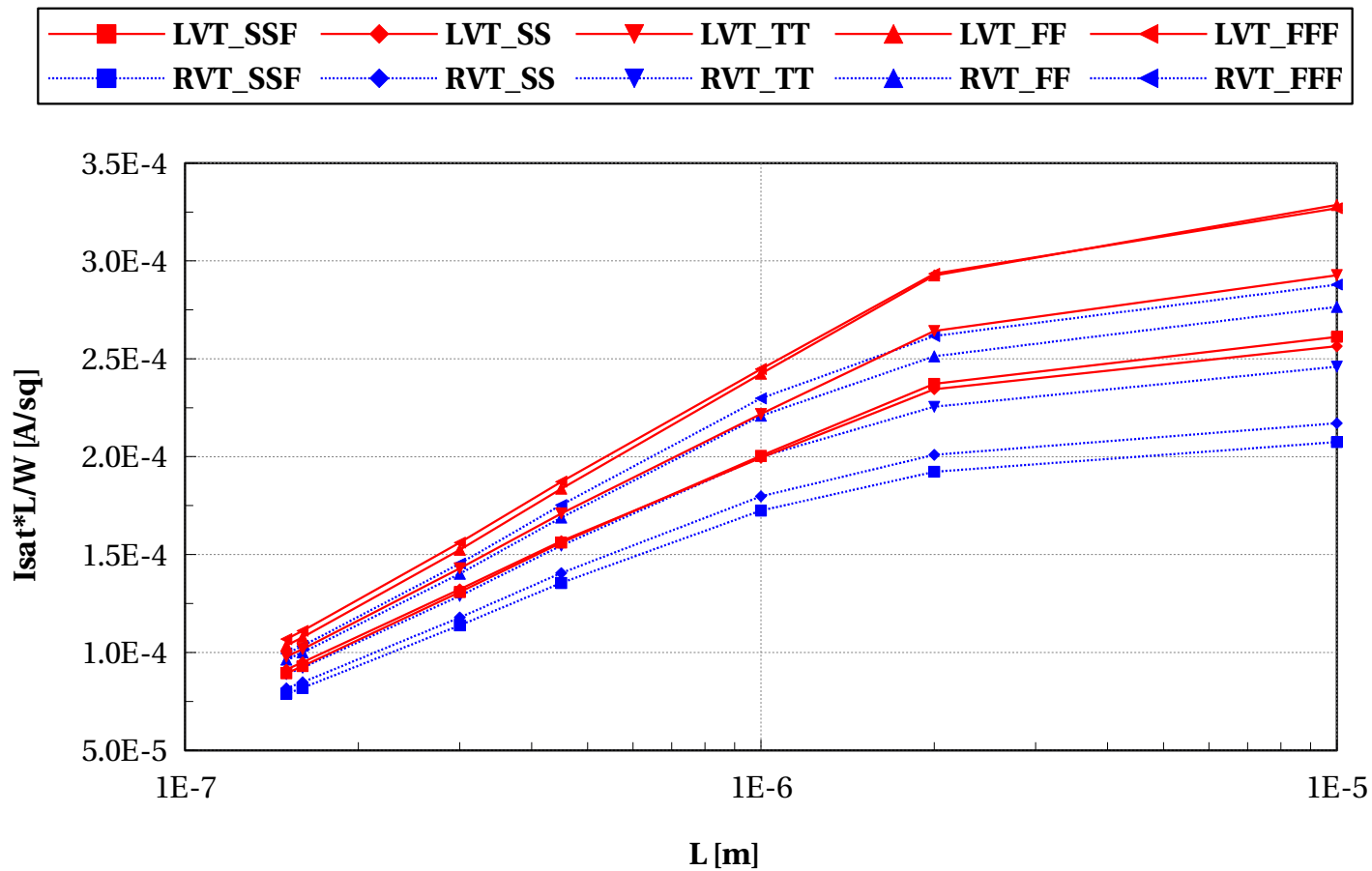
eglvtnfet_acc, Vt_sat [mV] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



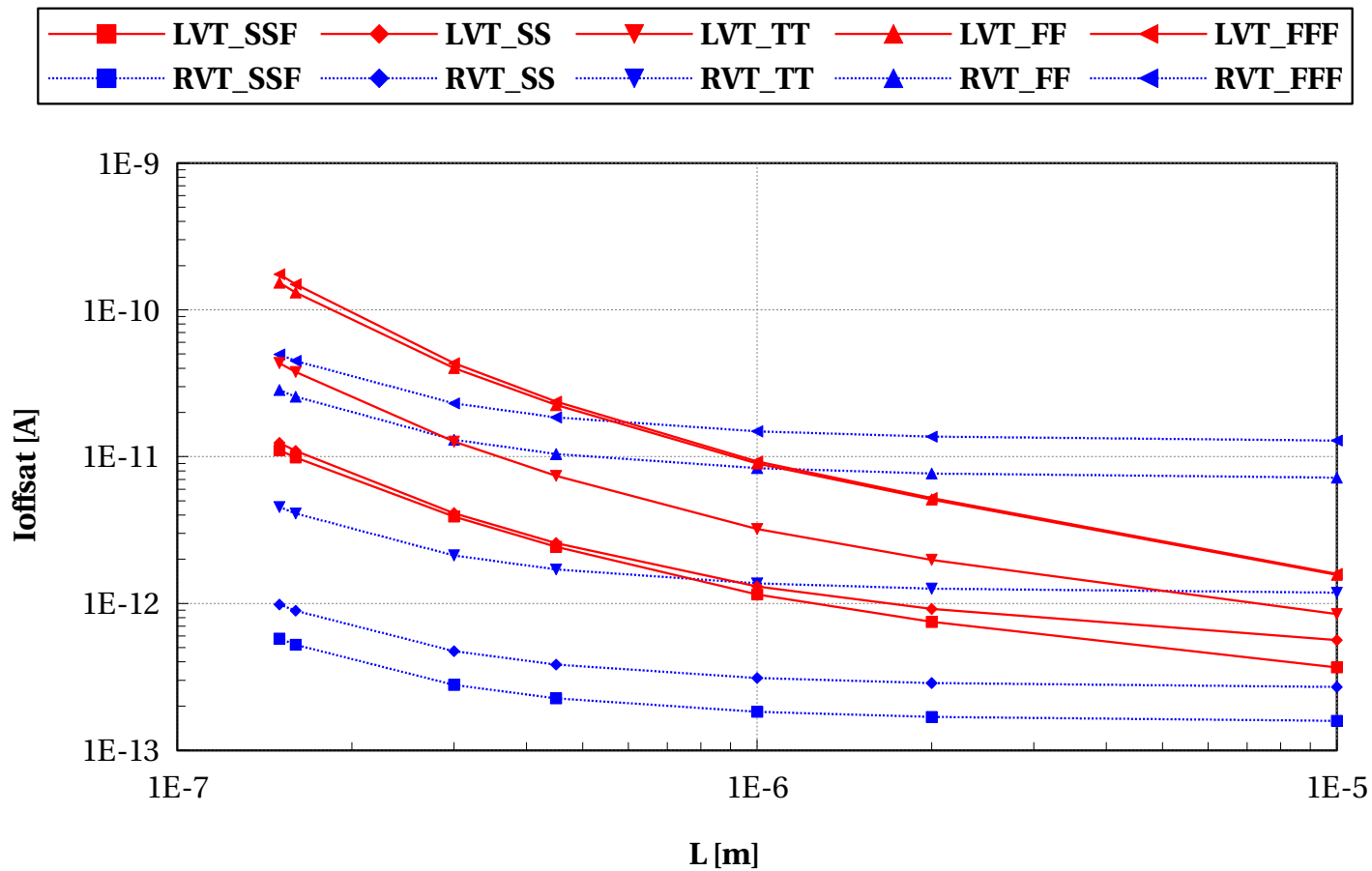
eglvtnfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



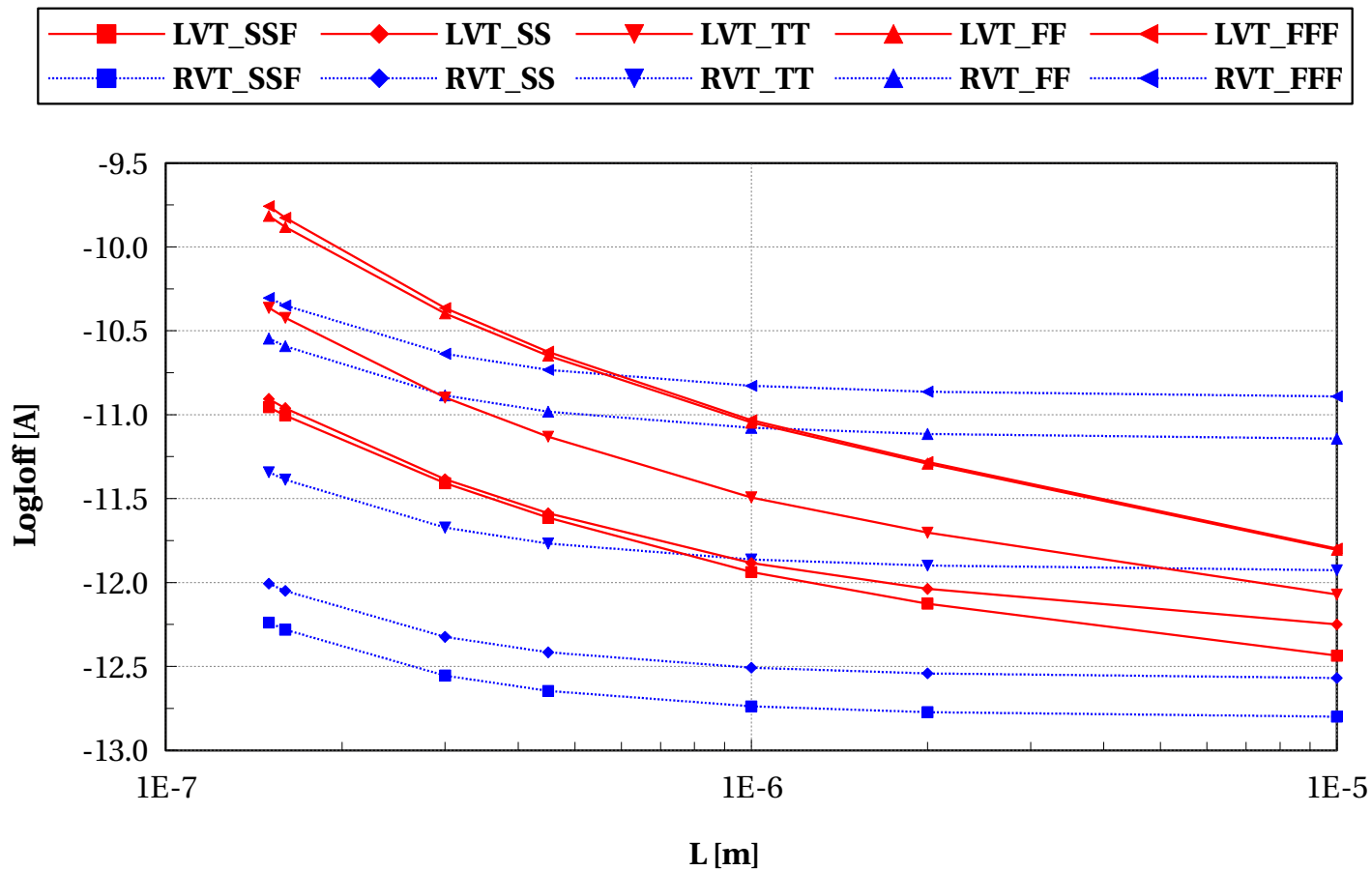
eglvtnfet_acc, Ioffsat [A] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



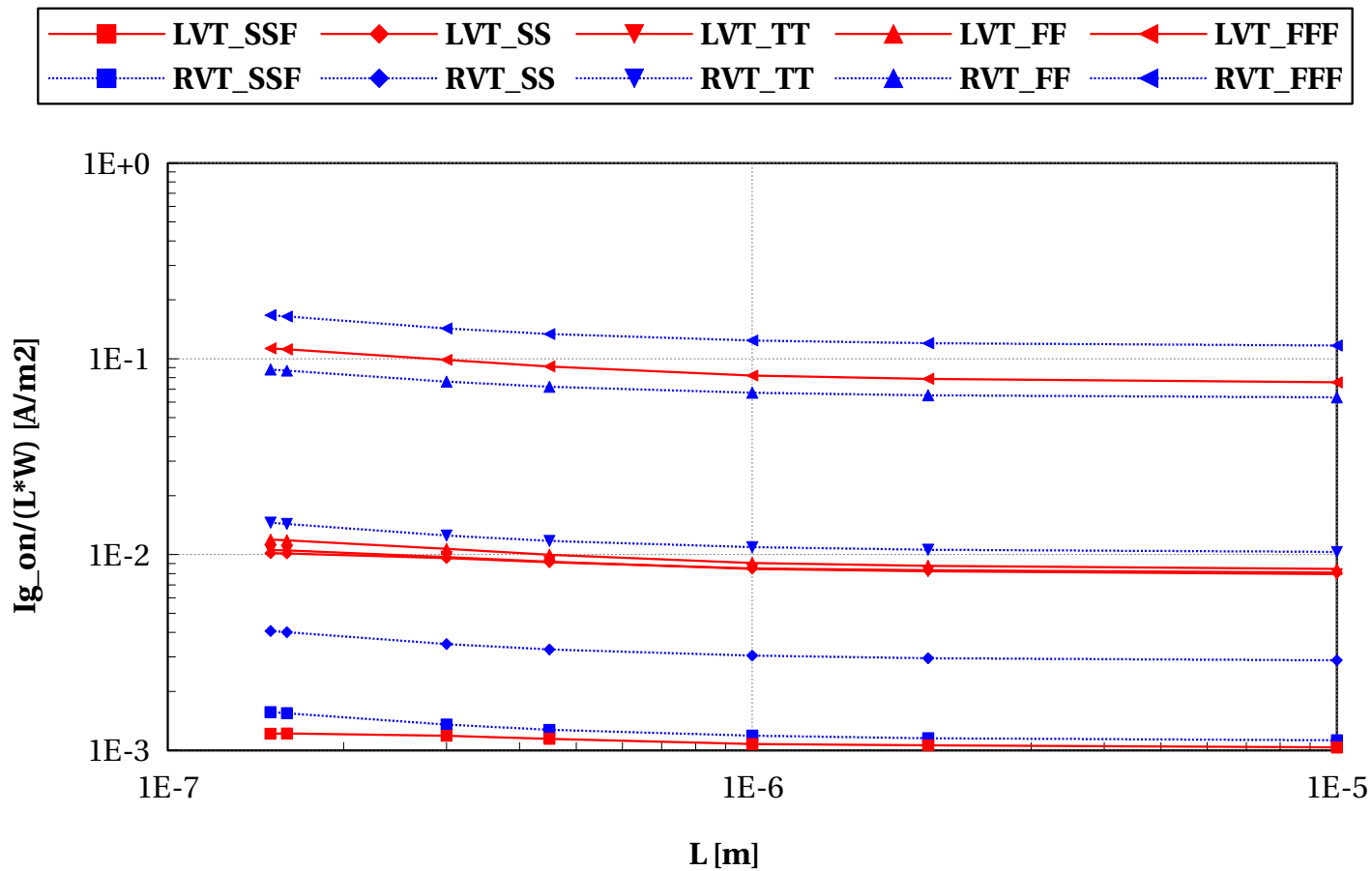
eglvtnfet_acc, LogIoff [A] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



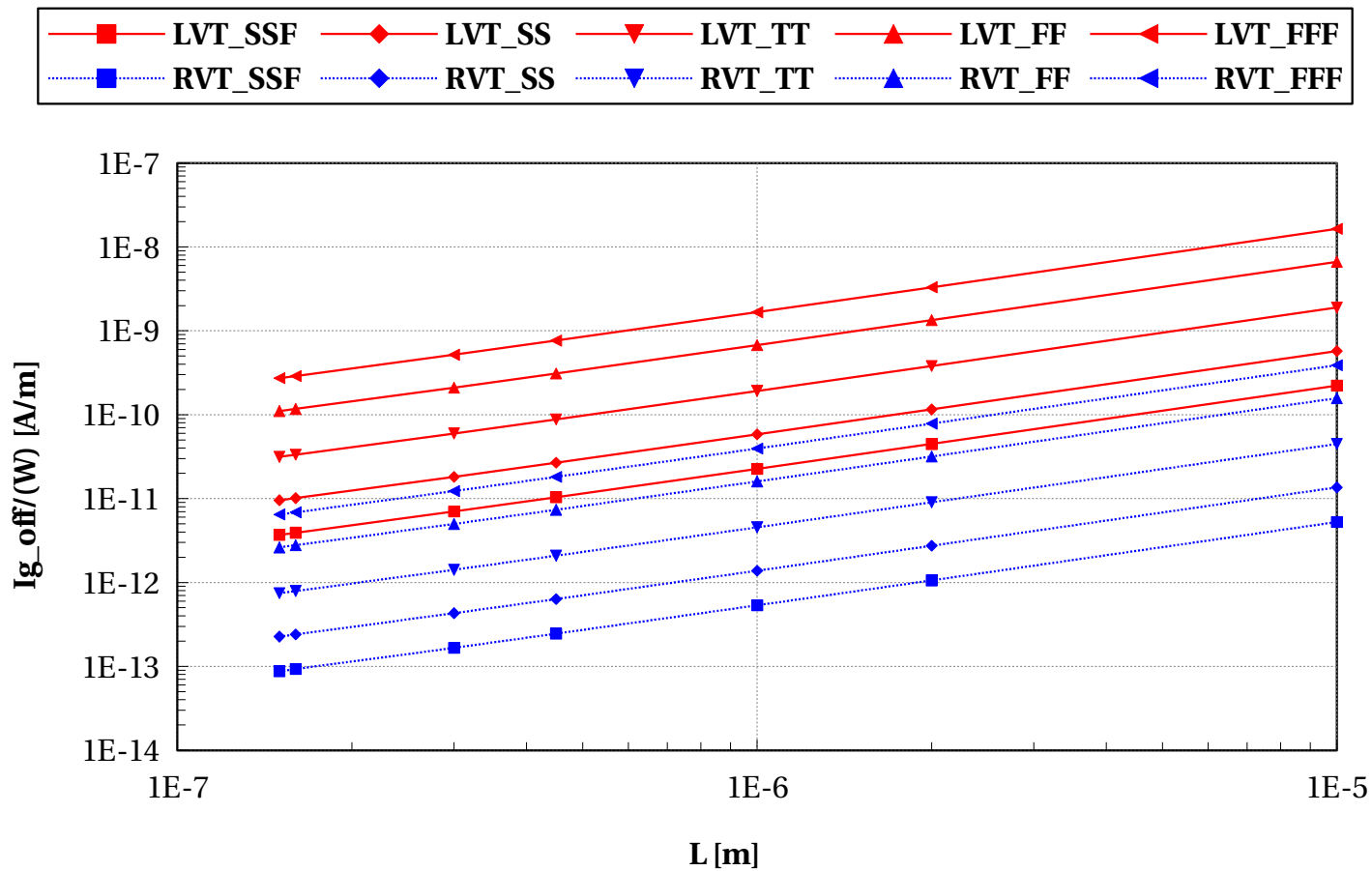
eglvtnfet_acc, Ig_on/(L*W) [A/m2] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



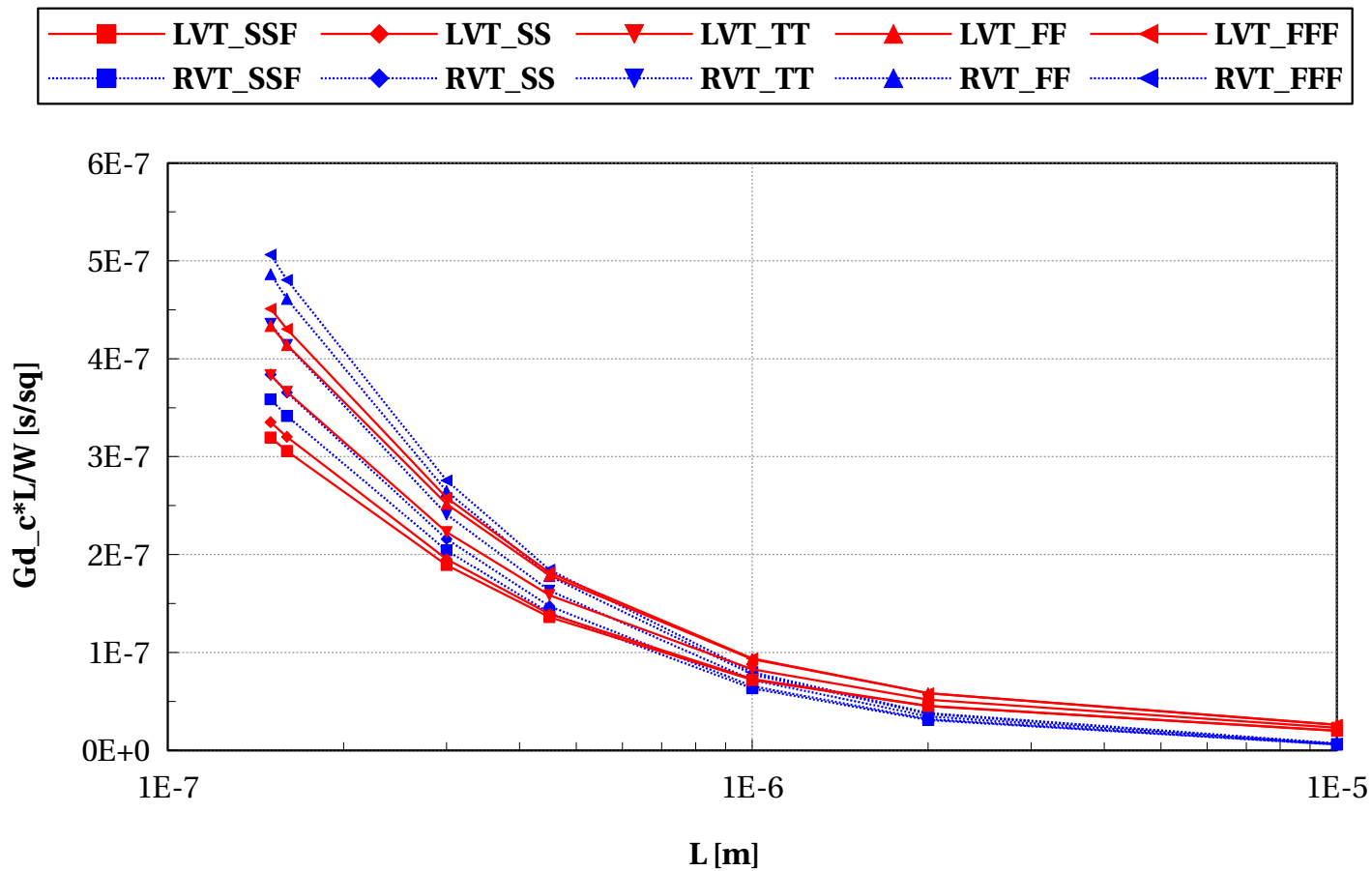
eglvtnfet_acc, $I_{g_off}/(W)$ [A/m] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



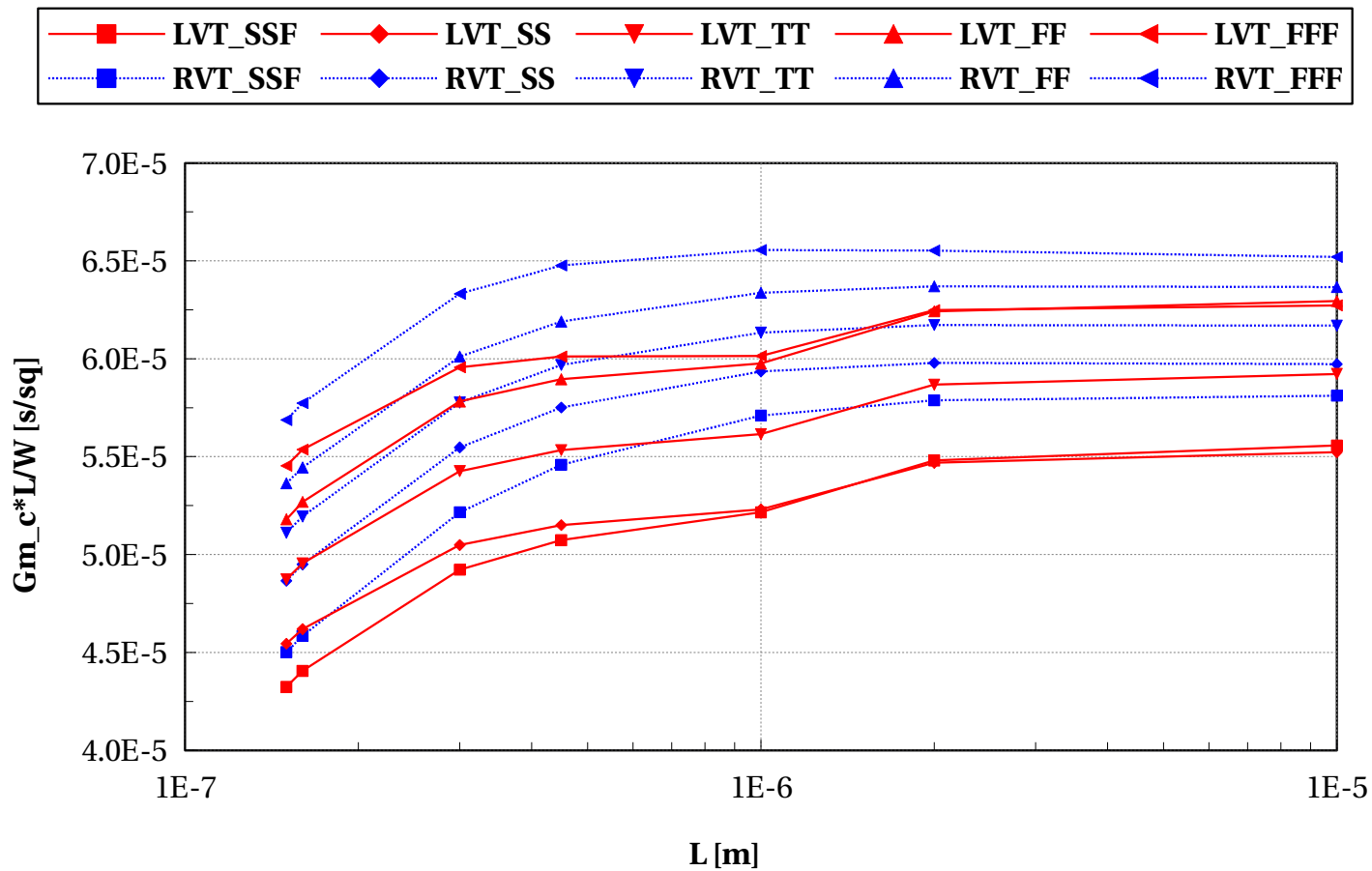
eglvtnfet_acc, Gd_c*L/W [s/sq] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



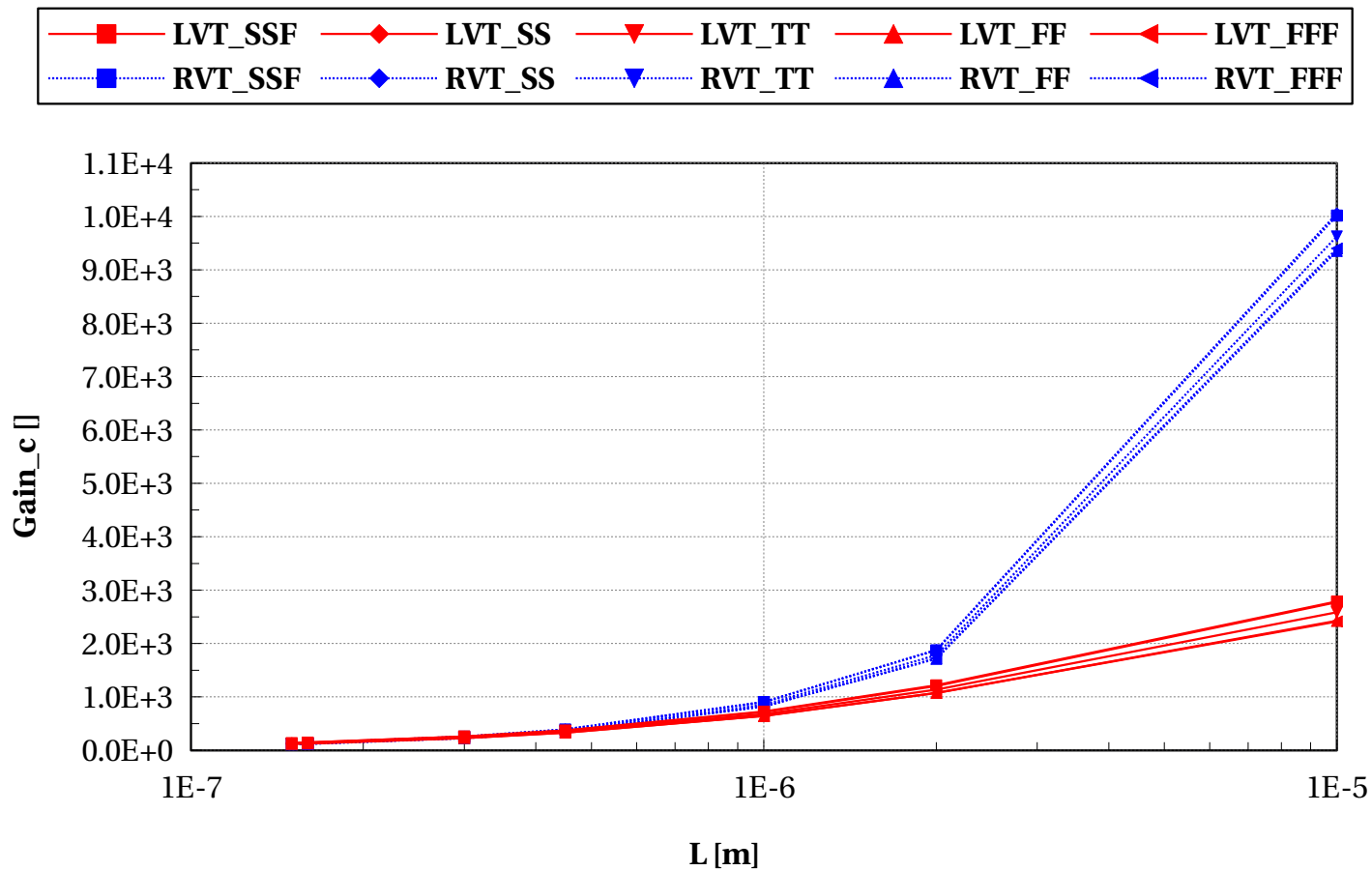
eglvtnfet_acc, $Gm_c \cdot L/W$ [s/sq] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



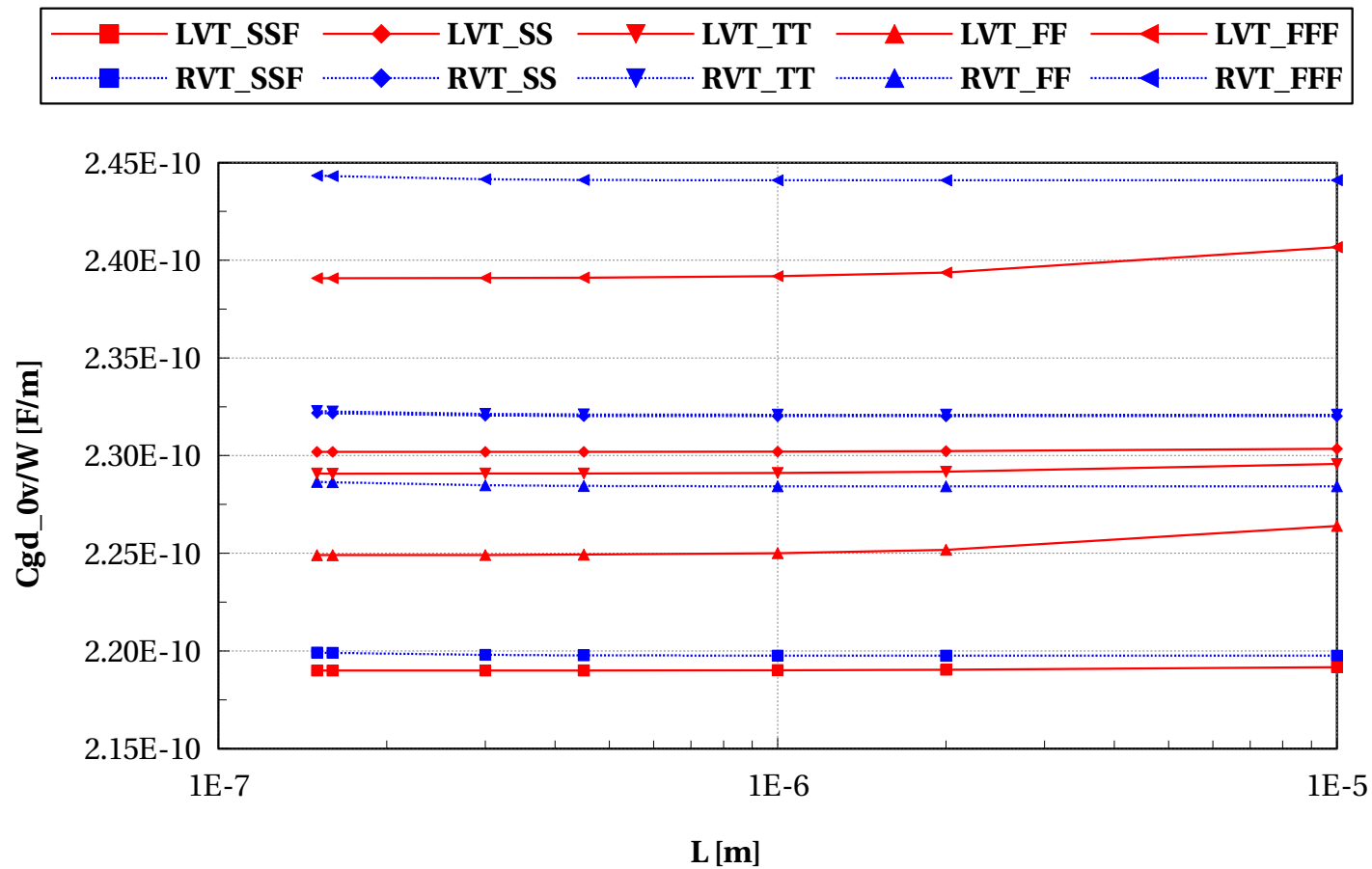
eglvtnfet_acc, Gain_c [] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



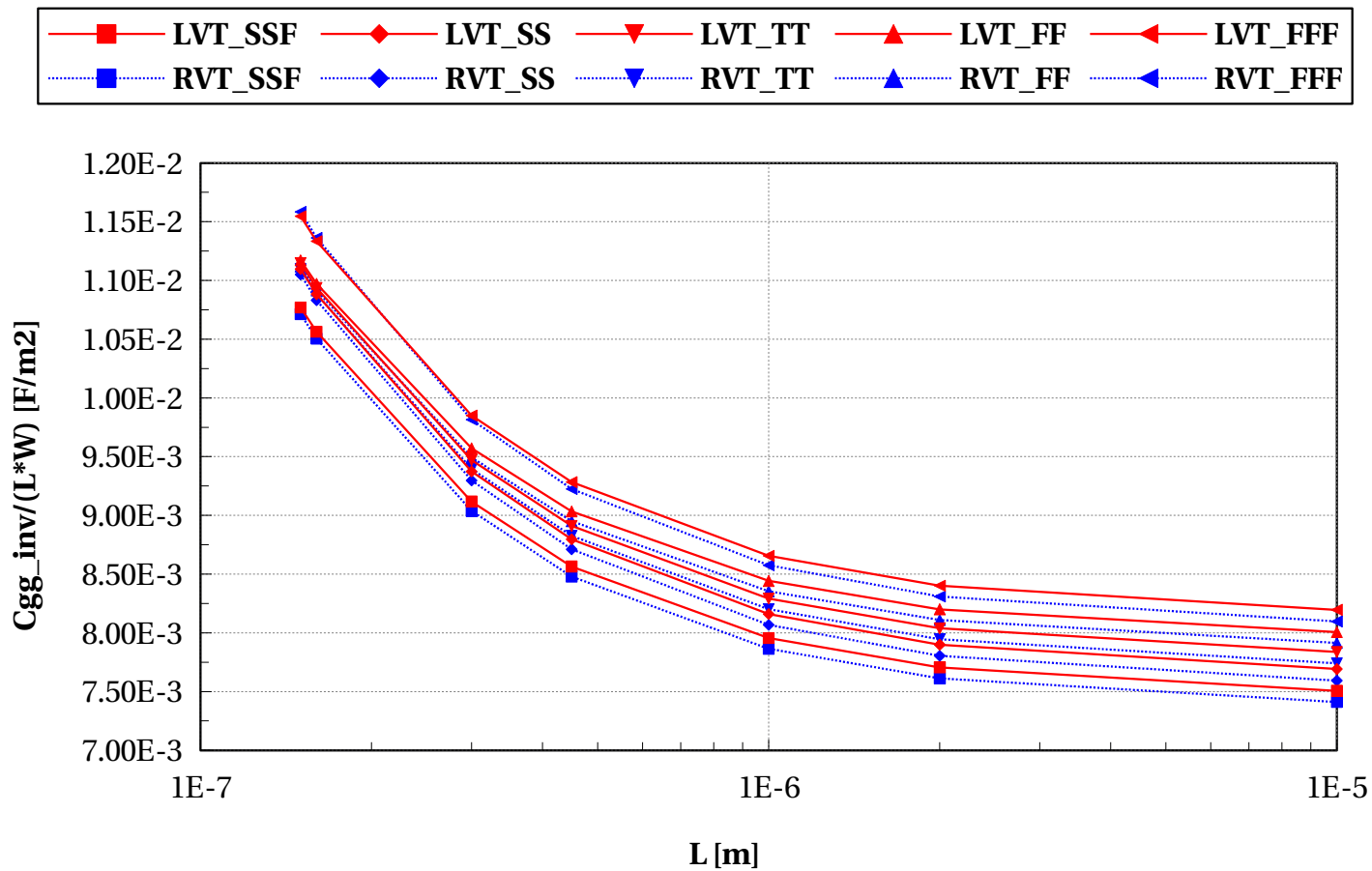
eglvtnfet_acc, Cgd_0v/W [F/m] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



eglvtnfet_acc, Cgg_inv/(L*W) [F/m2] vs L [m]

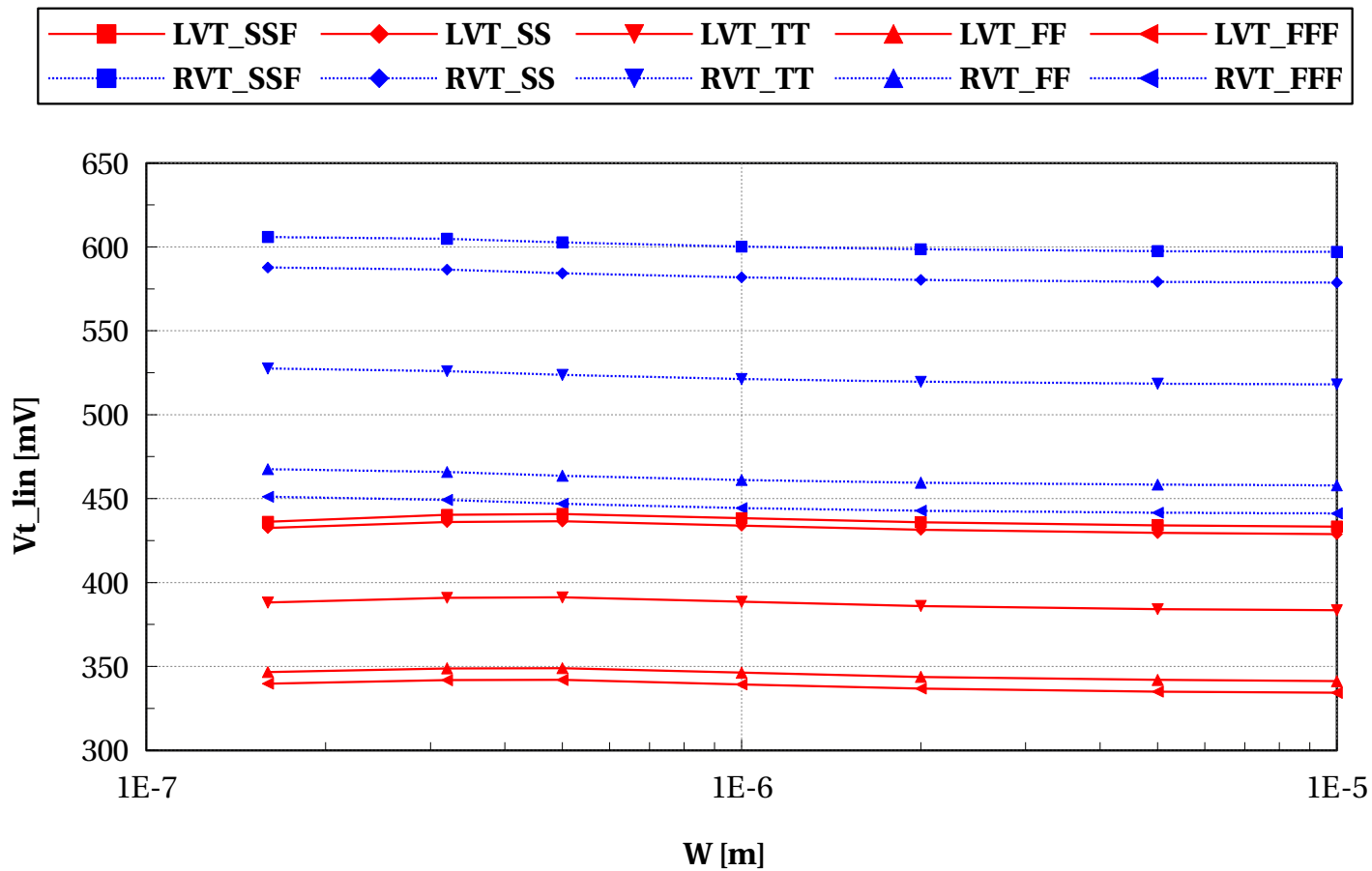
Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



Scaling versus Width ($L=0.15\text{e-}6$, Temp=25)

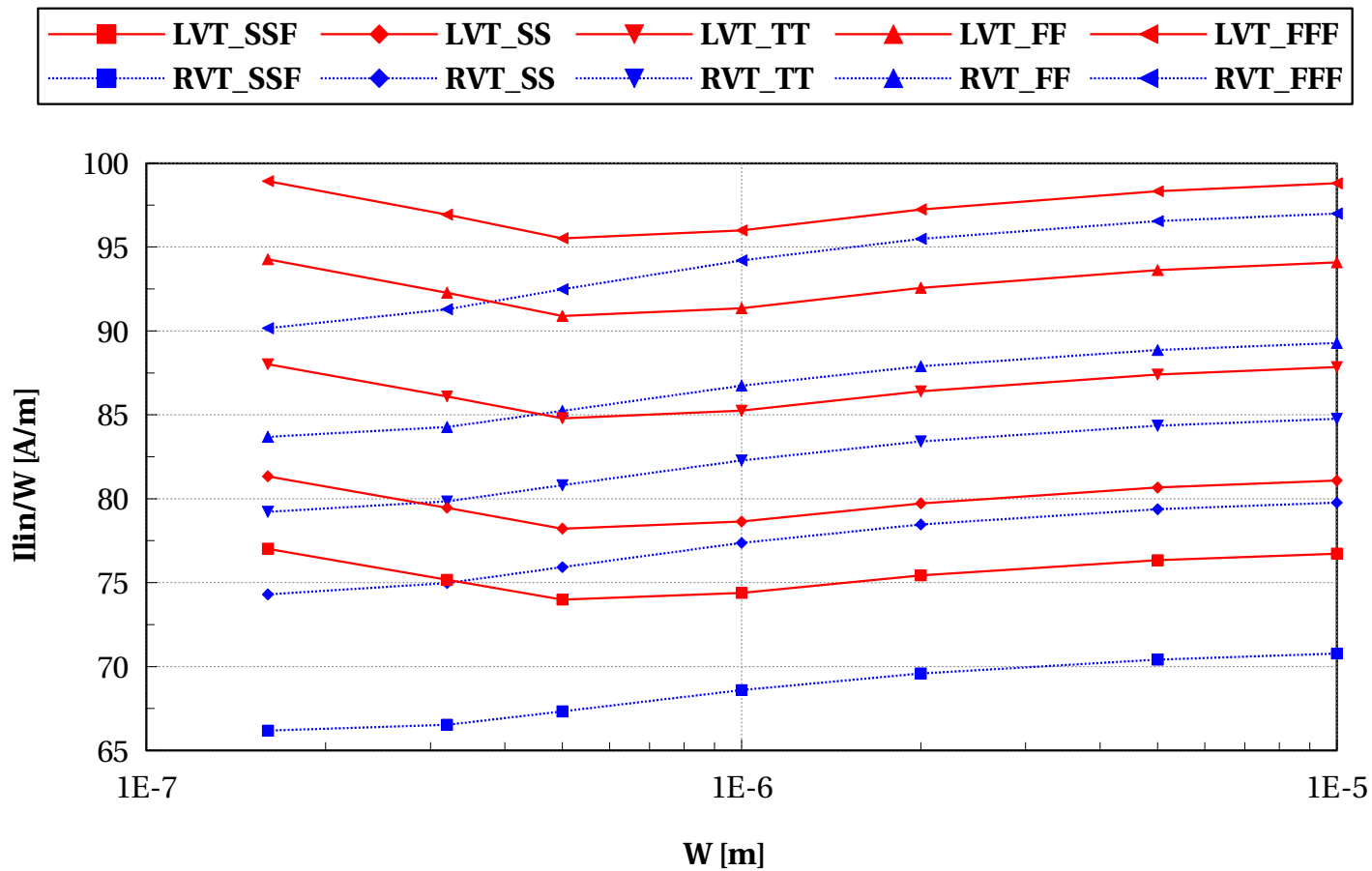
eglvtnfet_acc, Vt_lin [mV] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



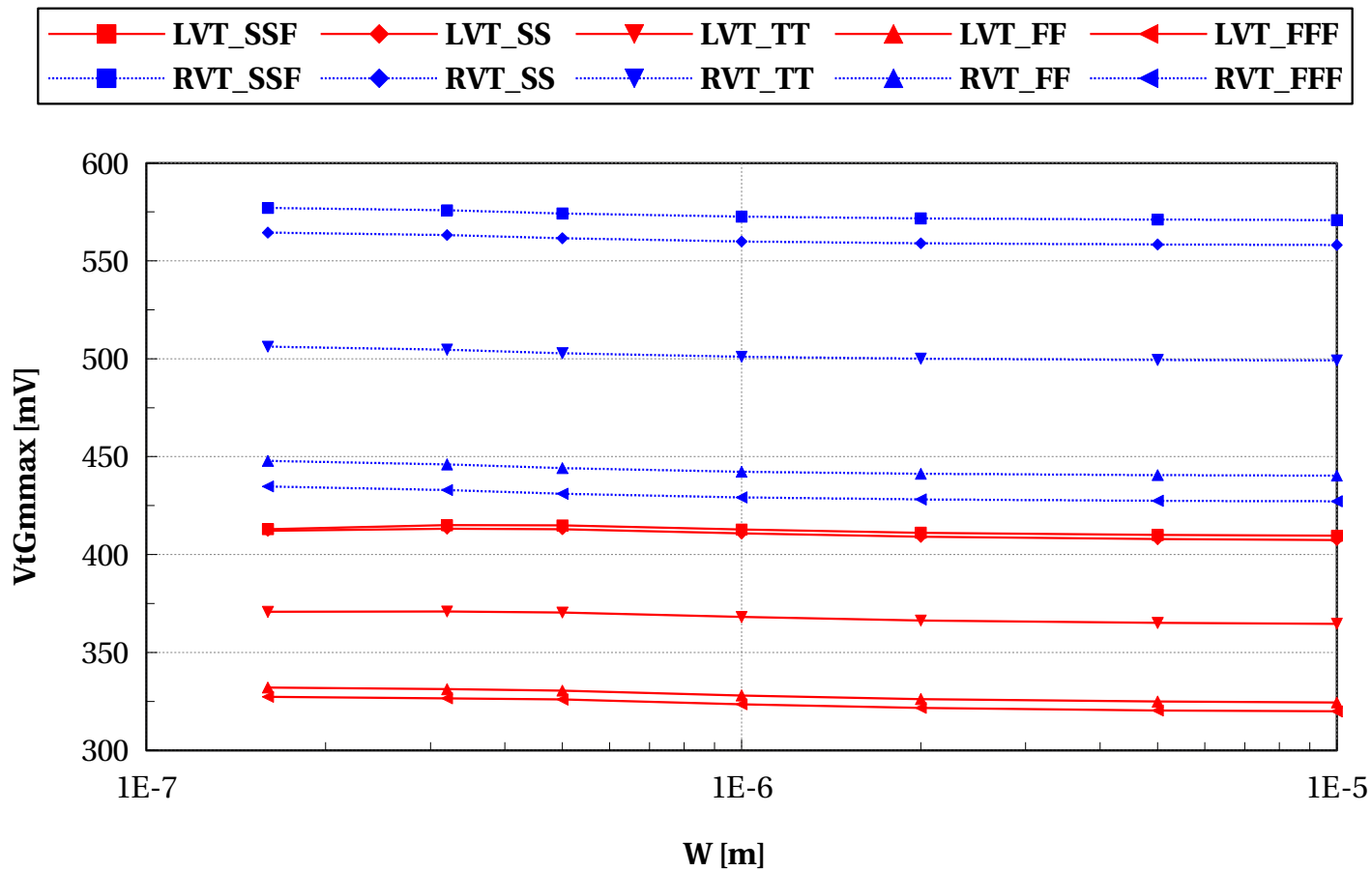
eglvtnfet_acc, I_{lin}/W [A/m] vs W [m]

Temp==25 and $l=0.15e-6$ and $w>0.135e-6$ and devType=="PCELLwoWPE"



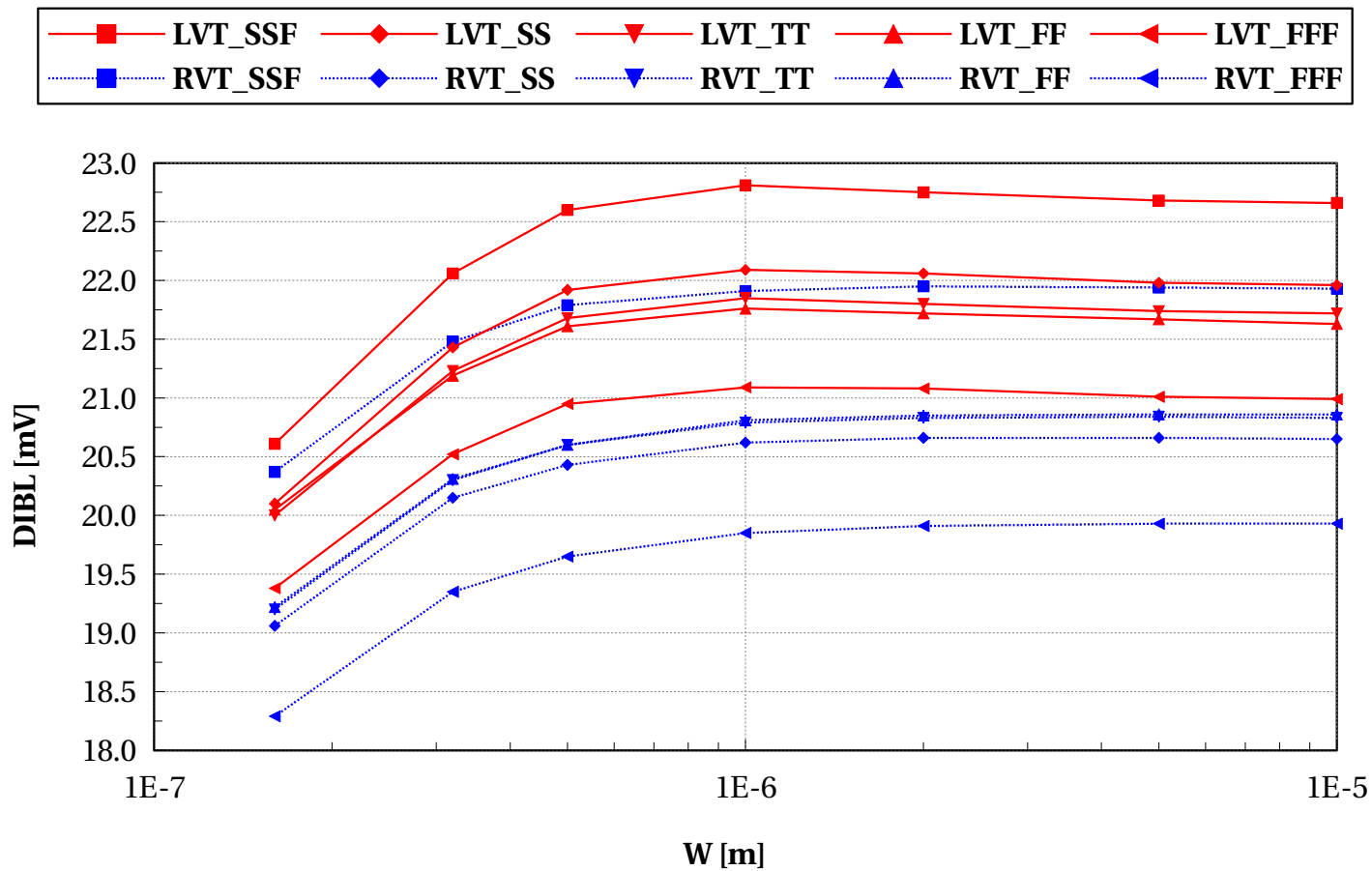
eglvtnfet_acc, VtGmmax [mV] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



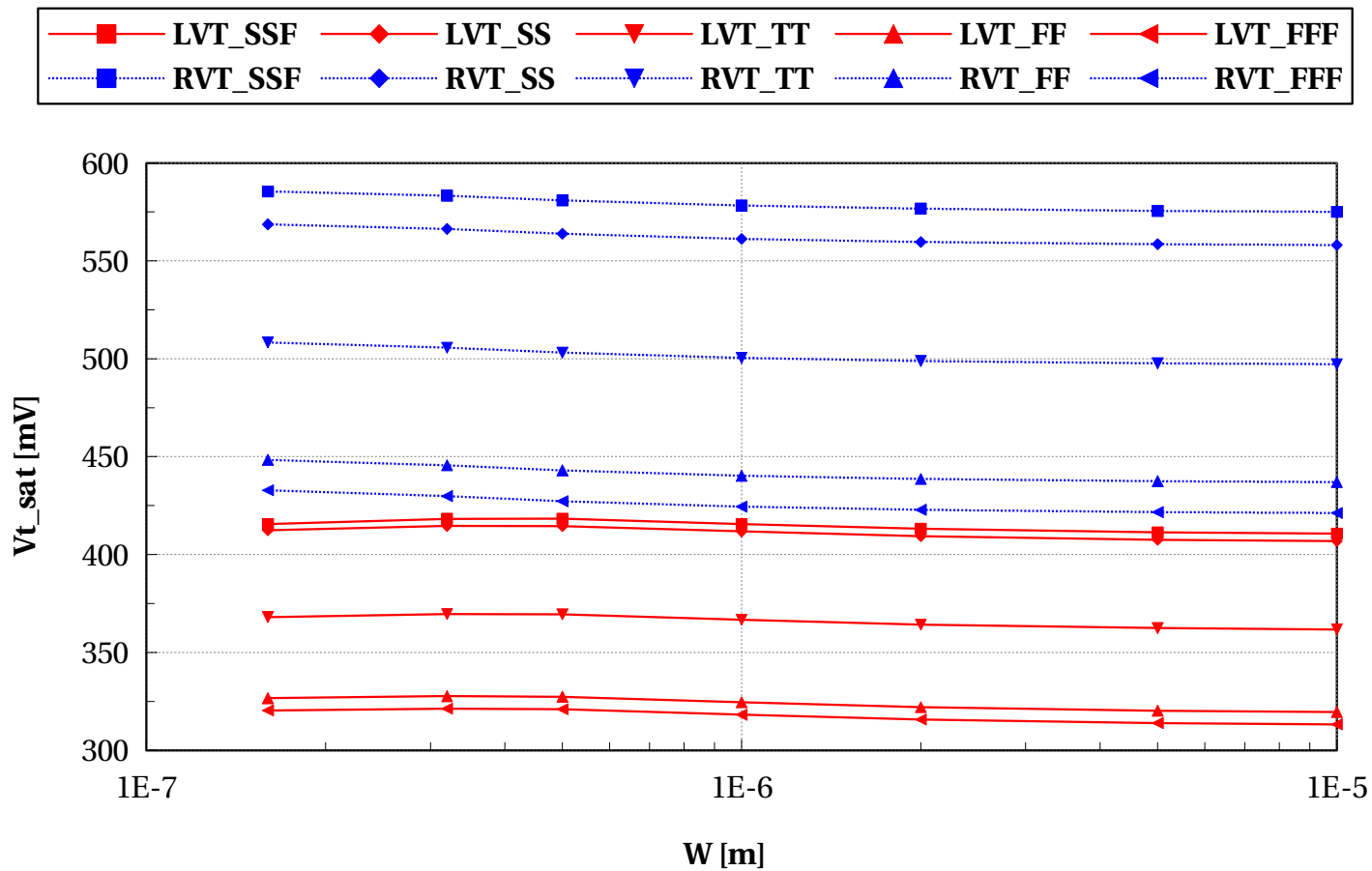
eglvtnfet_acc, DIBL [mV] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



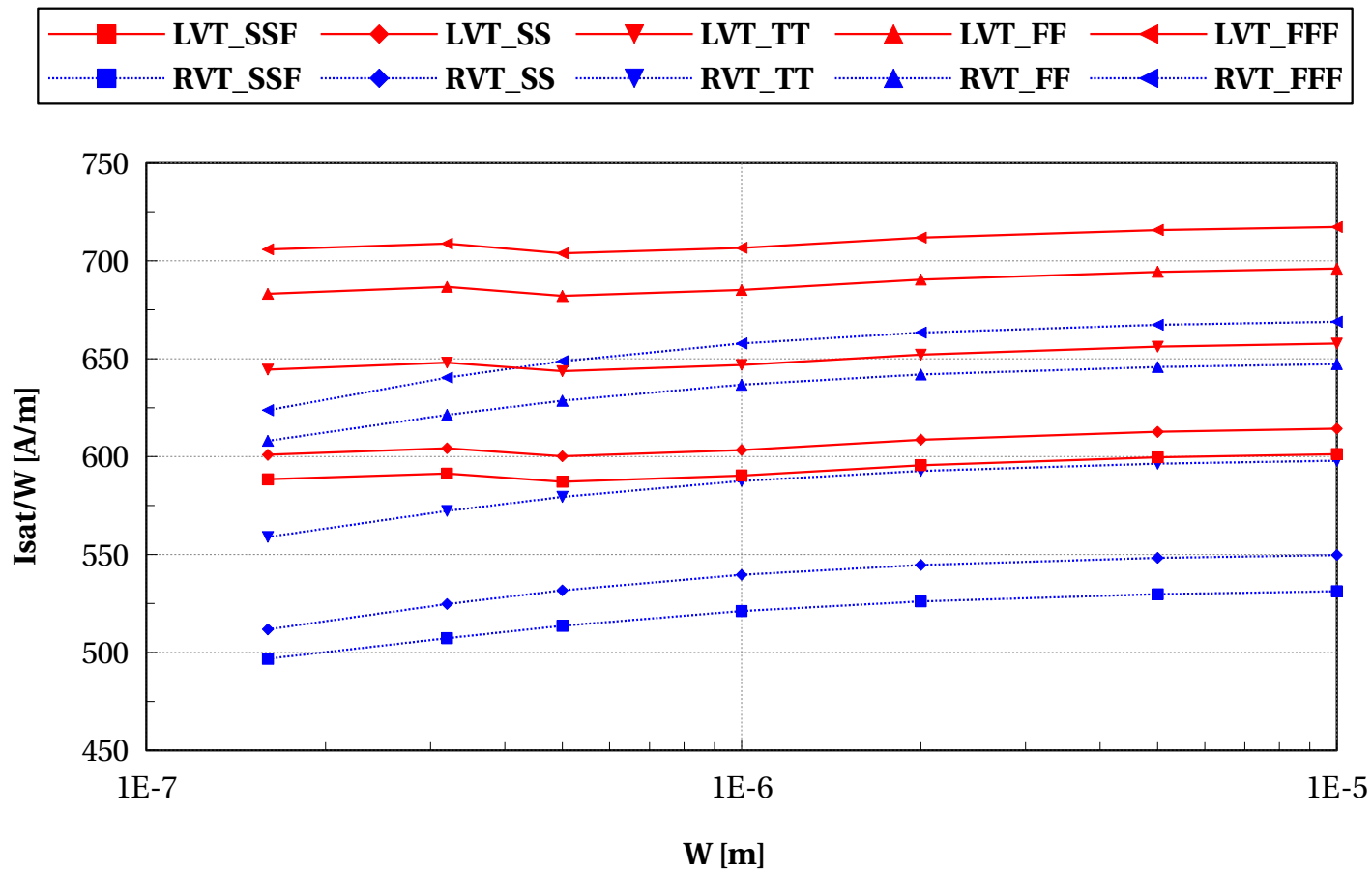
eglvtnfet_acc, Vt_sat [mV] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



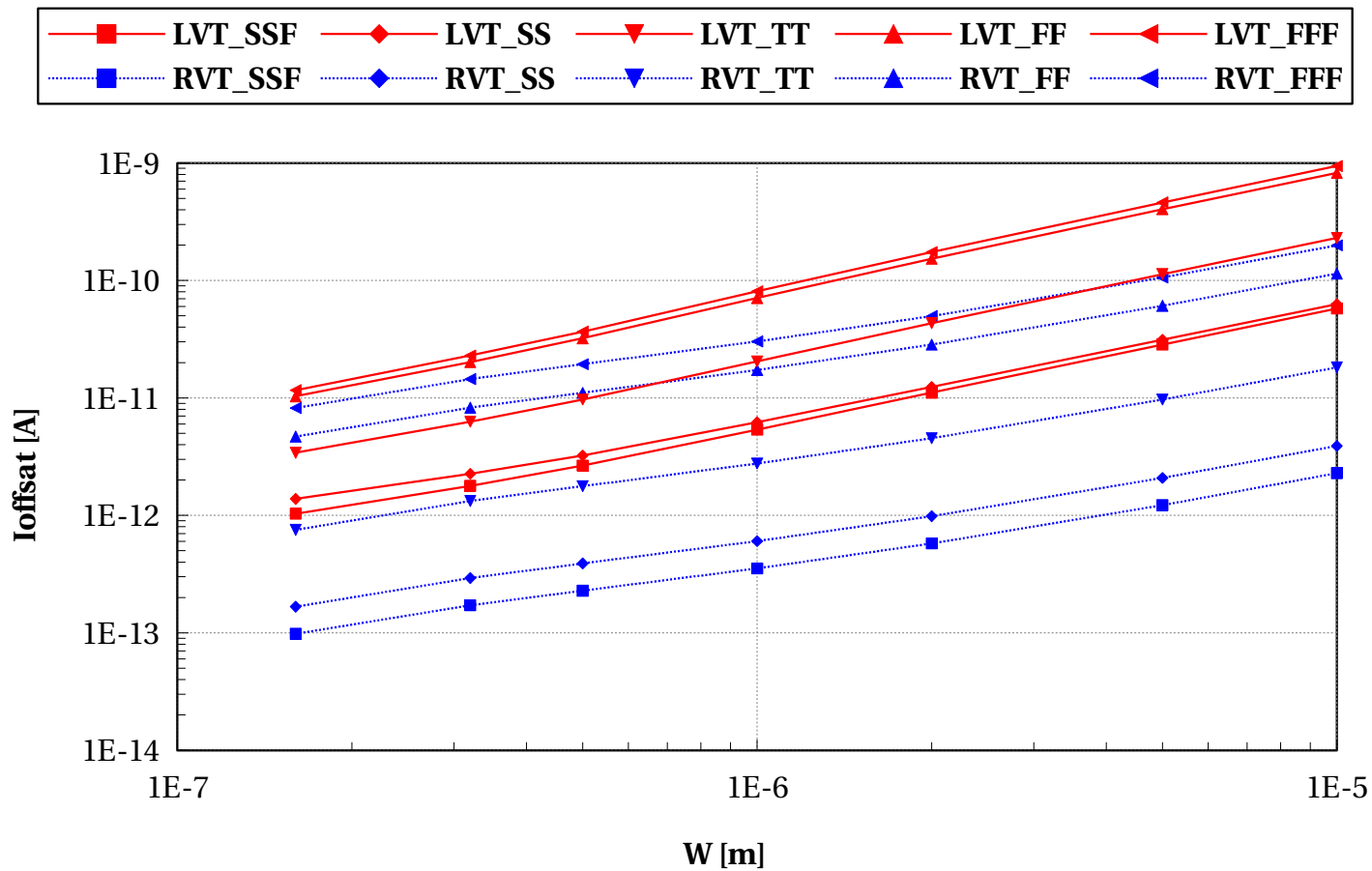
eglvtnfet_acc, Isat/W [A/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



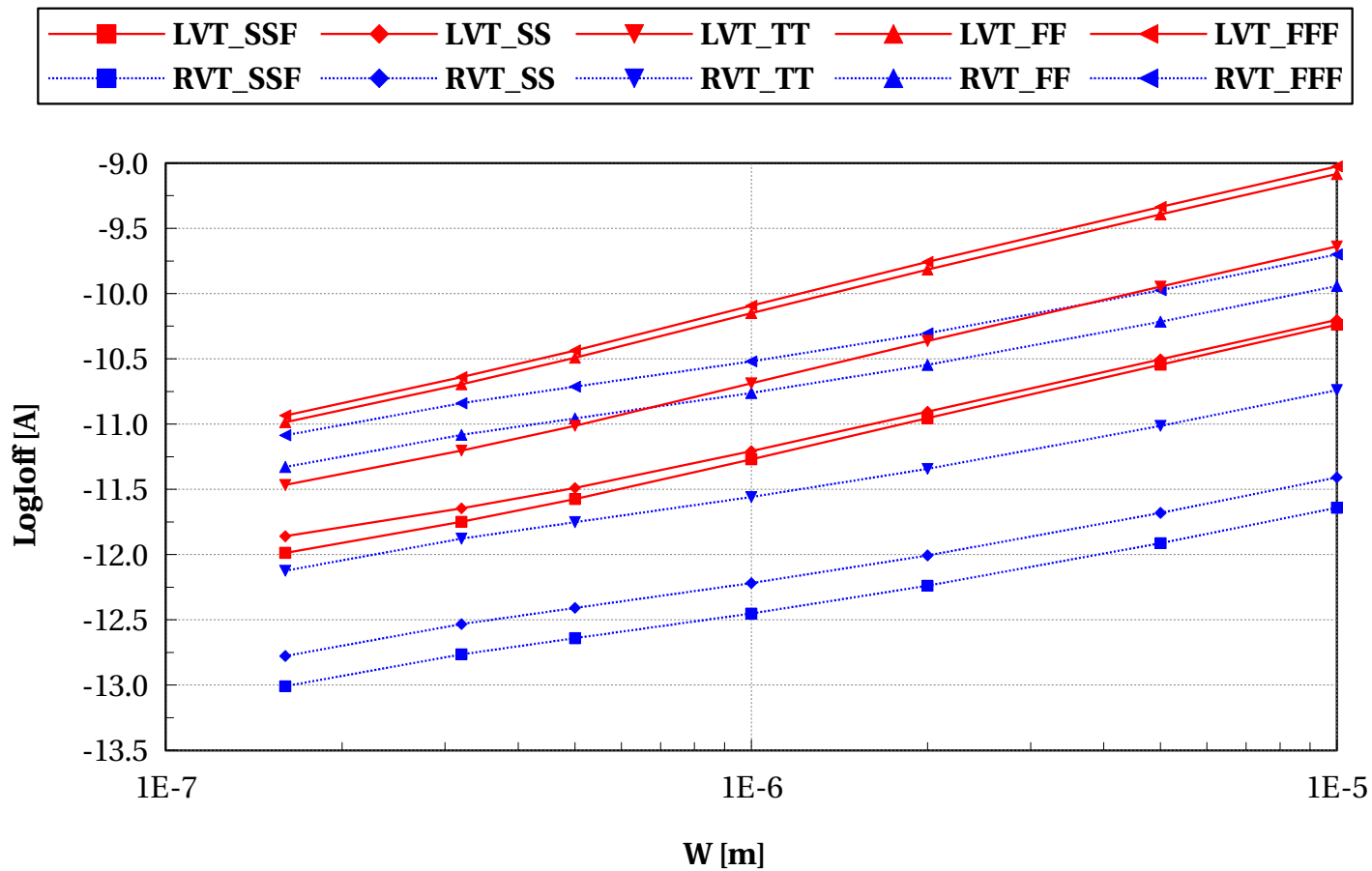
eglvtnfet_acc, Ioffsat [A] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



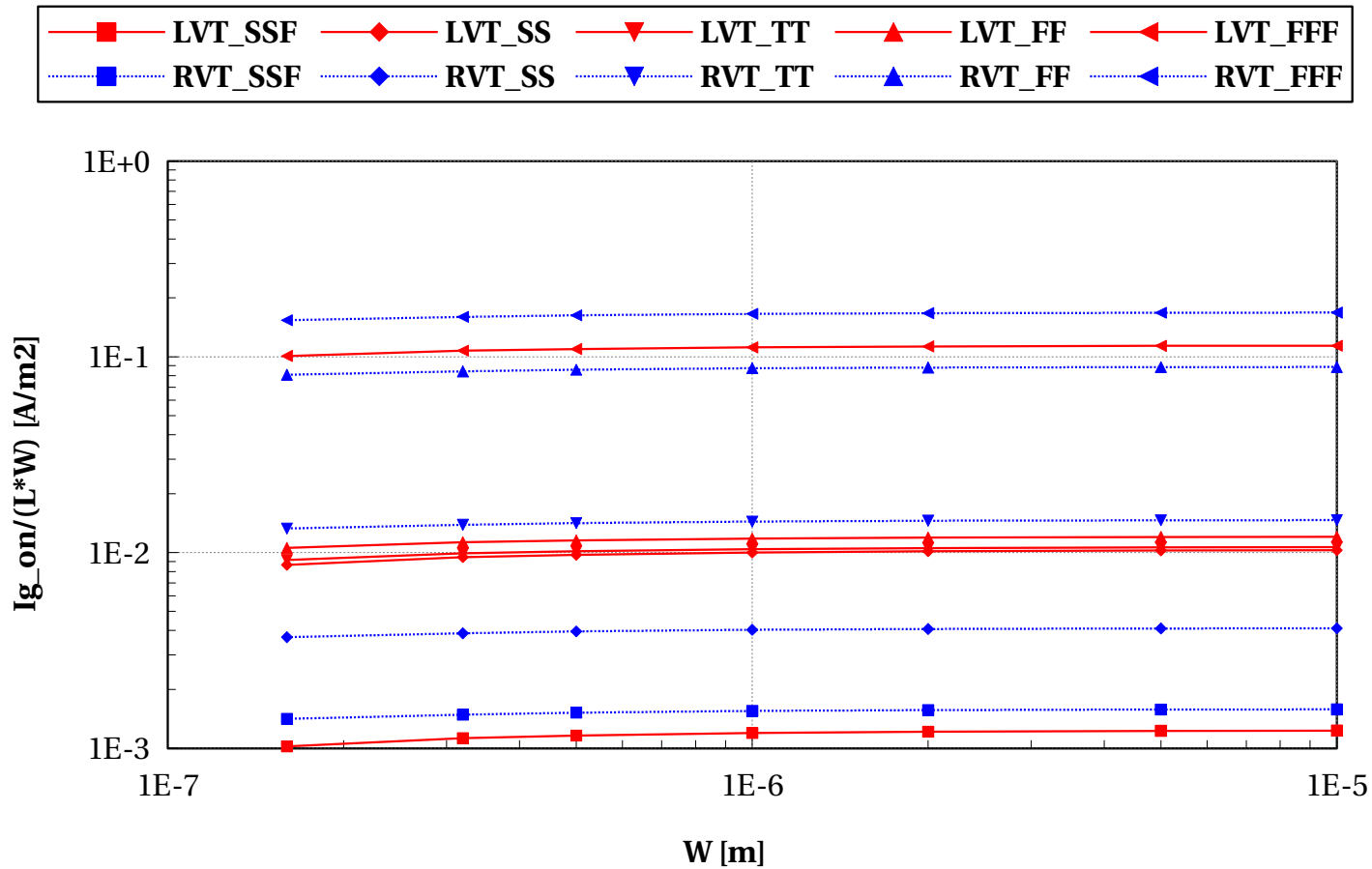
eglvtnfet_acc, LogIoff [A] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



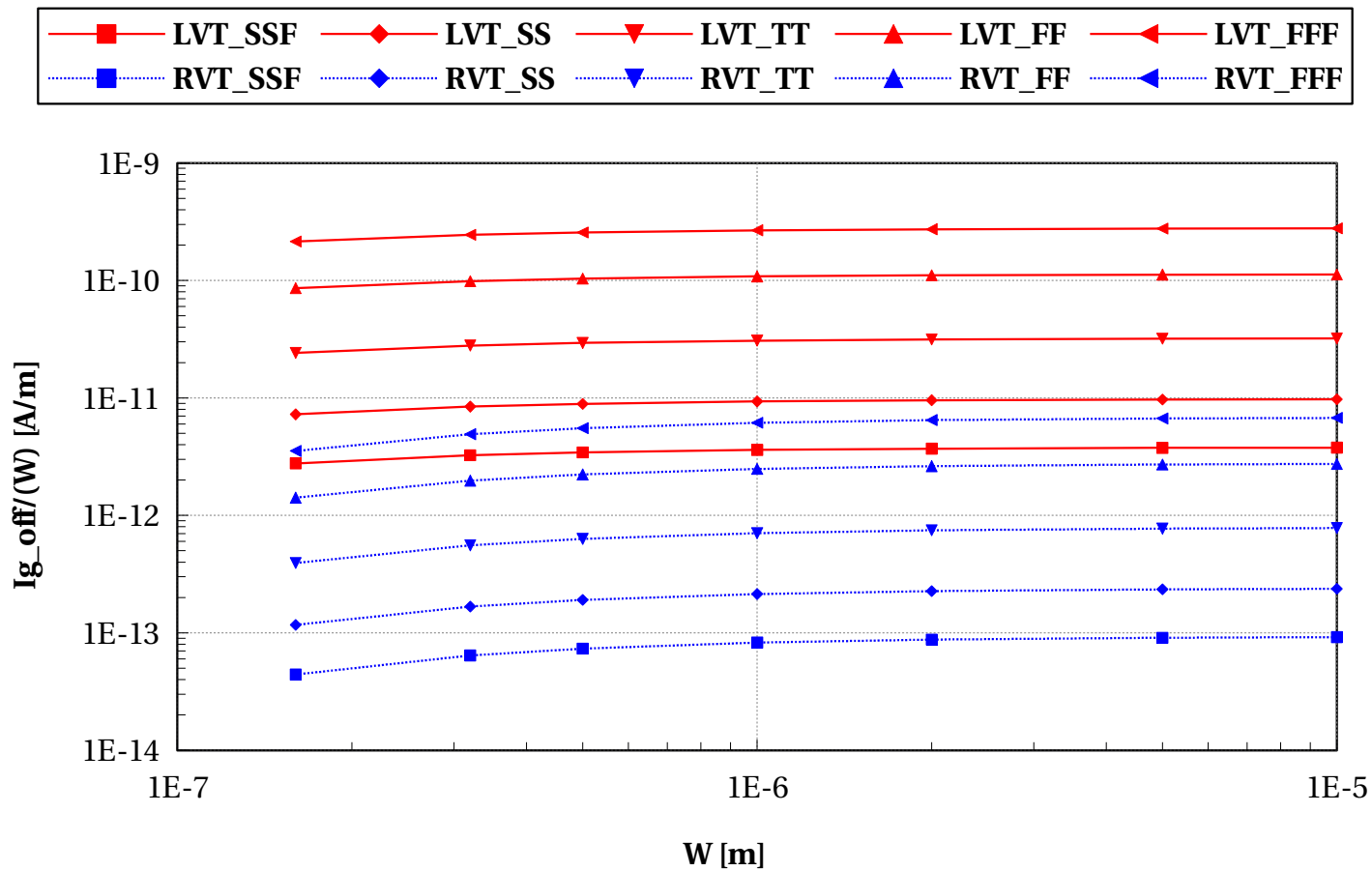
eglvtnfet_acc, $I_{g_on}/(L*W)$ [A/m²] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



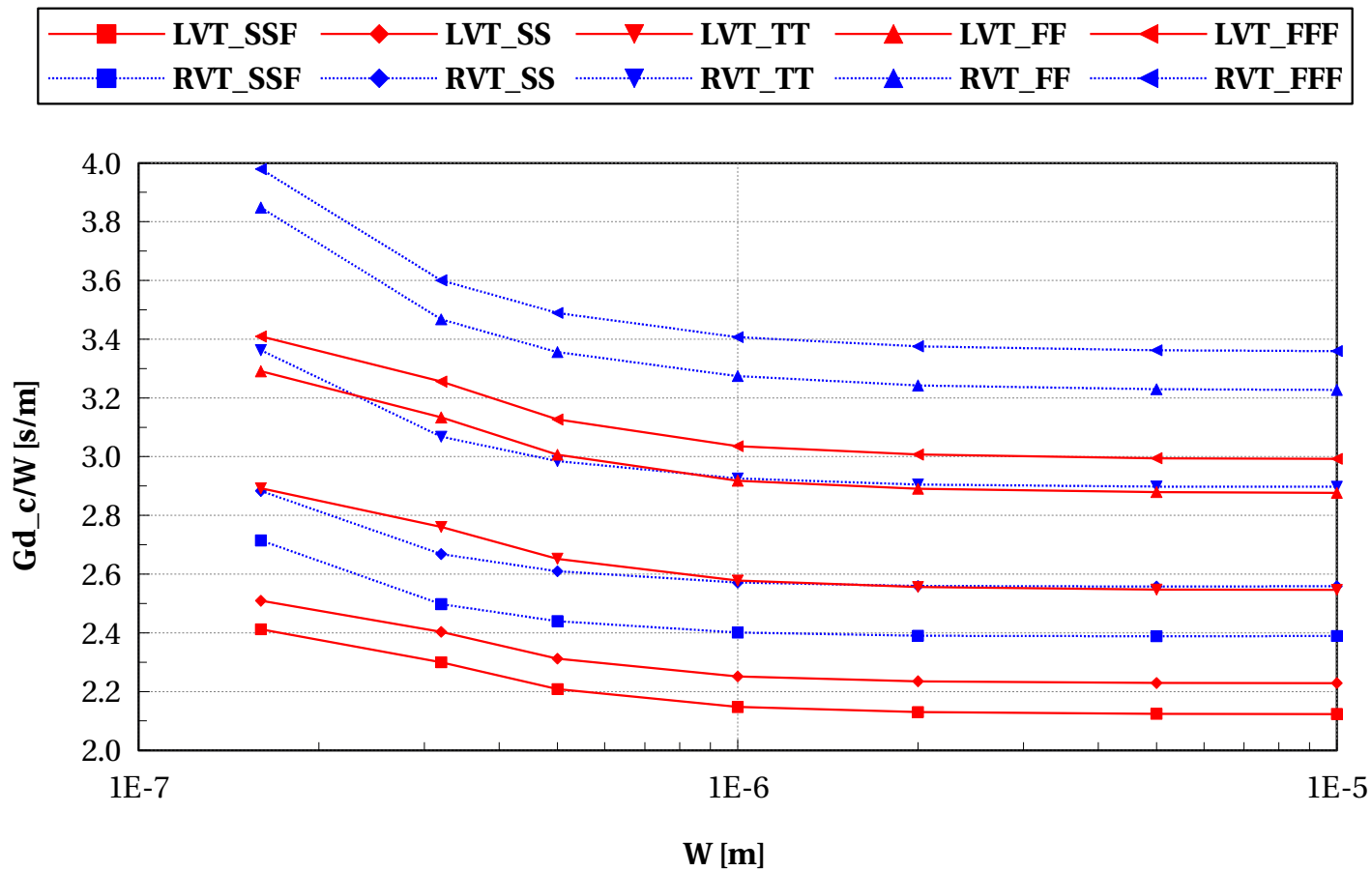
eglvtnfet_acc, Ig_off/(W) [A/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



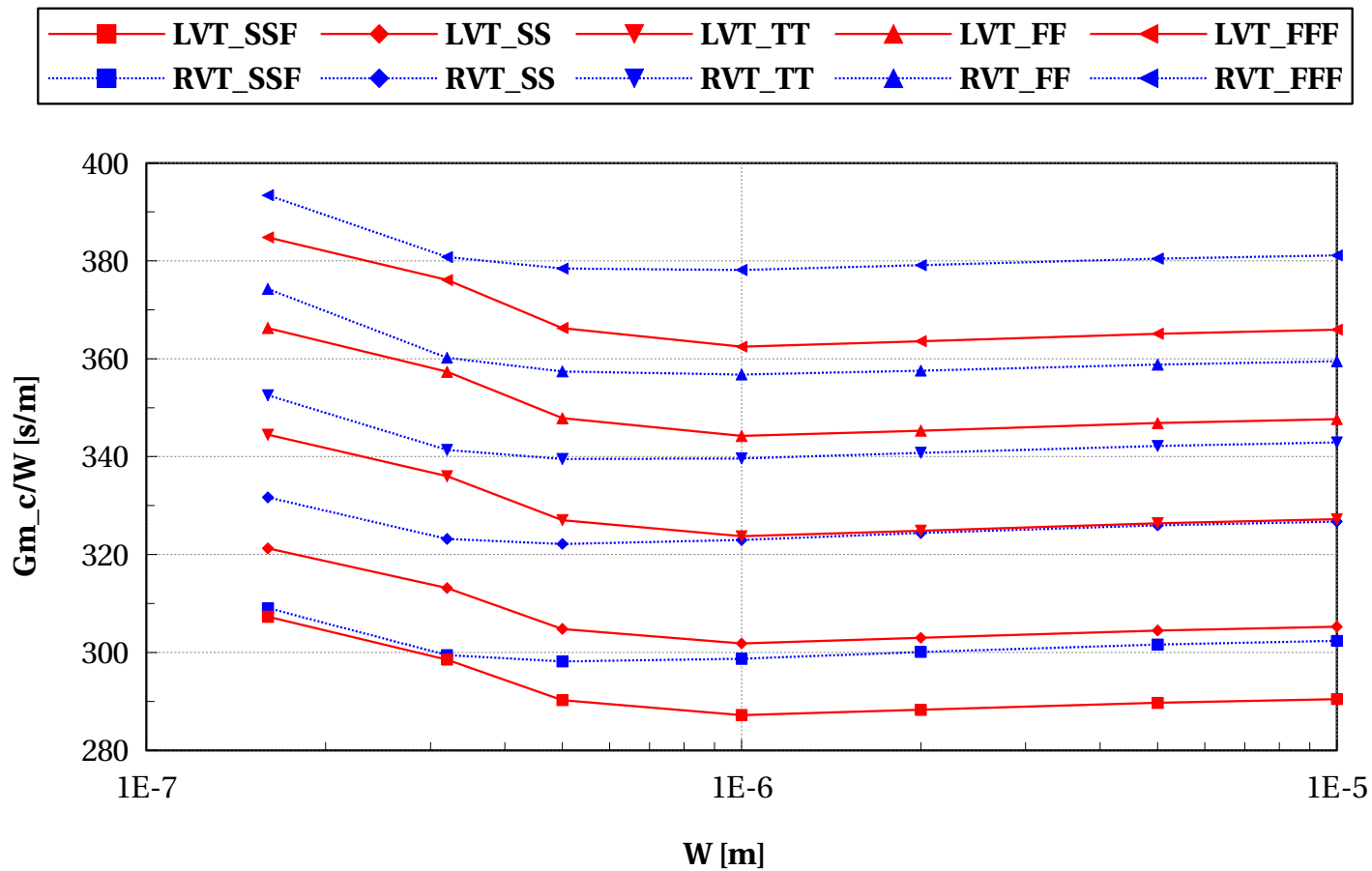
eglvtnfet_acc, Gd_c/W [s/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



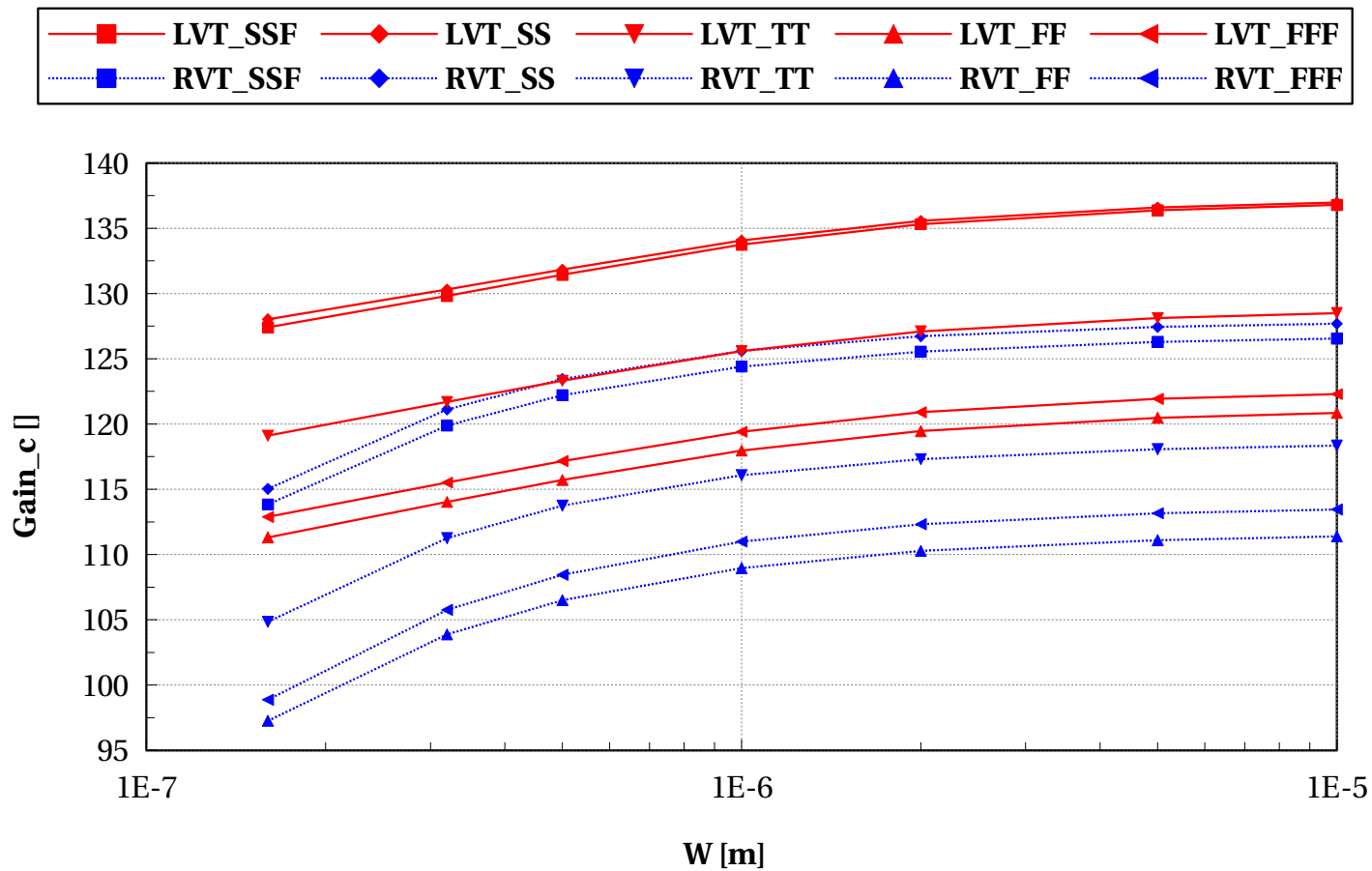
eglvtnfet_acc, Gm_c/W [s/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



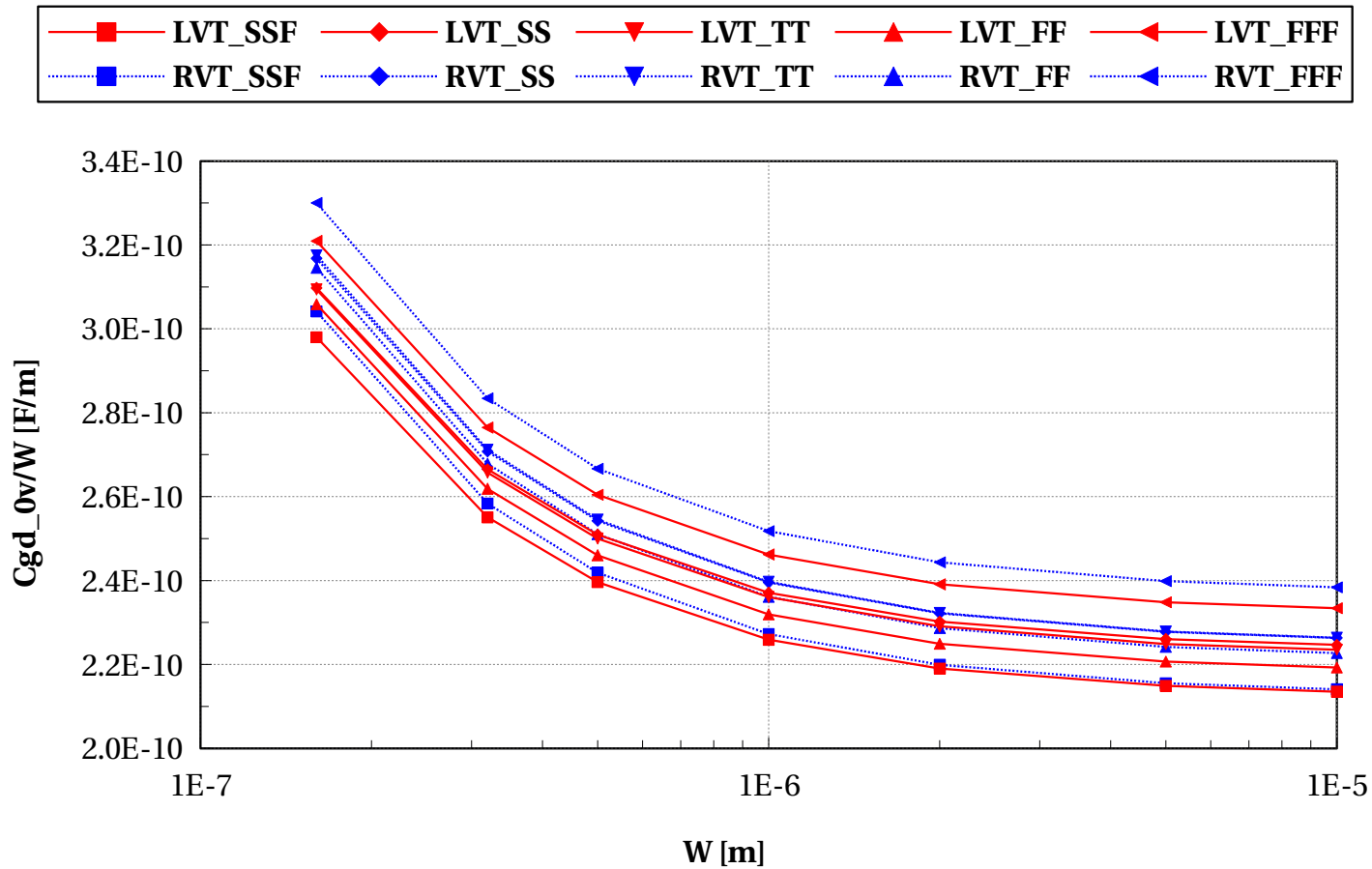
eglvtnfet_acc, Gain_c [] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



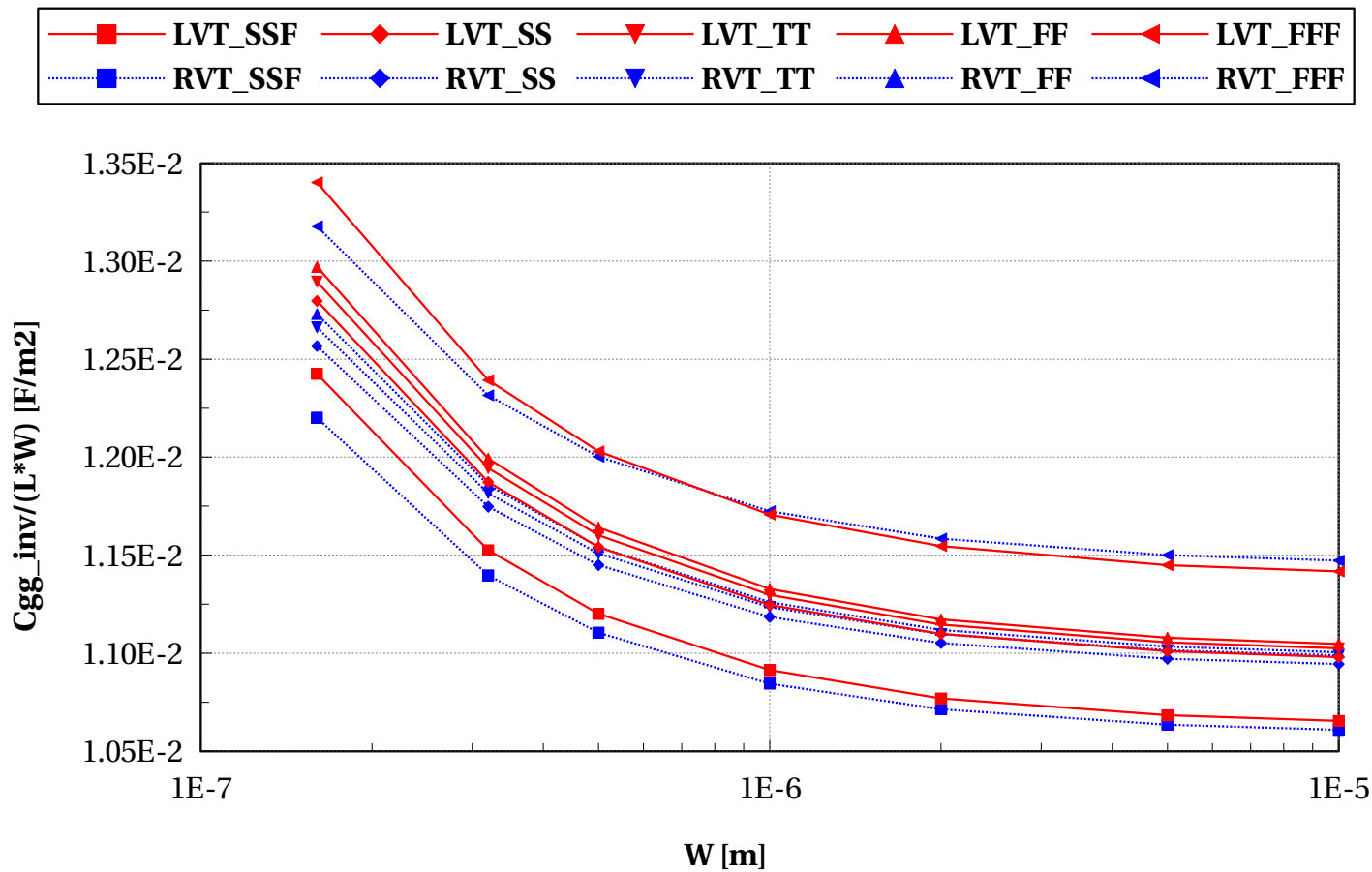
eglvtnfet_acc, Cgd_0v/W [F/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



eglvtnfet_acc, Cgg_inv/(L*W) [F/m2] vs W [m]

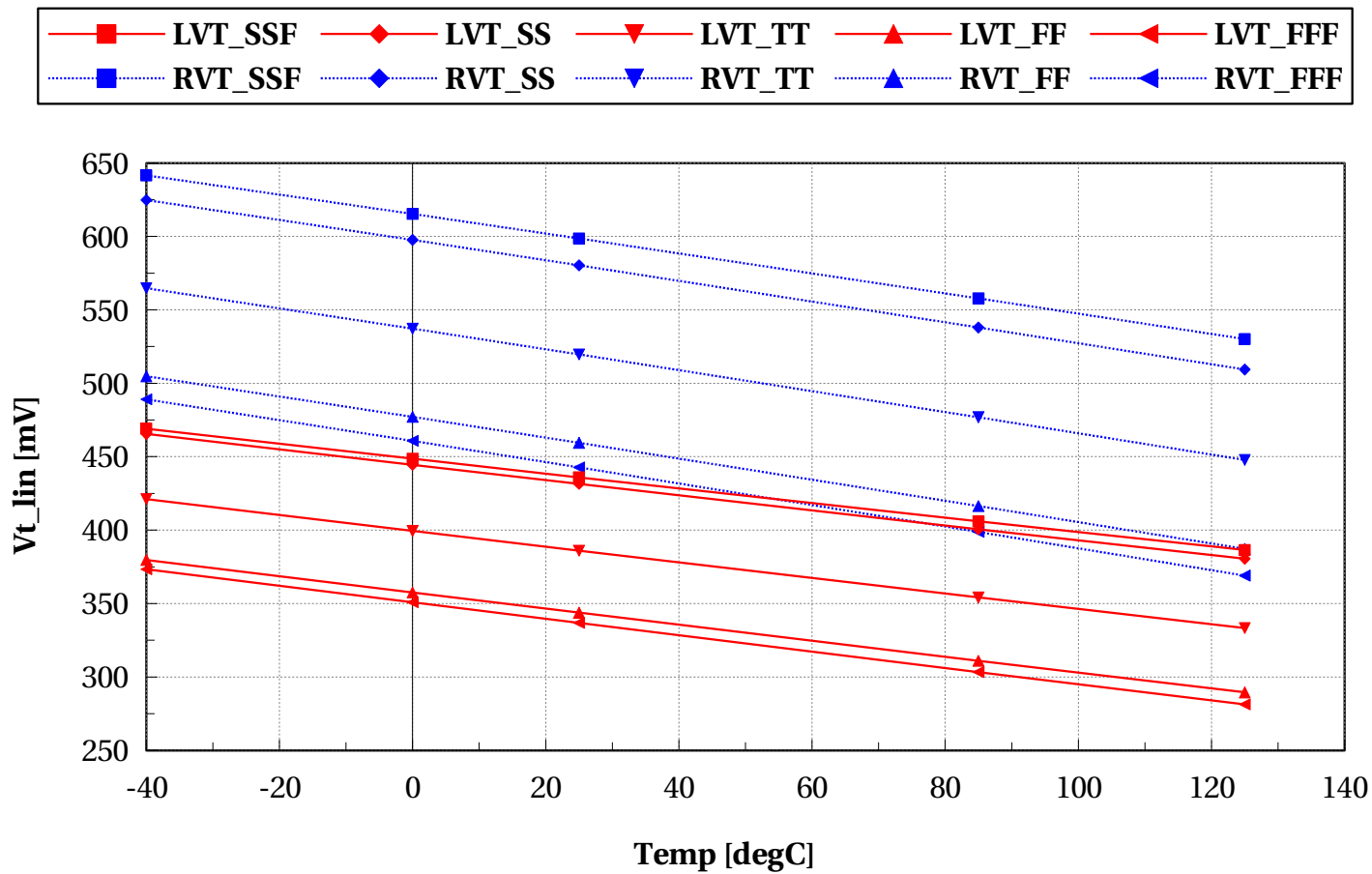
Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



Scaling versus Temp, $L=0.15\mu$, $W=2\mu$

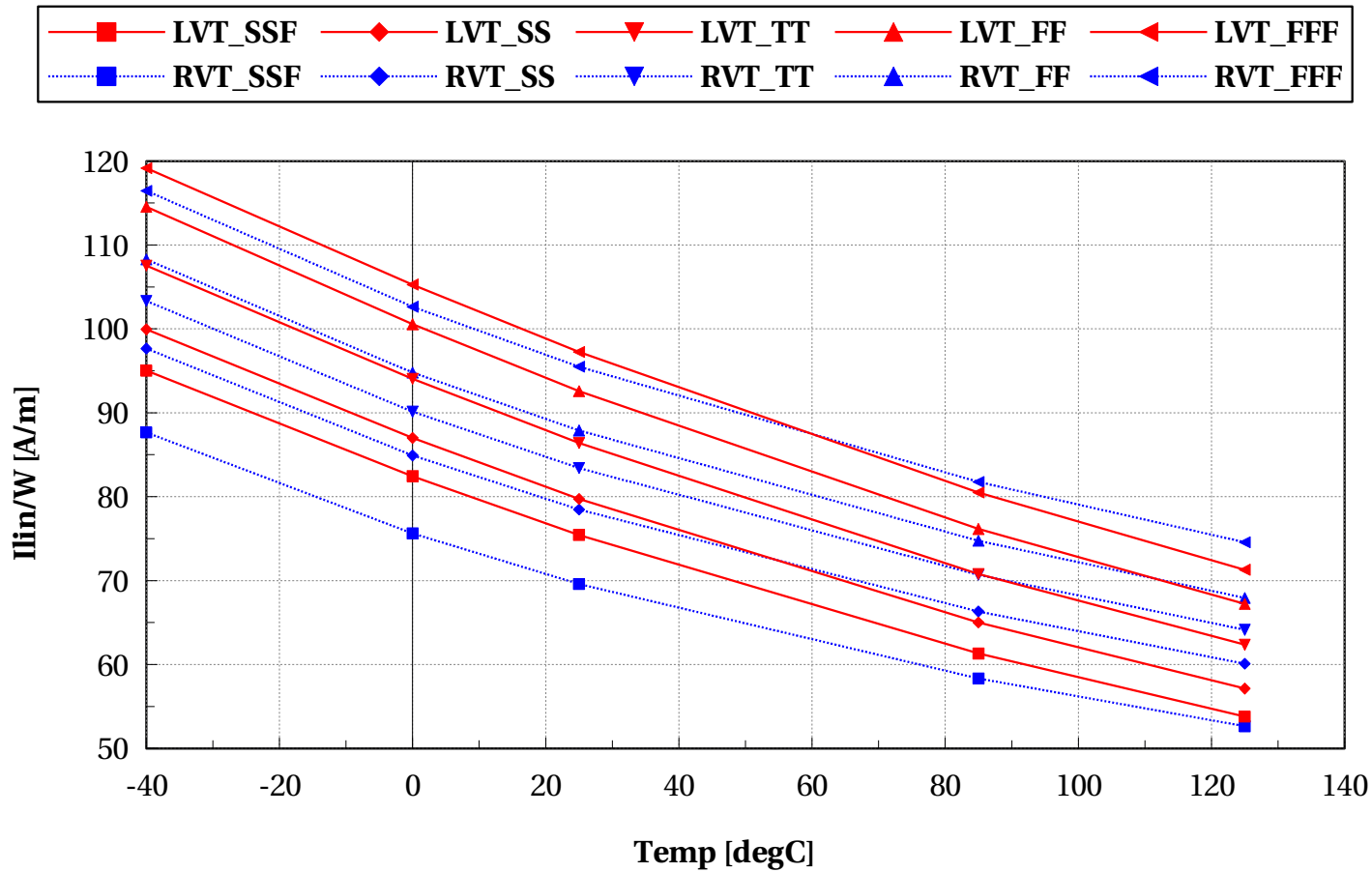
eglvtnfet_acc, Vt_lin [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



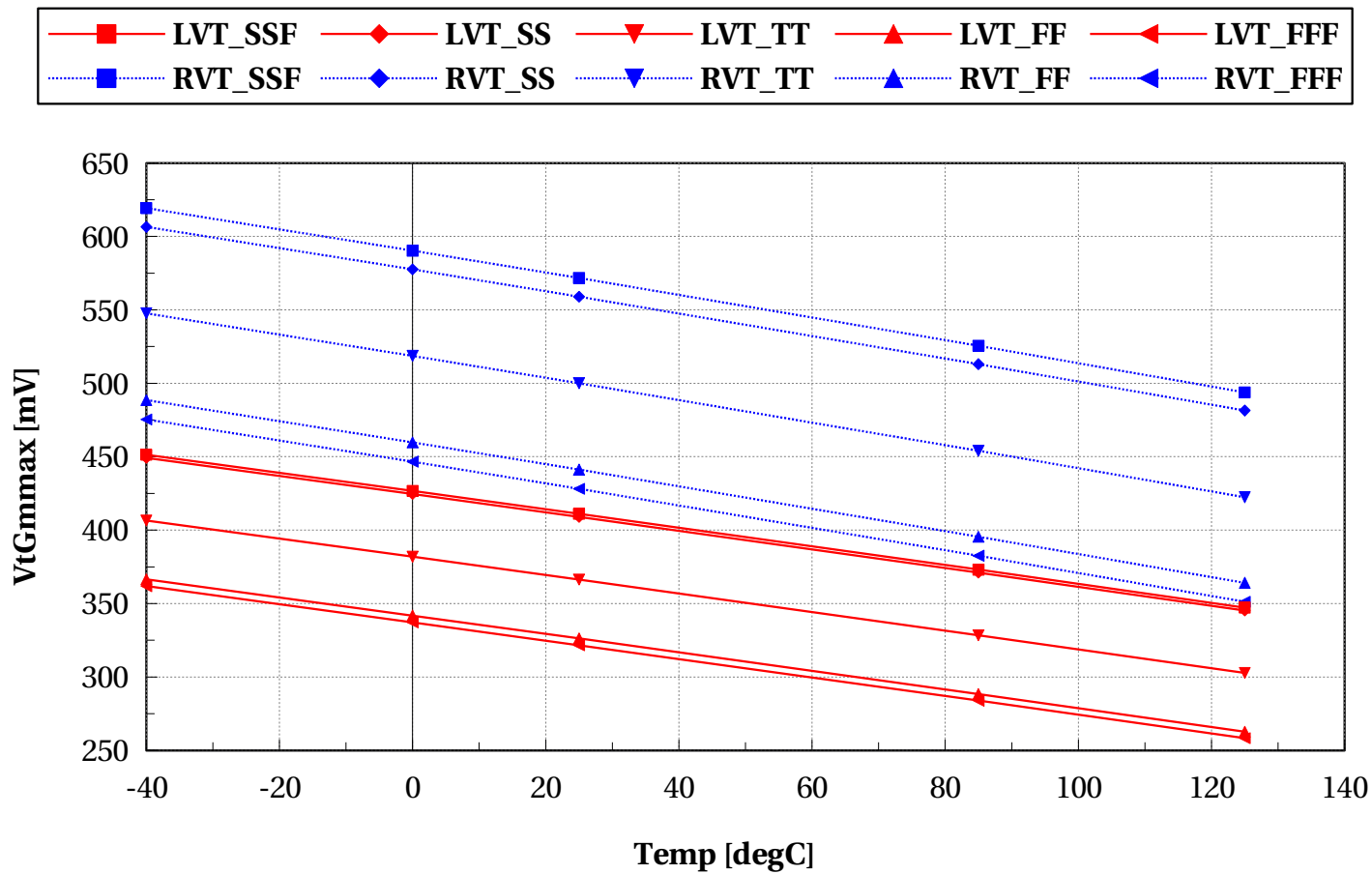
eglvtnfet_acc, I_{lin}/W [A/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



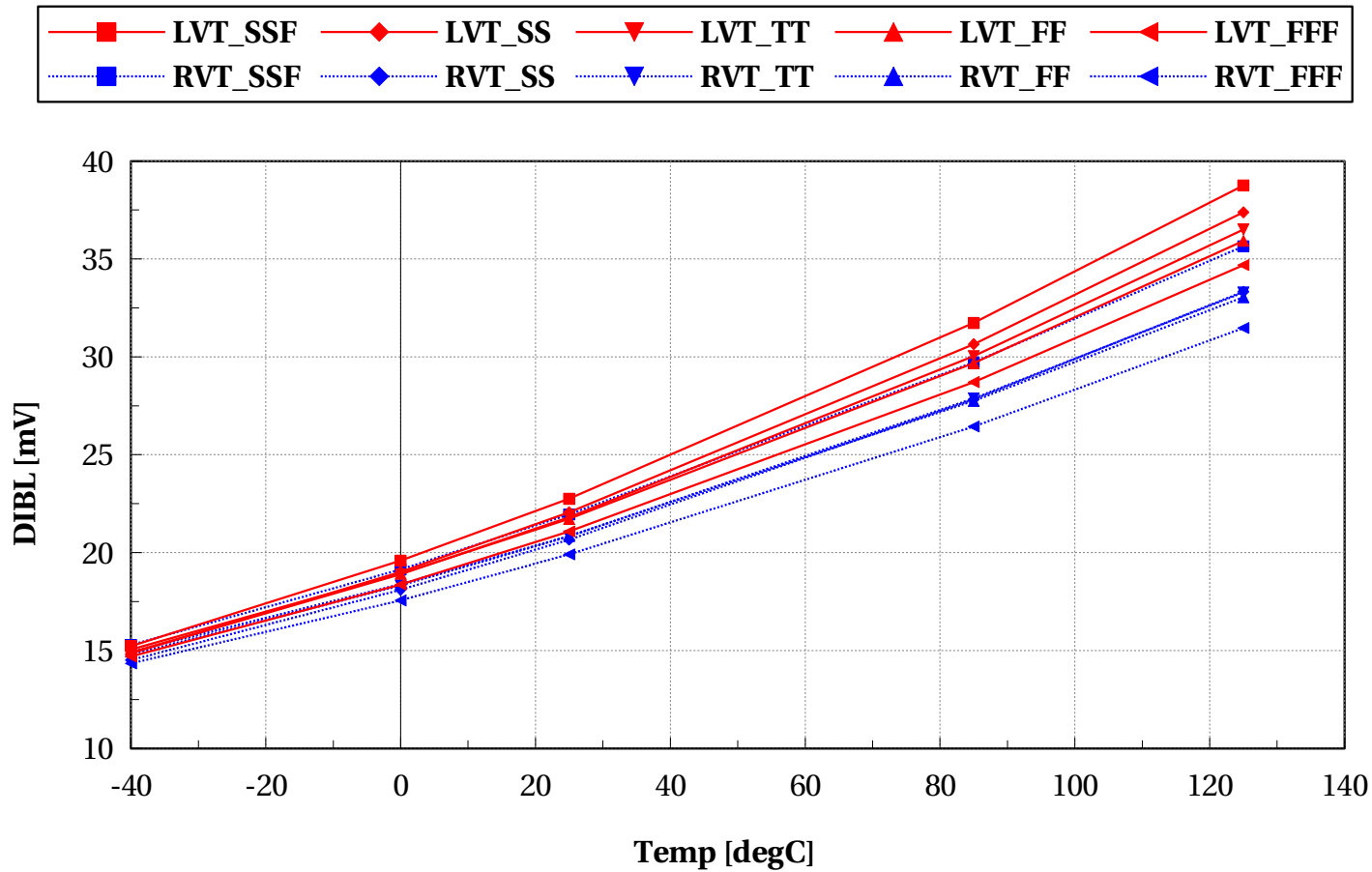
eglvtnfet_acc, VtGmmax [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



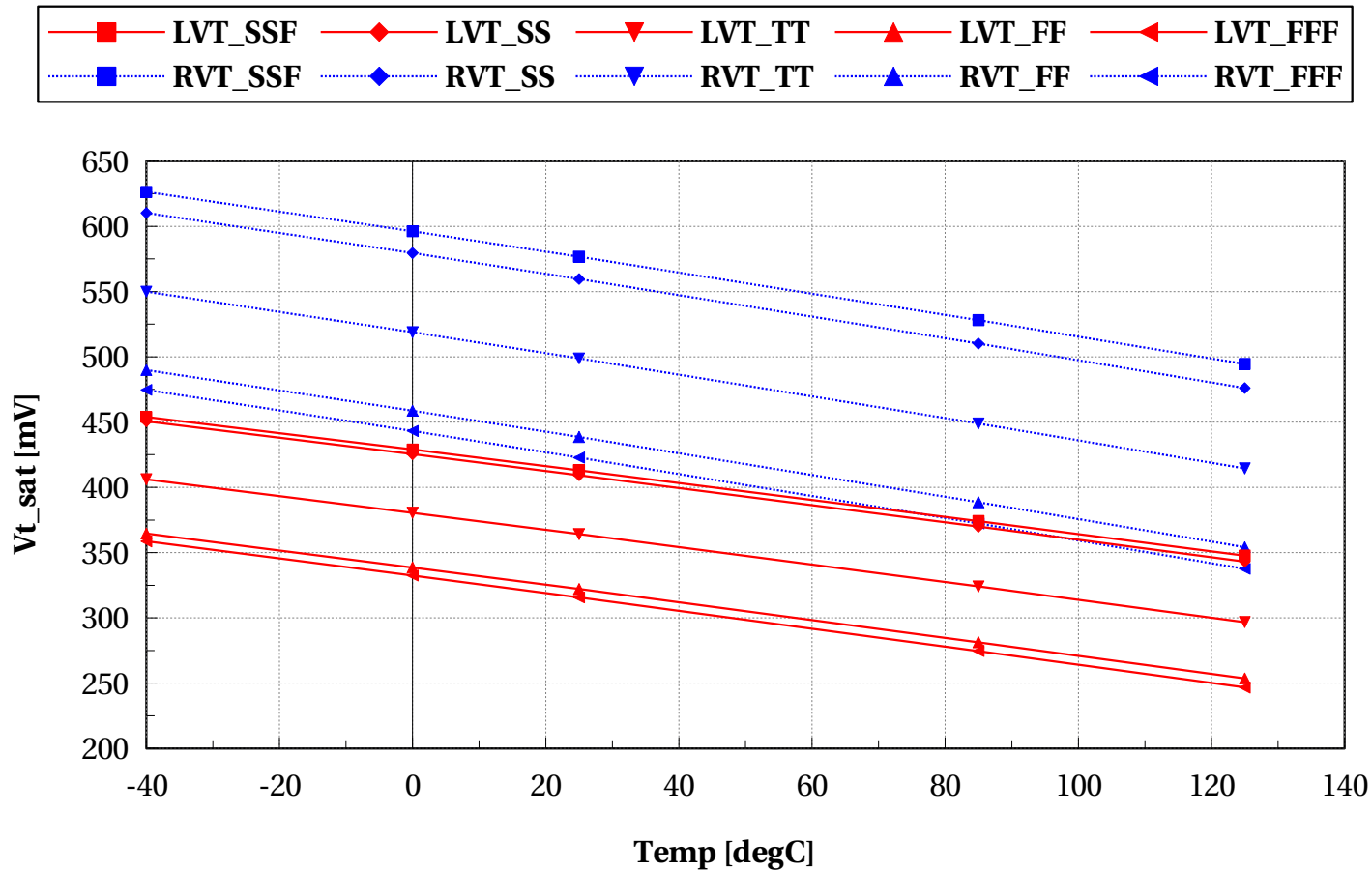
eglvtnfet_acc, DIBL [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



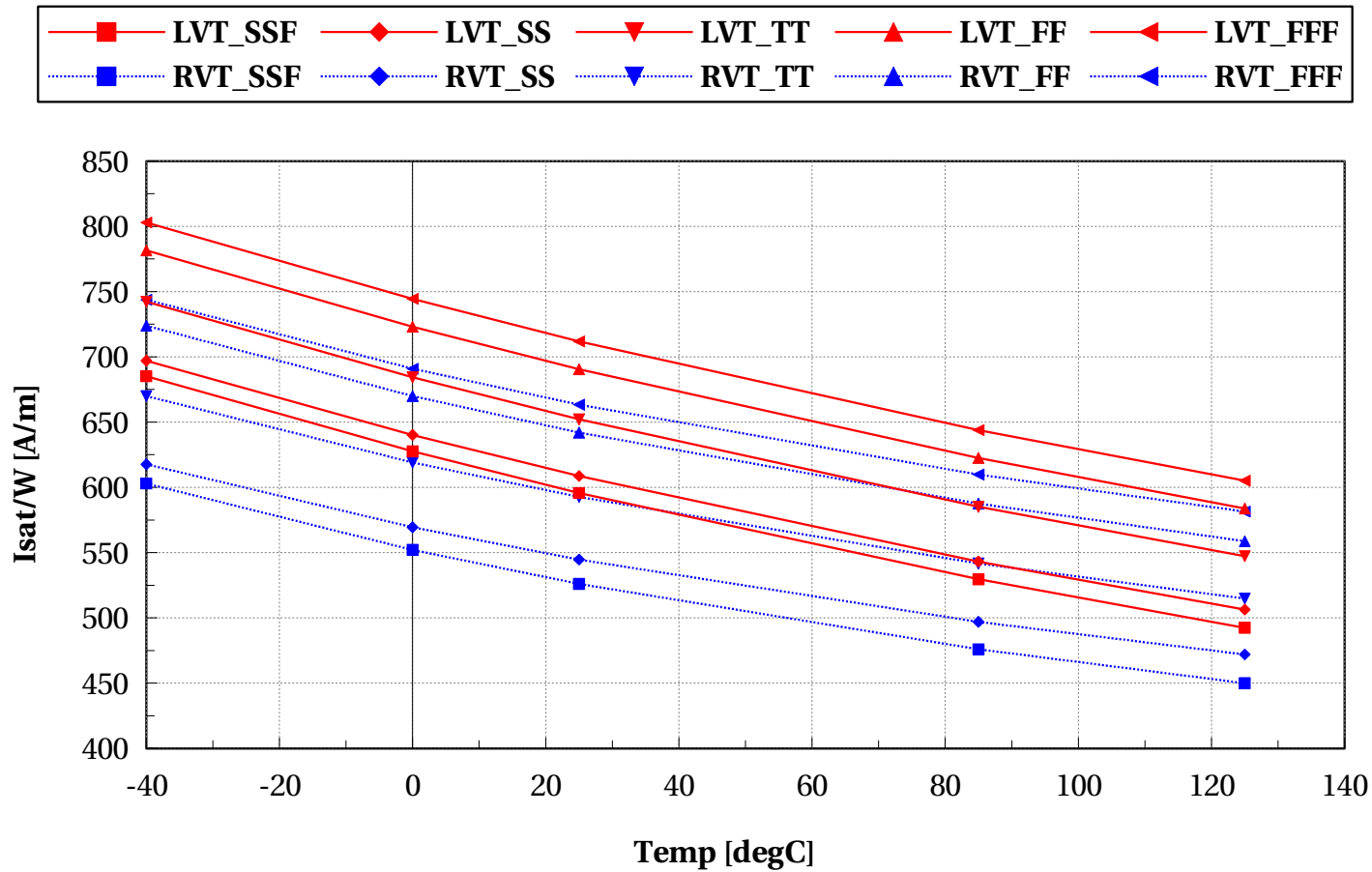
eglvtnfet_acc, Vt_sat [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



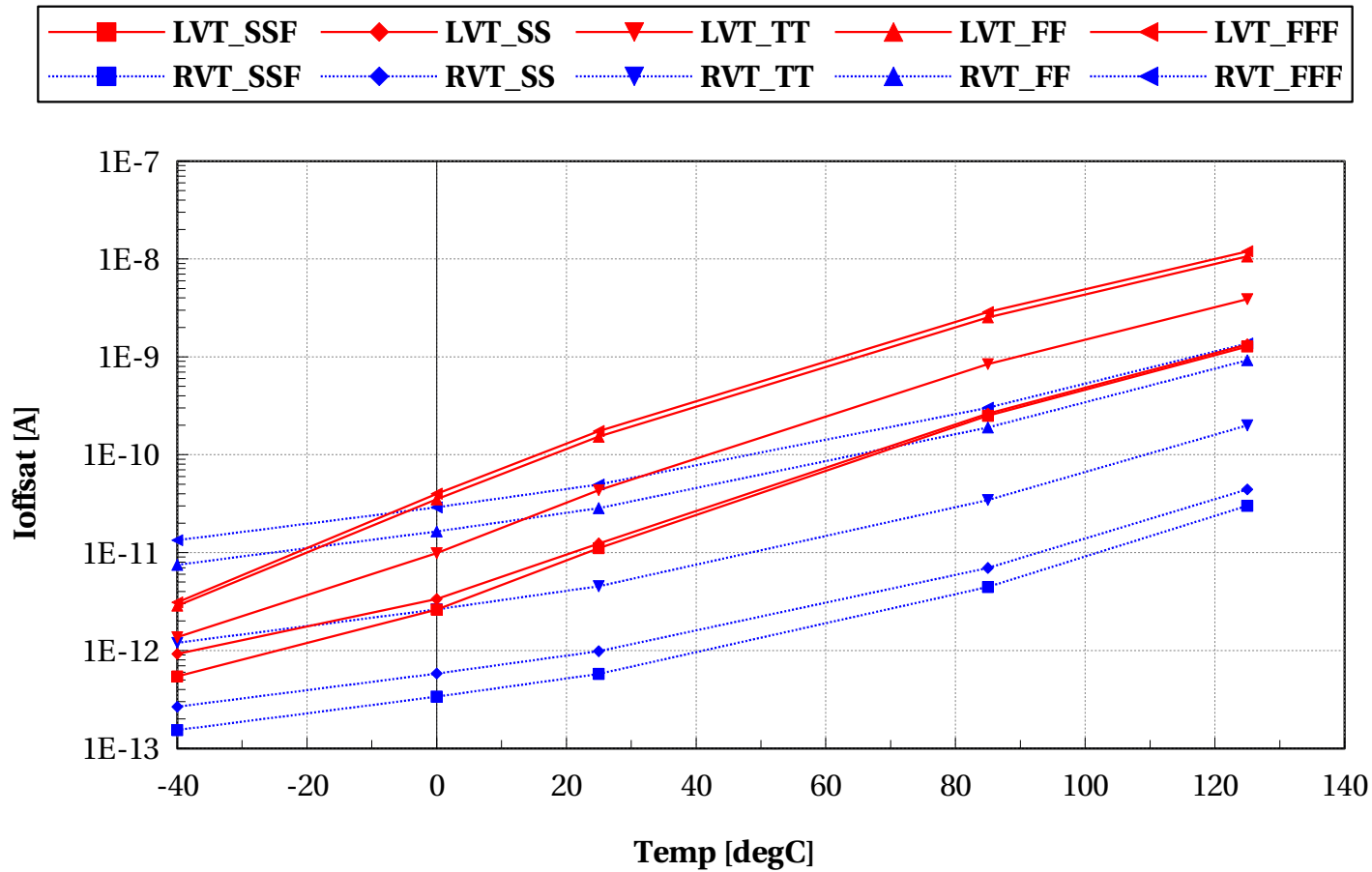
eglvtnfet_acc, Isat/W [A/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



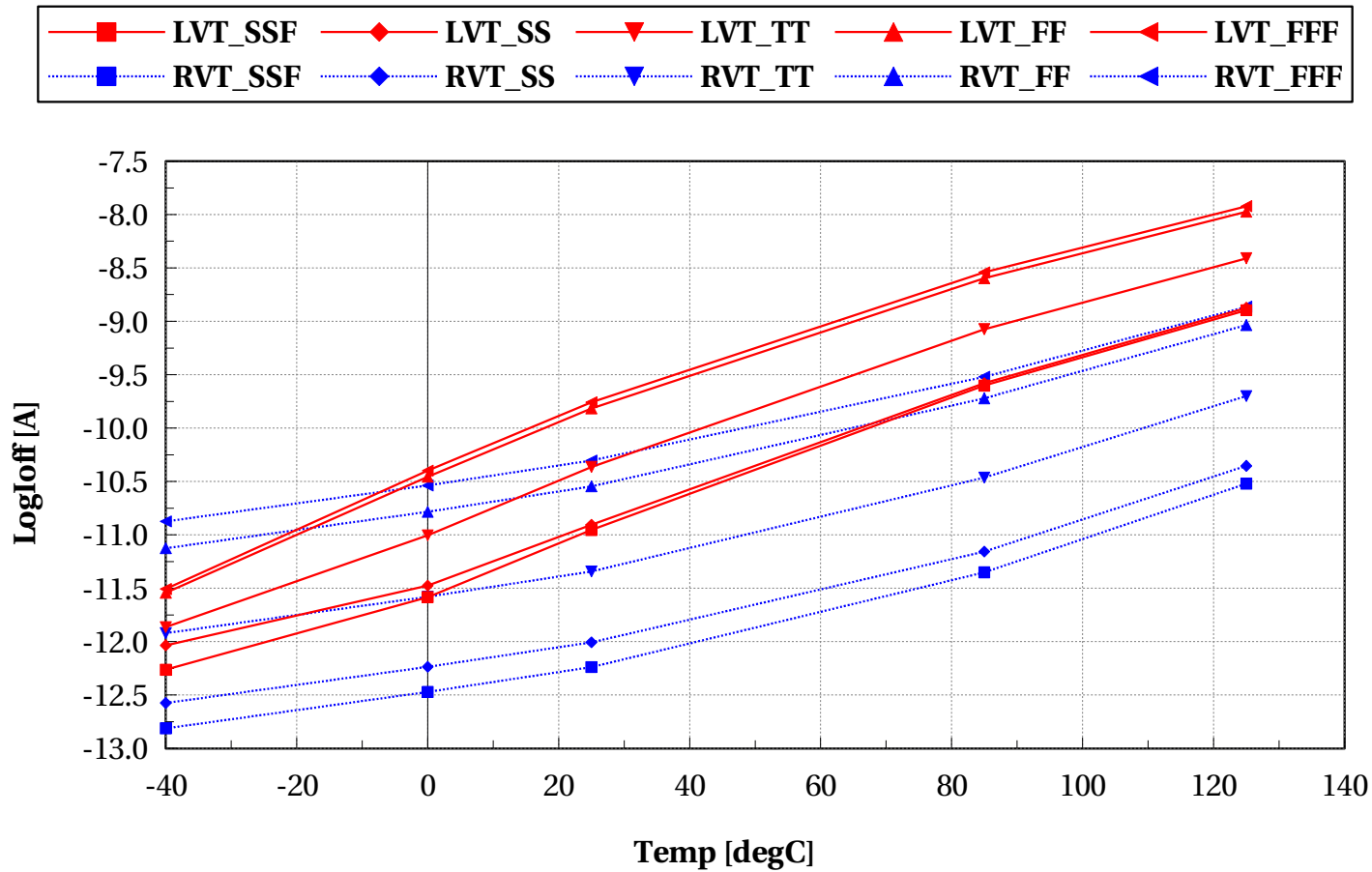
eglvtnfet_acc, Ioffsat [A] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



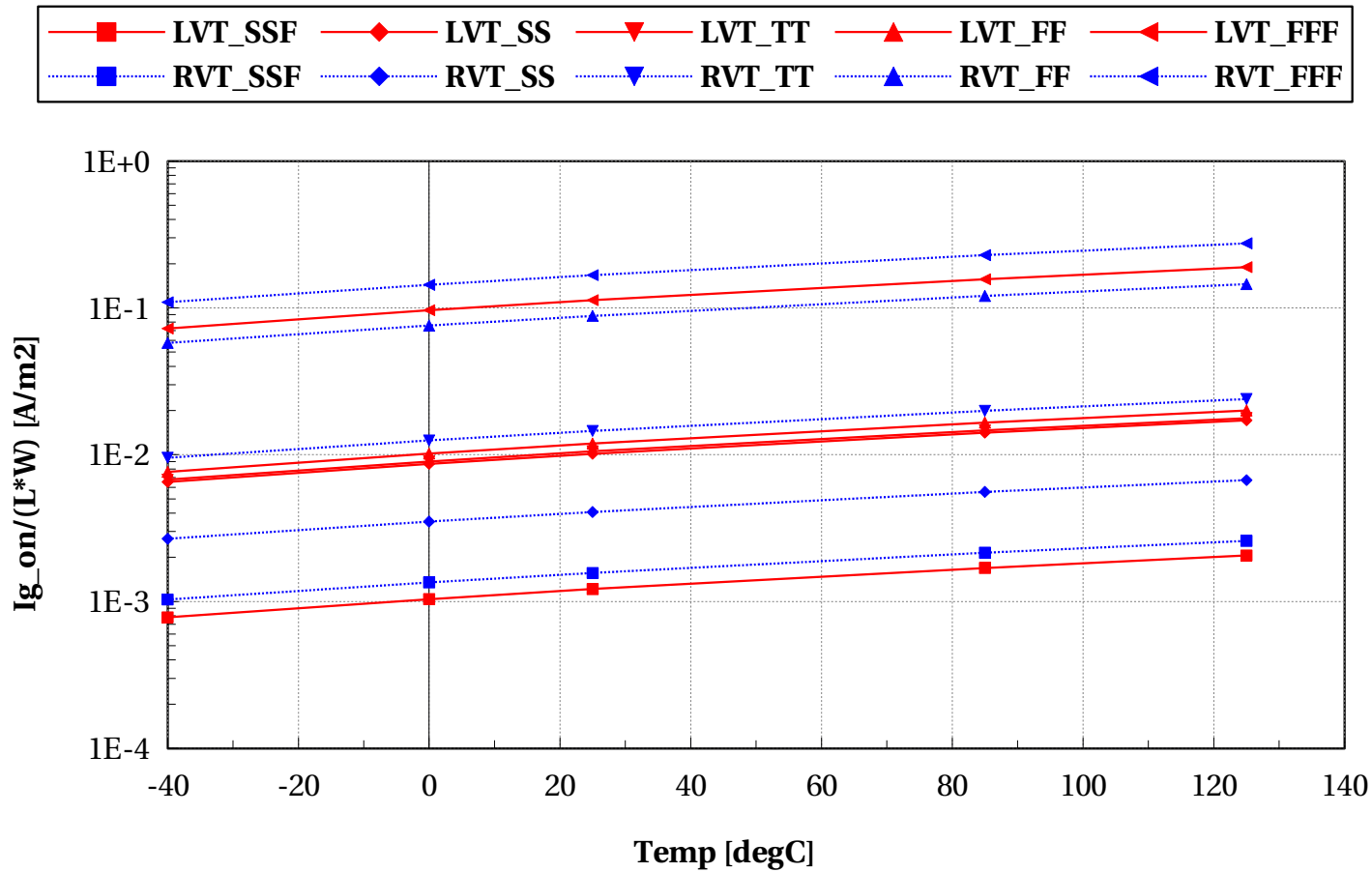
eglvtnfet_acc, LogIoff [A] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



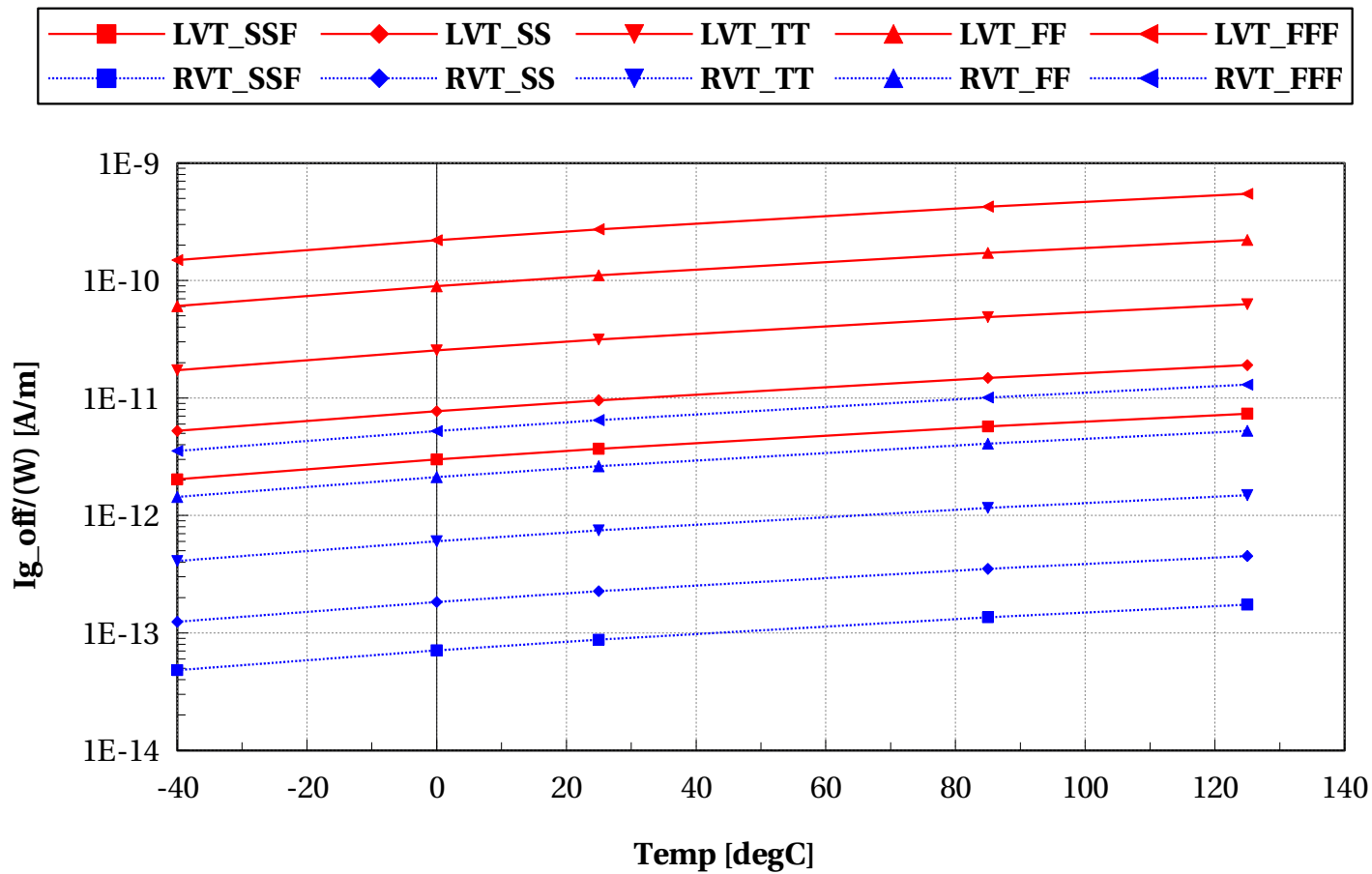
eglvtnfet_acc, $I_{g_on}/(L*W)$ [A/m²] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



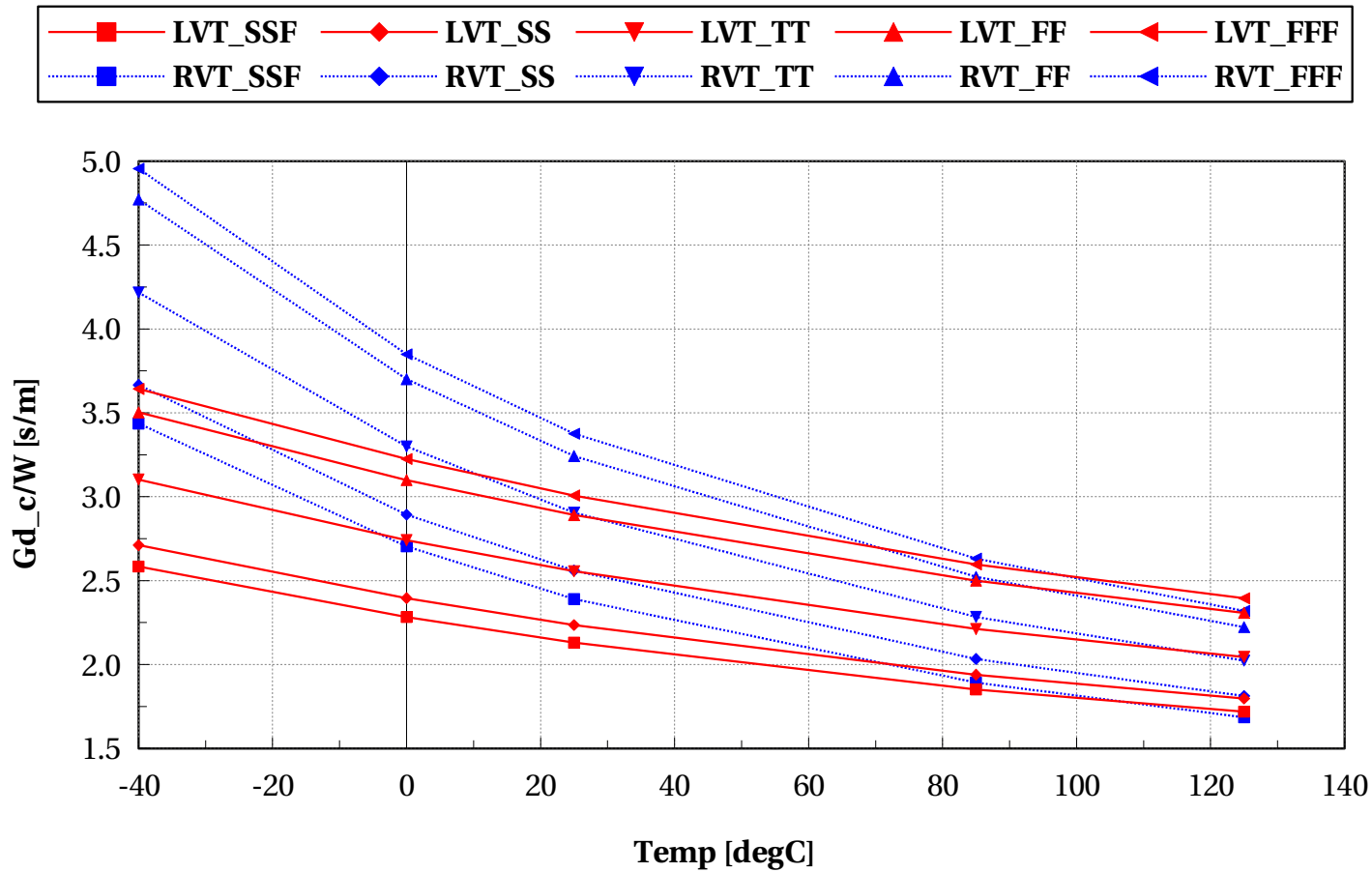
eglvtnfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



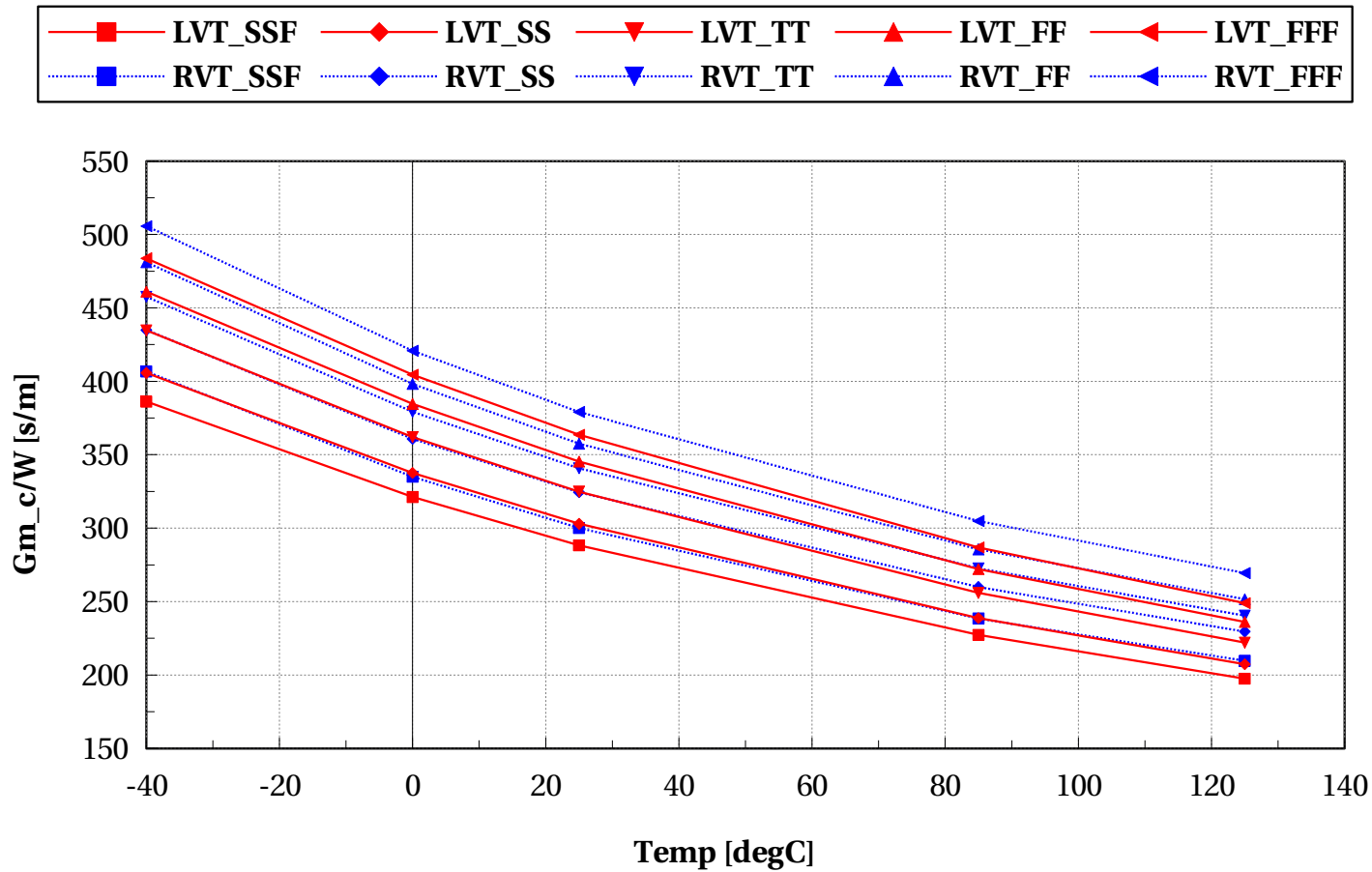
eglvtnfet_acc, Gd_c/W [s/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



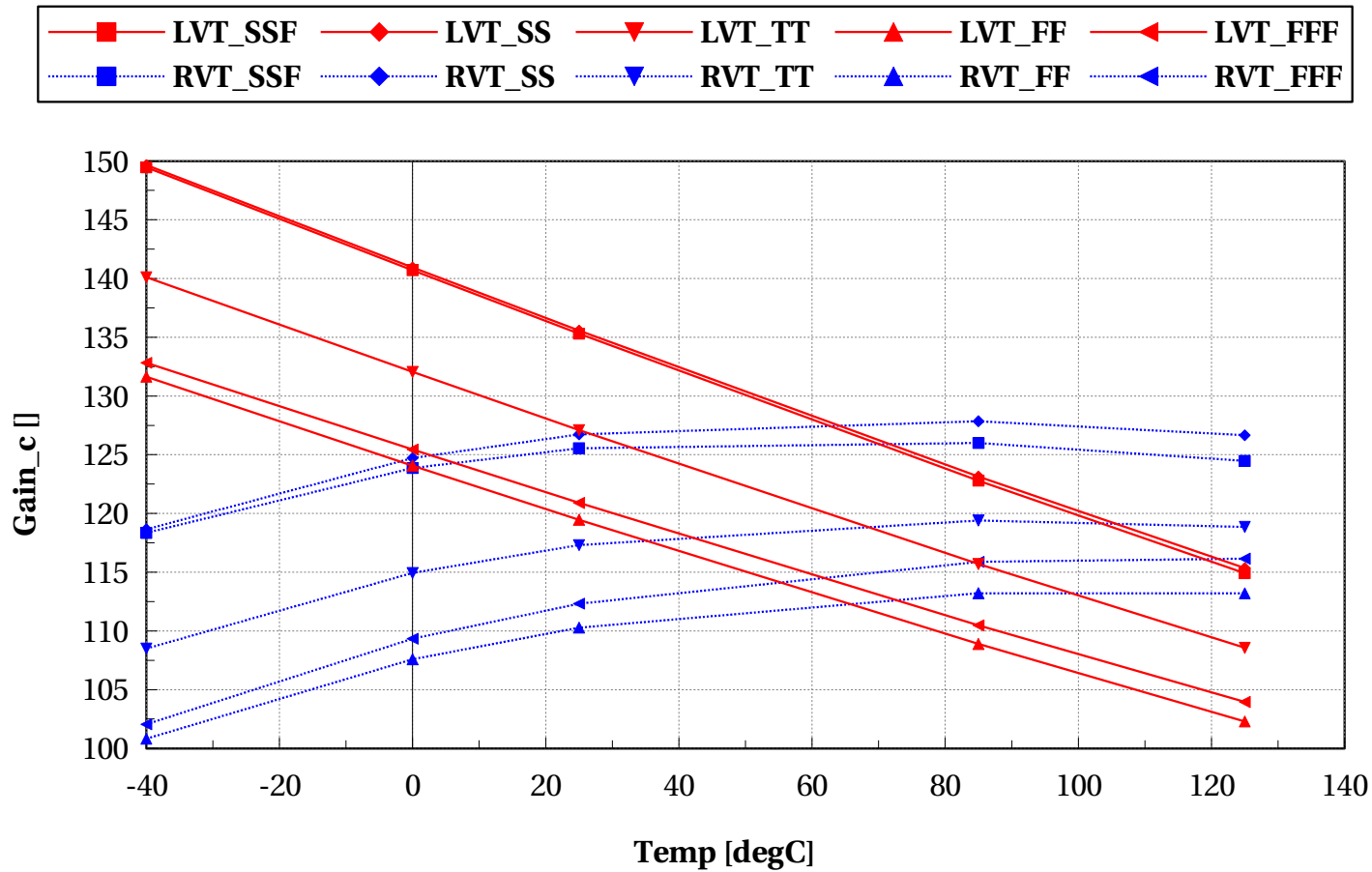
eglvtnfet_acc, Gm_c/W [s/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



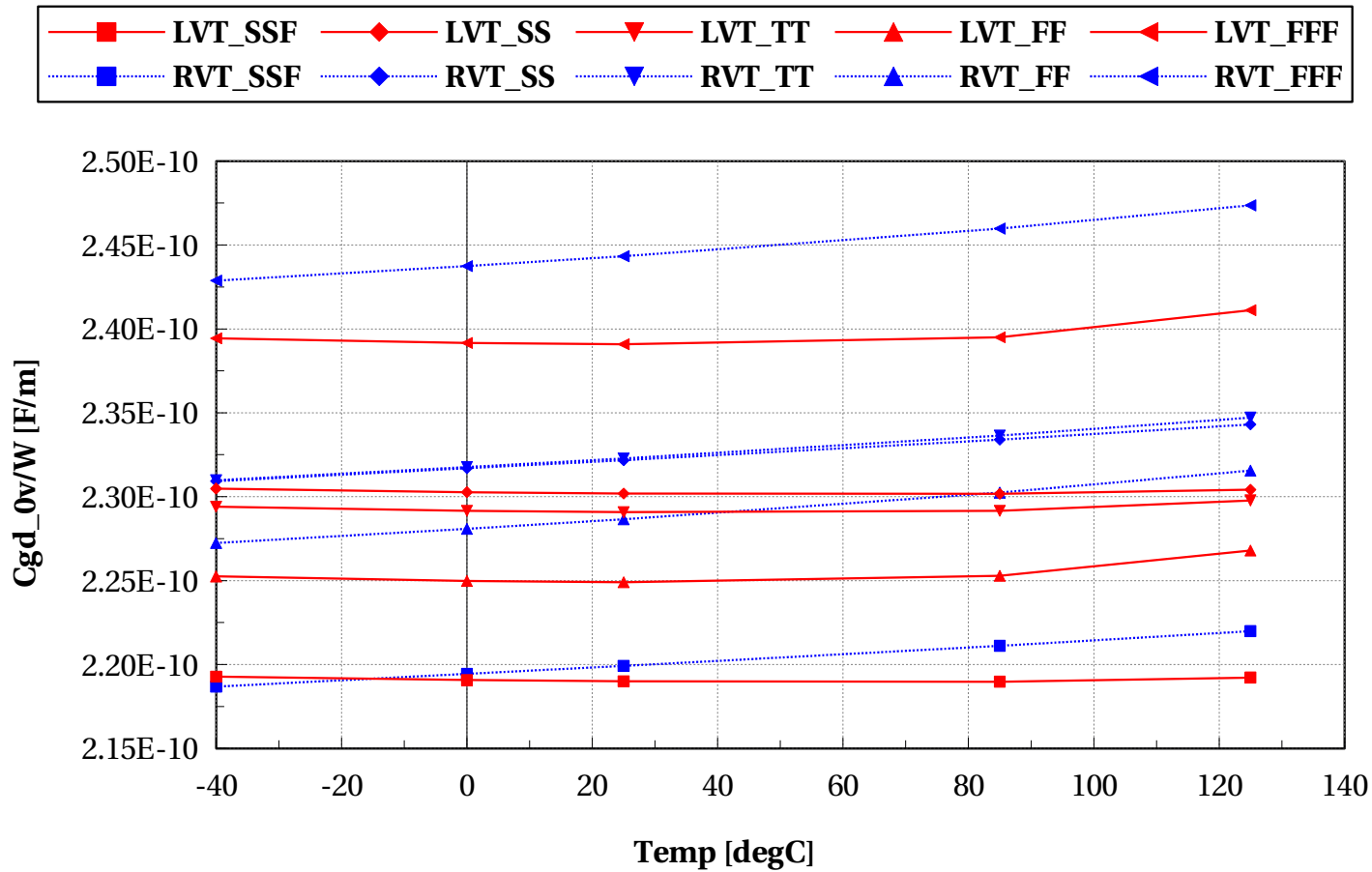
eglvtnfet_acc, Gain_c [] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



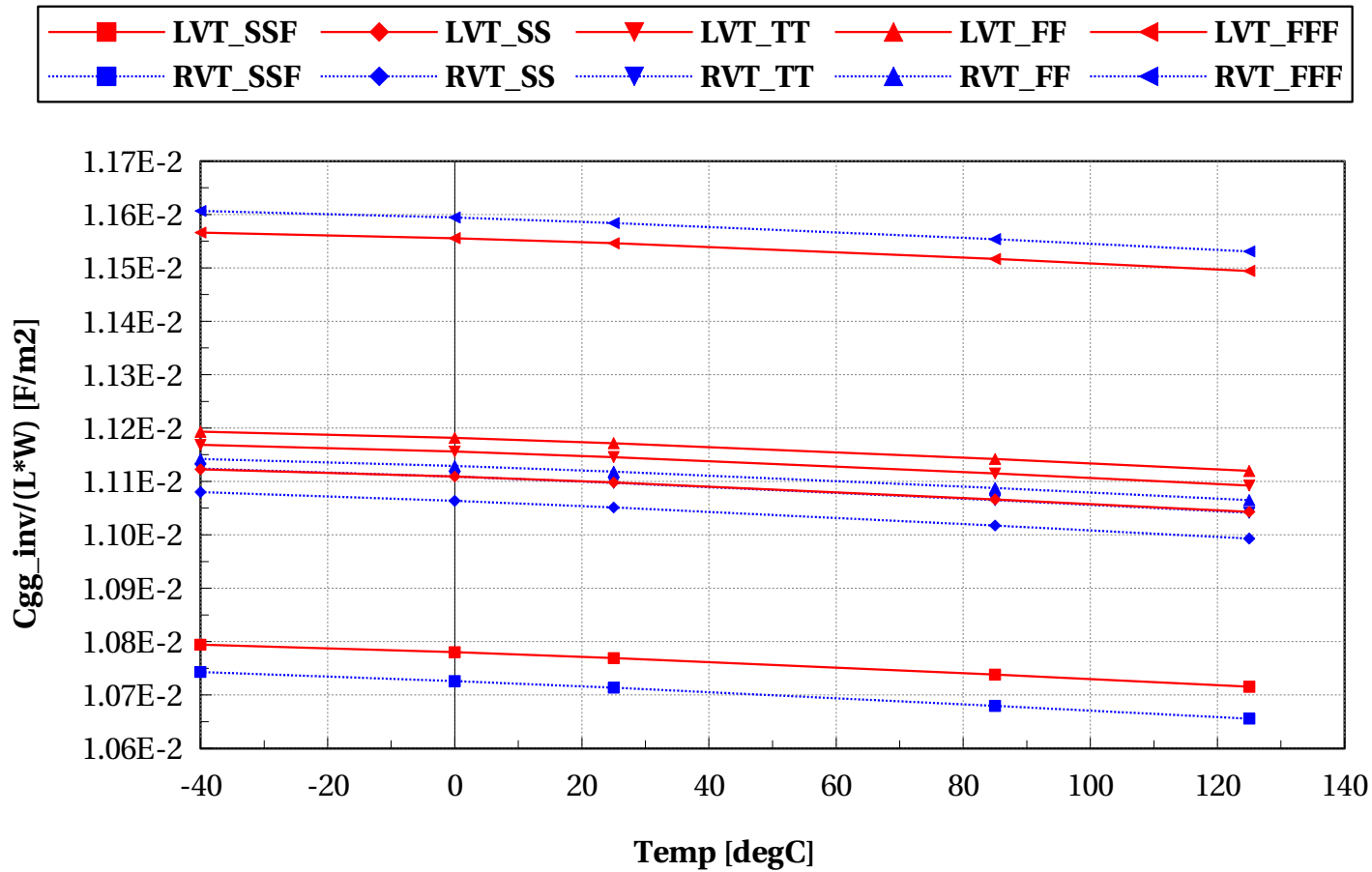
eglvtnfet_acc, Cgd_0v/W [F/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



eglvtnfet_acc, Cgg_inv/(L*W) [F/m2] vs Temp [degC]

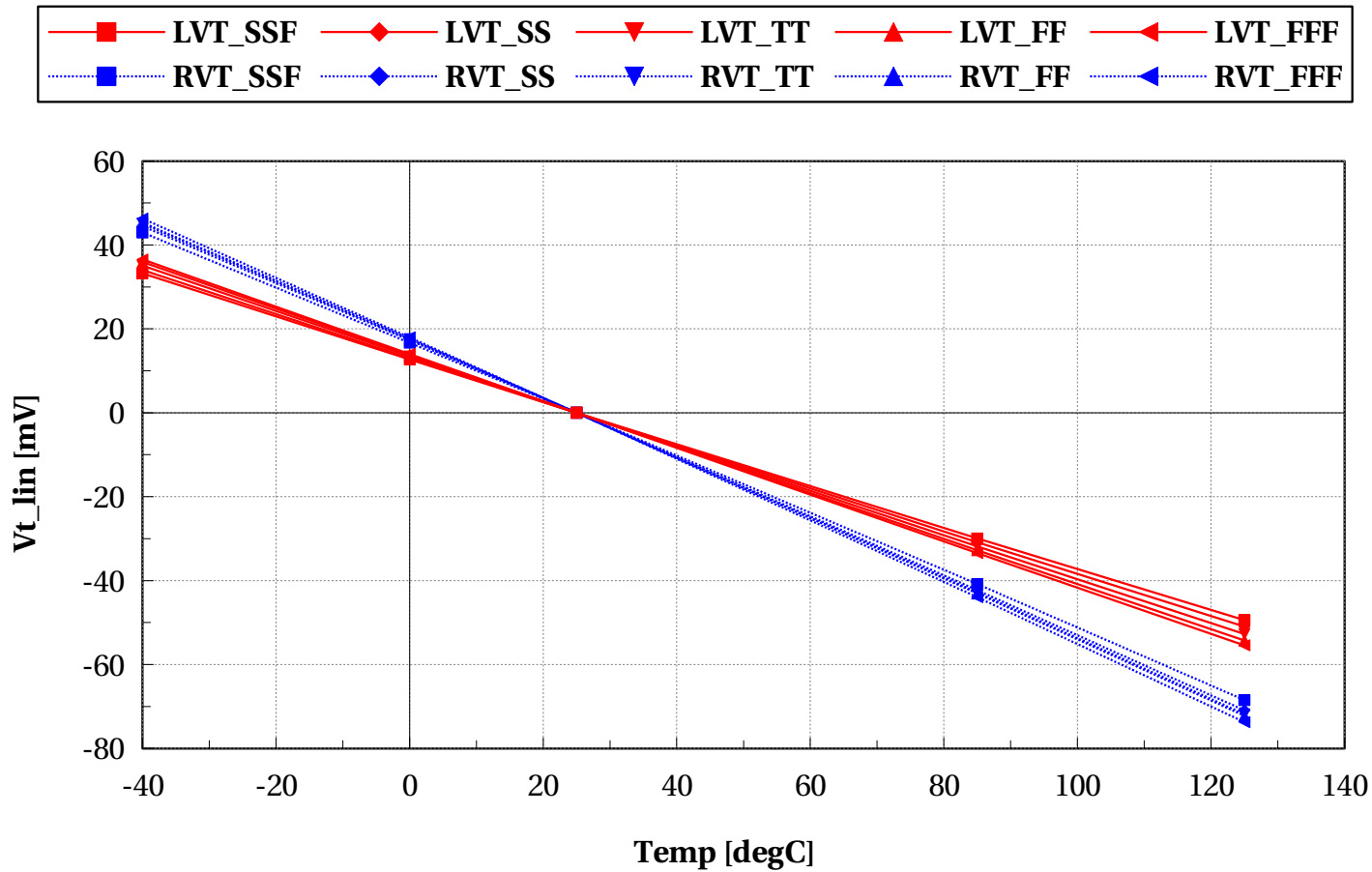
$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



Scaling versus Temp, $L=0.15\mu$, $W=2\mu$

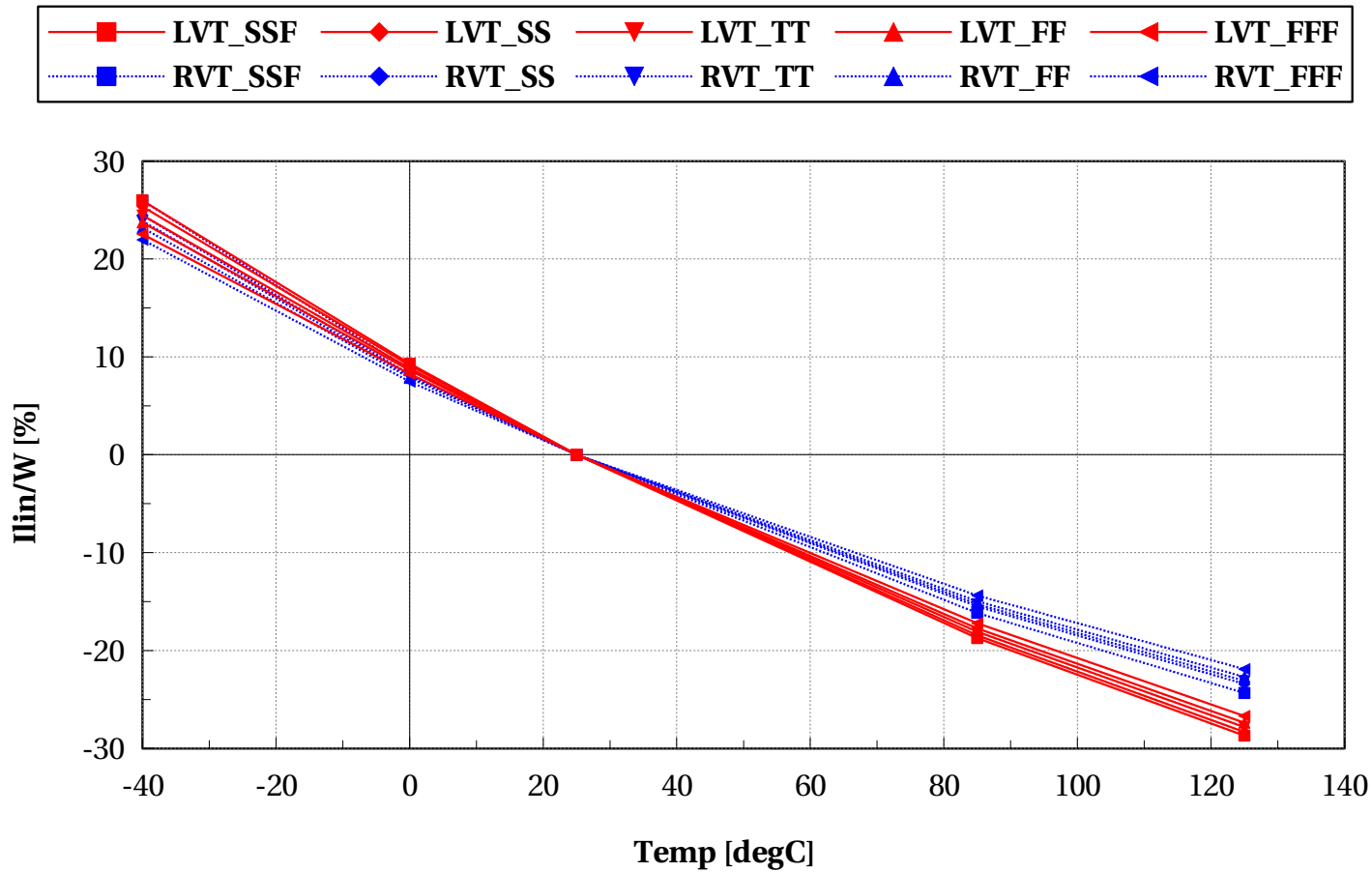
eglvtnfet_acc, Vt_lin [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



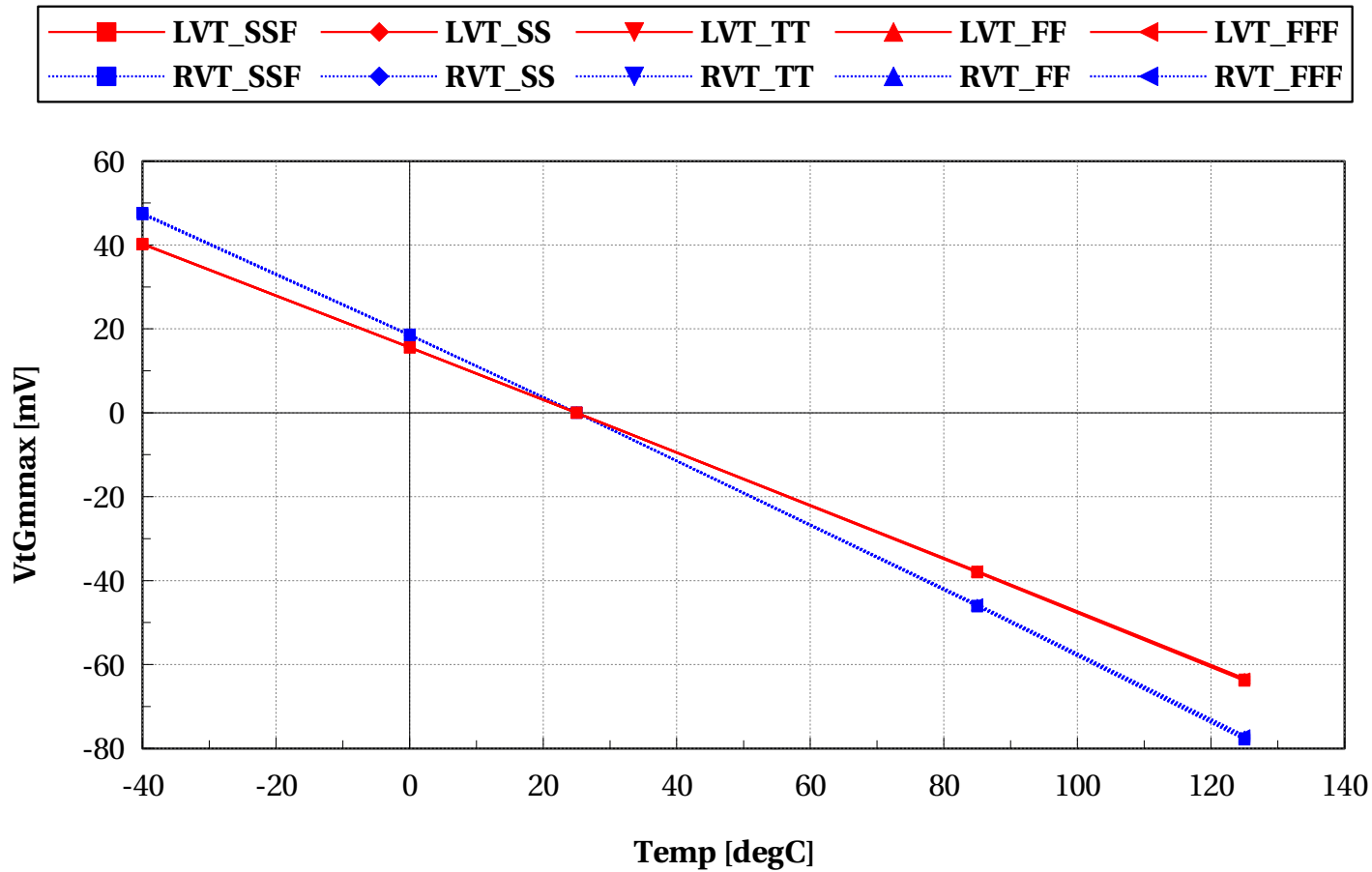
eglvtnfet_acc, Ilin/W [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



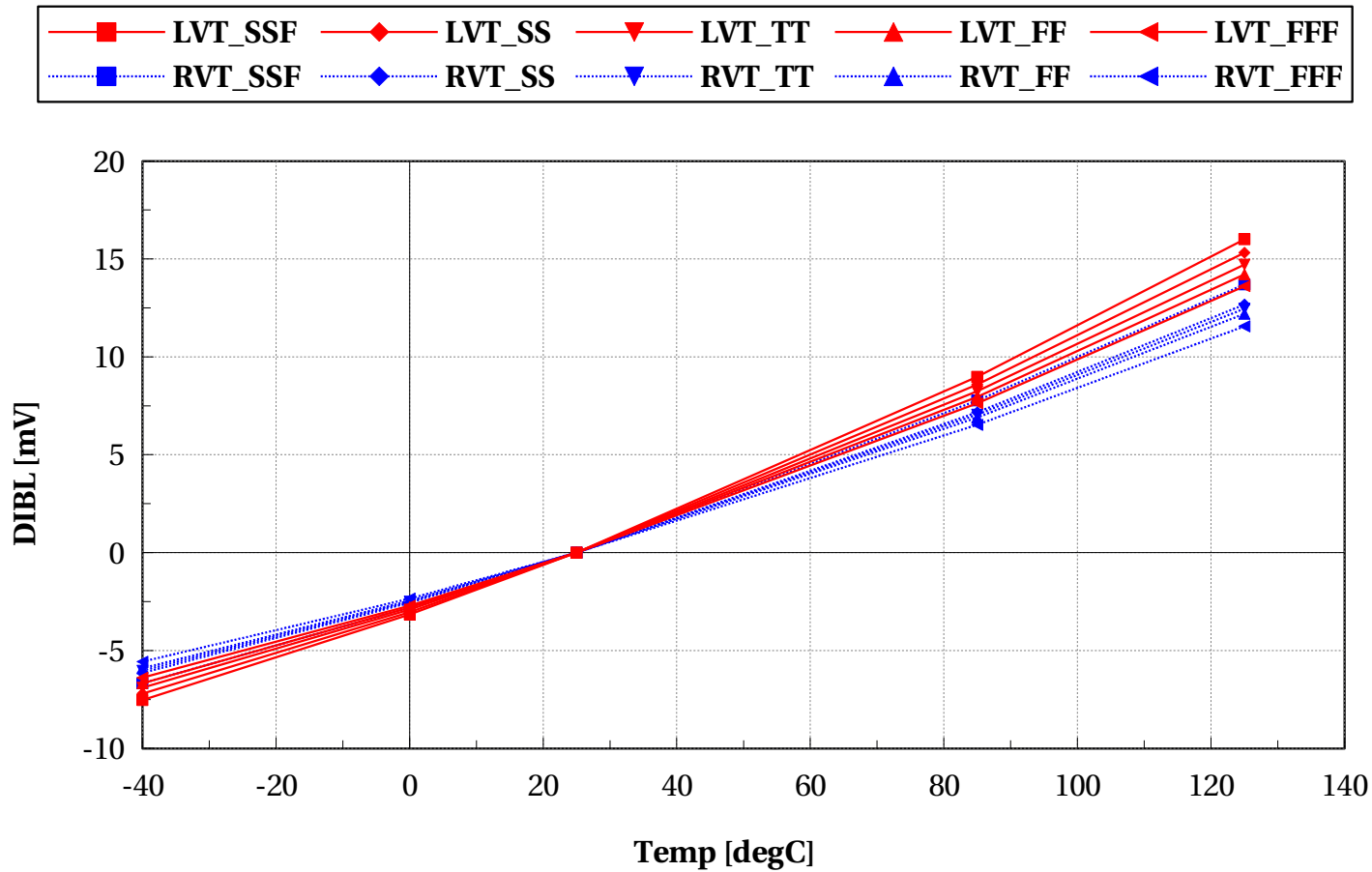
eglvtnfet_acc, VtGmmax [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



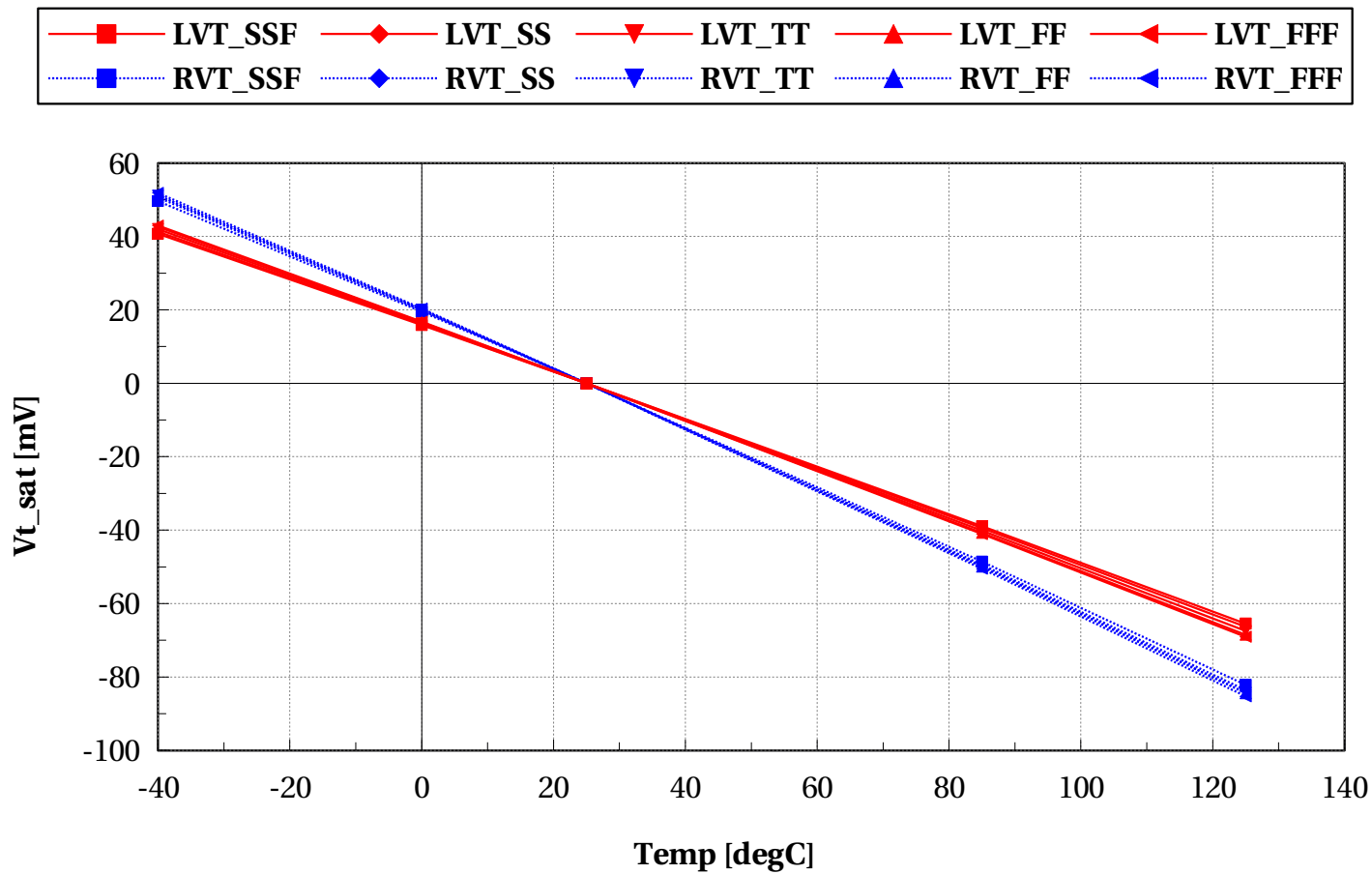
eglvtnfet_acc, DIBL [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



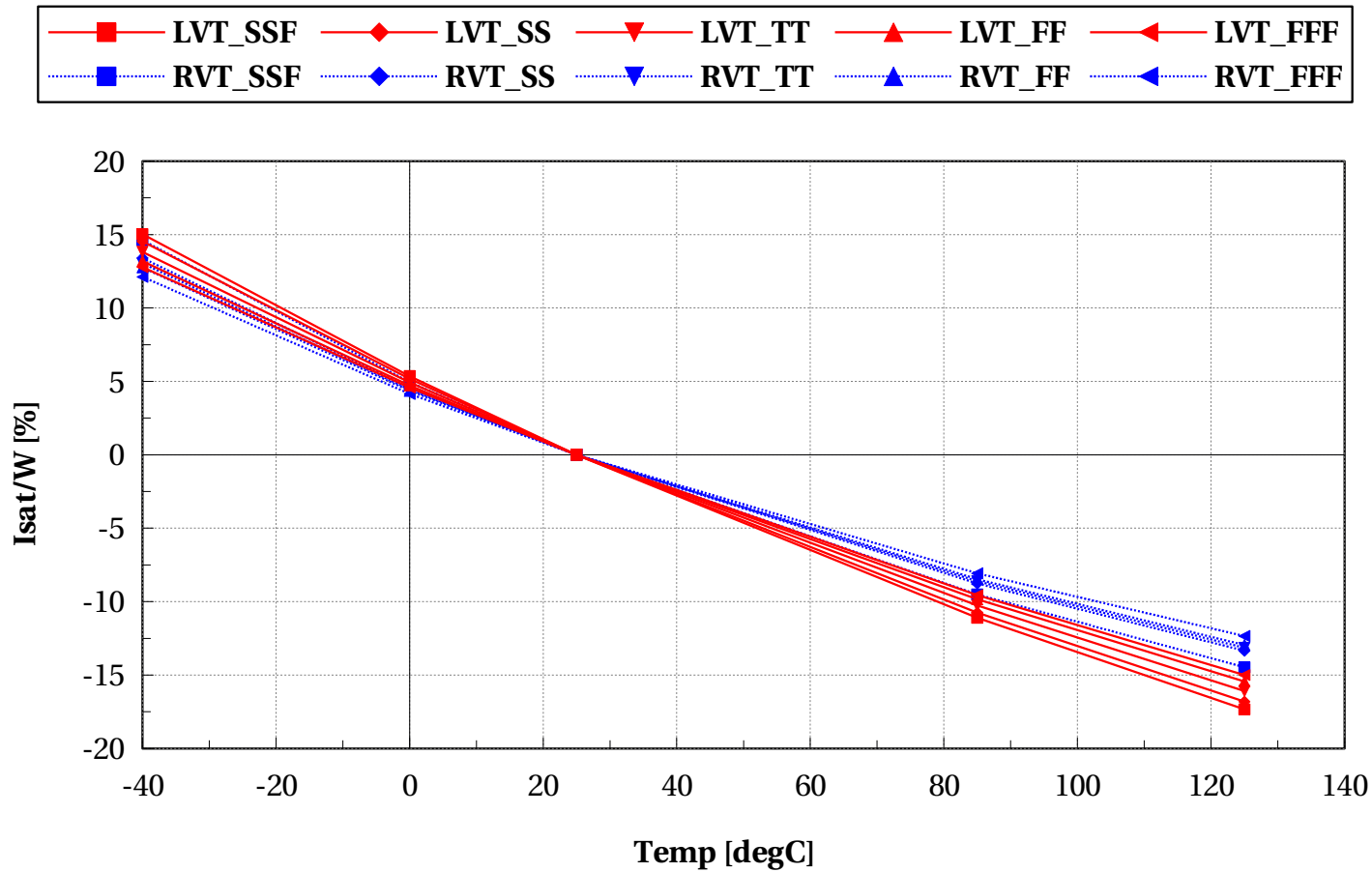
eglvtnfet_acc, Vt_sat [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



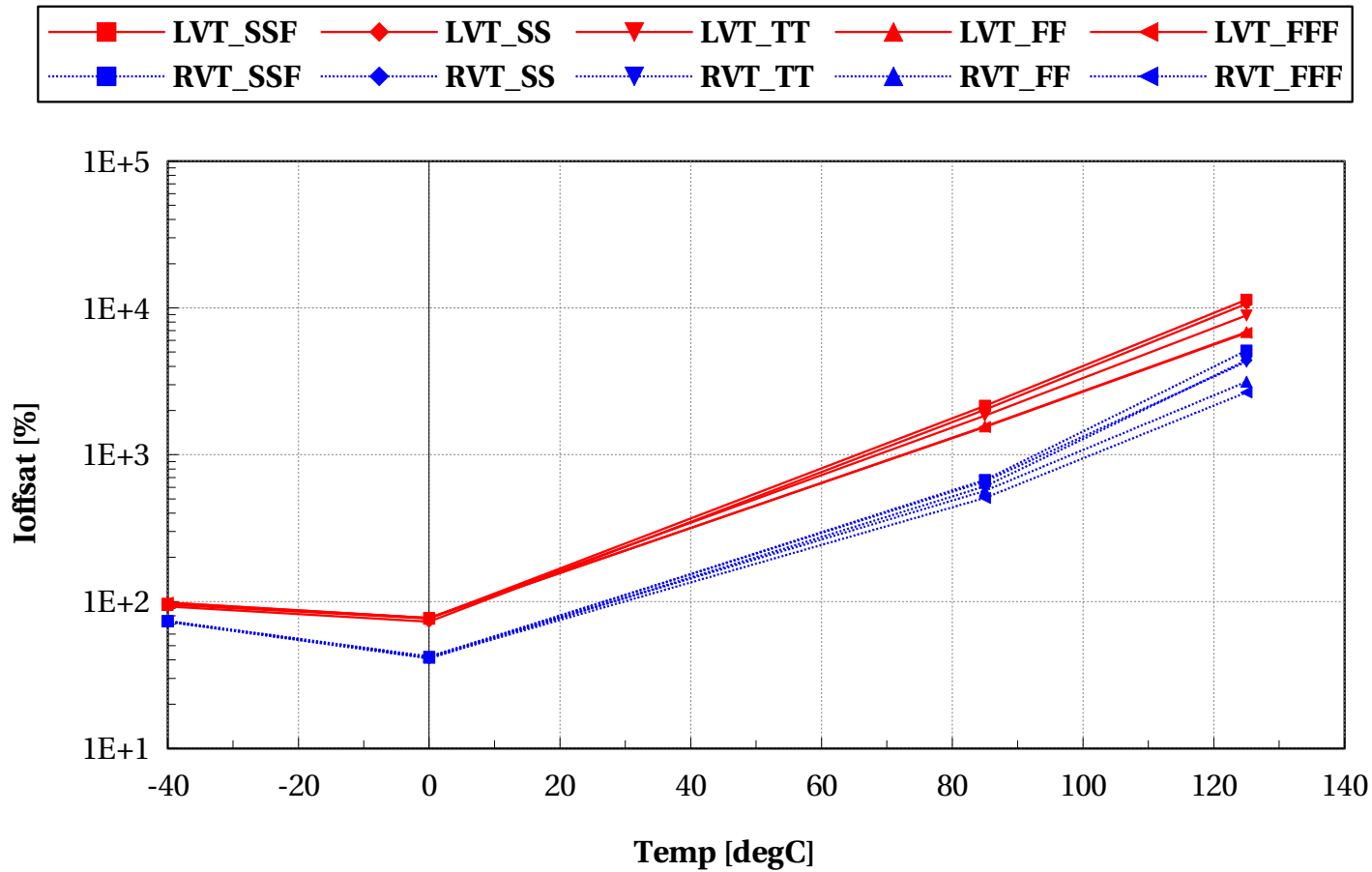
eglvtnfet_acc, Isat/W [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



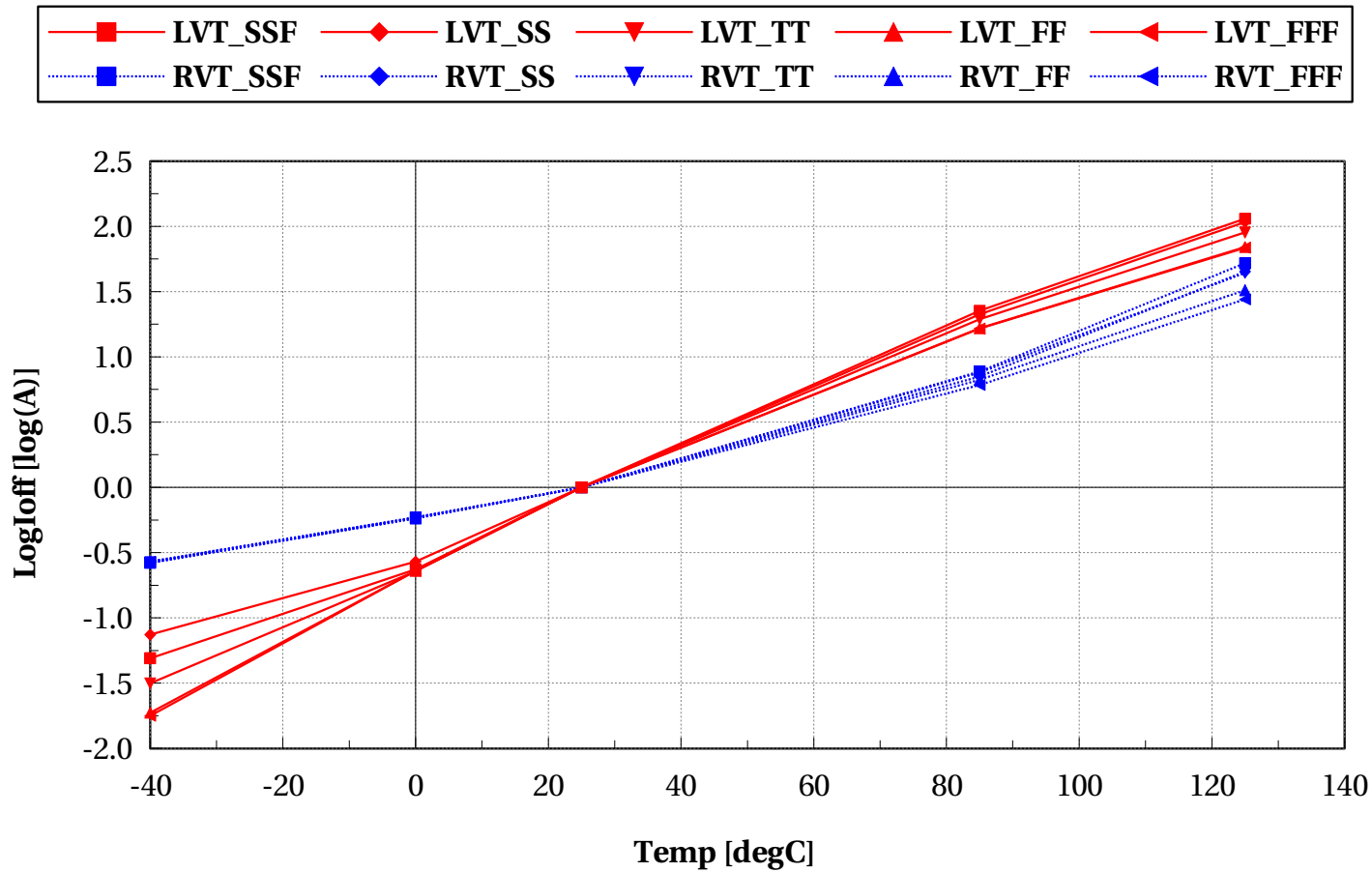
eglvtnfet_acc, Ioffset [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



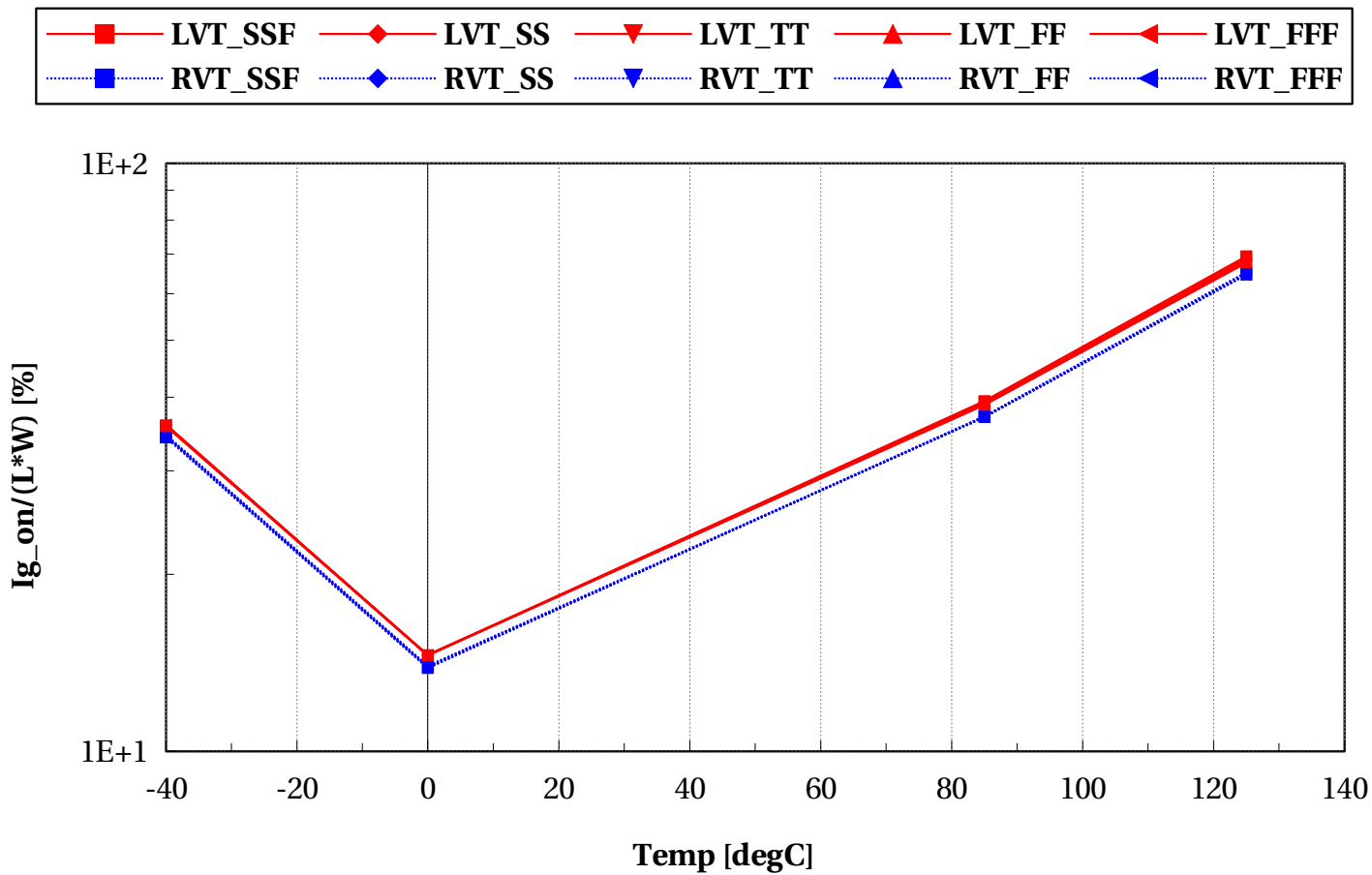
eglvtnfet_acc, LogIoff [log(A)] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



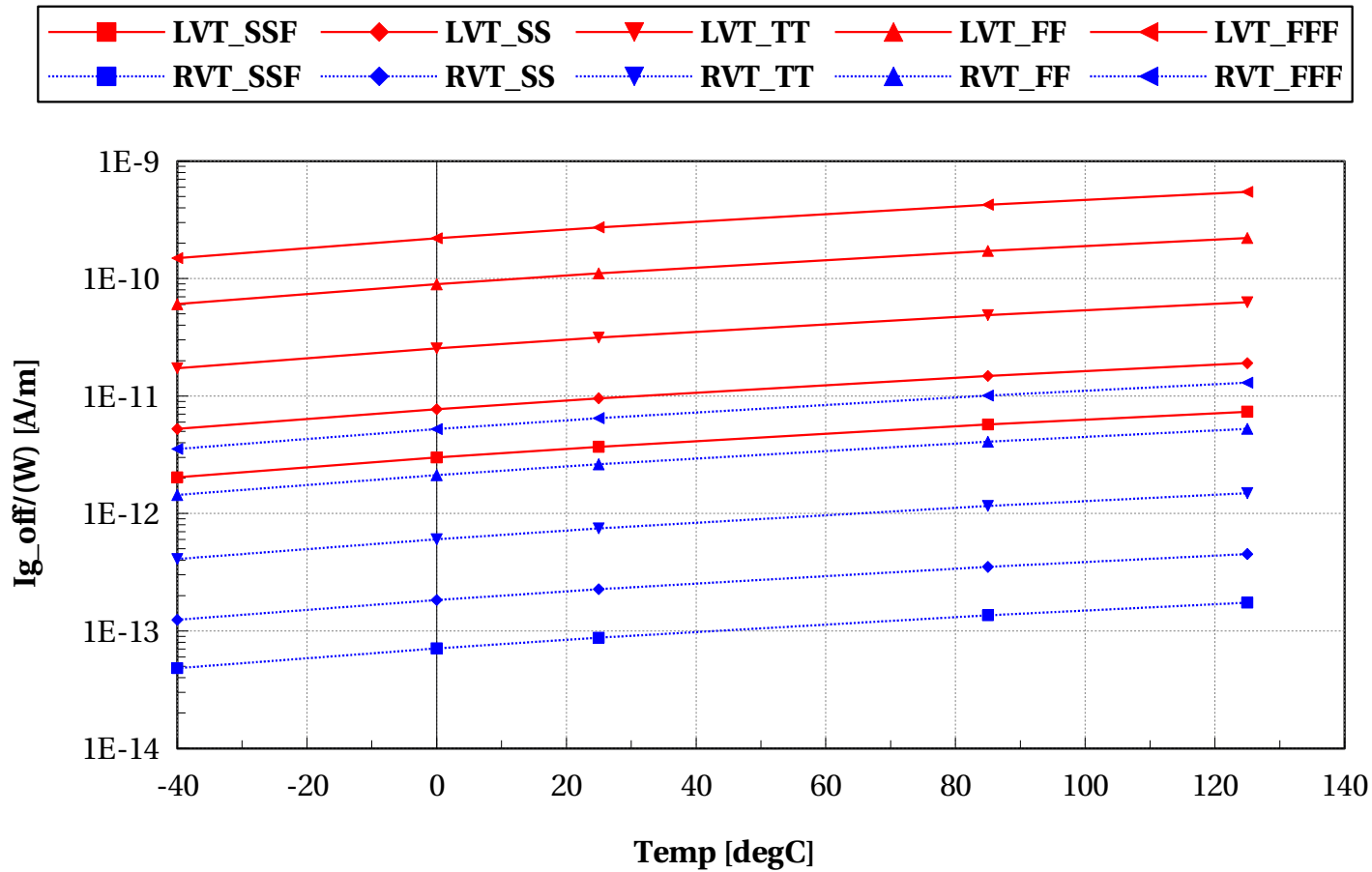
eglvtnfet_acc, Ig_on/(L*W) [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



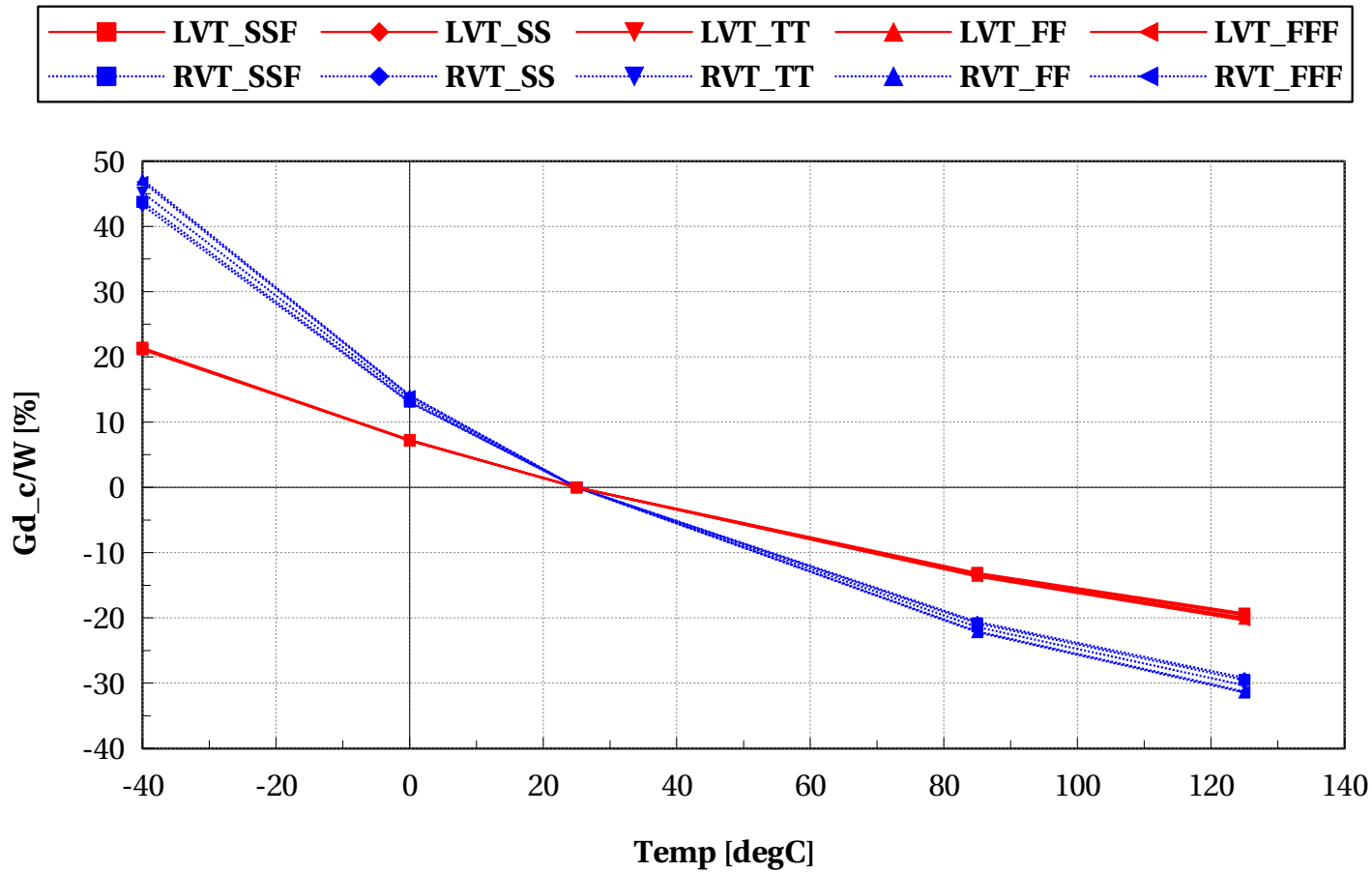
eglvtnfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



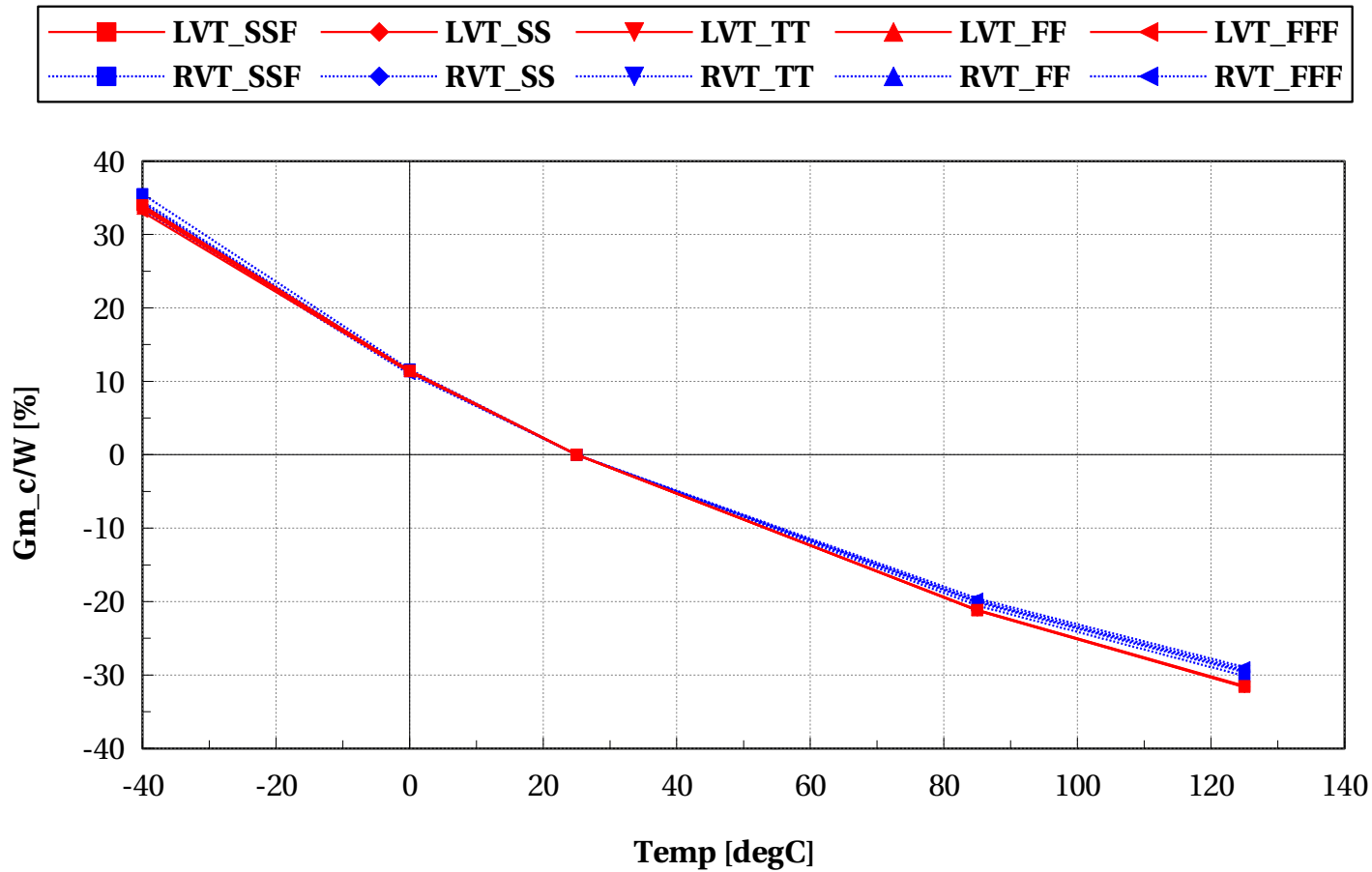
eglvtnfet_acc, Gd_c/W [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



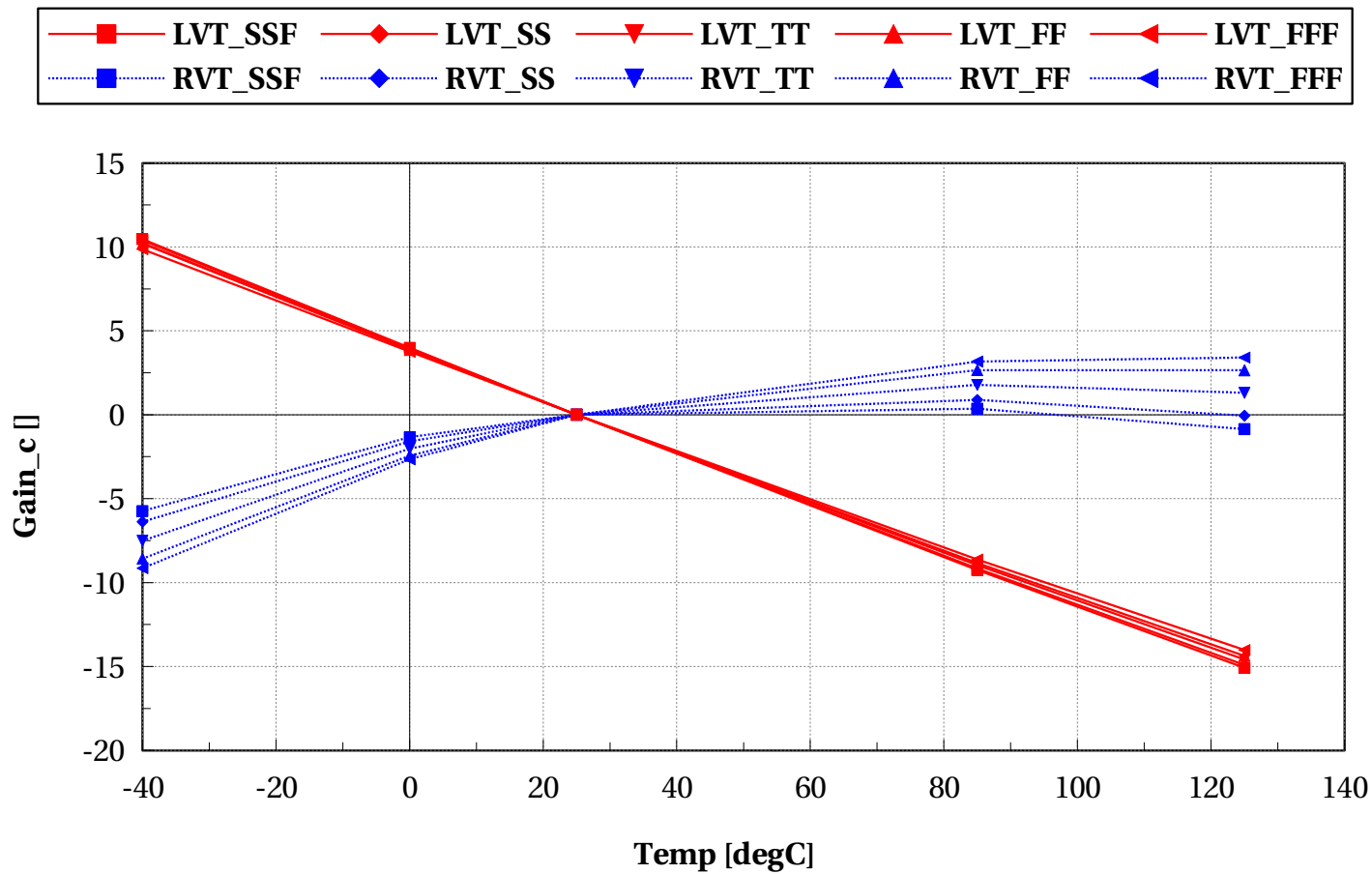
eglvtnfet_acc, Gm_c/W [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



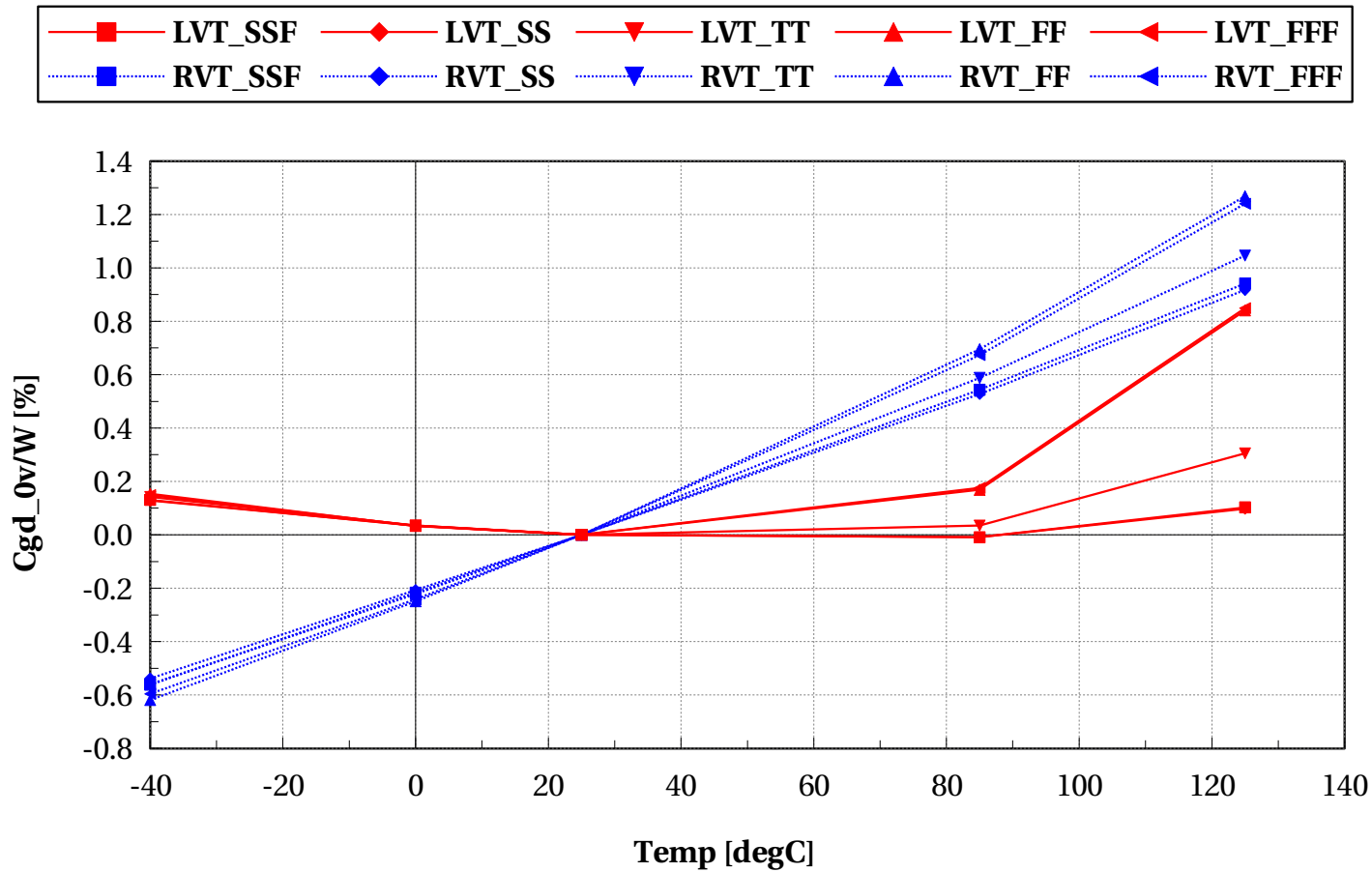
eglvtnfet_acc, Gain_c [] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



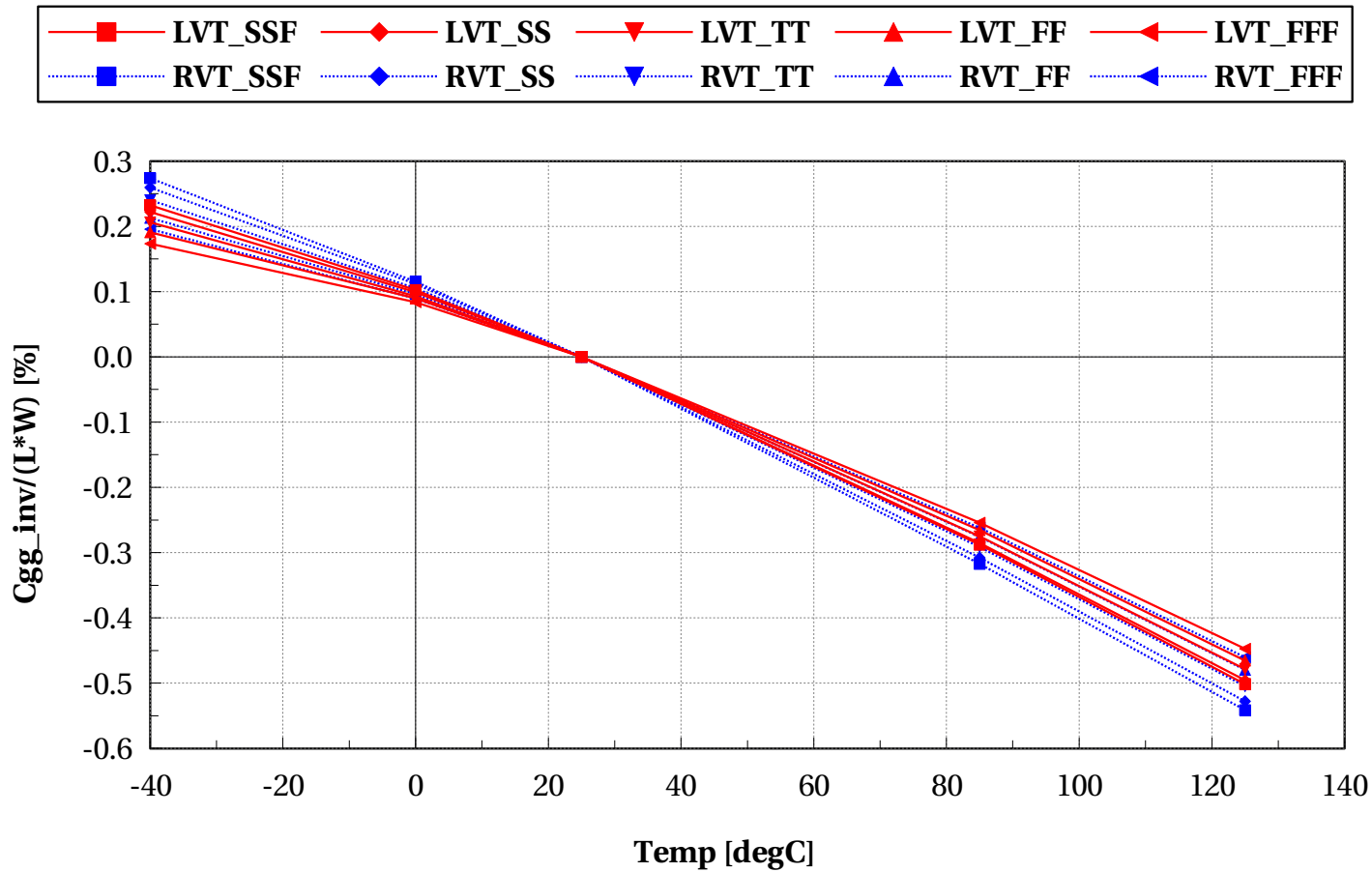
eglvtnfet_acc, Cgd_0v/W [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



eglvtnfet_acc, Cgg_inv/(L*W) [%] vs Temp [degC]

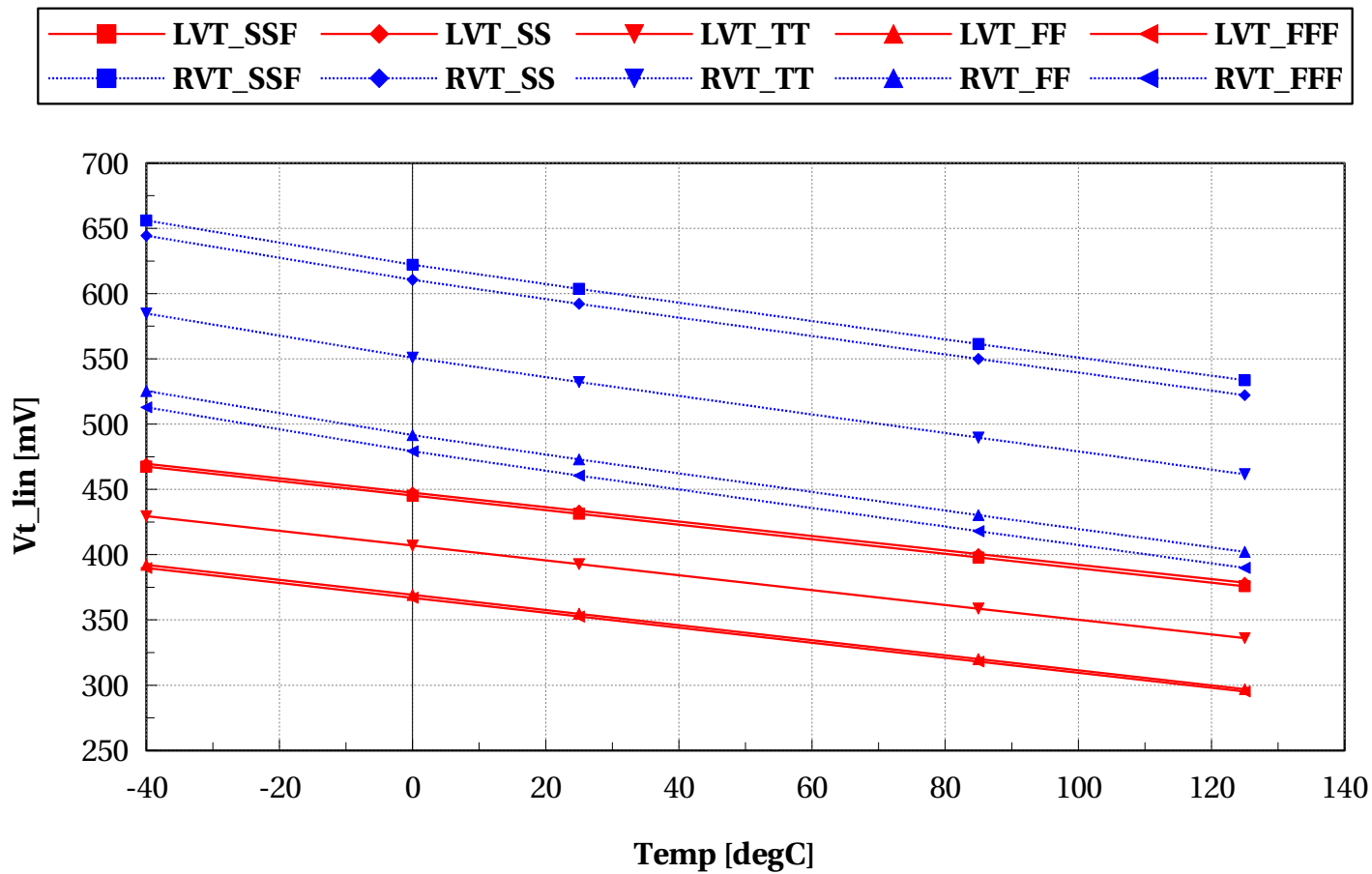
$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



Scaling versus Temp @ $L=2u$, $W=2u$

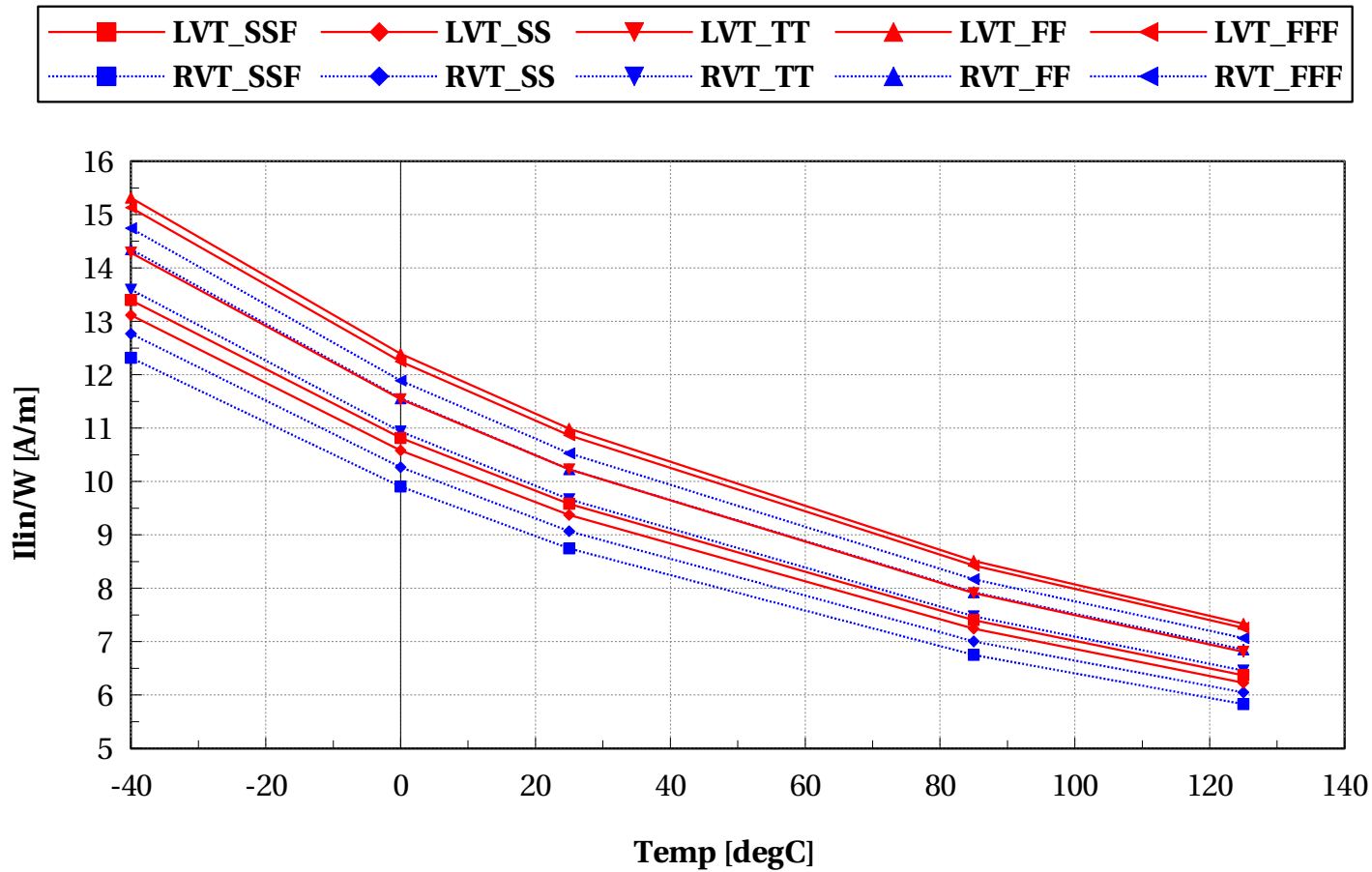
eglvtnfet_acc, Vt_lin [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



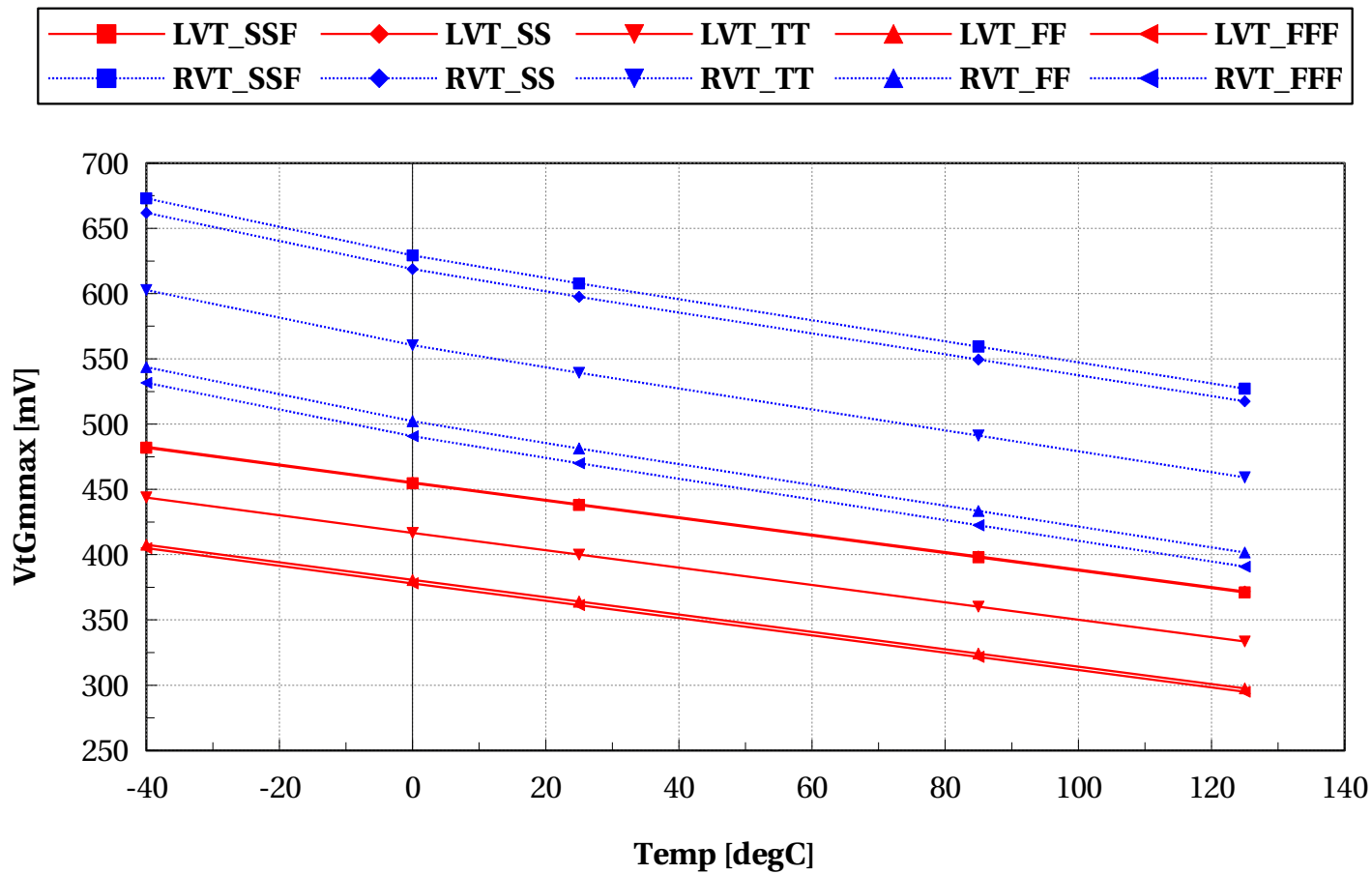
eglvtnfet_acc, I_{lin}/W [A/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



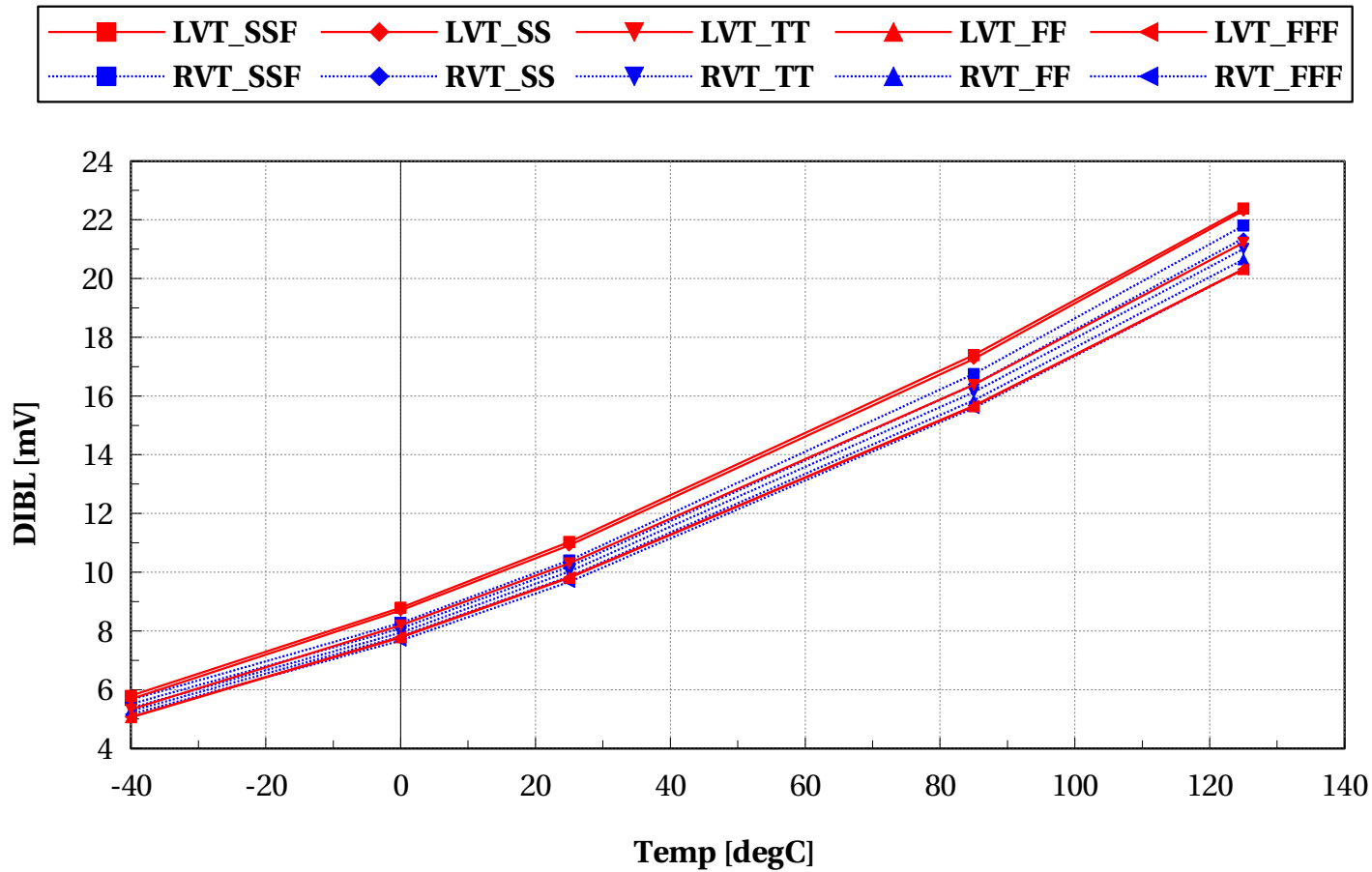
eglvtnfet_acc, VtGmmax [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



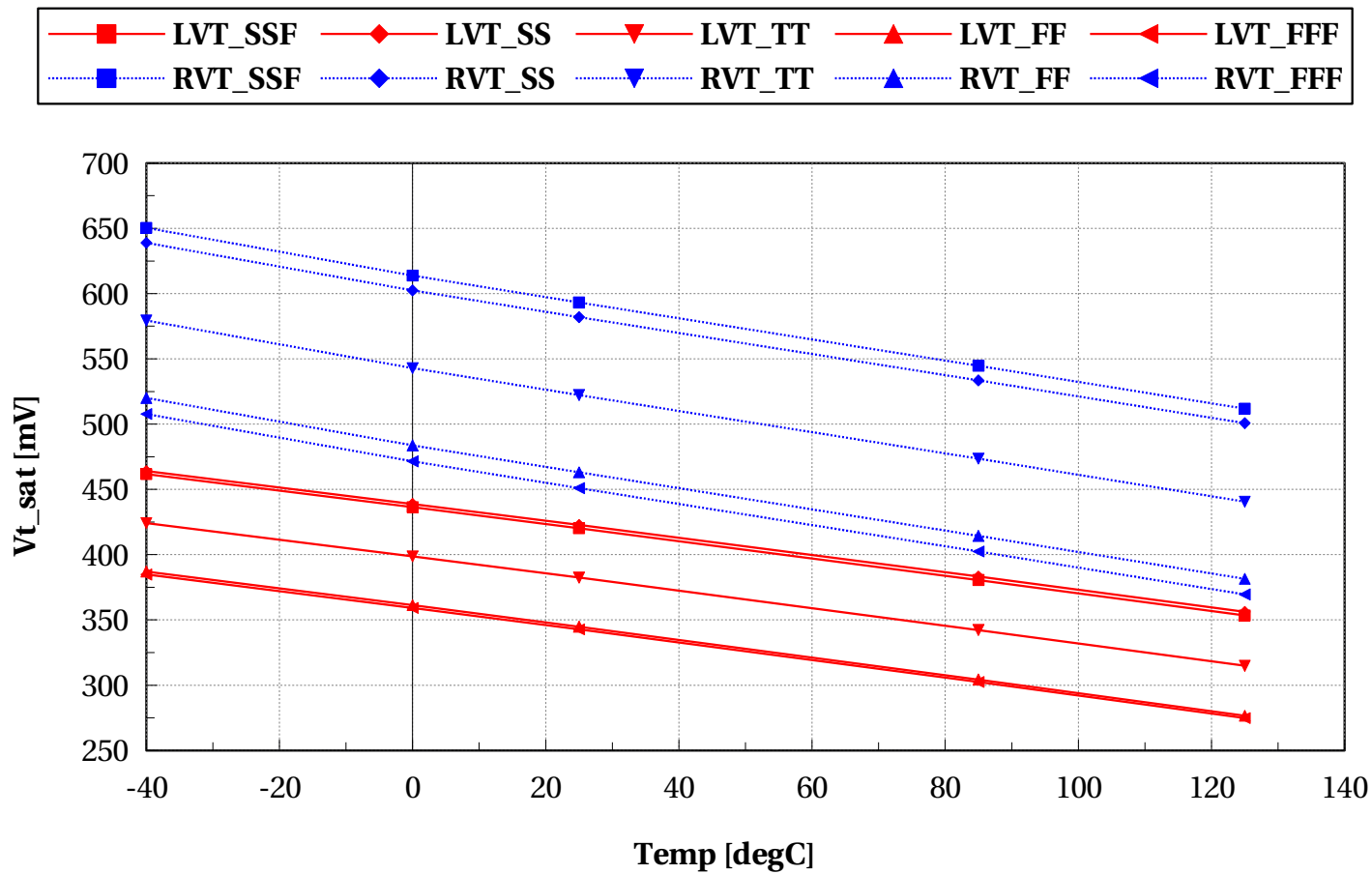
eglvtnfet_acc, DIBL [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



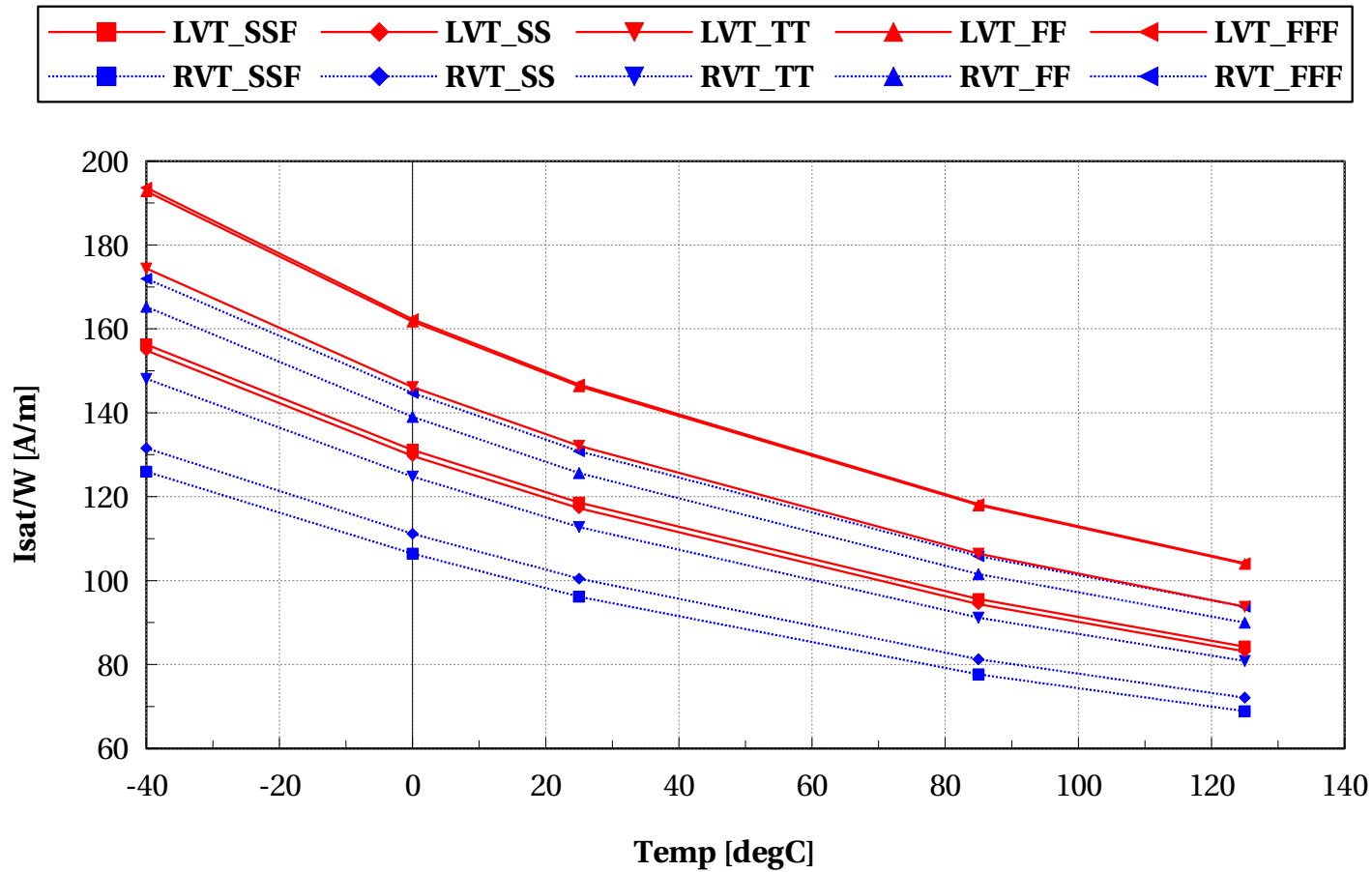
eglvtnfet_acc, Vt_sat [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



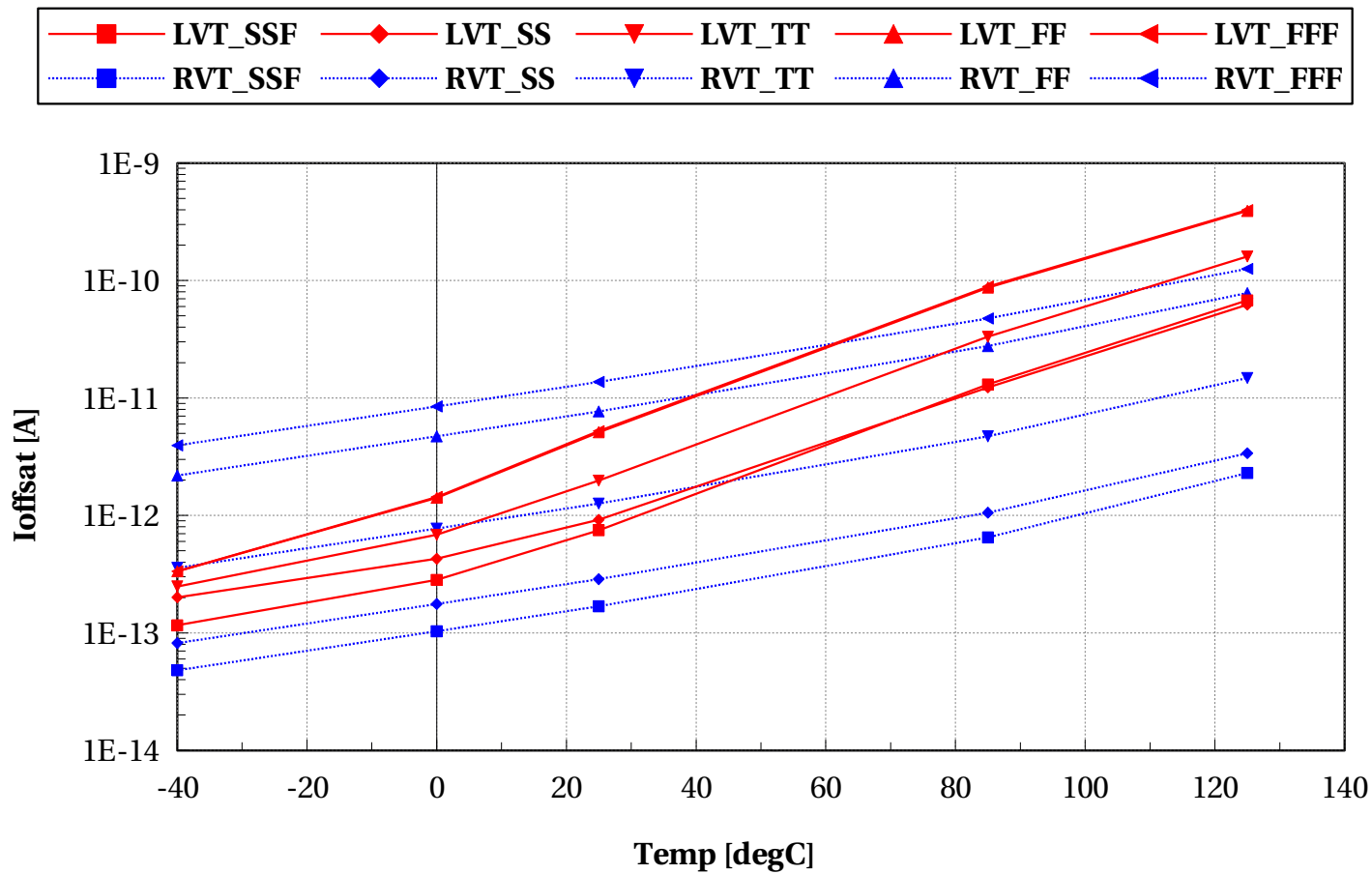
eglvtnfet_acc, Isat/W [A/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



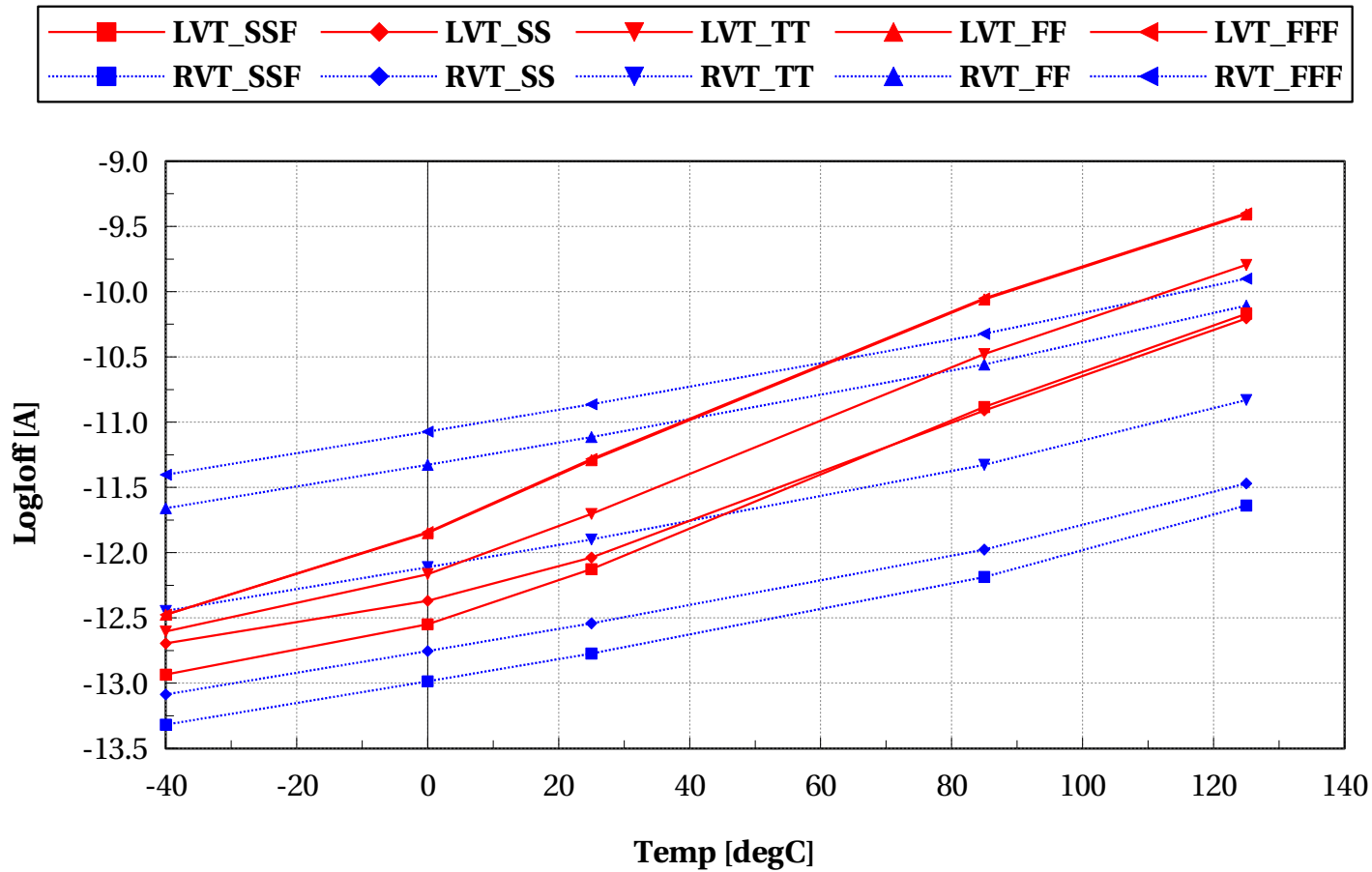
eglvtnfet_acc, Ioffsat [A] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



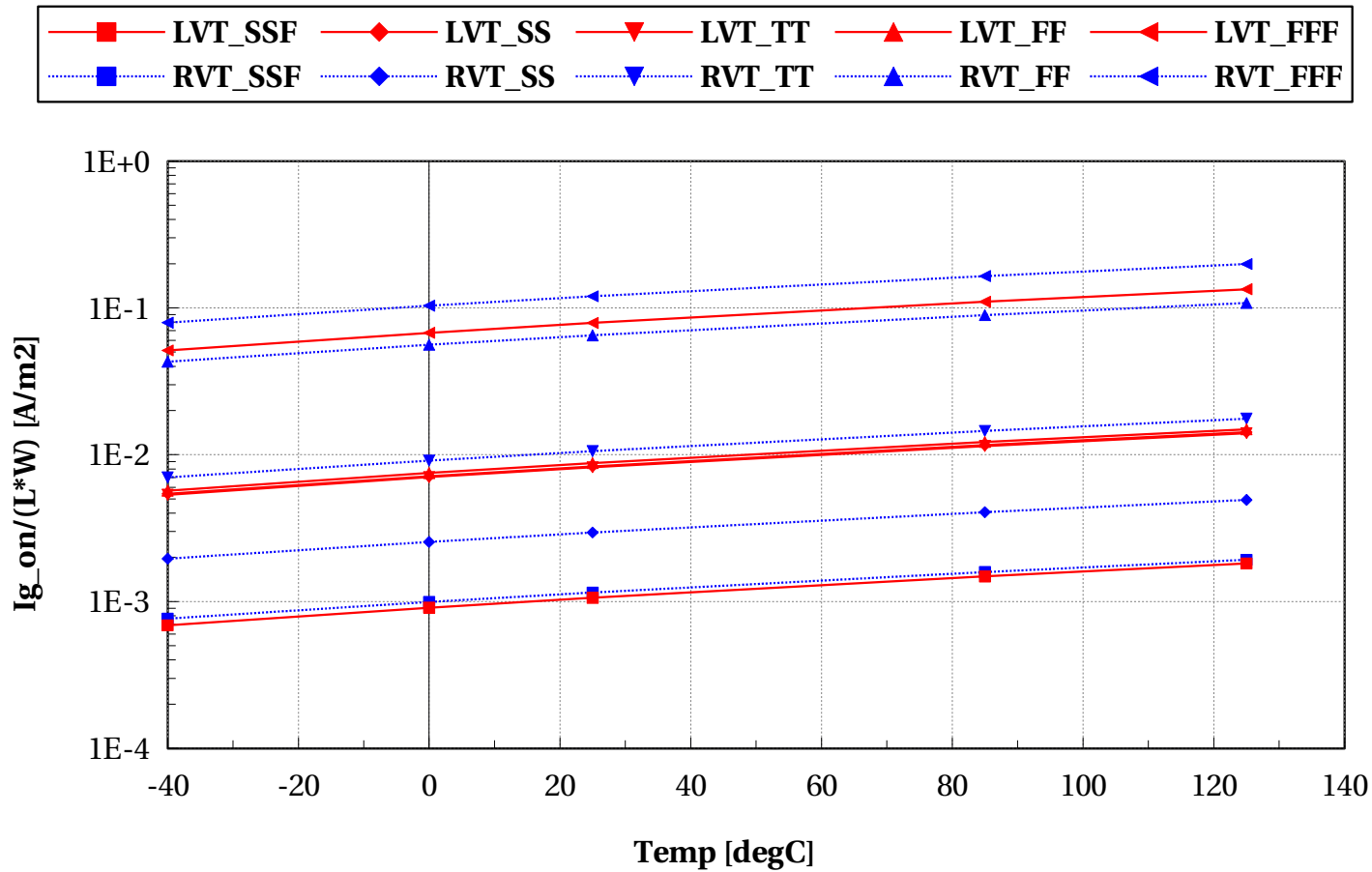
eglvtnfet_acc, LogIoff [A] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



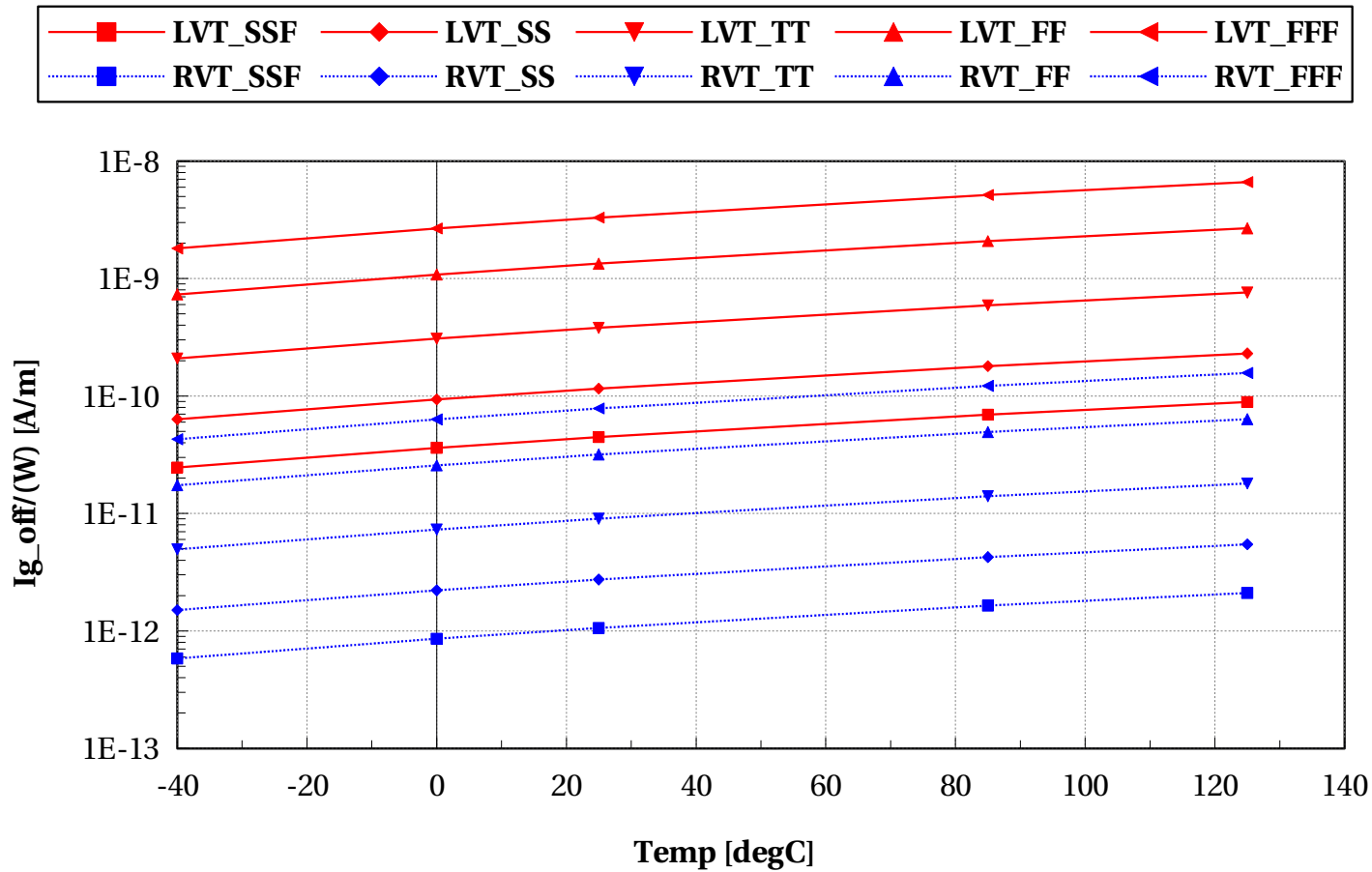
eglvtnfet_acc, $I_{g_on}/(L*W)$ [A/m²] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



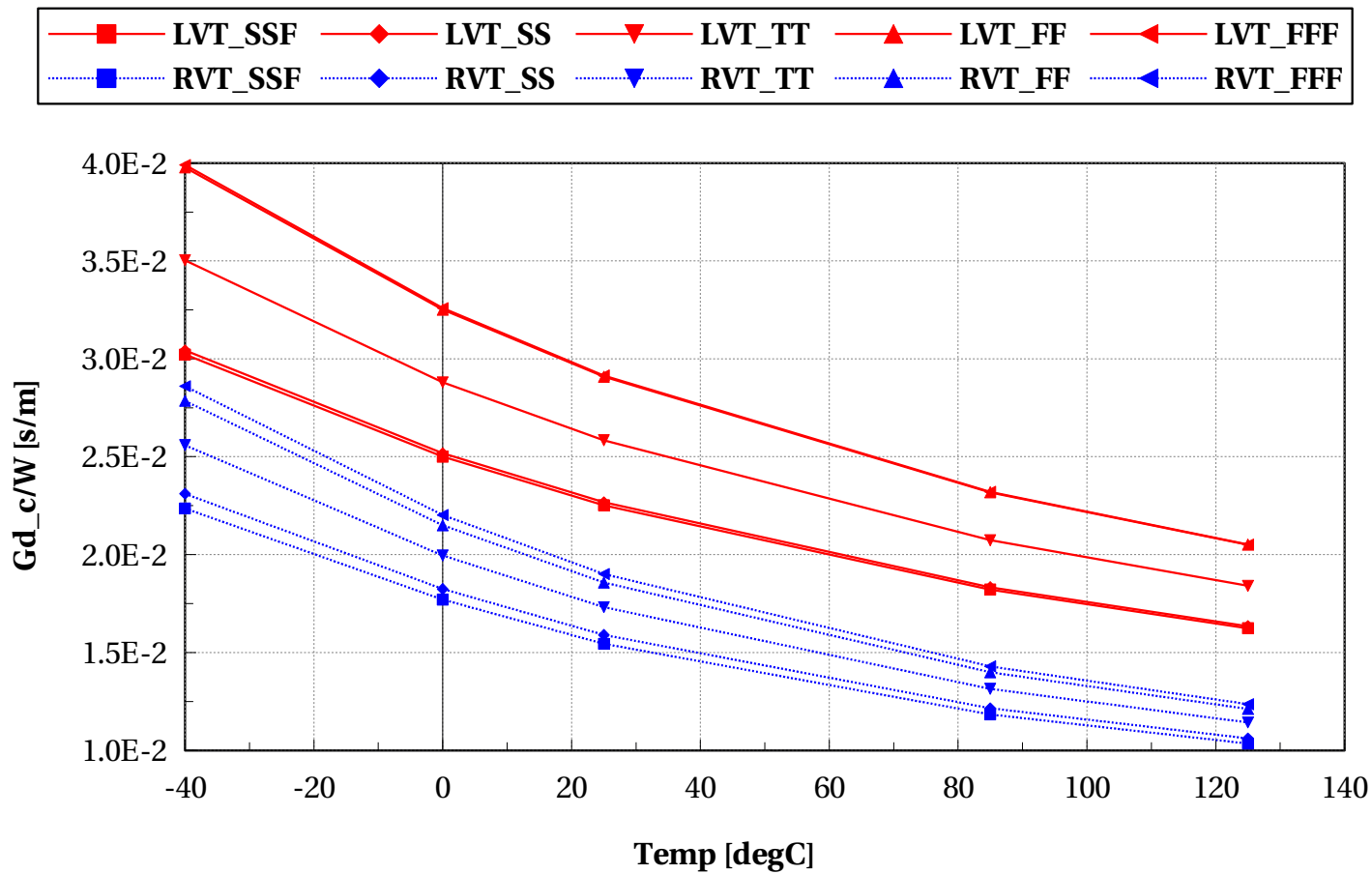
eglvtnfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



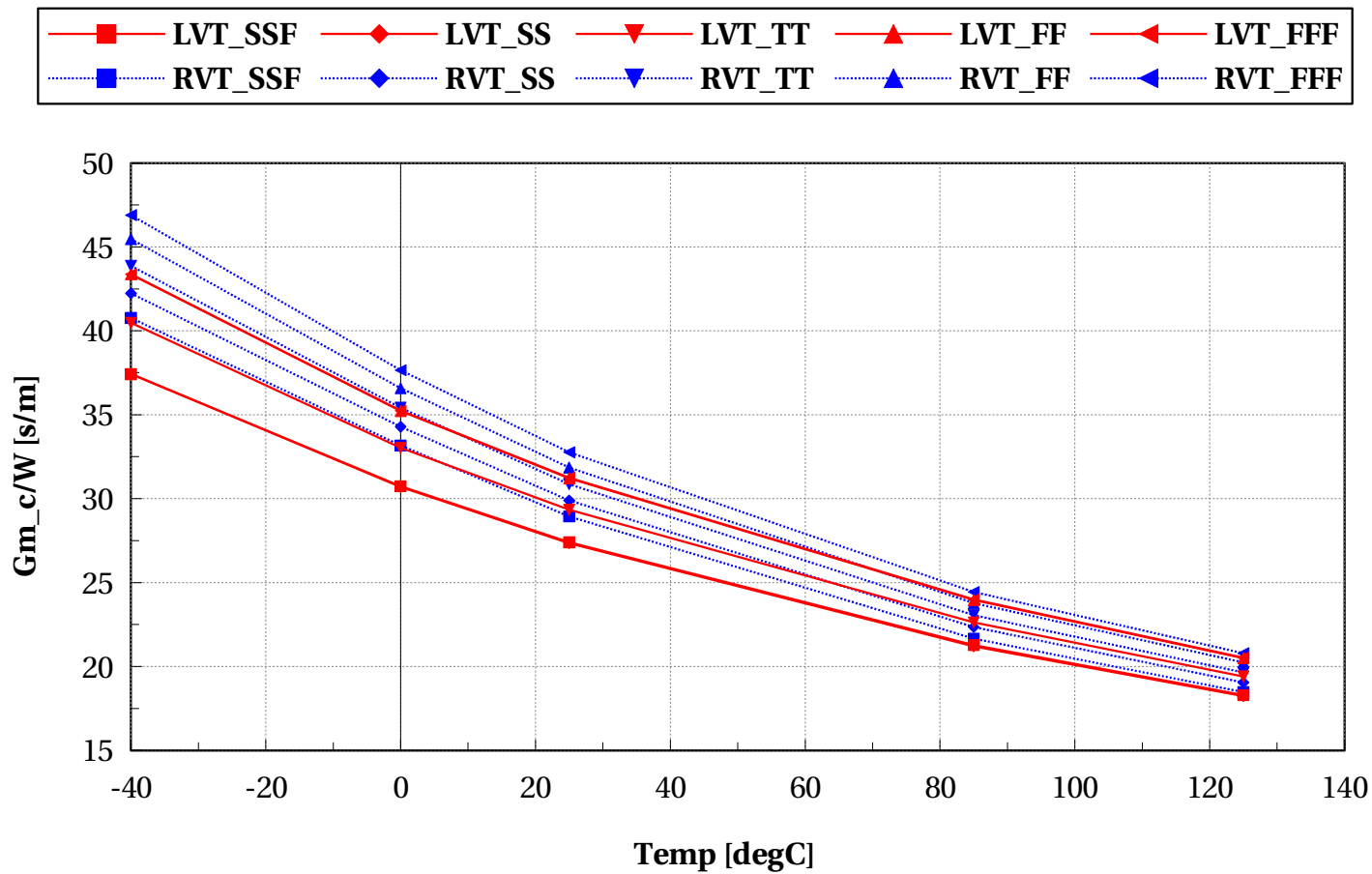
eglvtnfet_acc, Gd_c/W [s/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



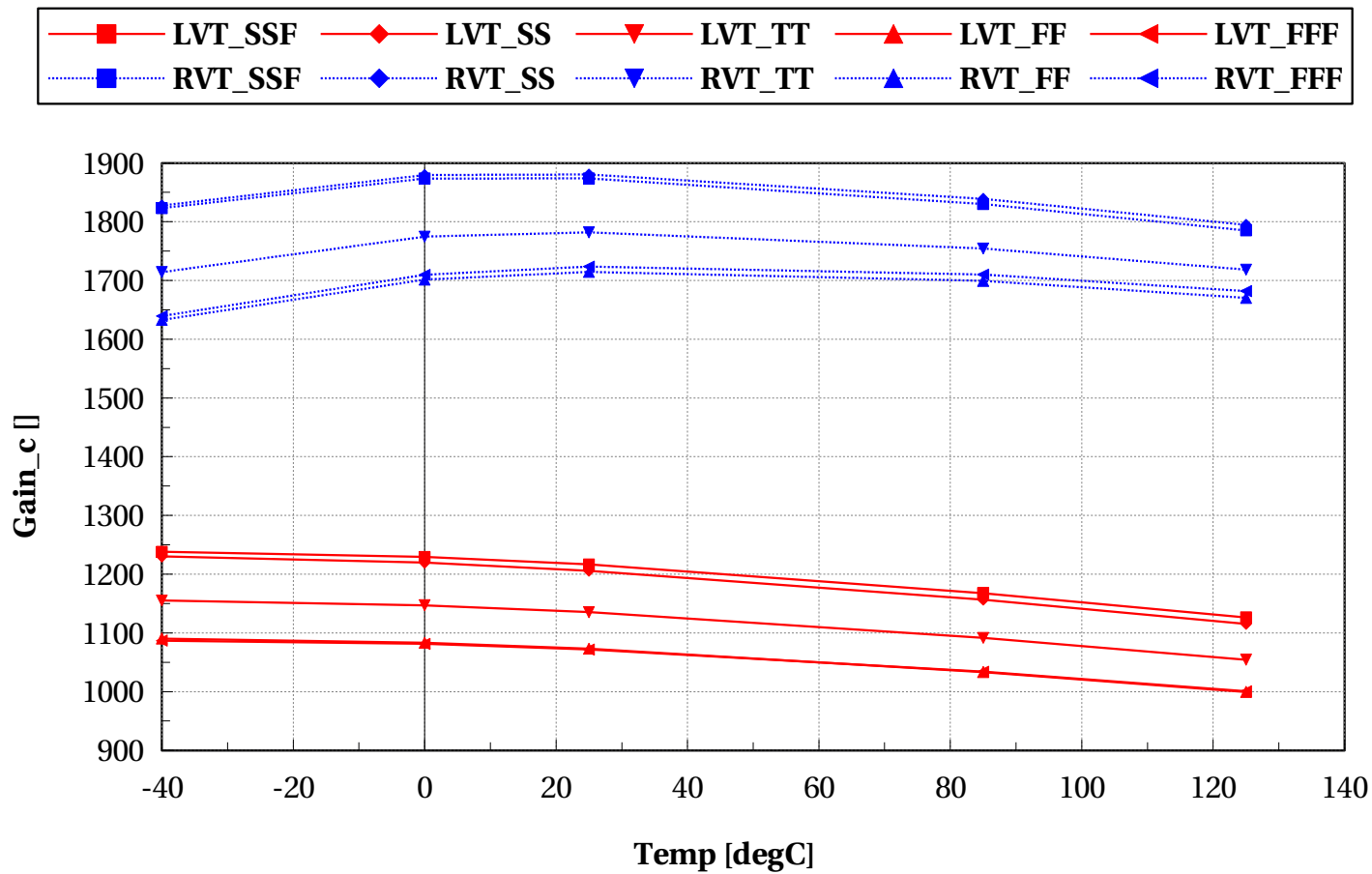
eglvtnfet_acc, Gm_c/W [s/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



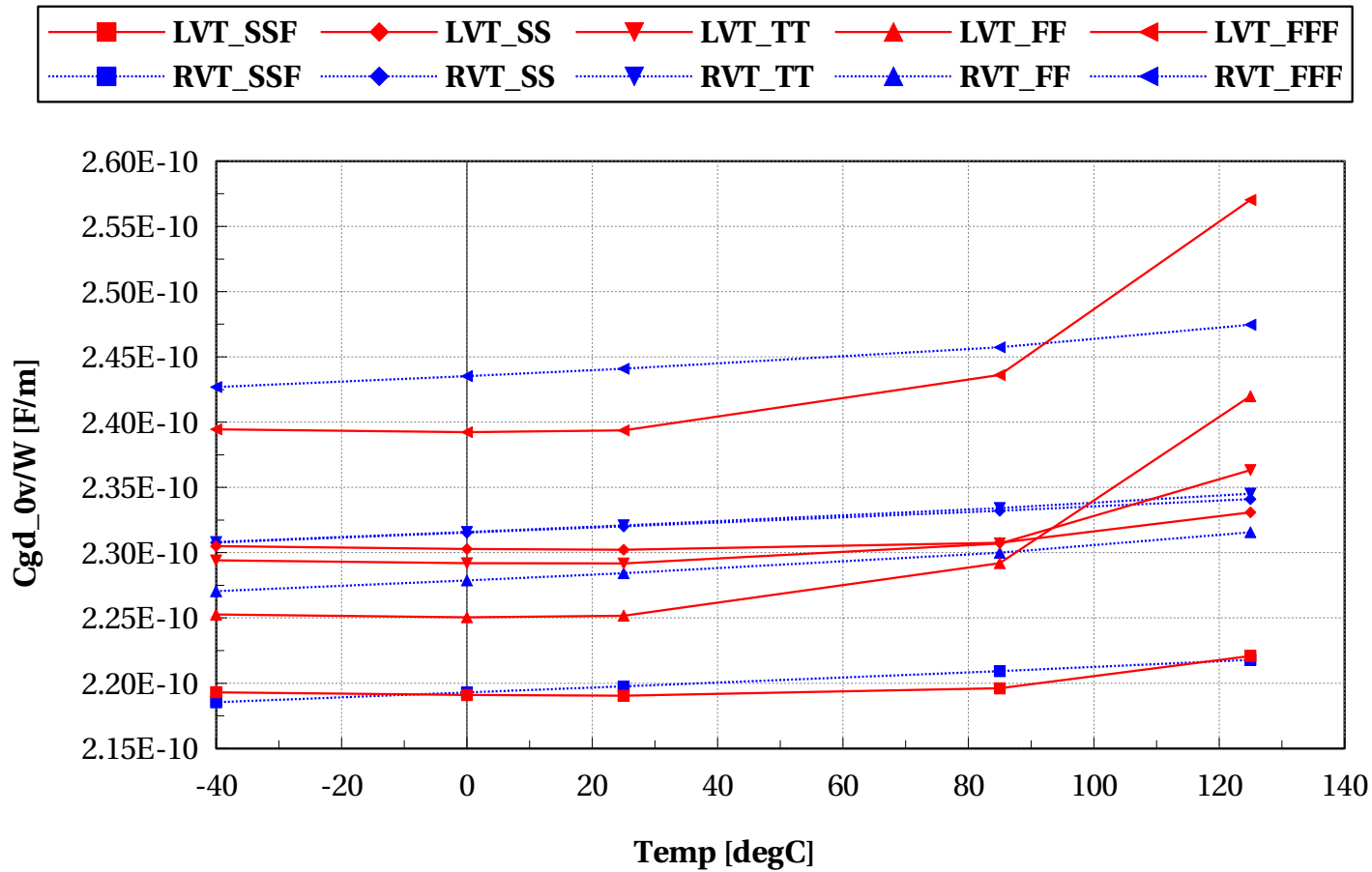
eglvtnfet_acc, Gain_c [] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



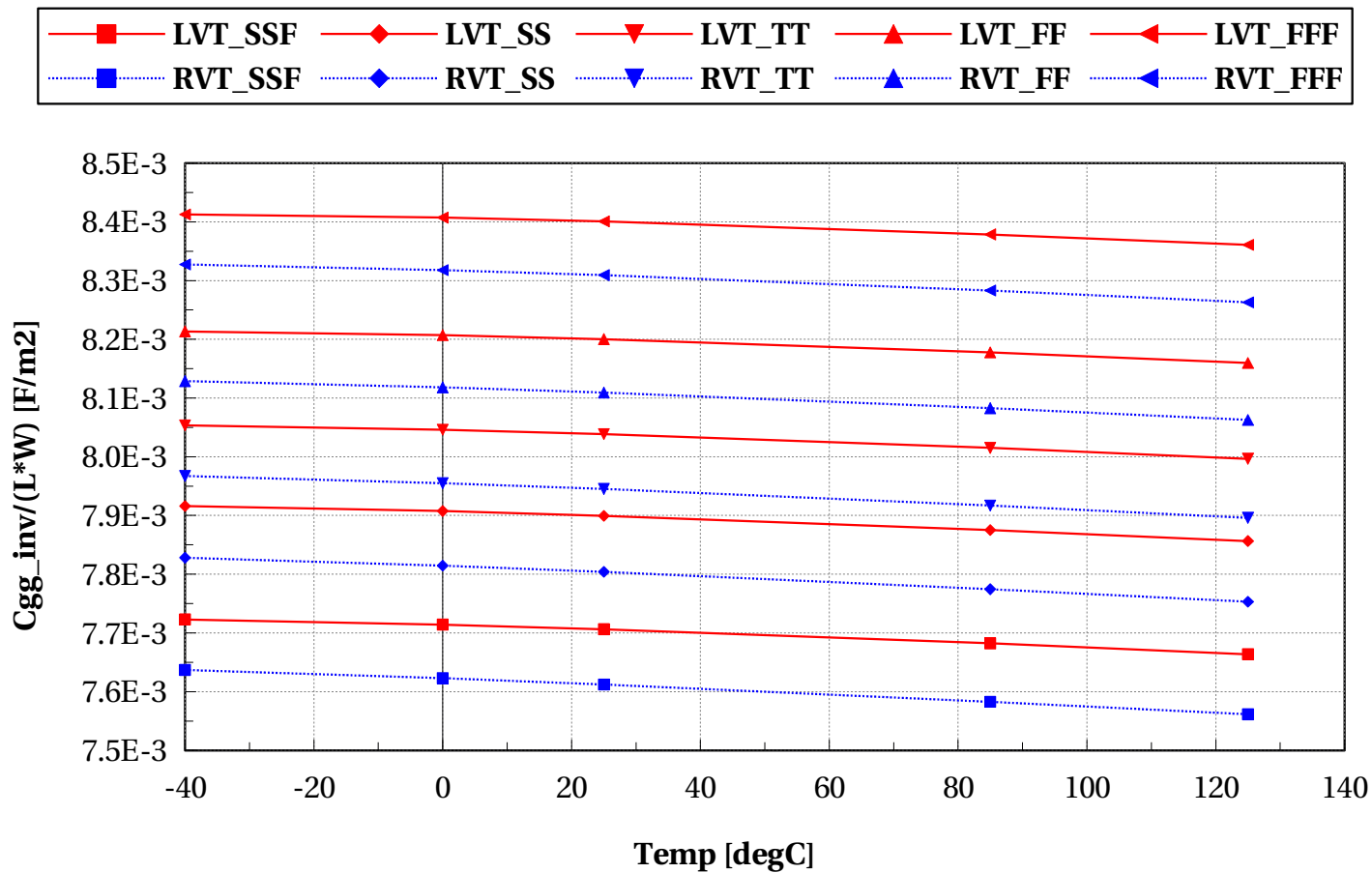
eglvtnfet_acc, Cgd_0v/W [F/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



eglvtnfet_acc, Cgg_inv/(L*W) [F/m2] vs Temp [degC]

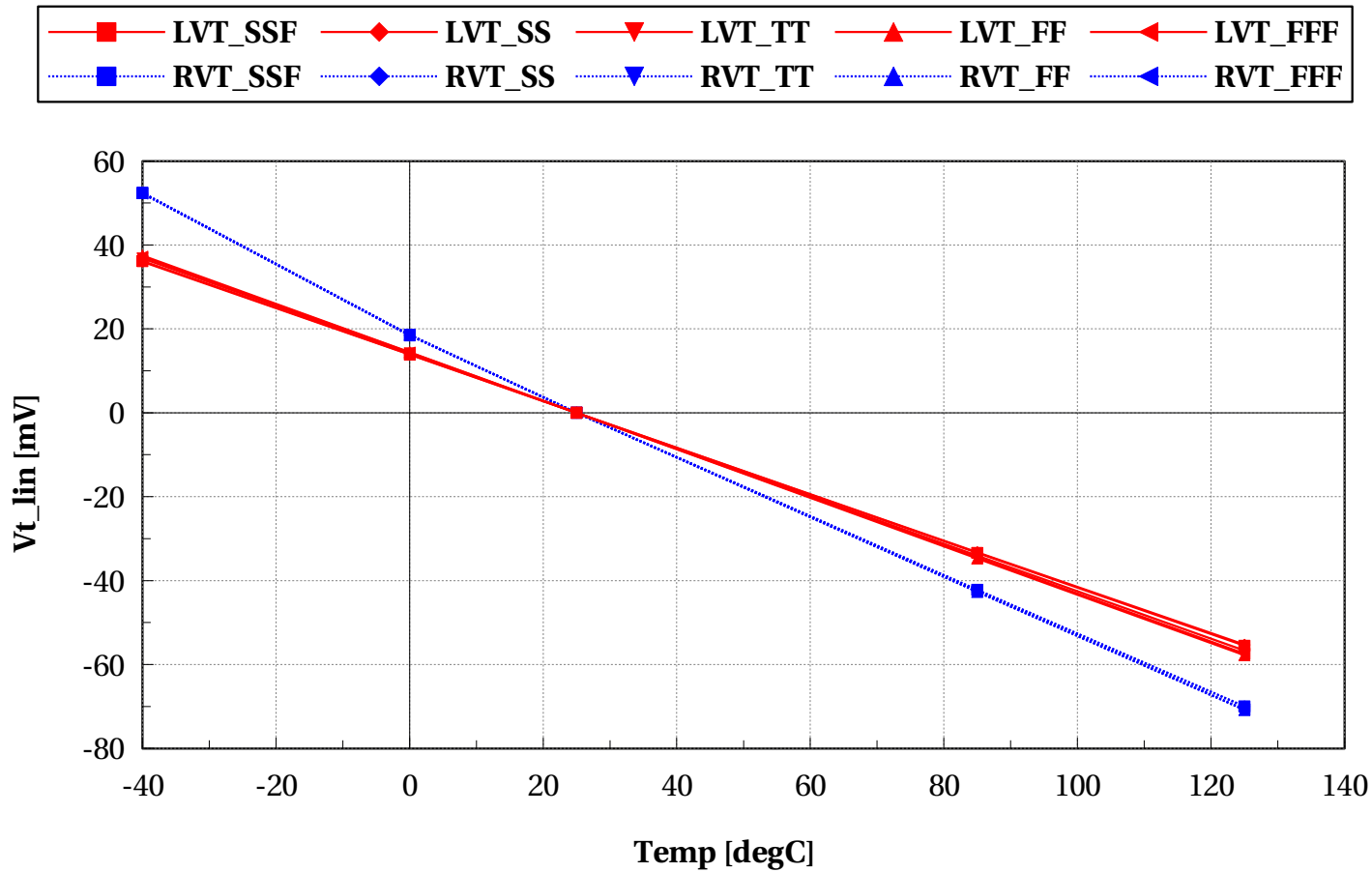
$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



Normalized scaling versus Temp @ L=2u, W=2u

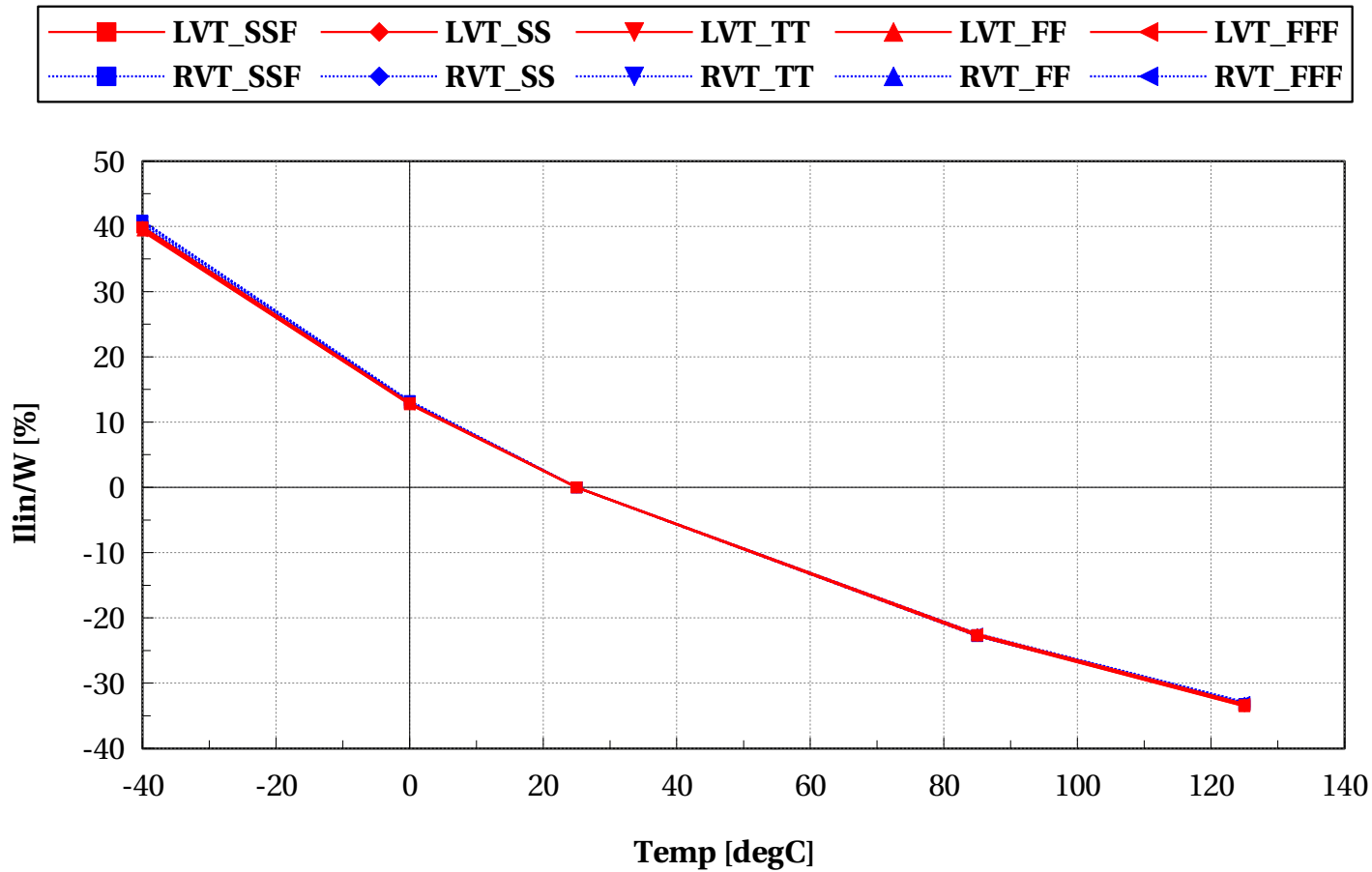
eglvtnfet_acc, Vt_lin [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



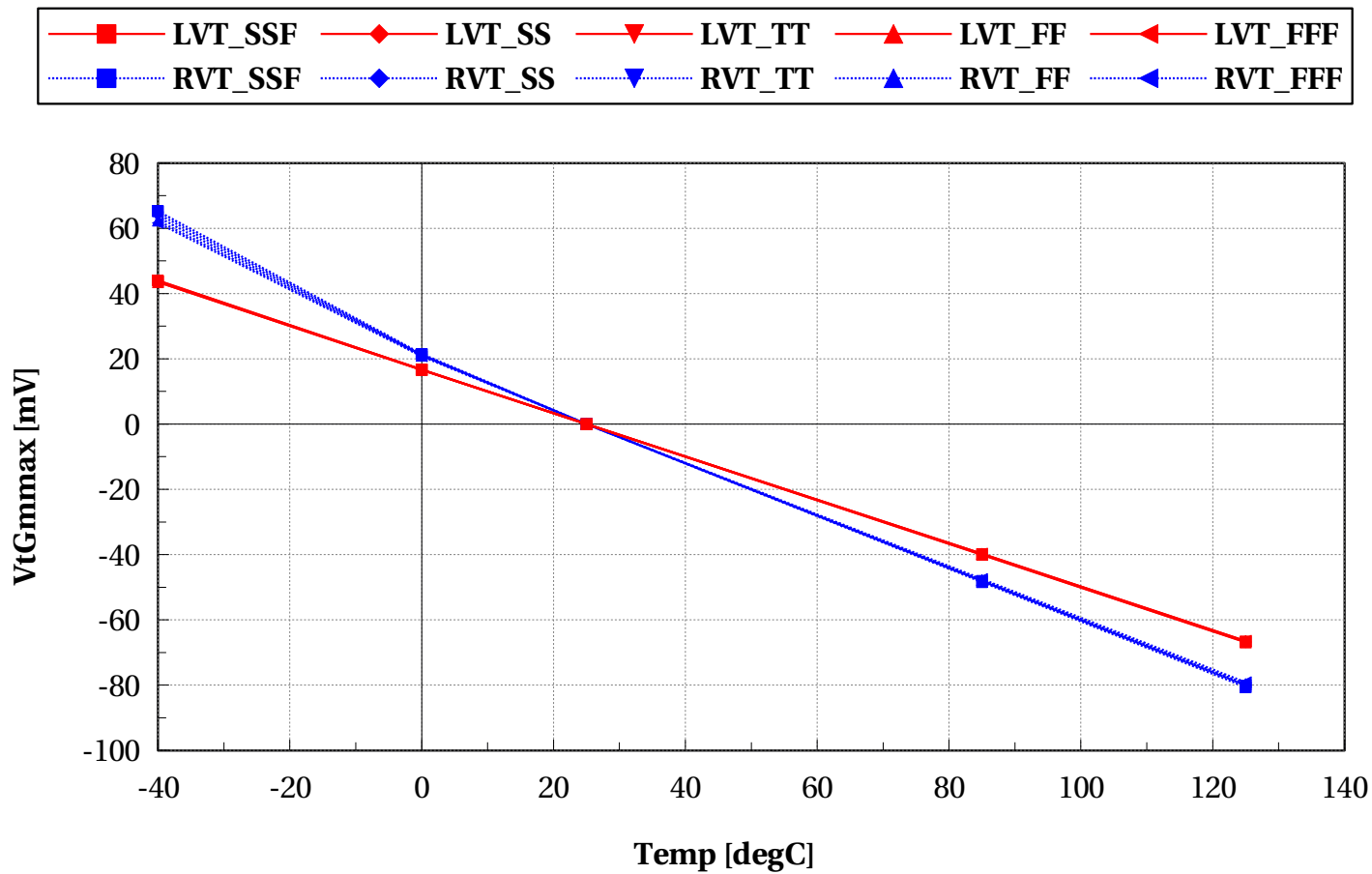
eglvtnfet_acc, Ilin/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



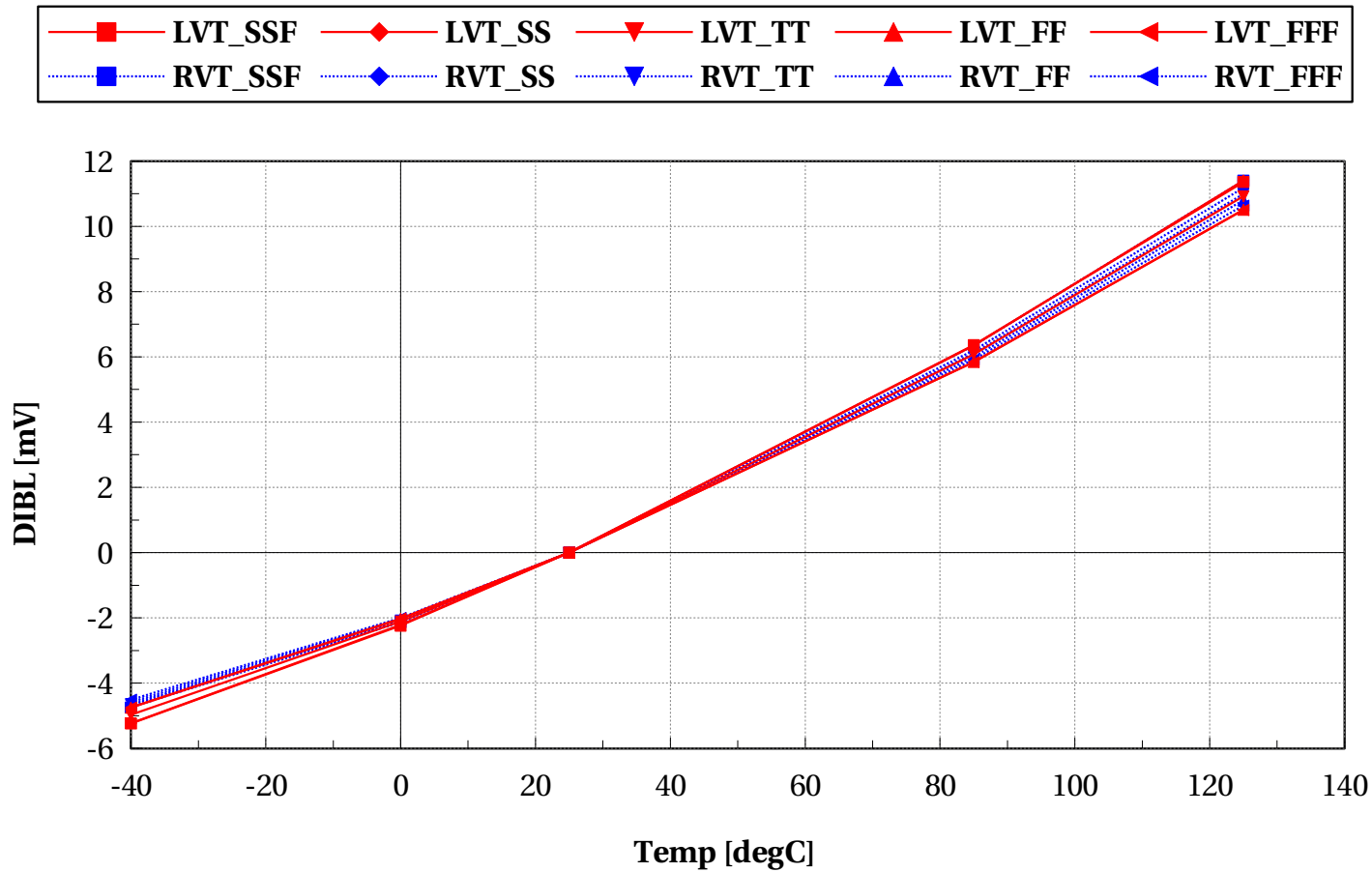
eglvtnfet_acc, VtGmmax [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



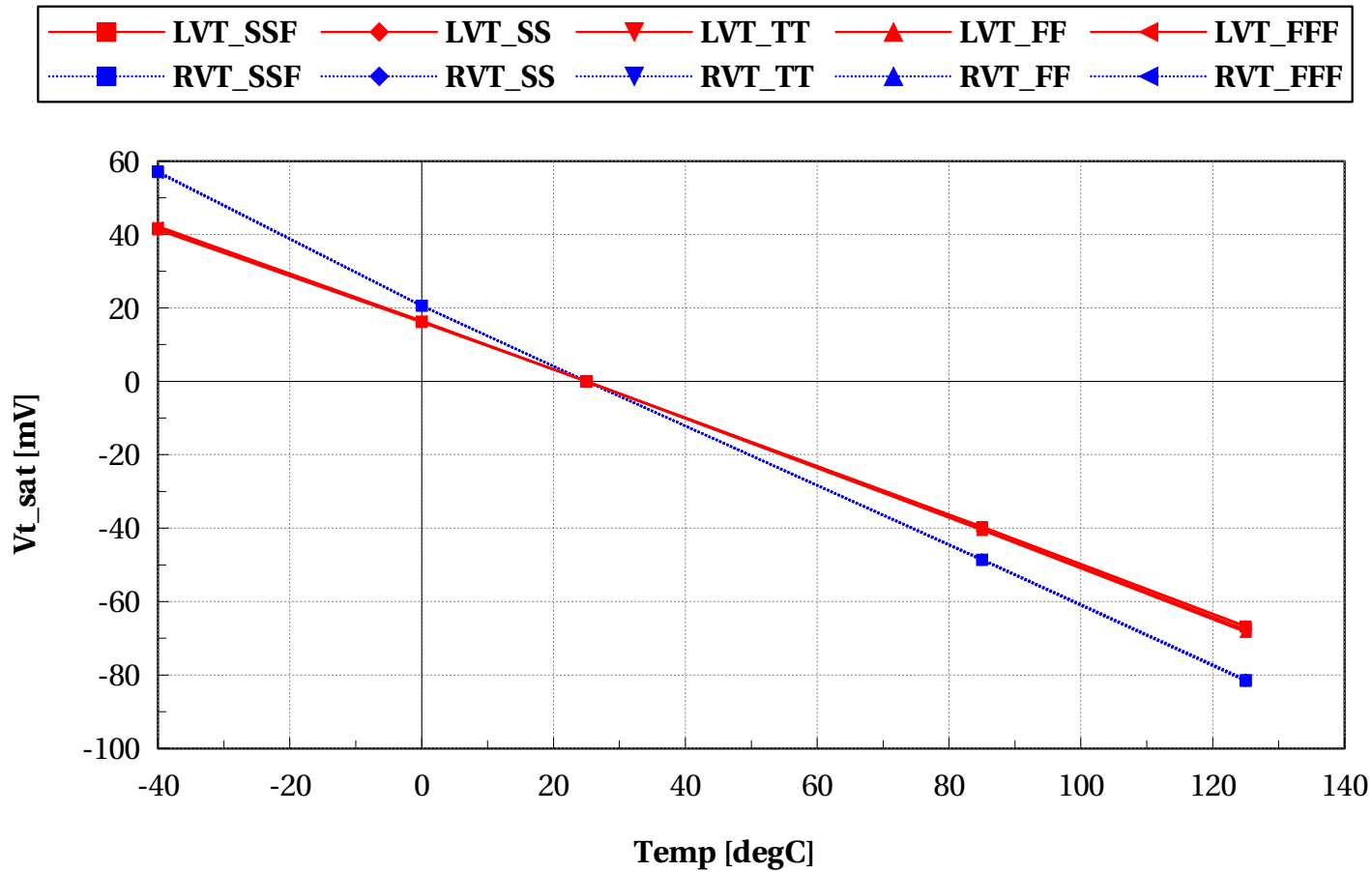
eglvtnfet_acc, DIBL [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



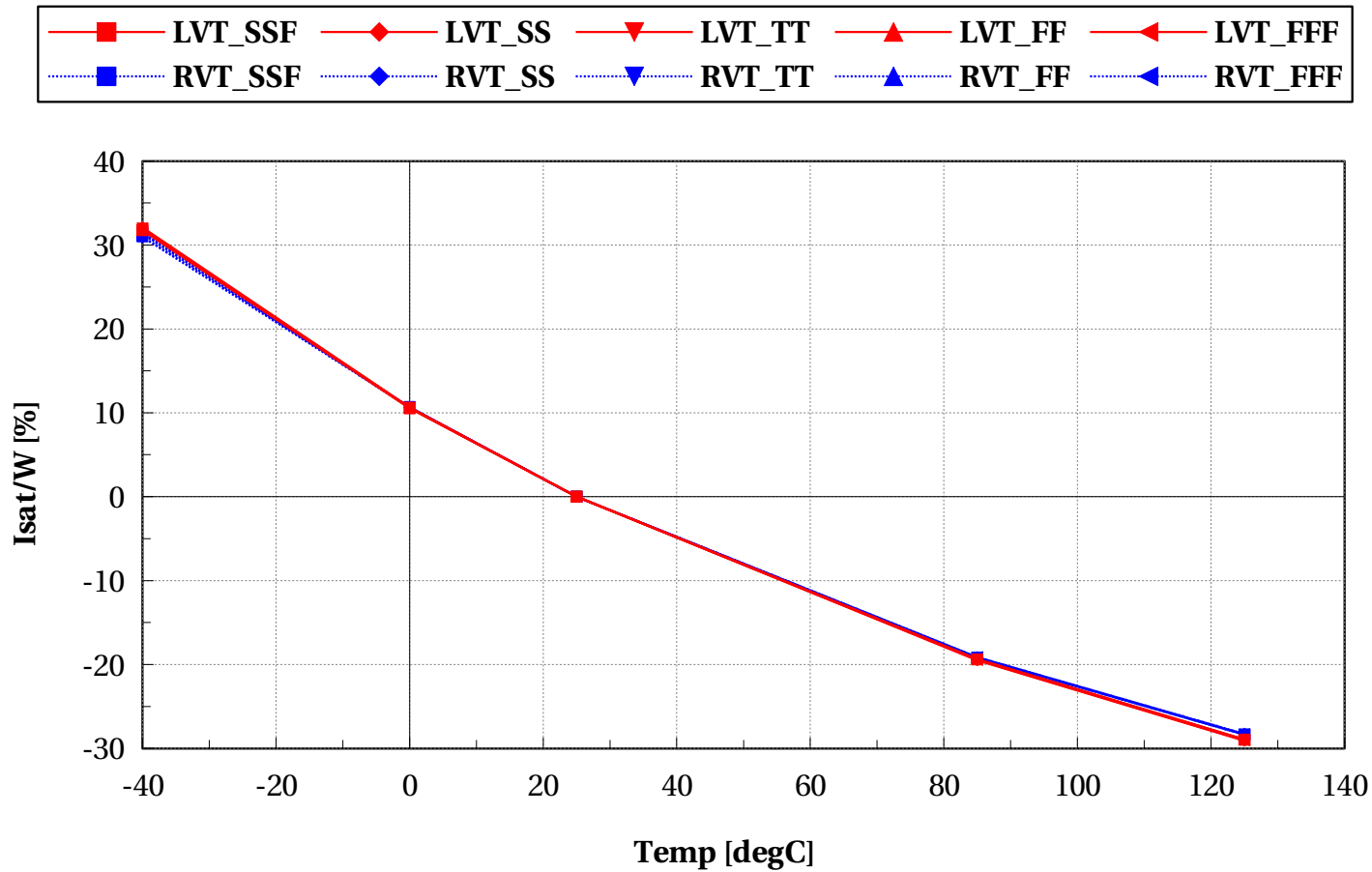
eglvtnfet_acc, Vt_sat [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



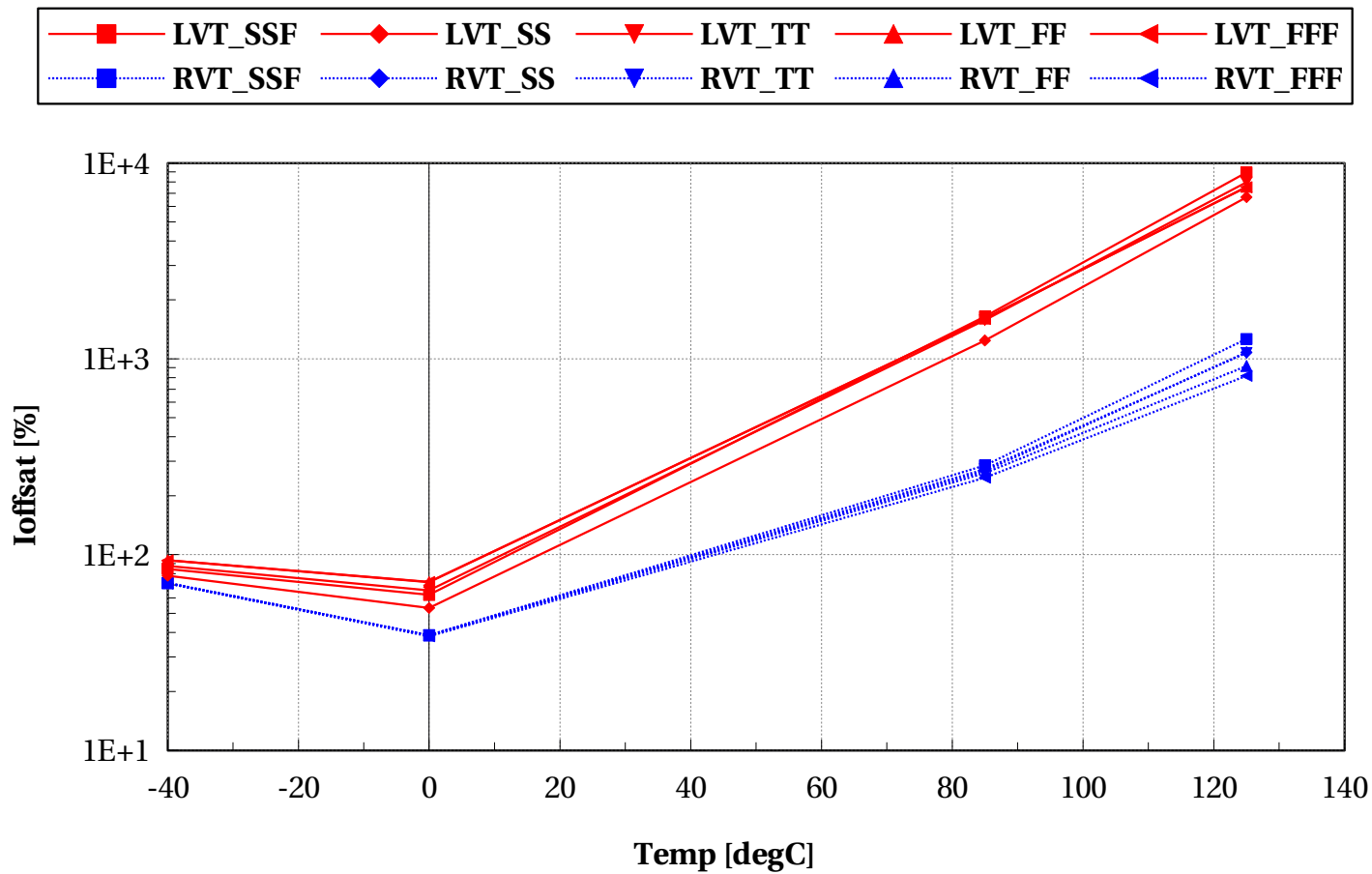
eglvtnfet_acc, Isat/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



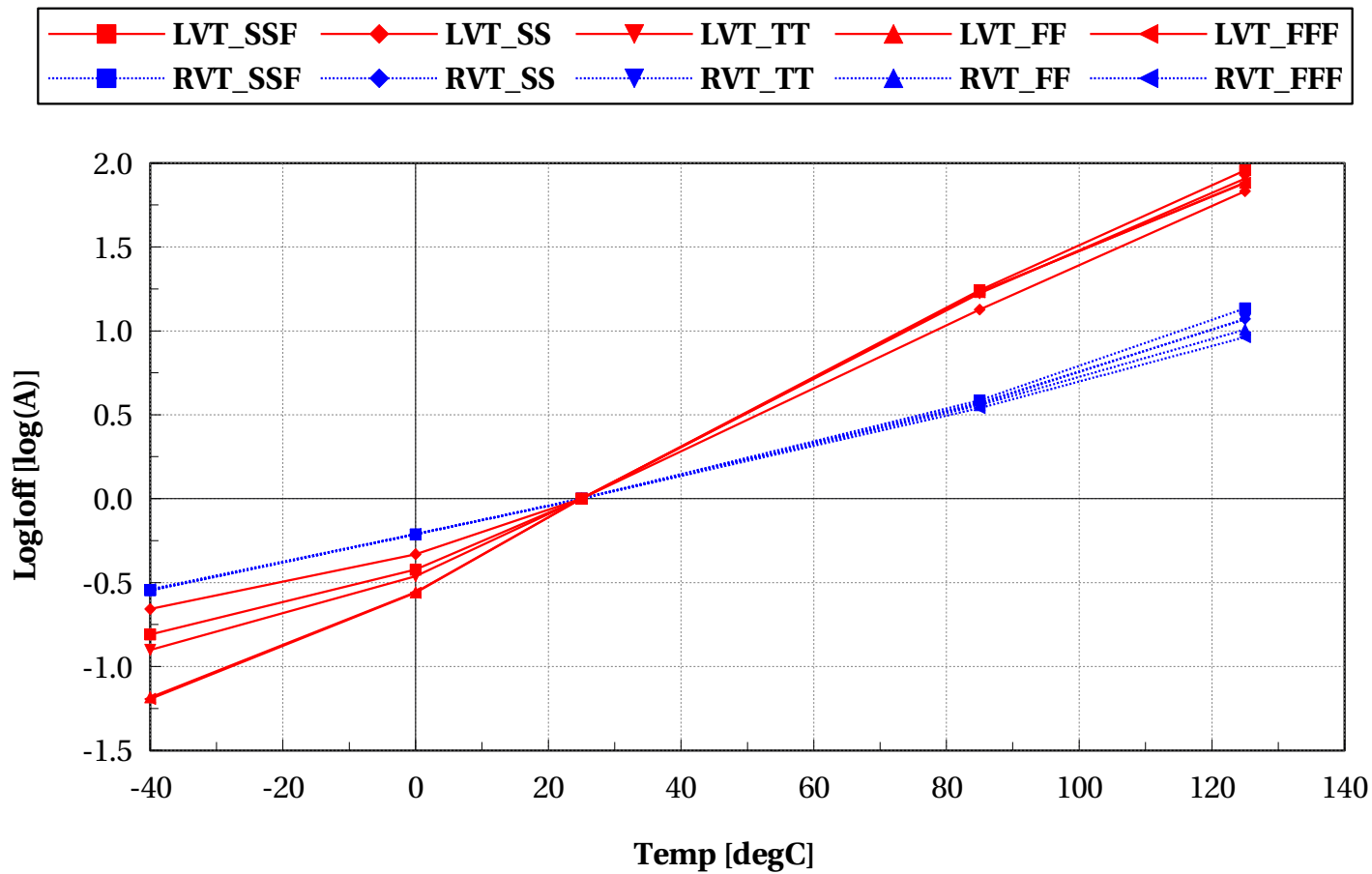
eglvtnfet_acc, Ioffsat [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



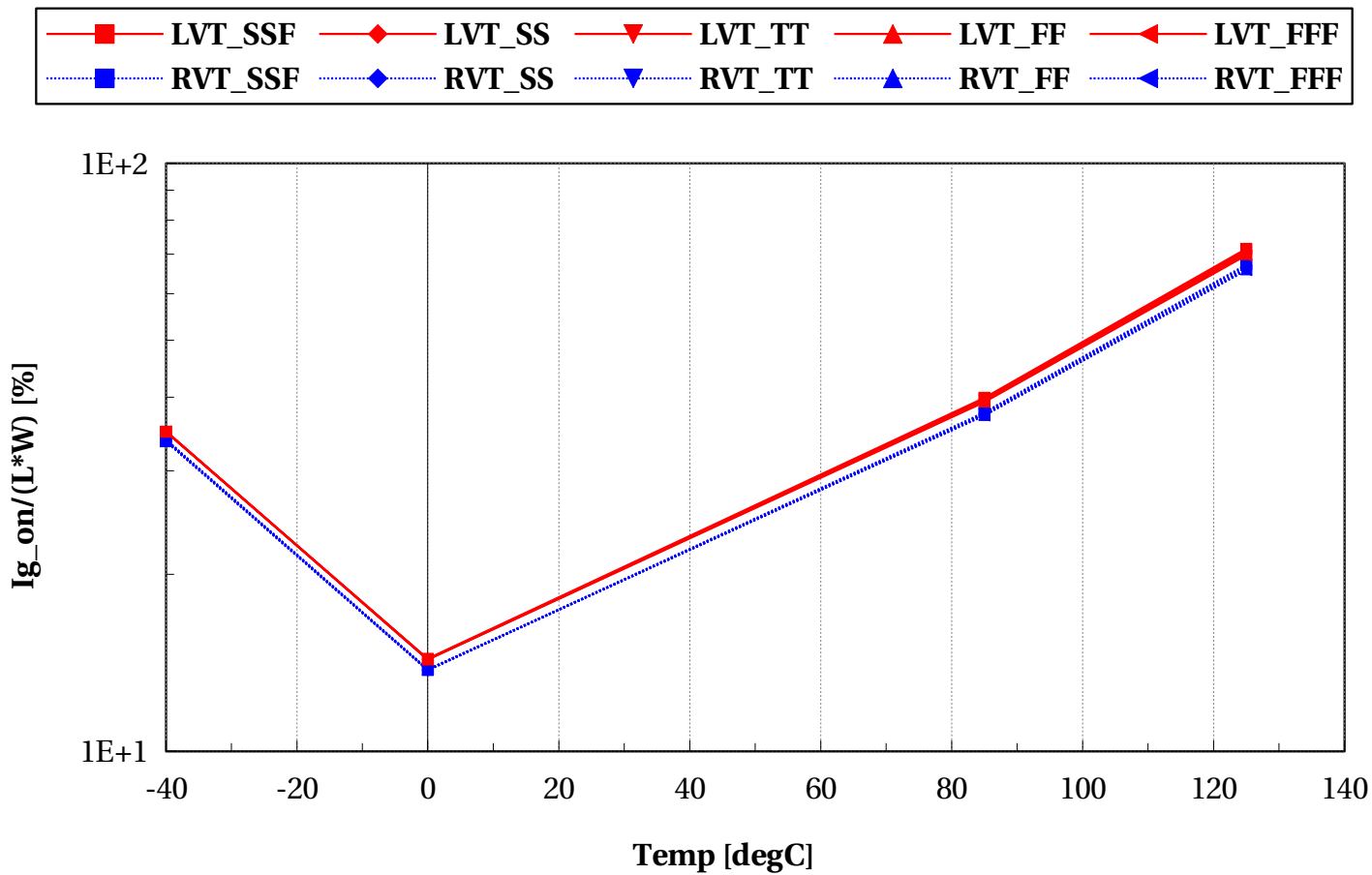
eglvtnfet_acc, LogIoff [log(A)] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



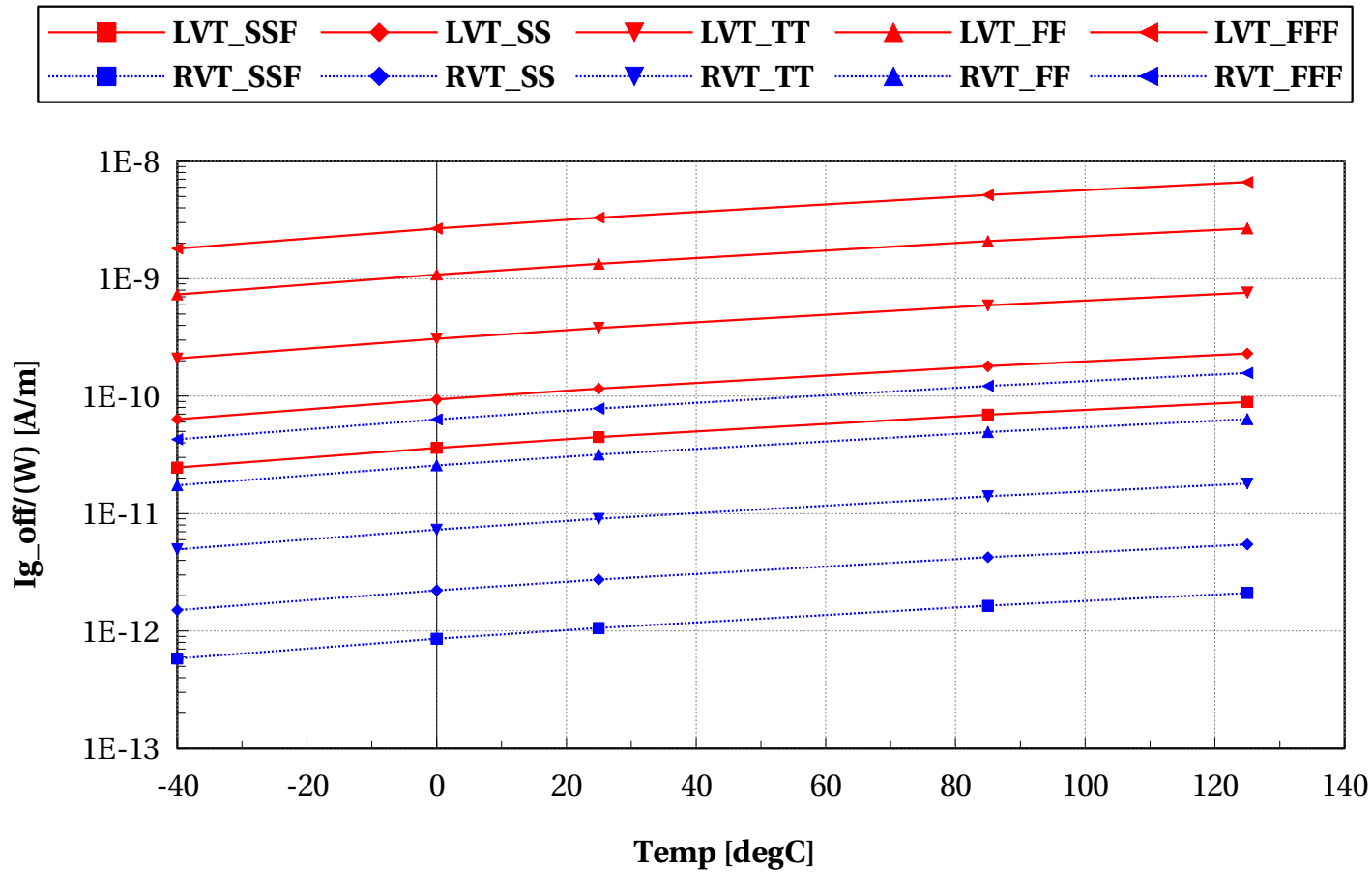
eglvtnfet_acc, Ig_on/(L*W) [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



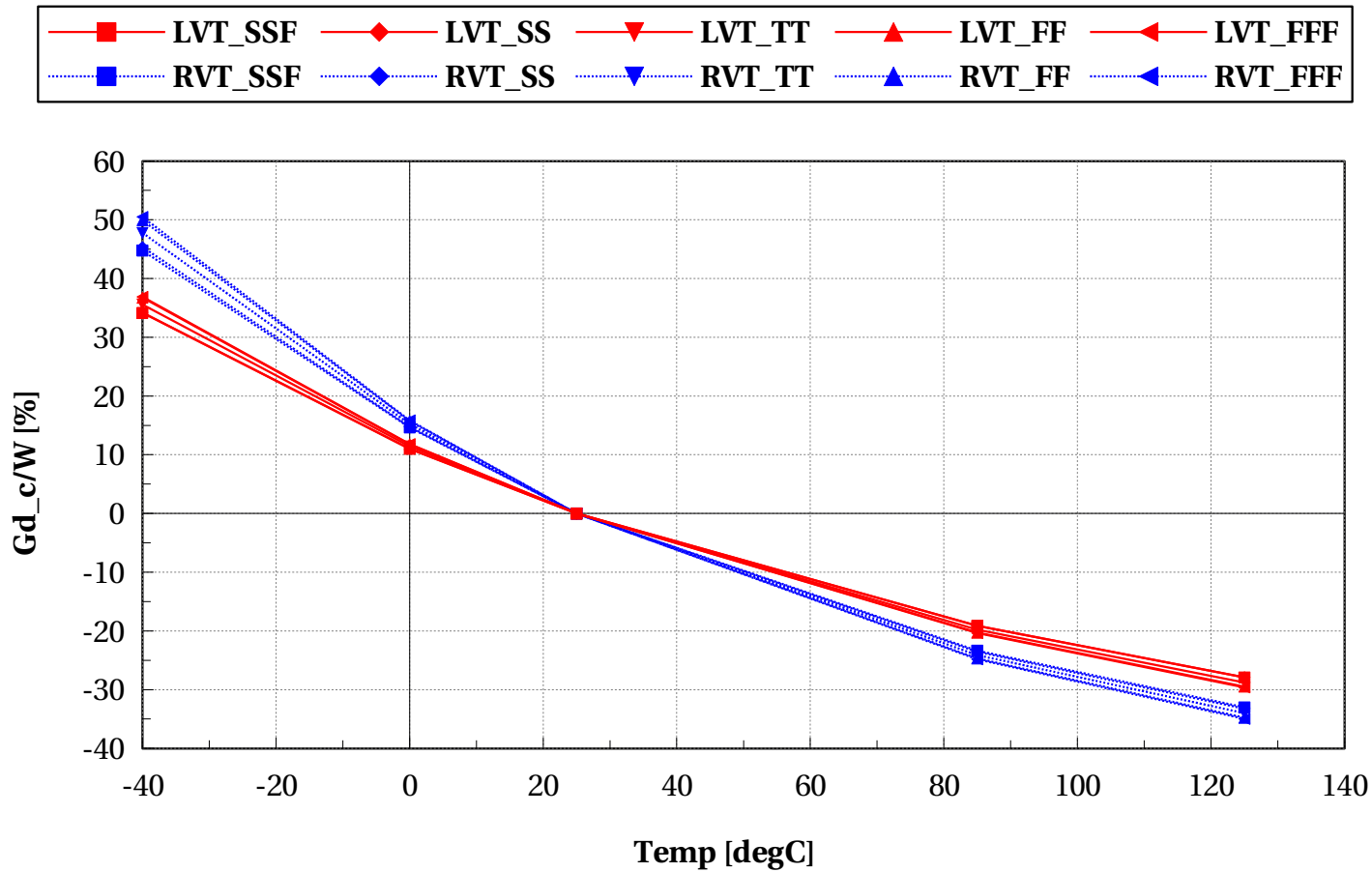
eglvtnfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



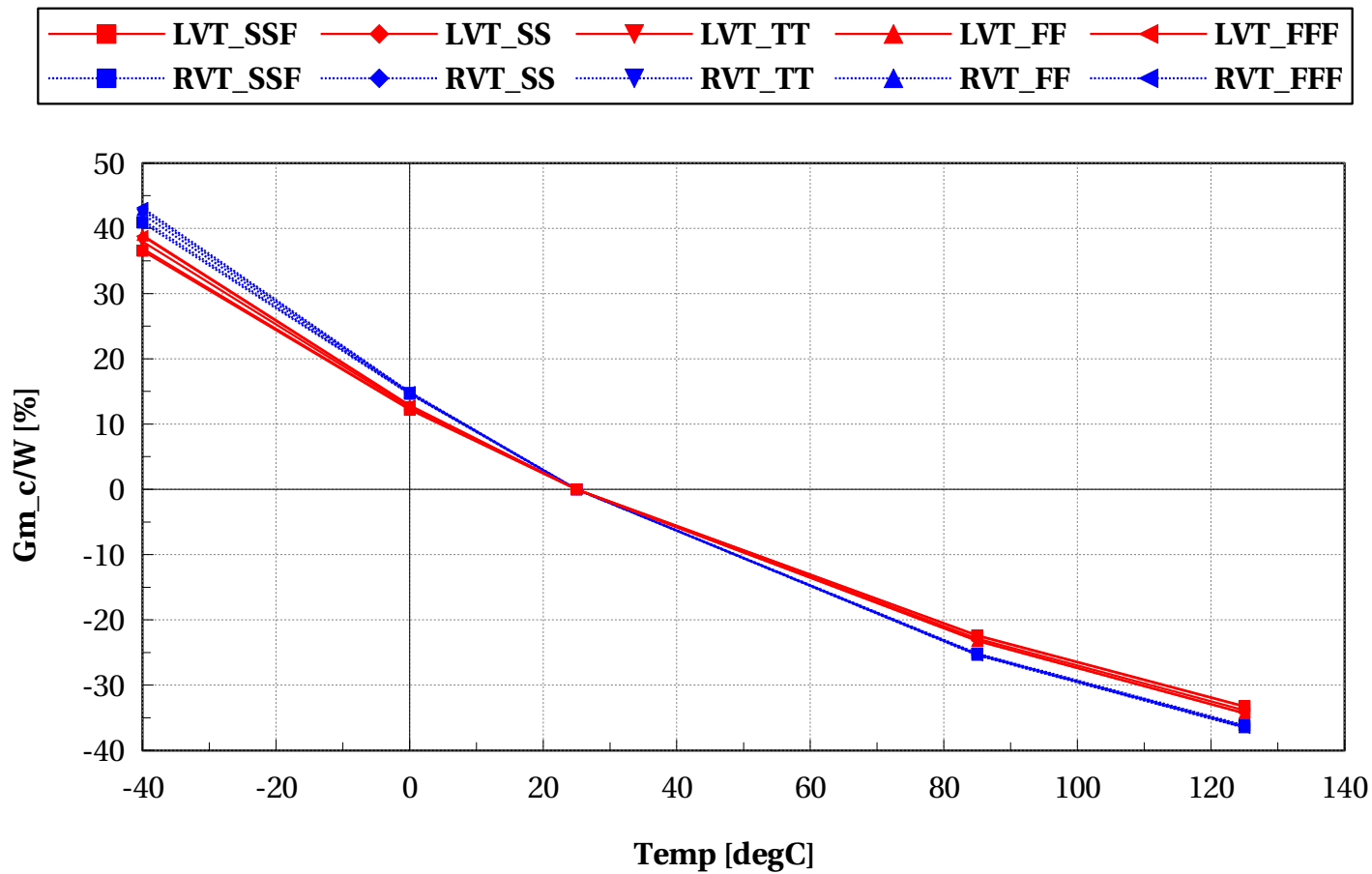
eglvtnfet_acc, Gd_c/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



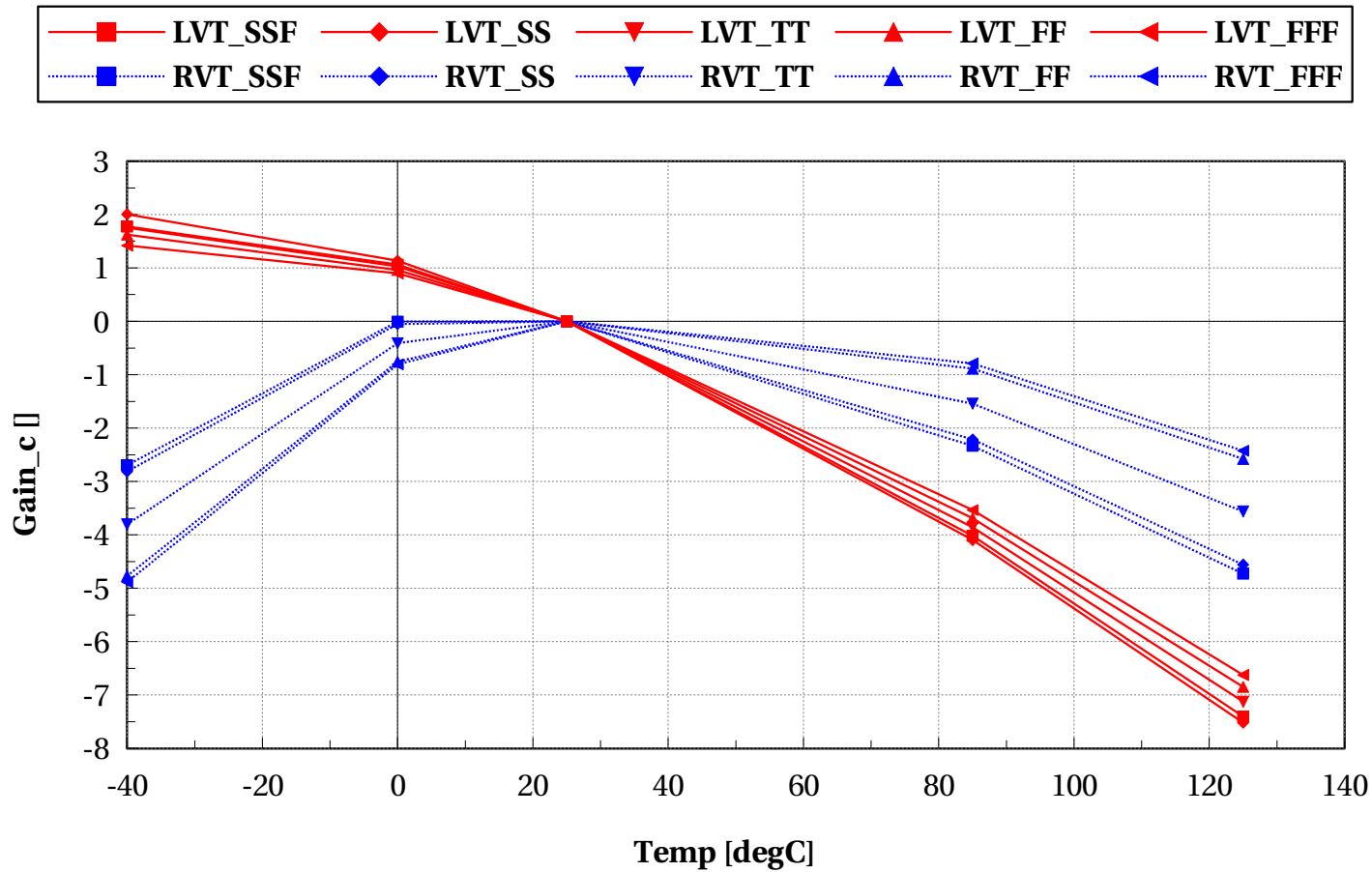
eglvtnfet_acc, Gm_c/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



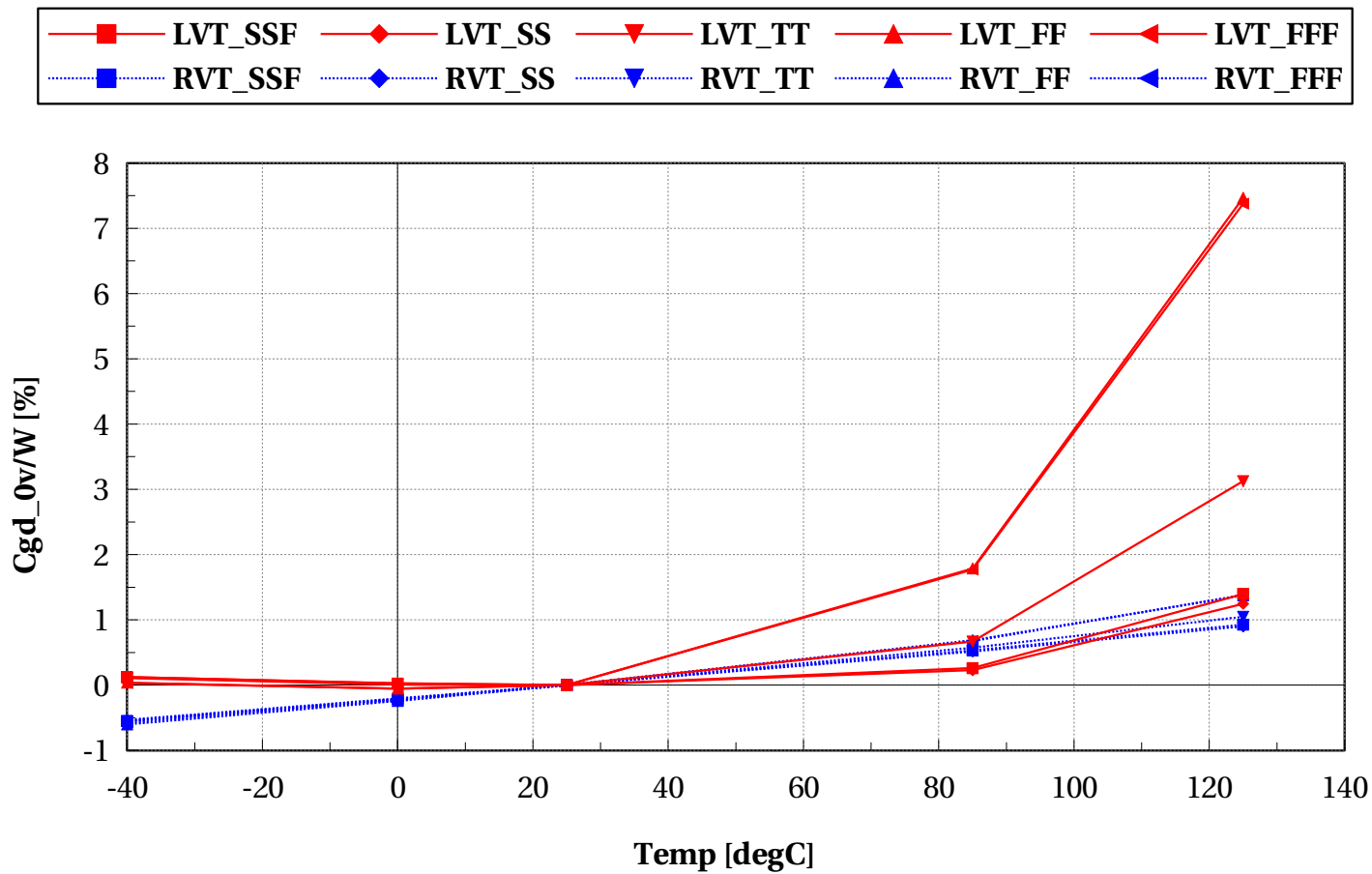
eglvtnfet_acc, Gain_c [] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



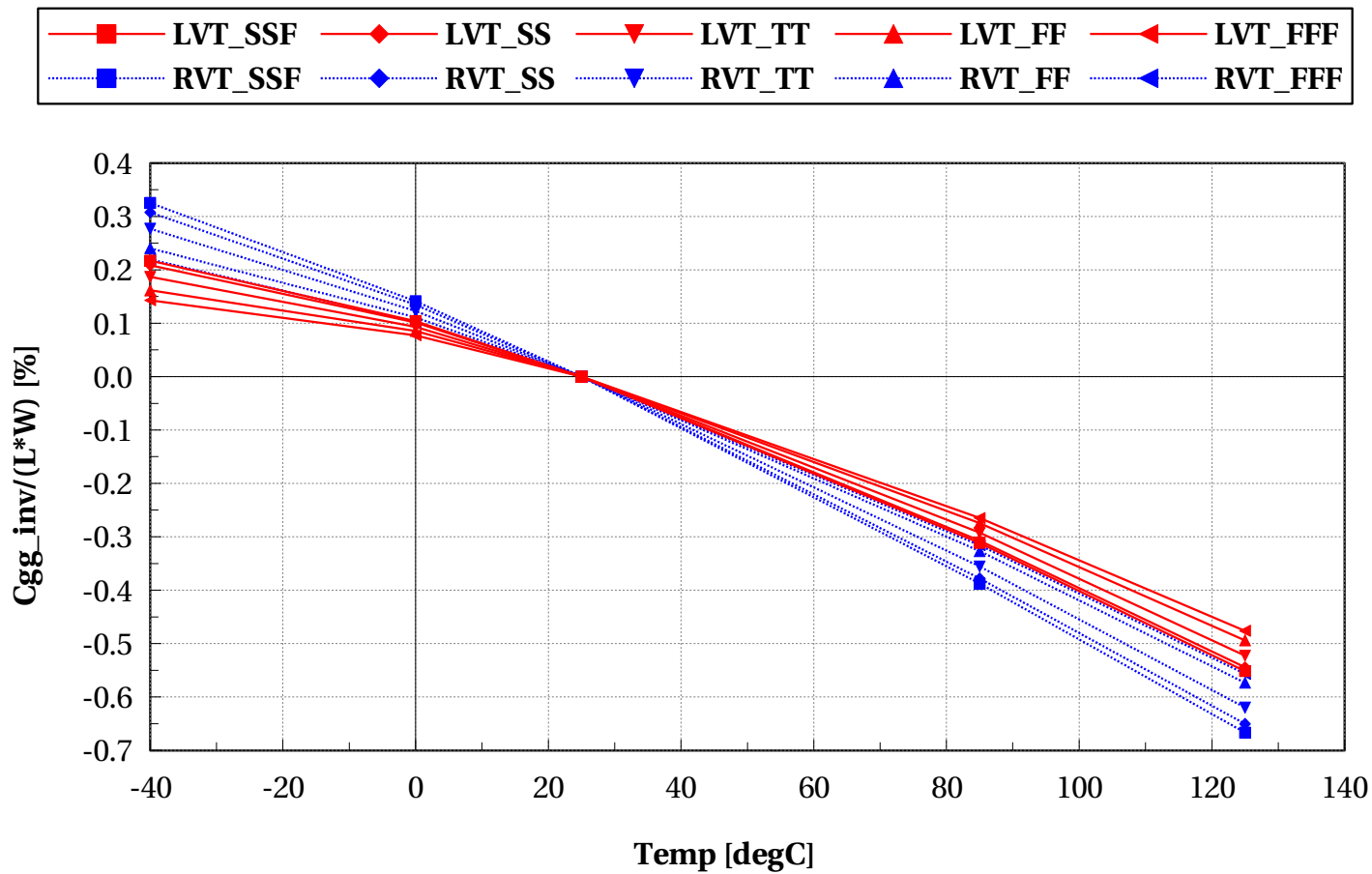
eglvtnfet_acc, Cgd_0v/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



eglvtnfet_acc, Cgg_inv/(L*W) [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



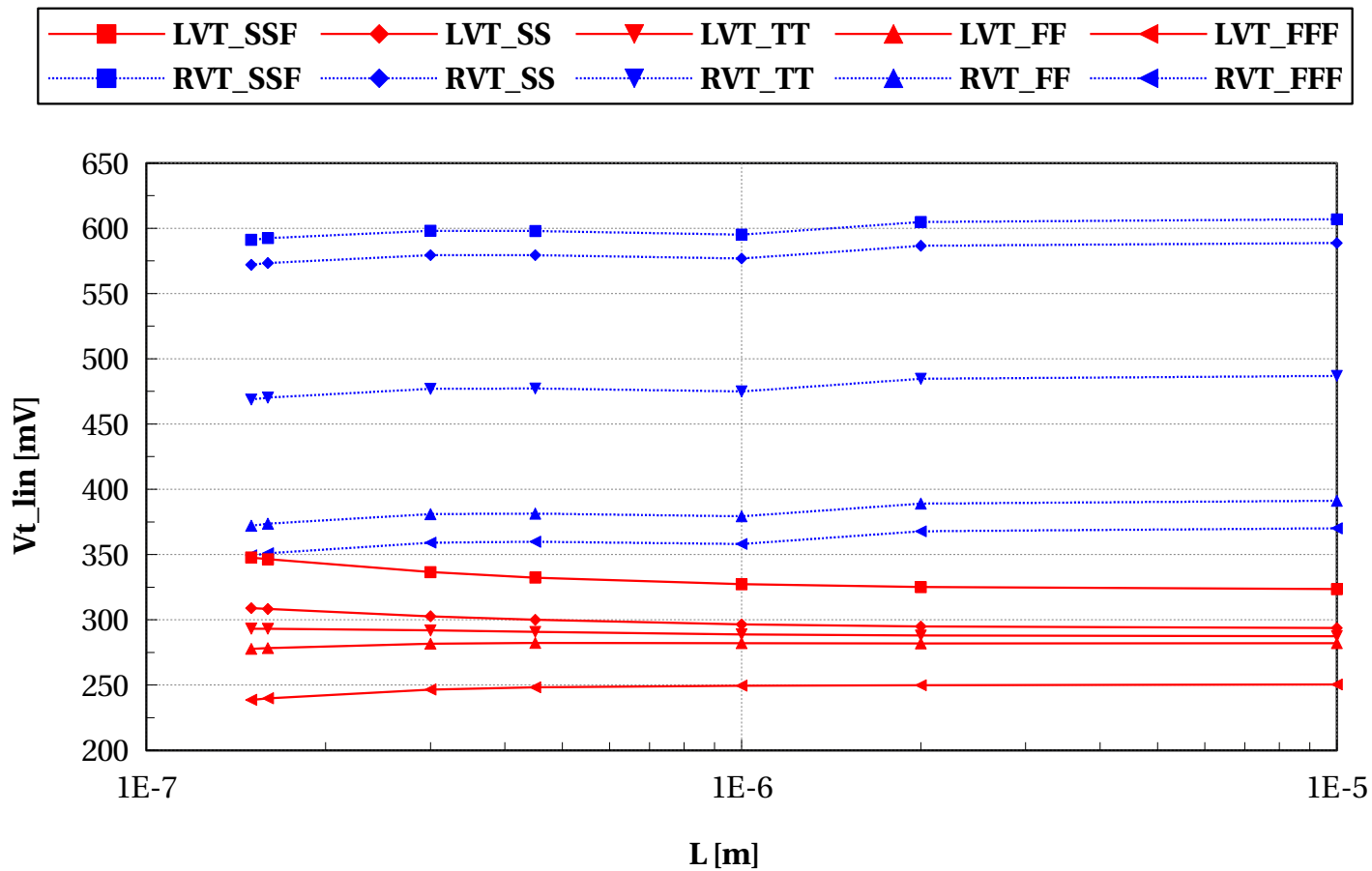
eglvtpfet_acc

Electrical characteristics scaling

Scaling versus Length ($W=2e-6$, Temp=25)

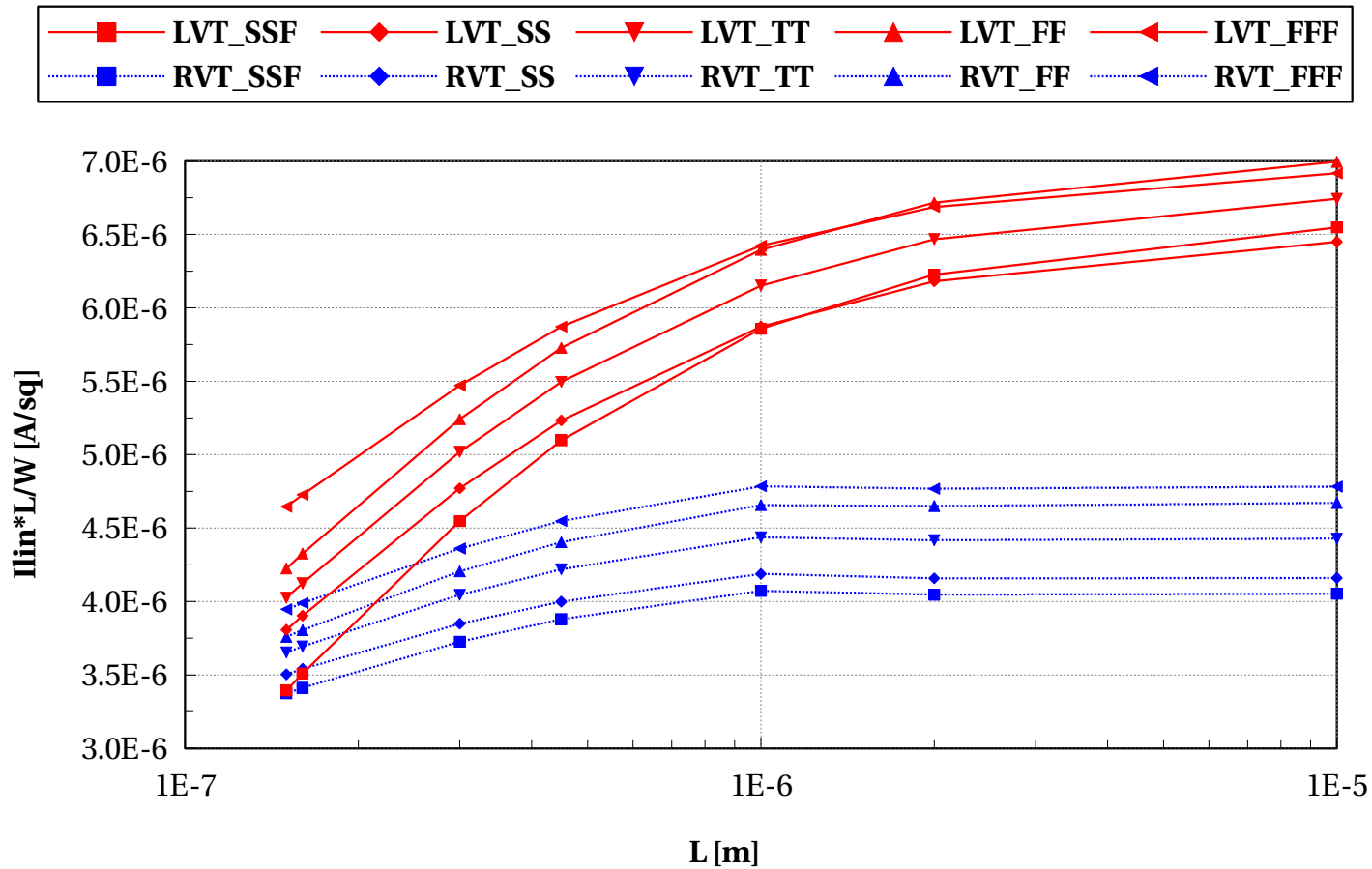
eglvtpfet_acc, Vt_lin [mV] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



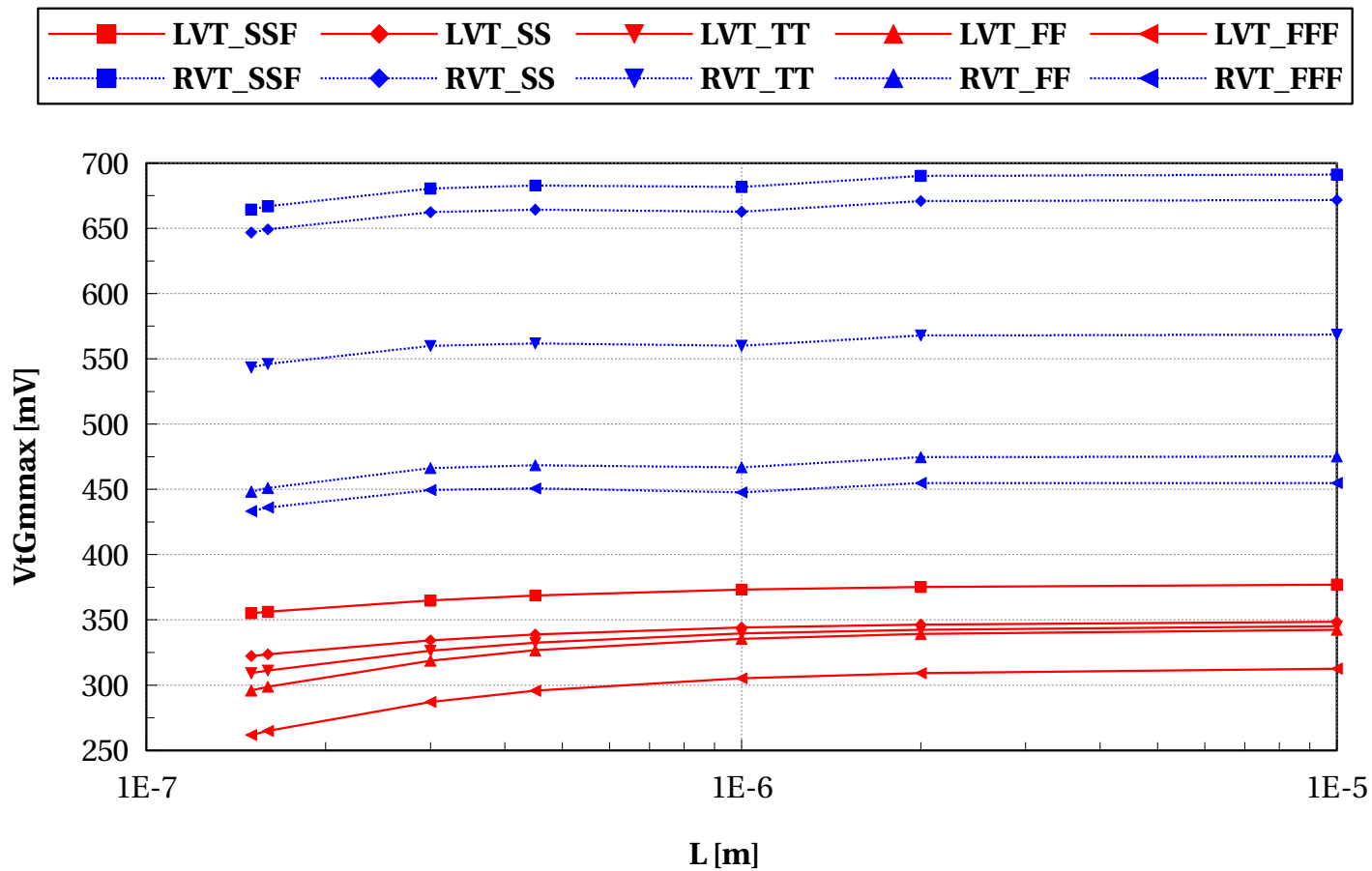
eglvtpfet_acc, $I_{lin} \cdot L/W$ [A/sq] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



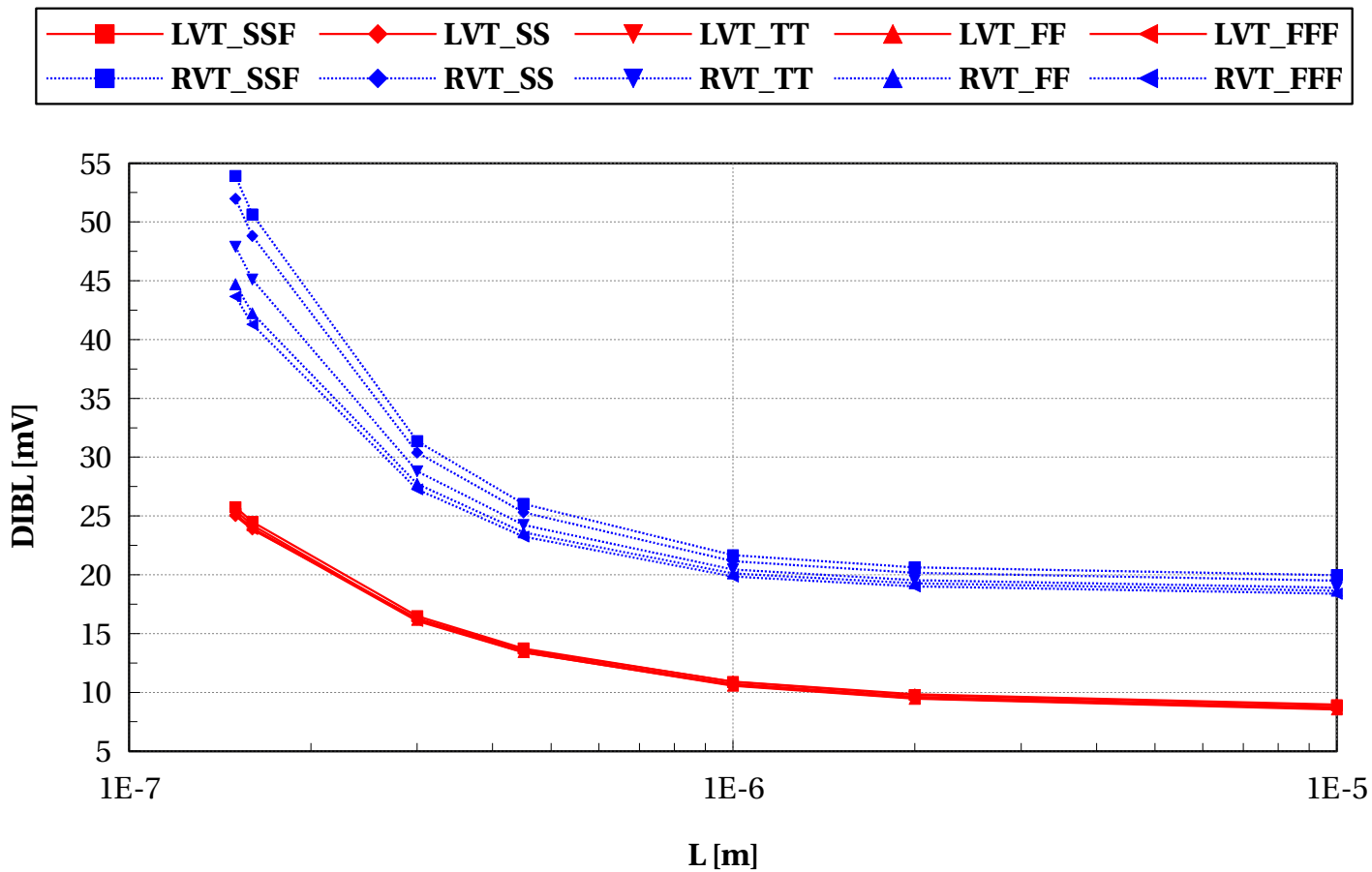
eglvtpfet_acc, VtGmmax [mV] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



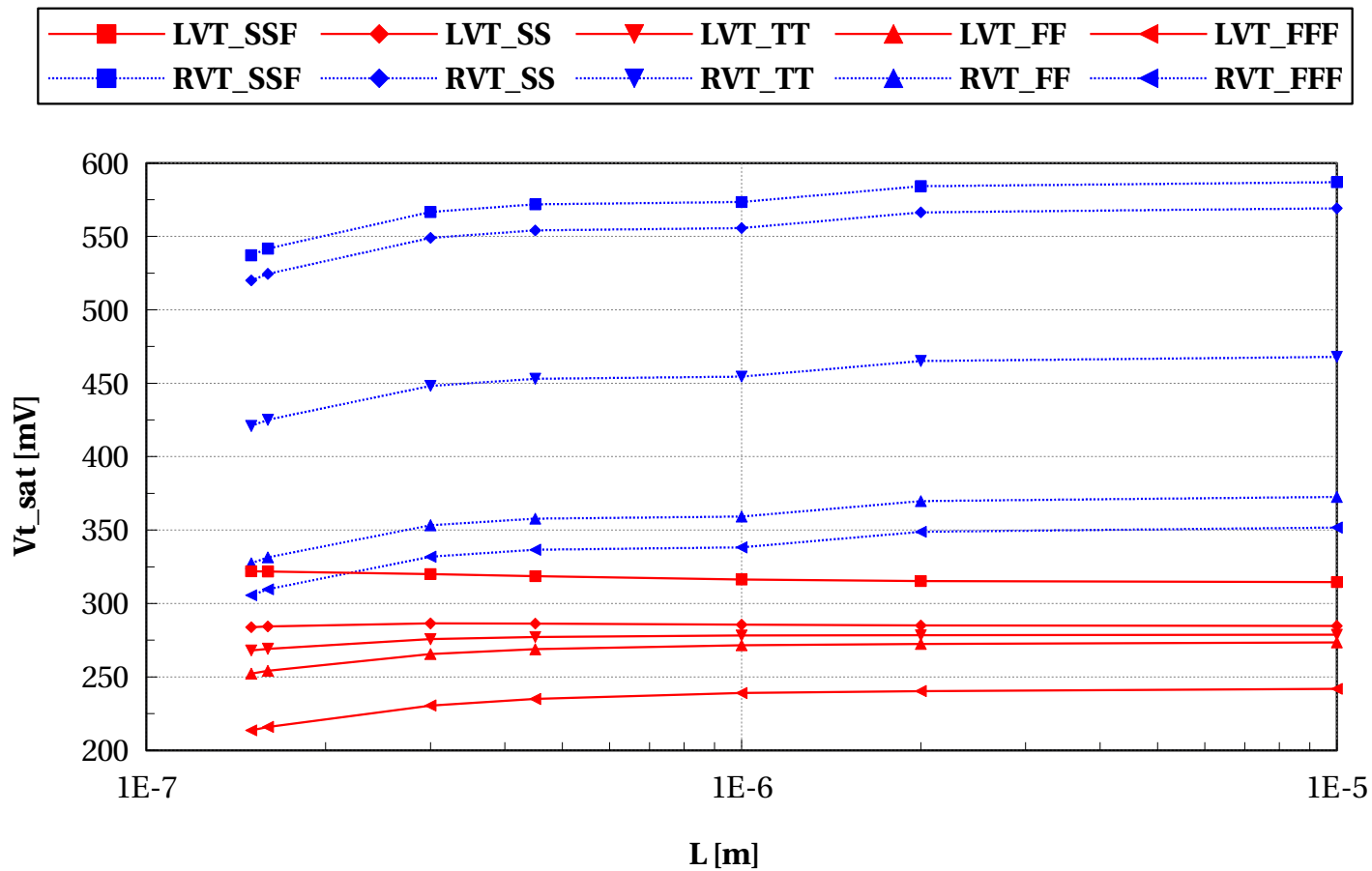
eglvtpfet_acc, DIBL [mV] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



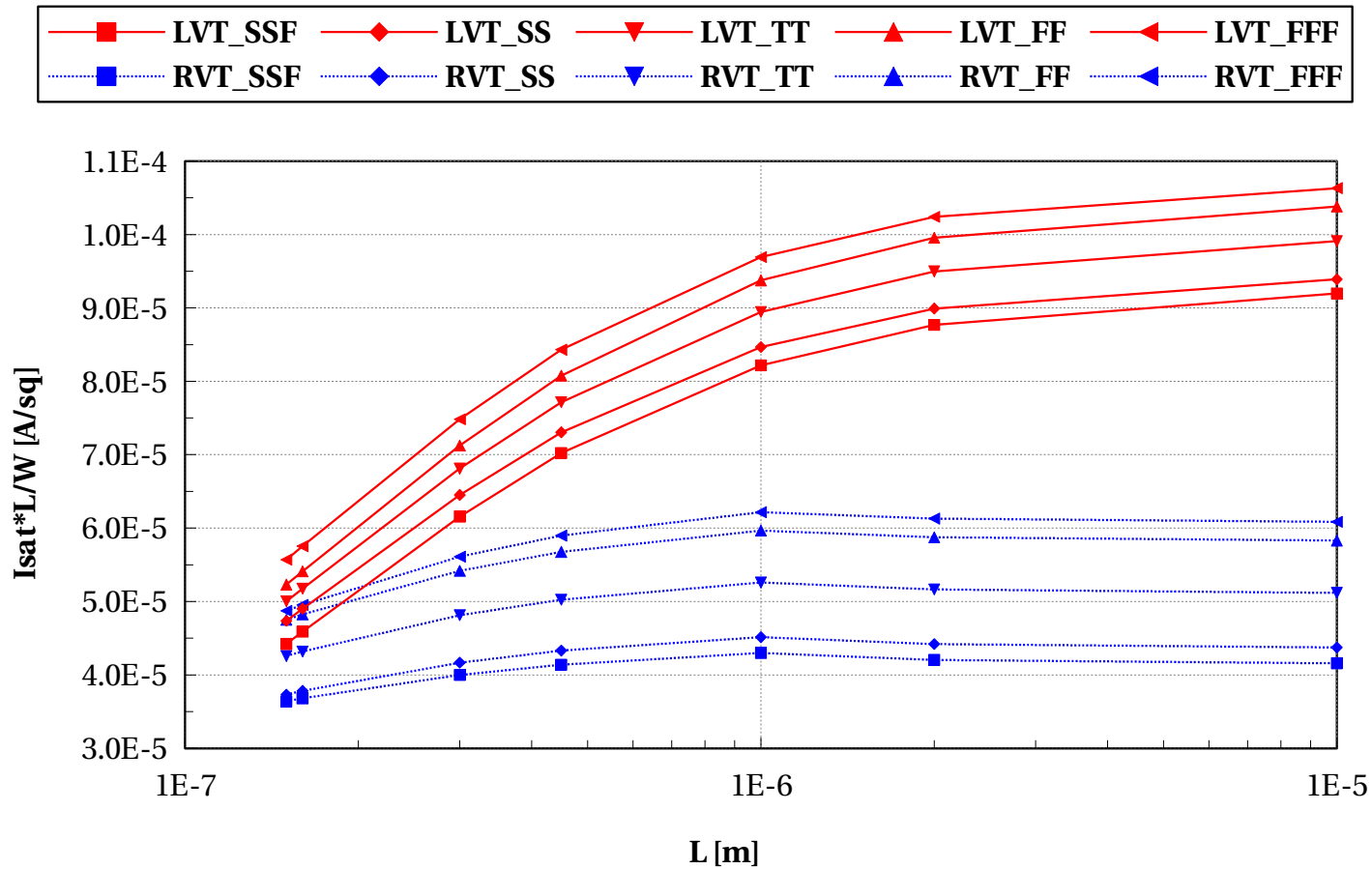
eglvtpfet_acc, Vt_sat [mV] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



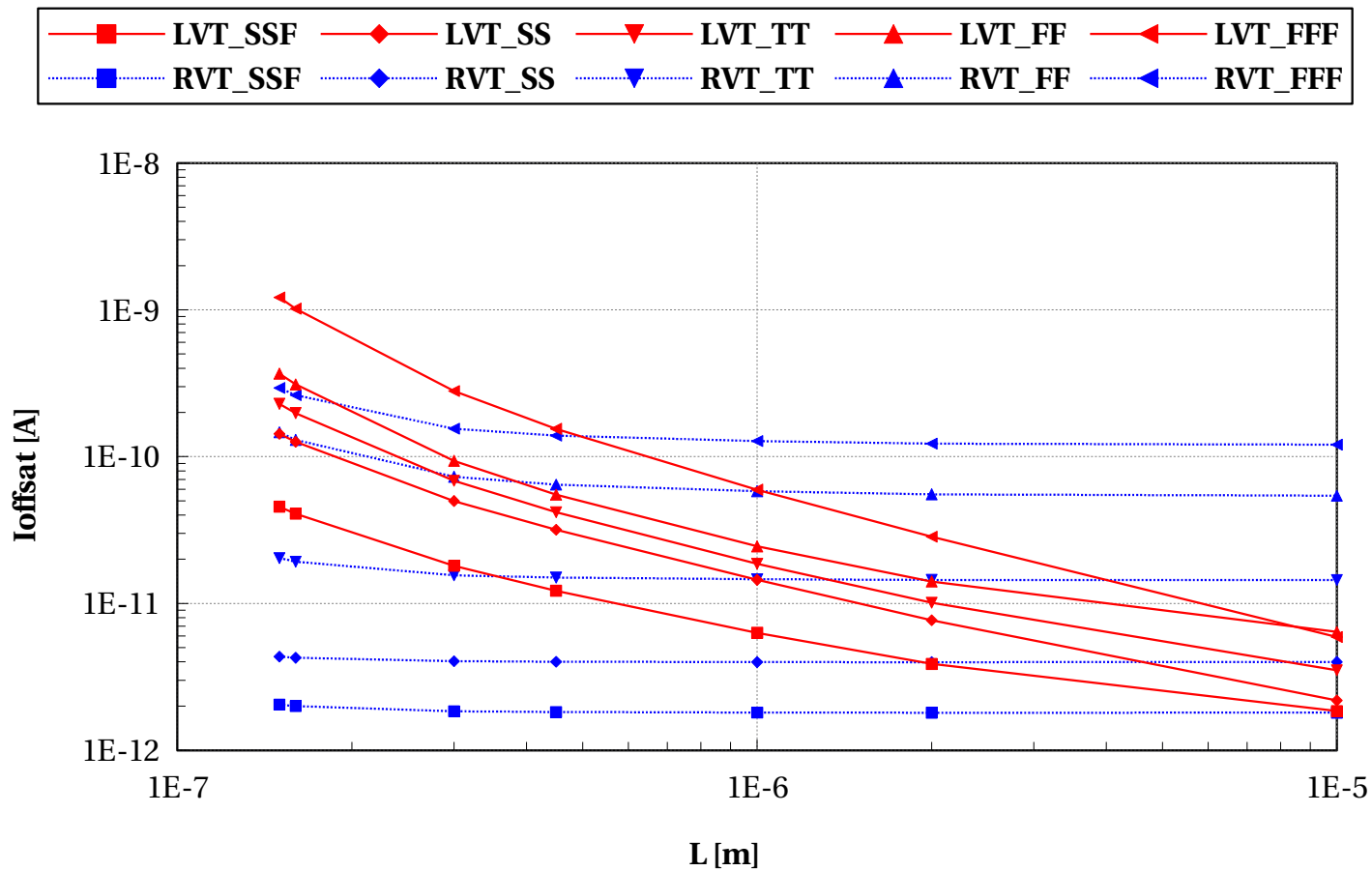
eglvtpfet_acc, $I_{sat} \cdot L/W$ [A/sq] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



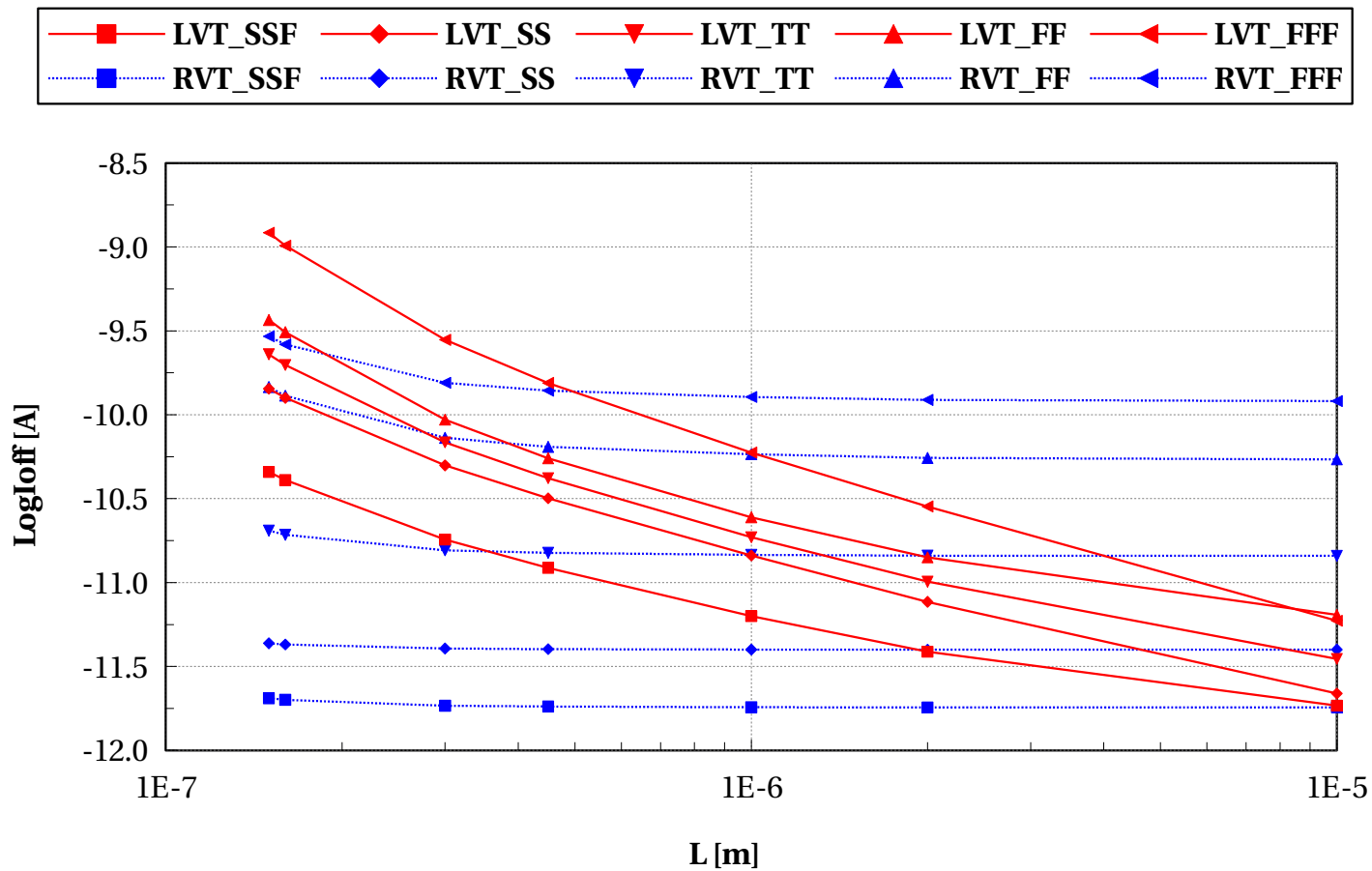
eglvtpfet_acc, Ioffsat [A] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



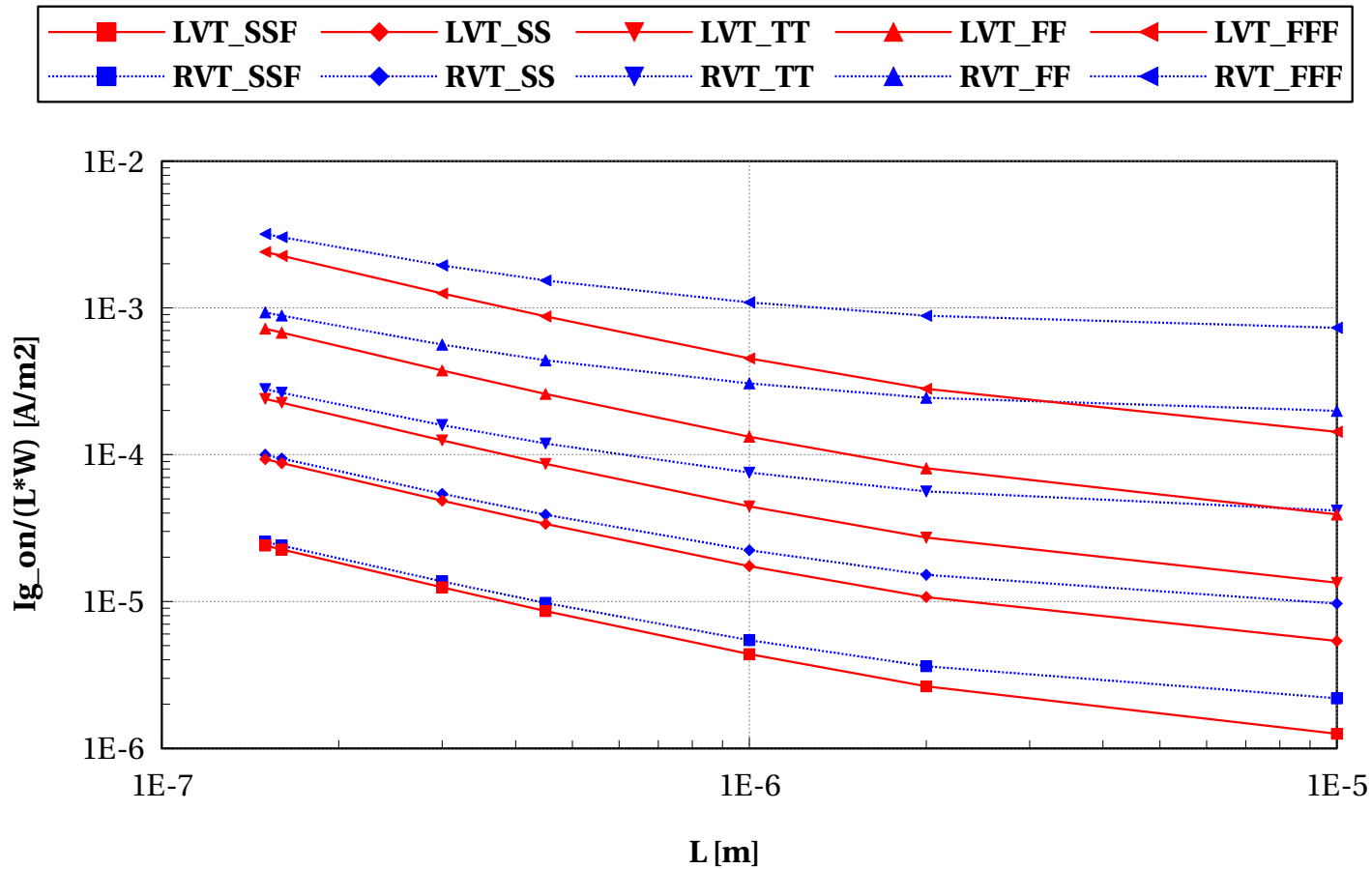
eglvtpfet_acc, LogIoff [A] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



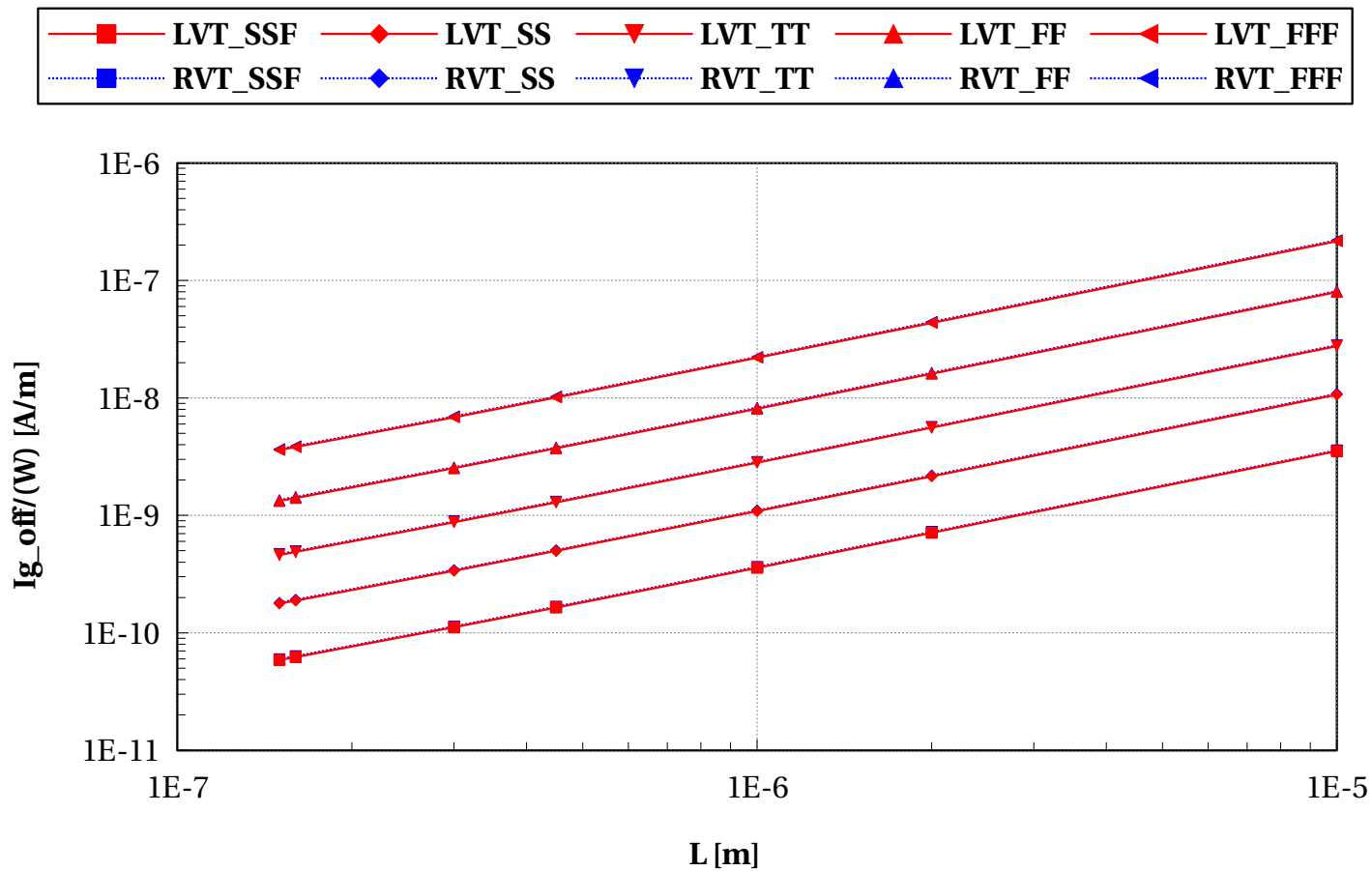
eglvtpfet_acc, $I_{g_on}/(L*W)$ [A/m²] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



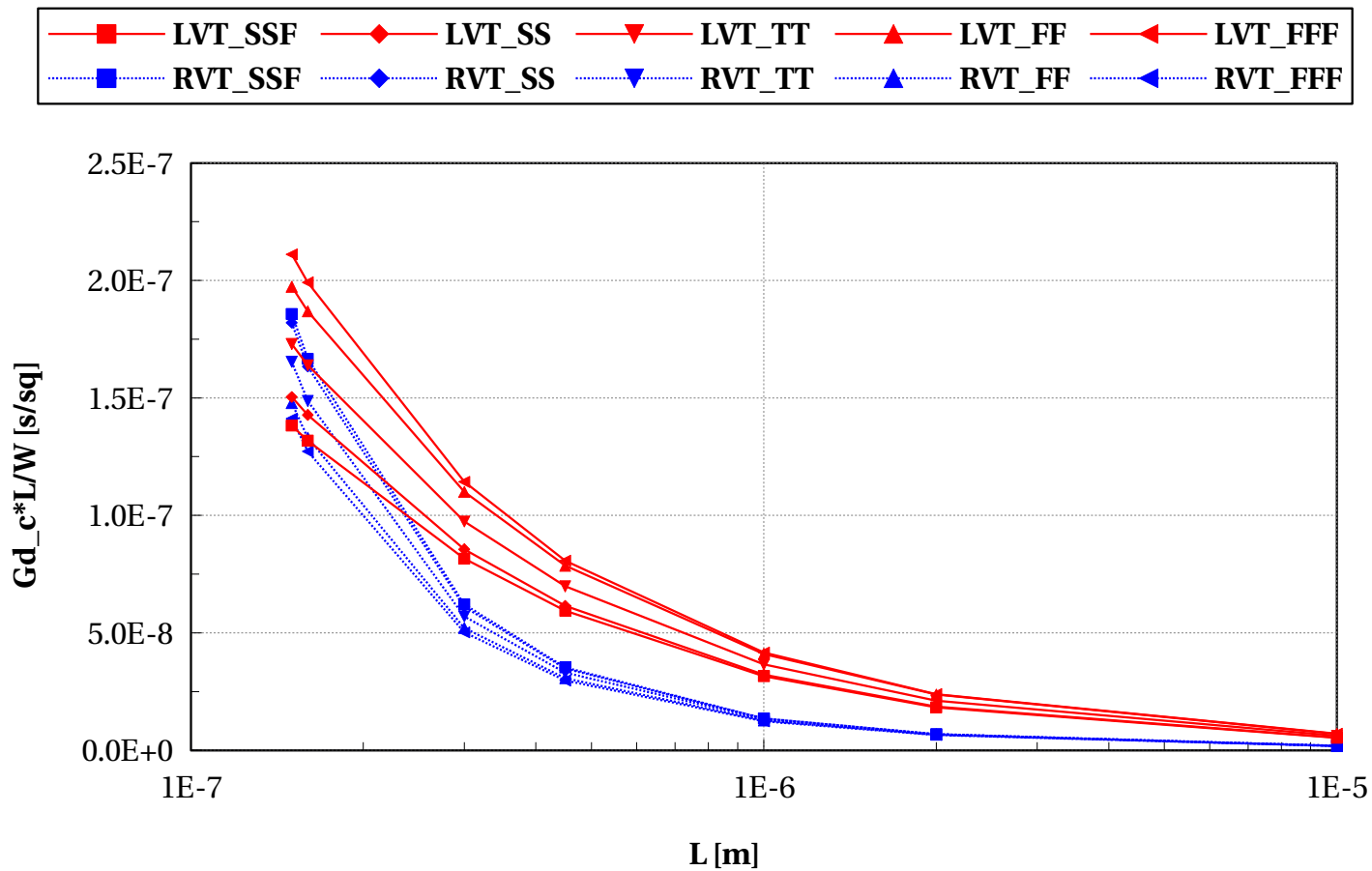
eglvtpfet_acc, Ig_off/(W) [A/m] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



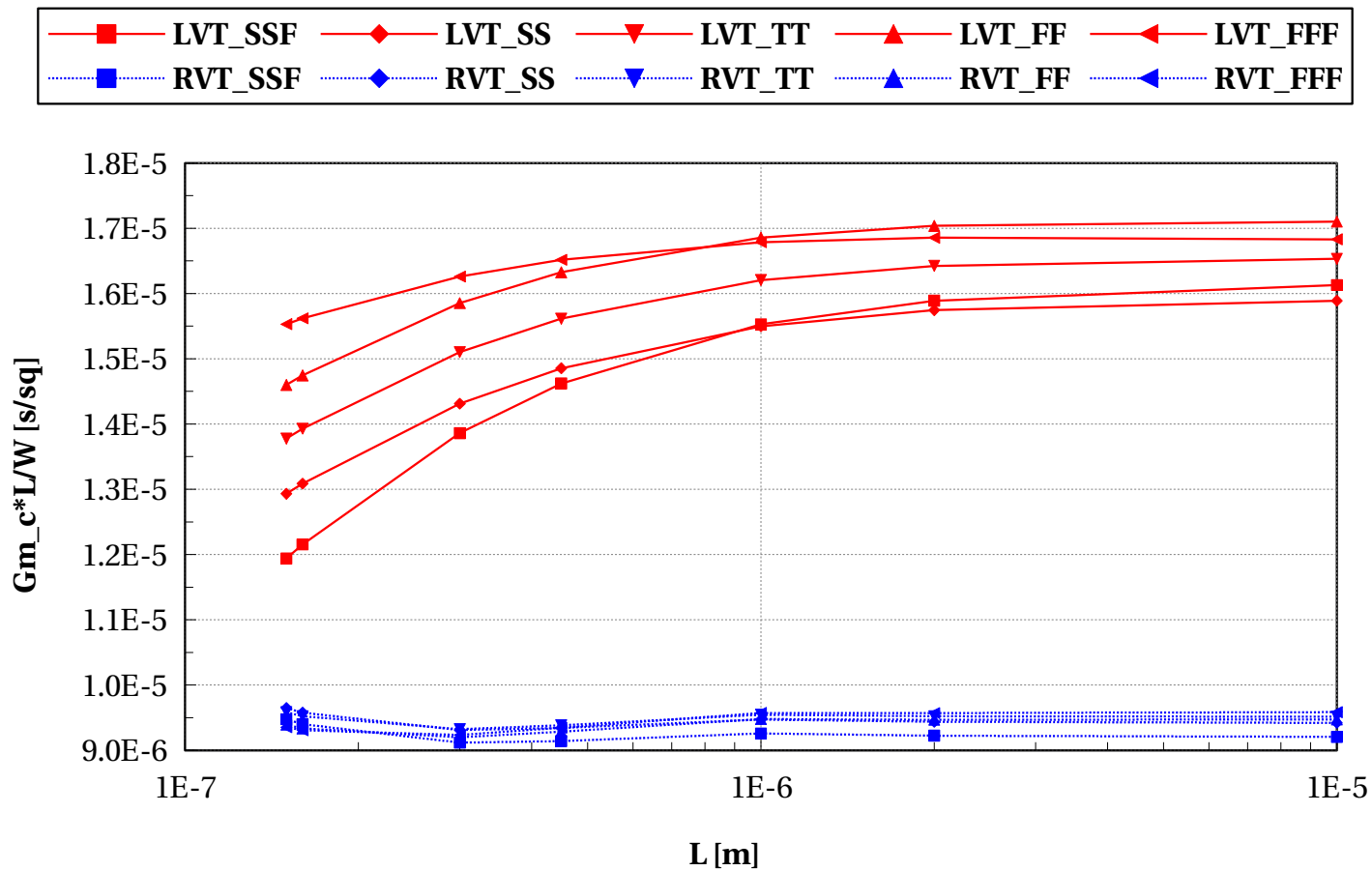
eglvtpfet_acc, $Gd_c \cdot L/W$ [s/sq] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



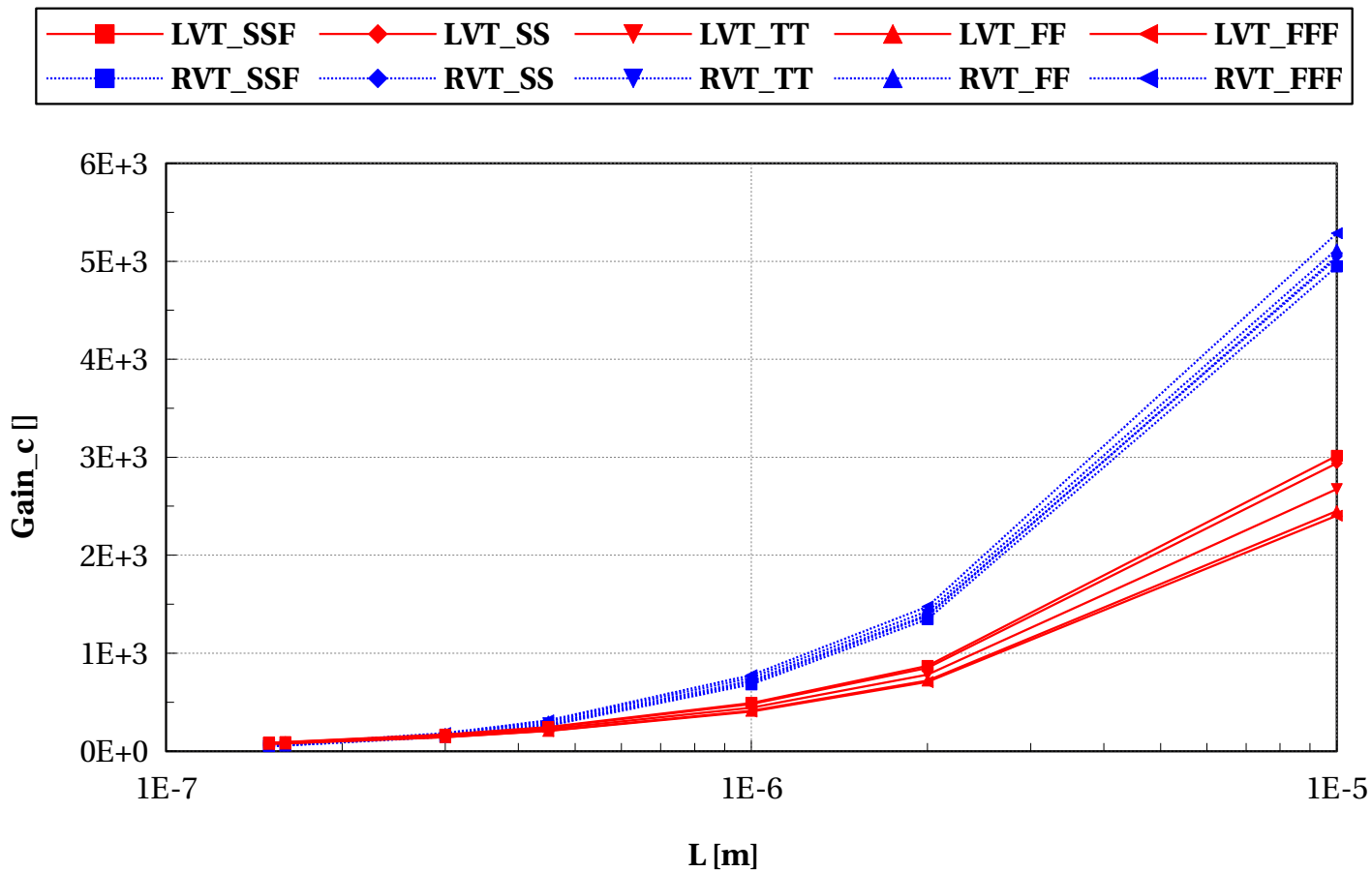
eglvtpfet_acc, $Gm_c \cdot L/W$ [s/sq] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



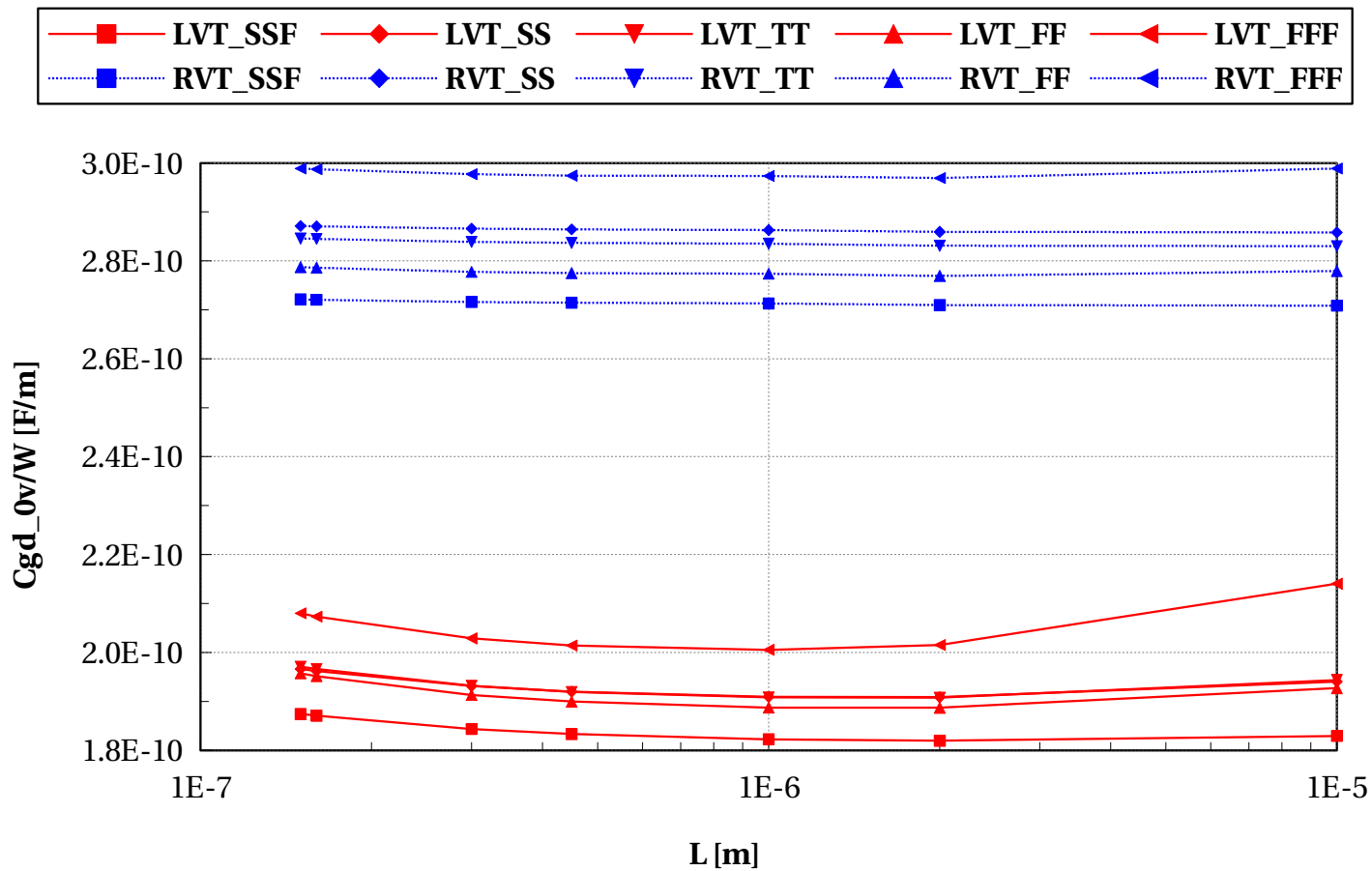
eglvtpfet_acc, Gain_c [] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



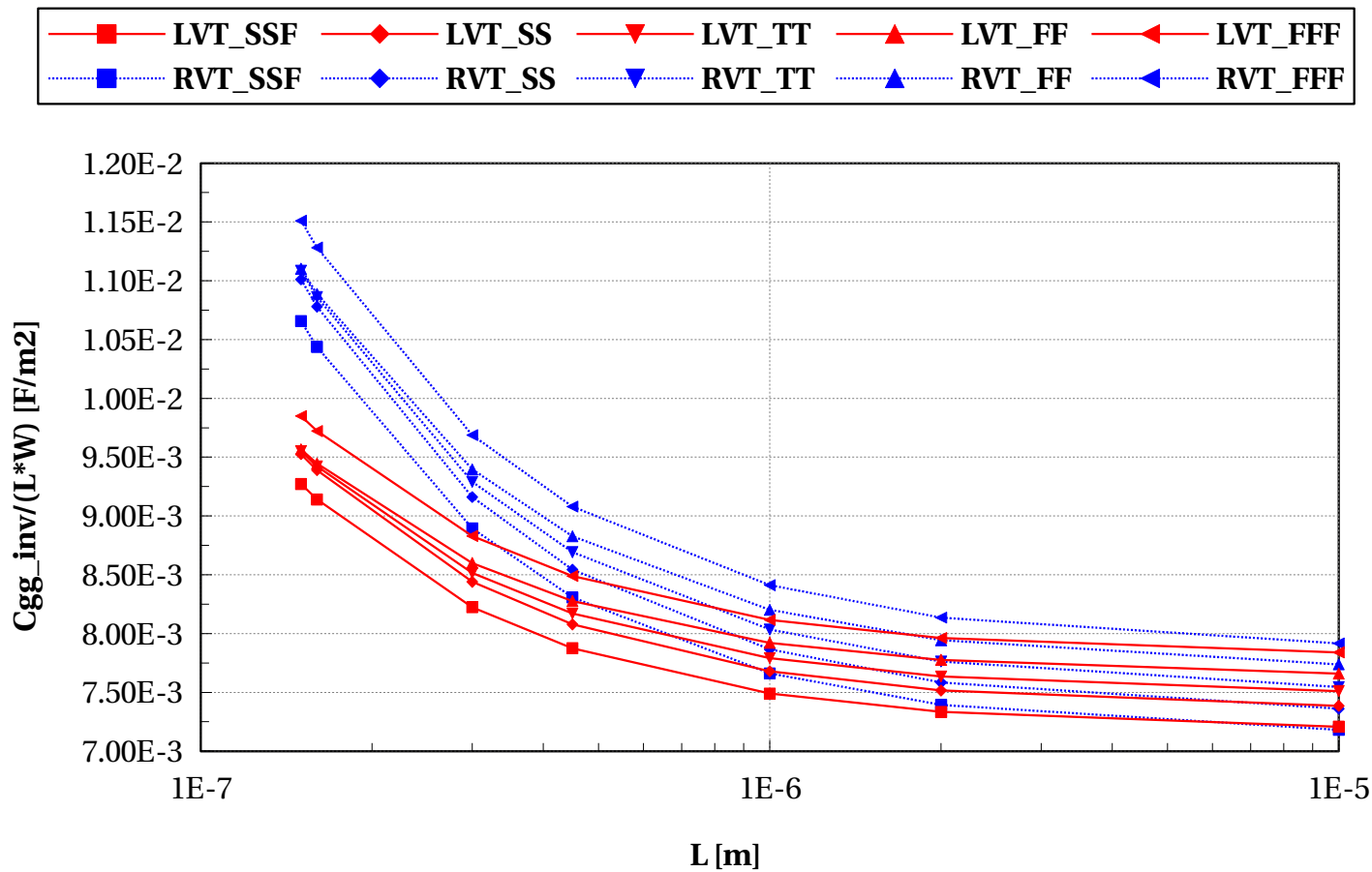
eglvtpfet_acc, Cgd_0v/W [F/m] vs L [m]

Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



eglvtpfet_acc, Cgg_inv/(L*W) [F/m2] vs L [m]

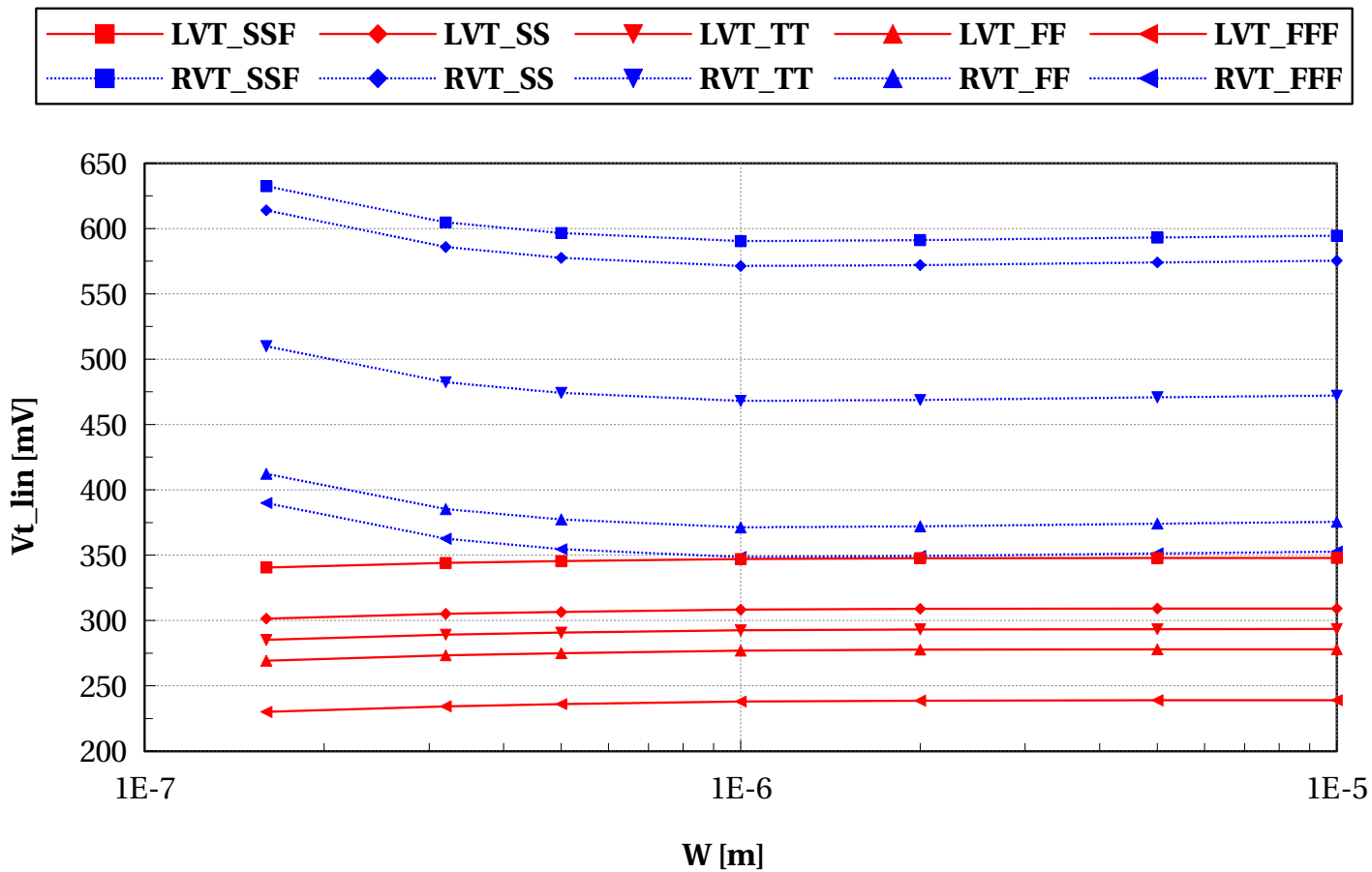
Temp==25 and w==2e-6 and l>0.1e-6 and devType=="PCELLwoWPE"



Scaling versus Width ($L=0.15\text{e-}6$, Temp=25)

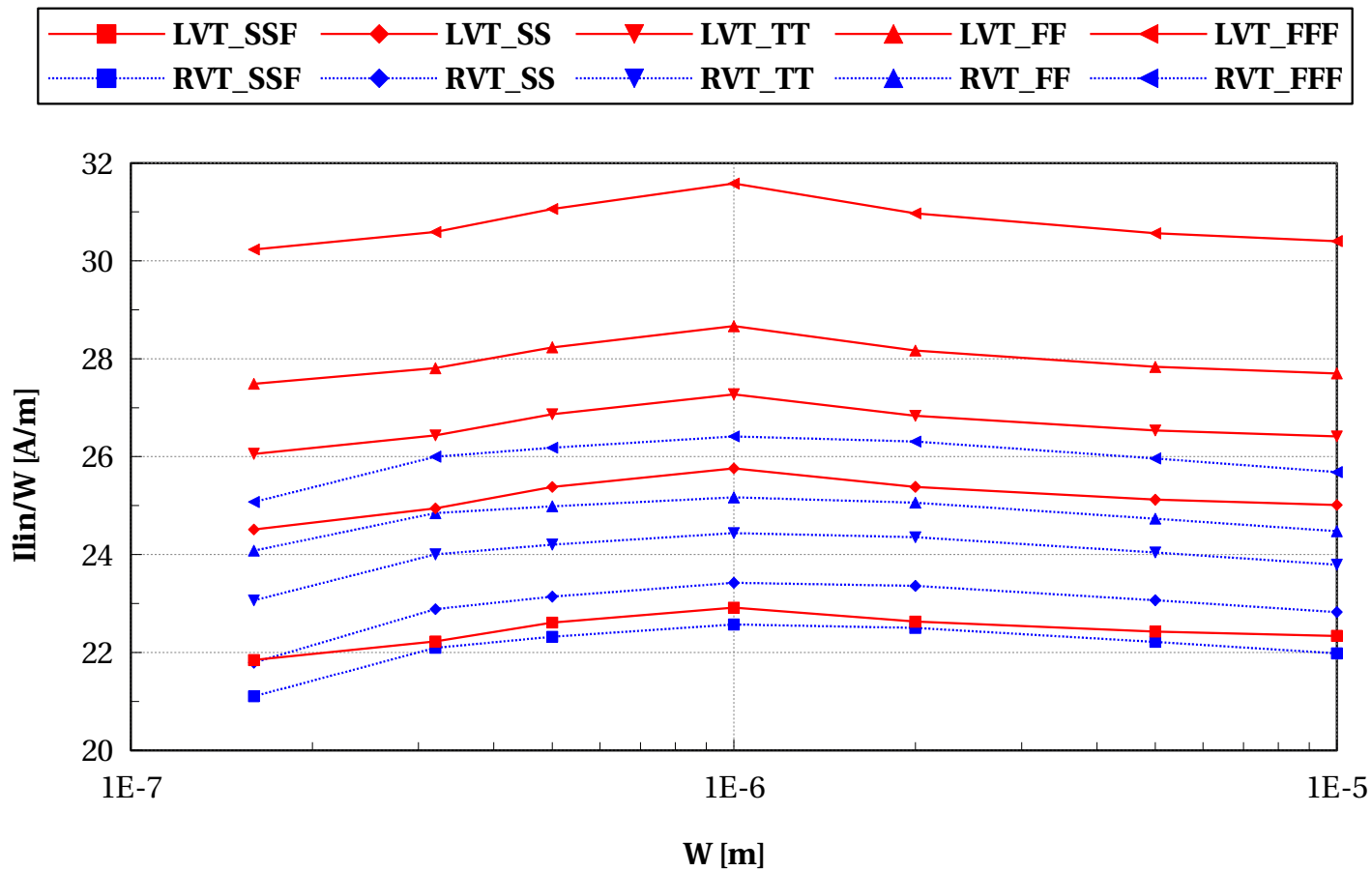
eglvtpfet_acc, Vt_lin [mV] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



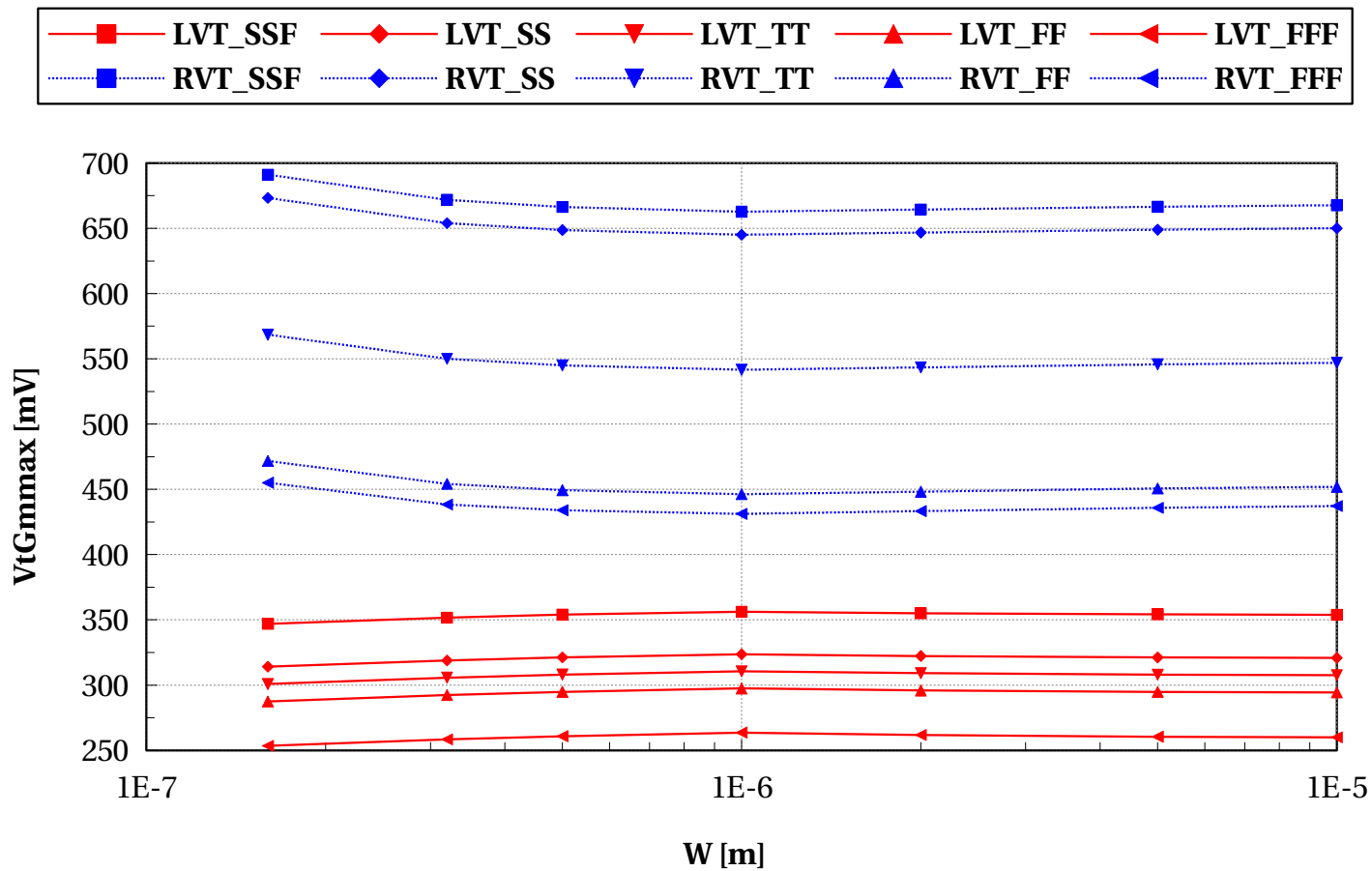
eglvtpfet_acc, I_{lin}/W [A/m] vs W [m]

Temp==25 and $l=0.15e-6$ and $w>0.135e-6$ and devType=="PCELLwoWPE"



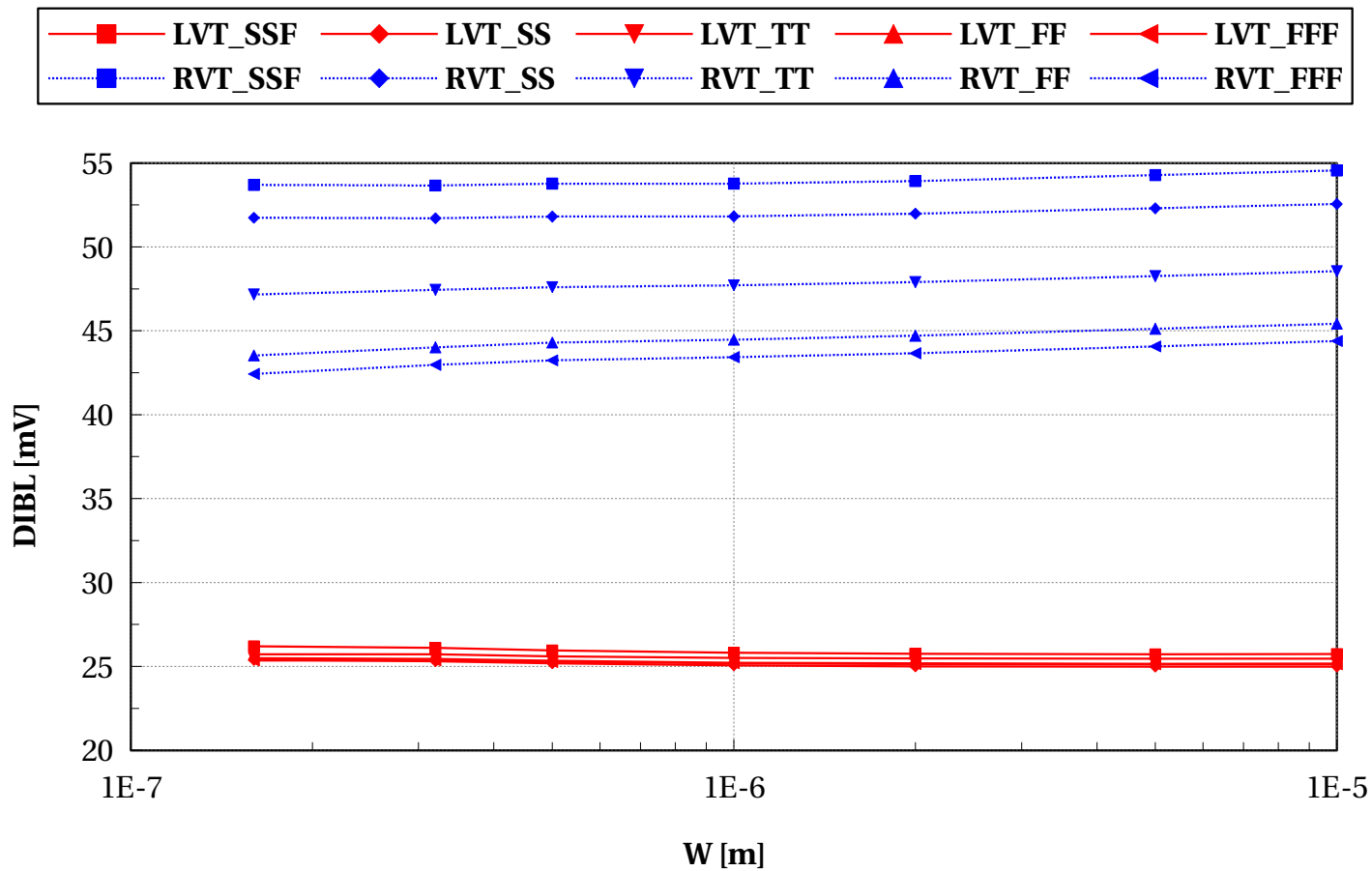
eglvtpfet_acc, VtGmmax [mV] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



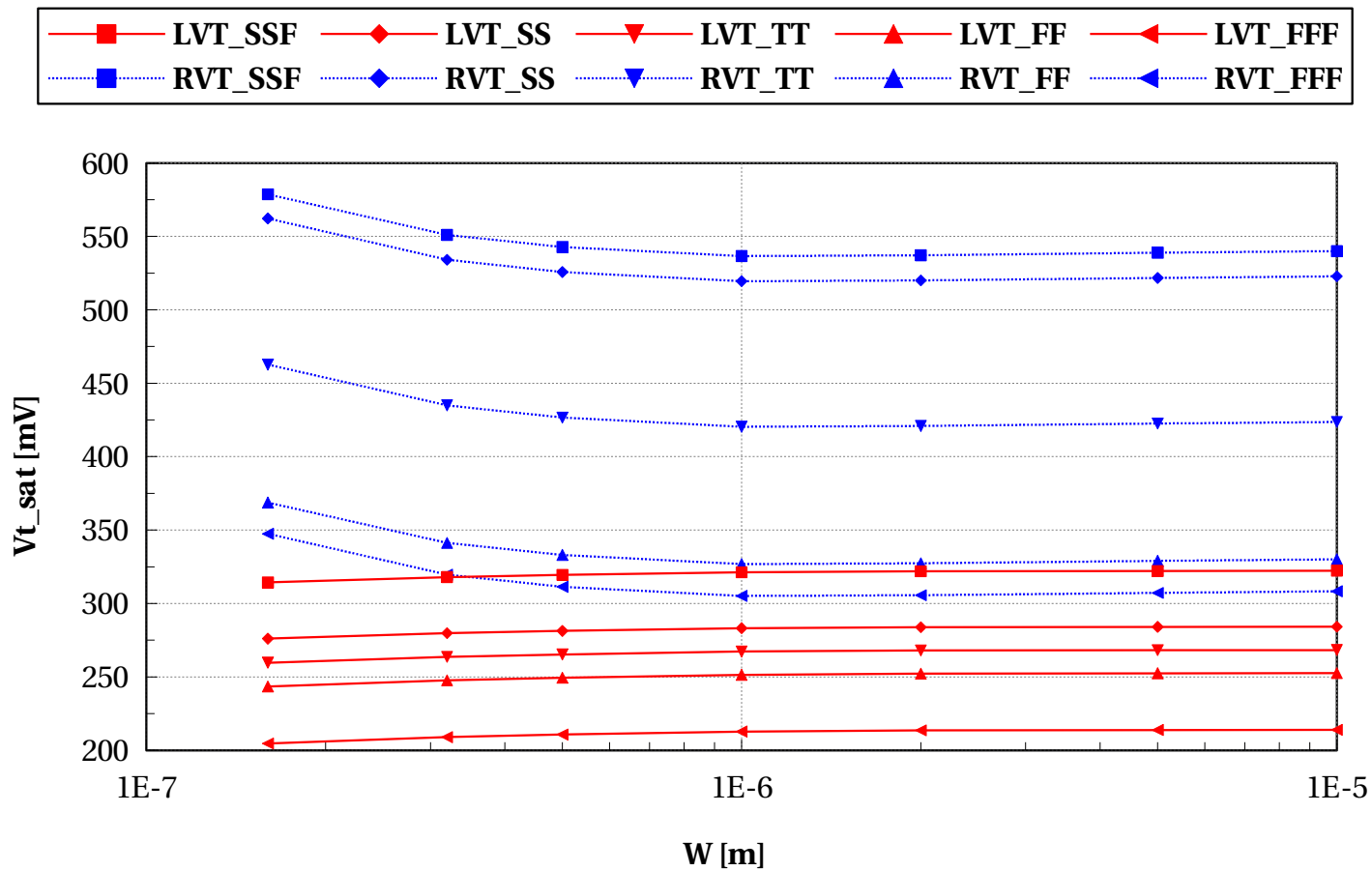
eglvtpfet_acc, DIBL [mV] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



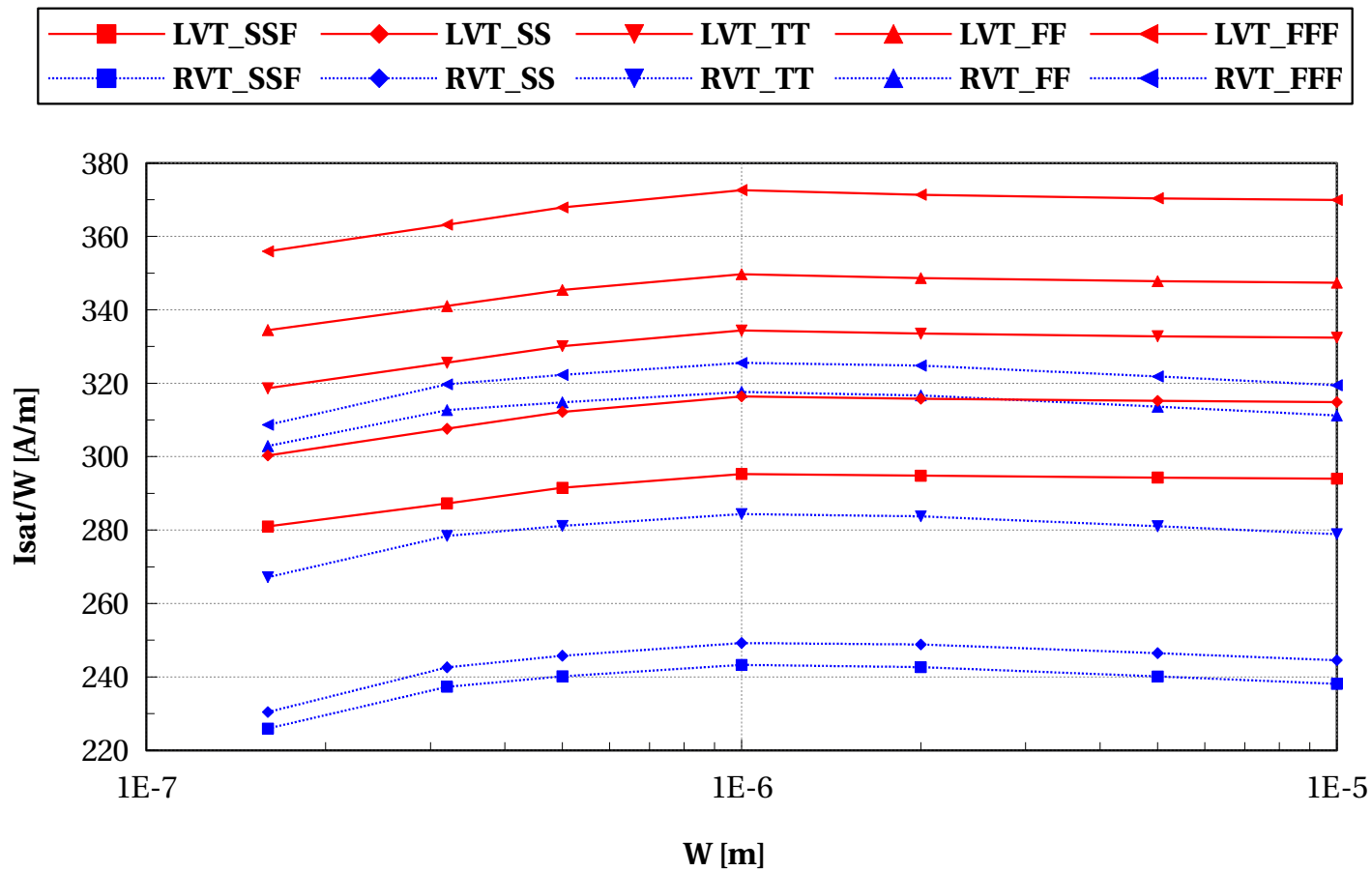
eglvtpfet_acc, Vt_sat [mV] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



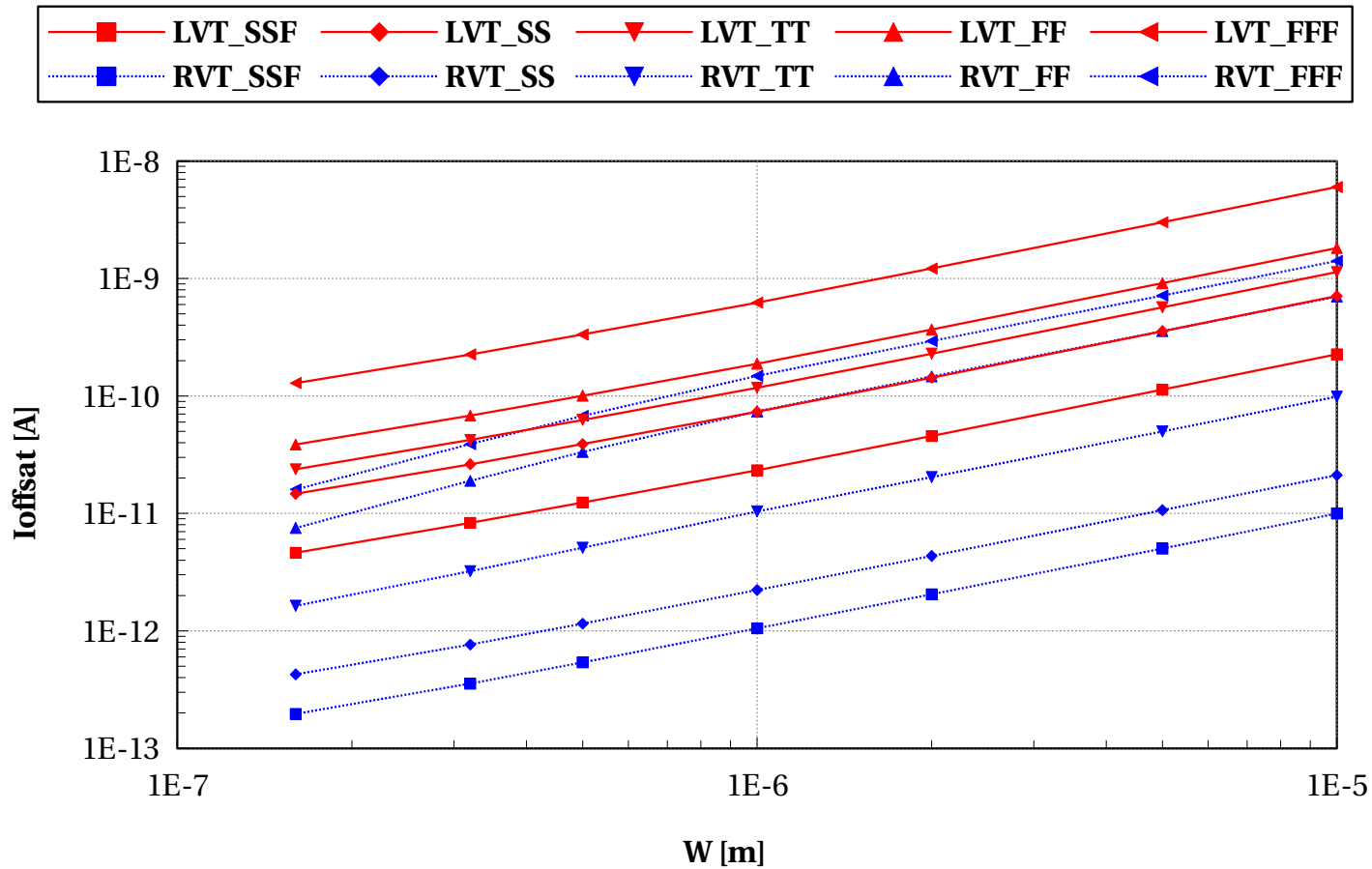
eglvtpfet_acc, Isat/W [A/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



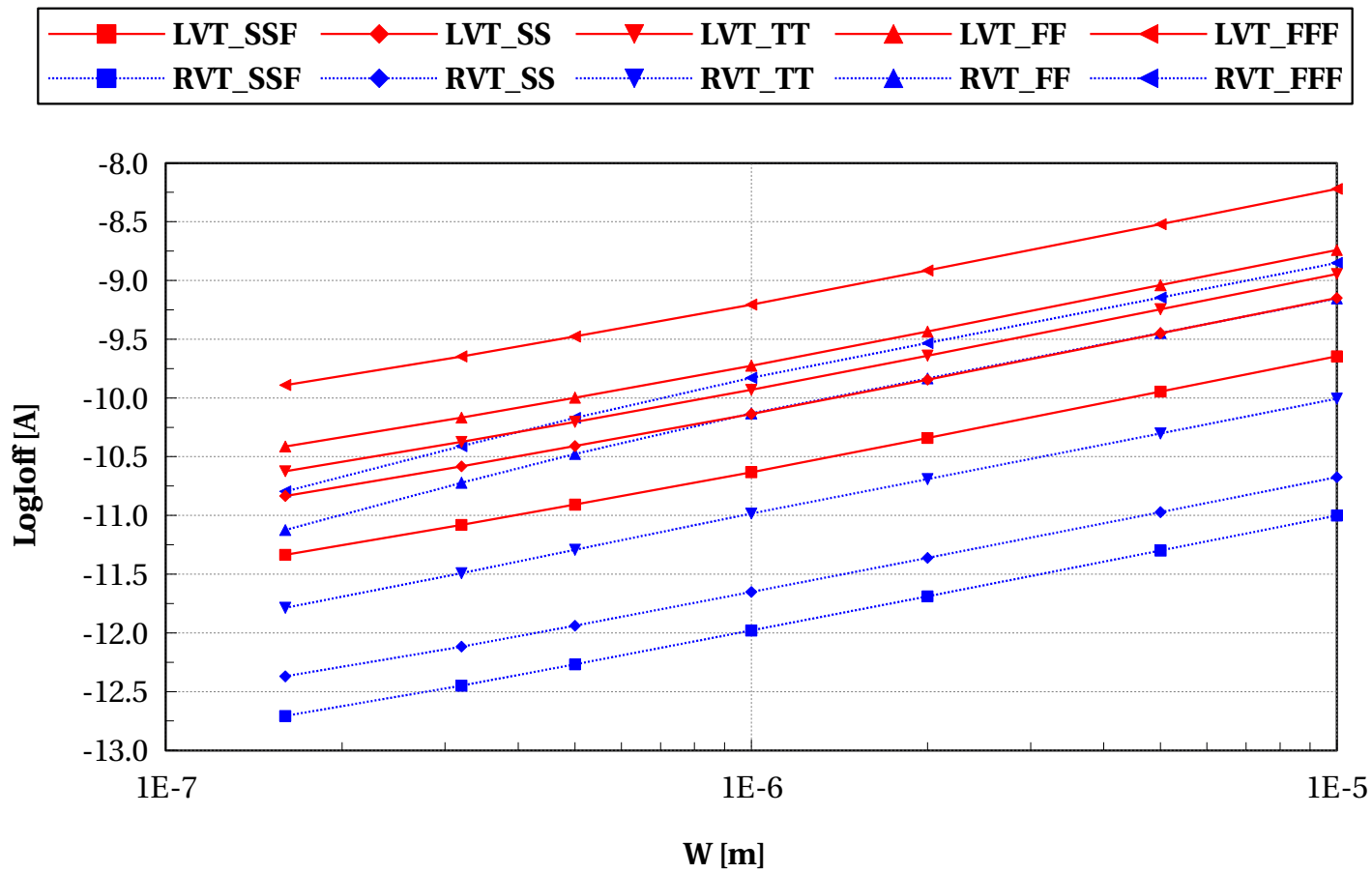
eglvtpfet_acc, Ioffsat [A] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



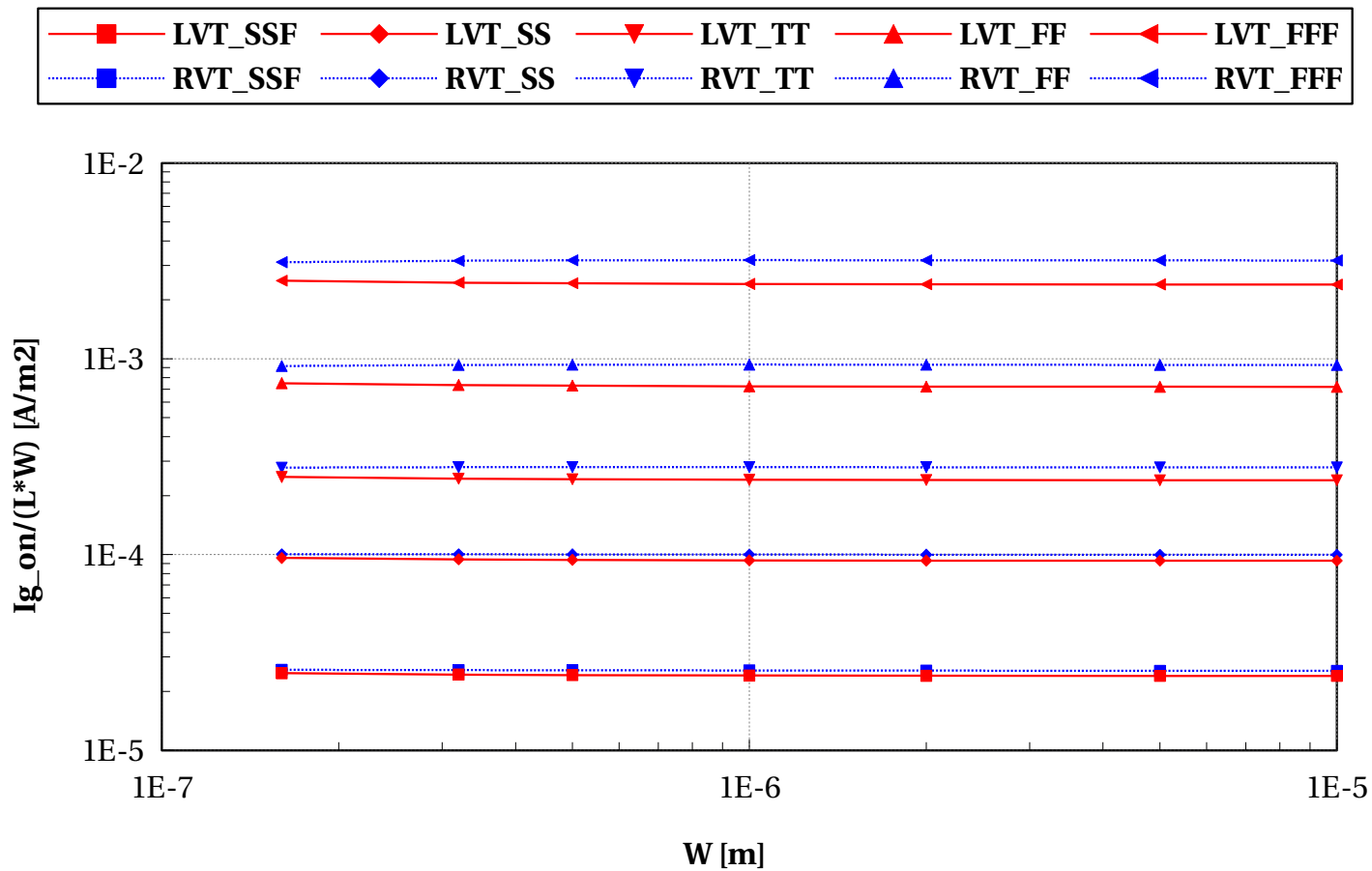
eglvtpfet_acc, LogIoff [A] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



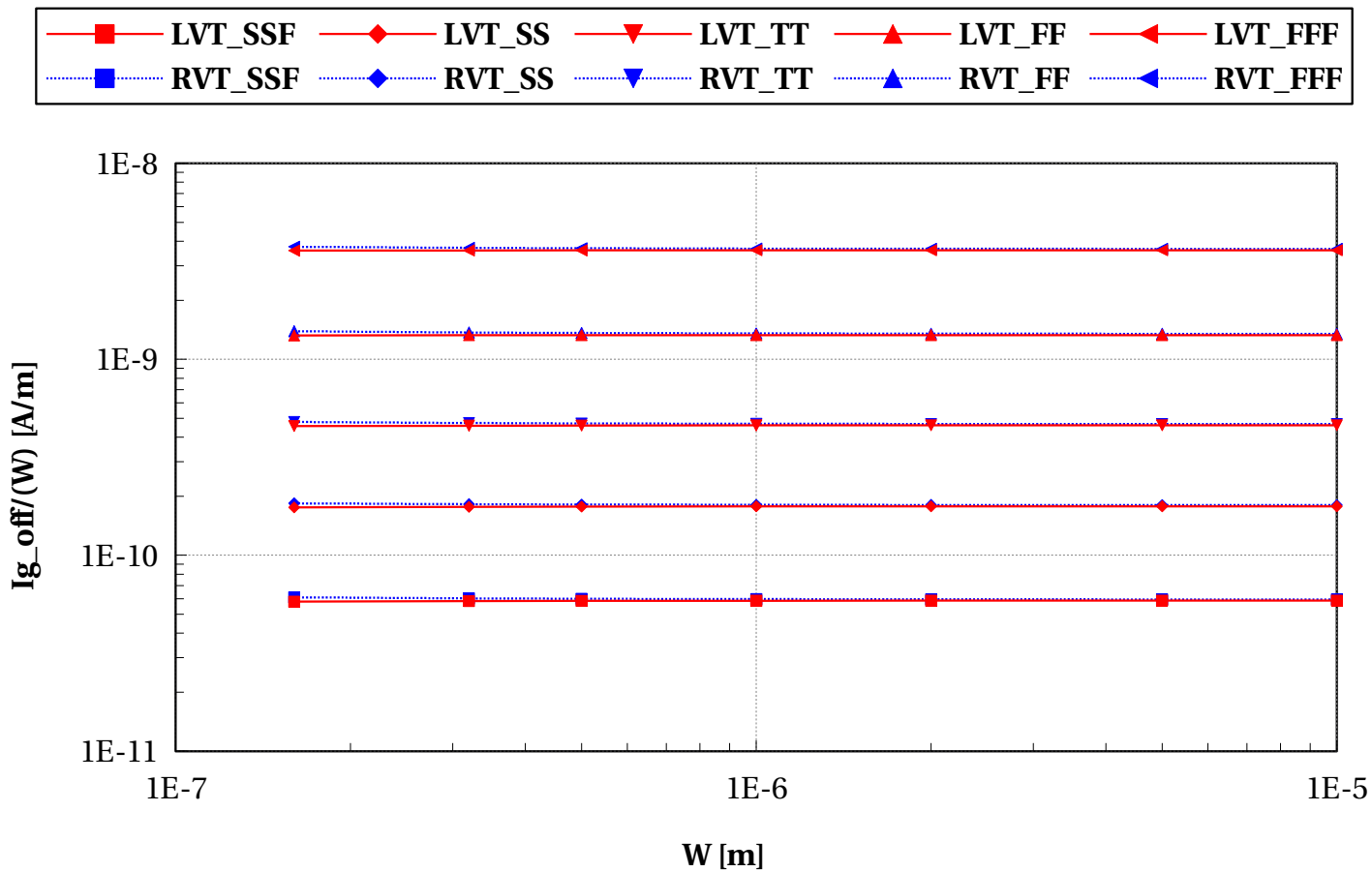
eglvtpfet_acc, $I_{g_on}/(L*W)$ [A/m²] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



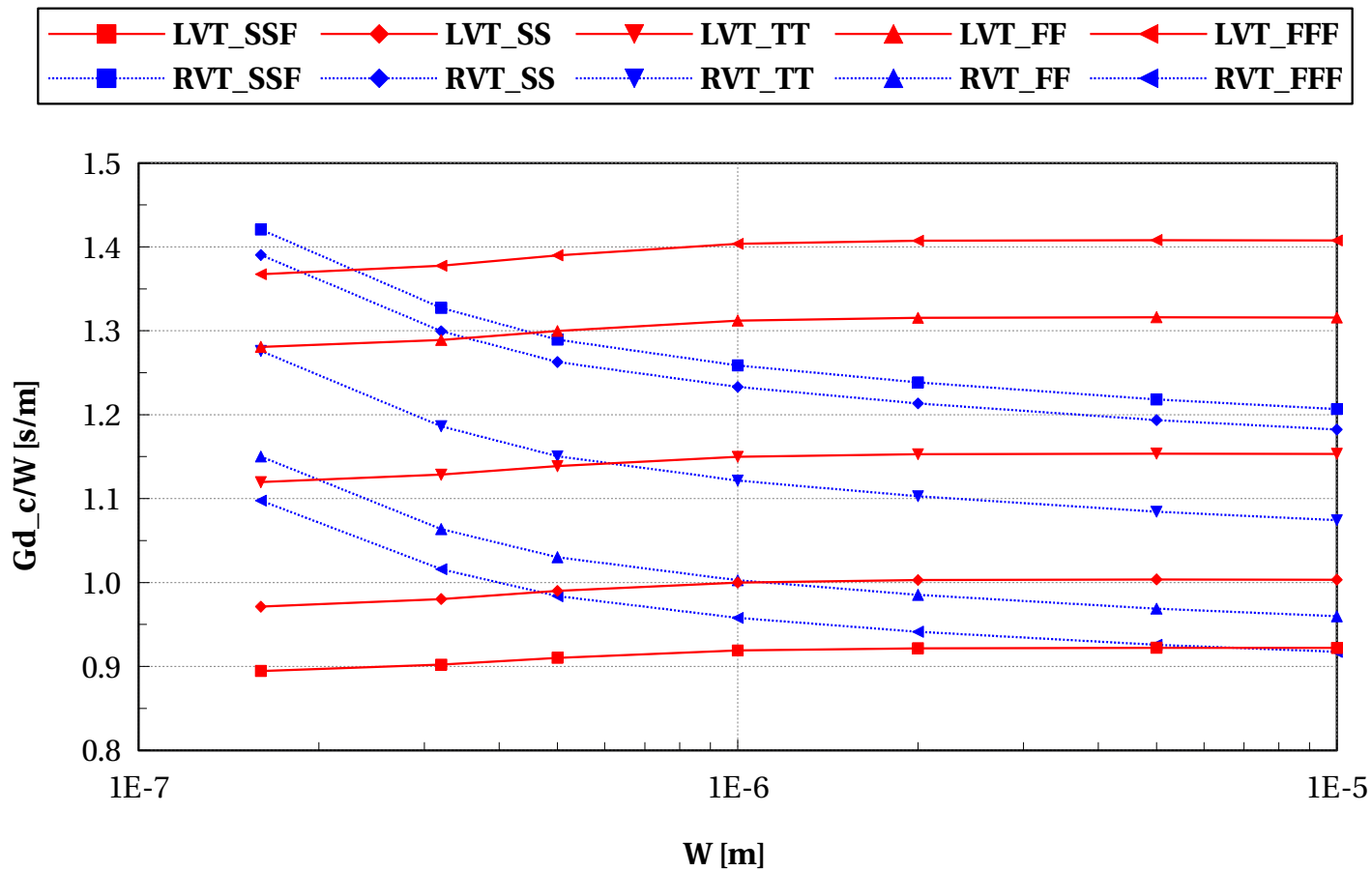
eglvtpfet_acc, Ig_off/(W) [A/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



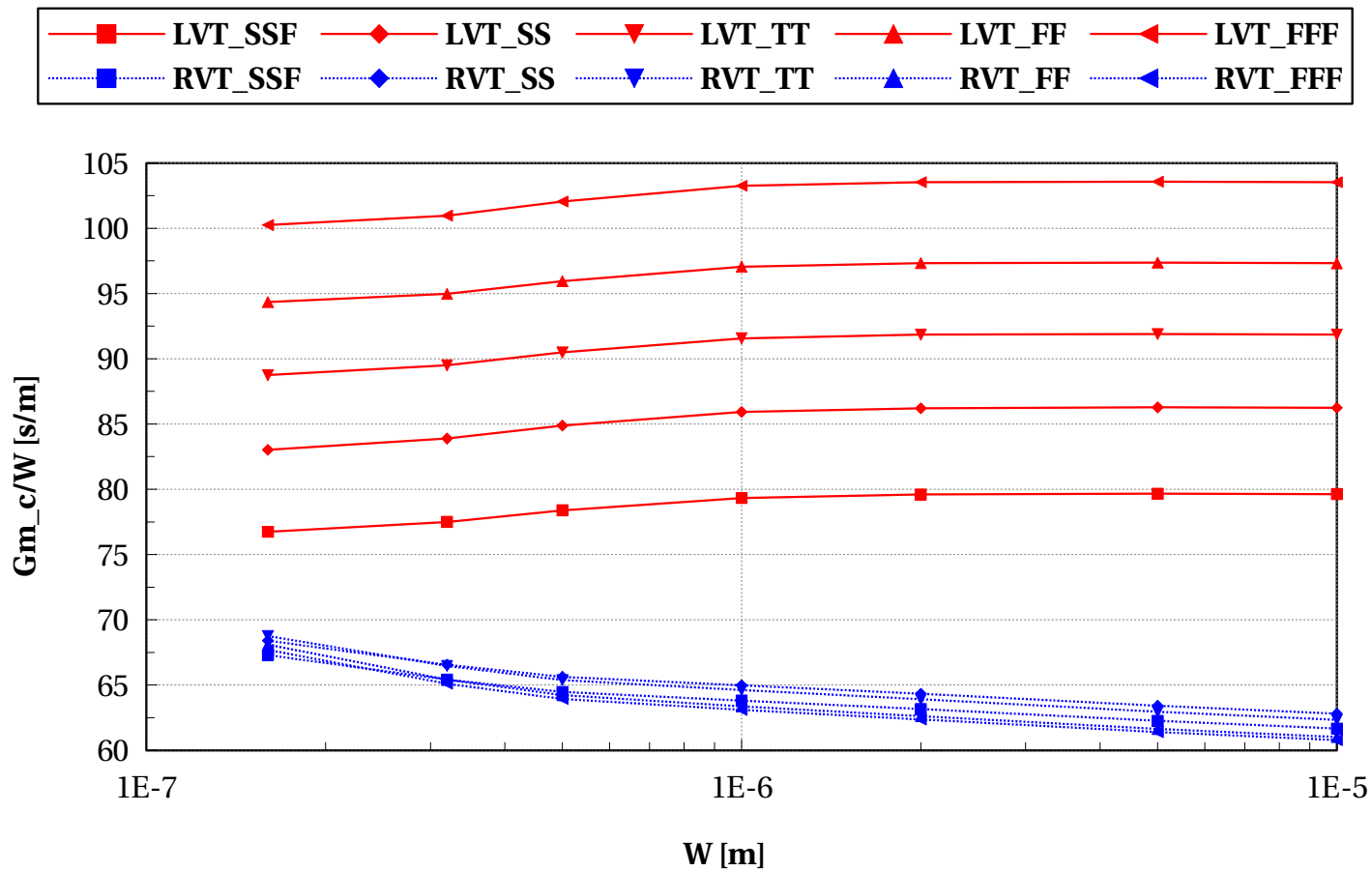
eglvtpfet_acc, Gd_c/W [s/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



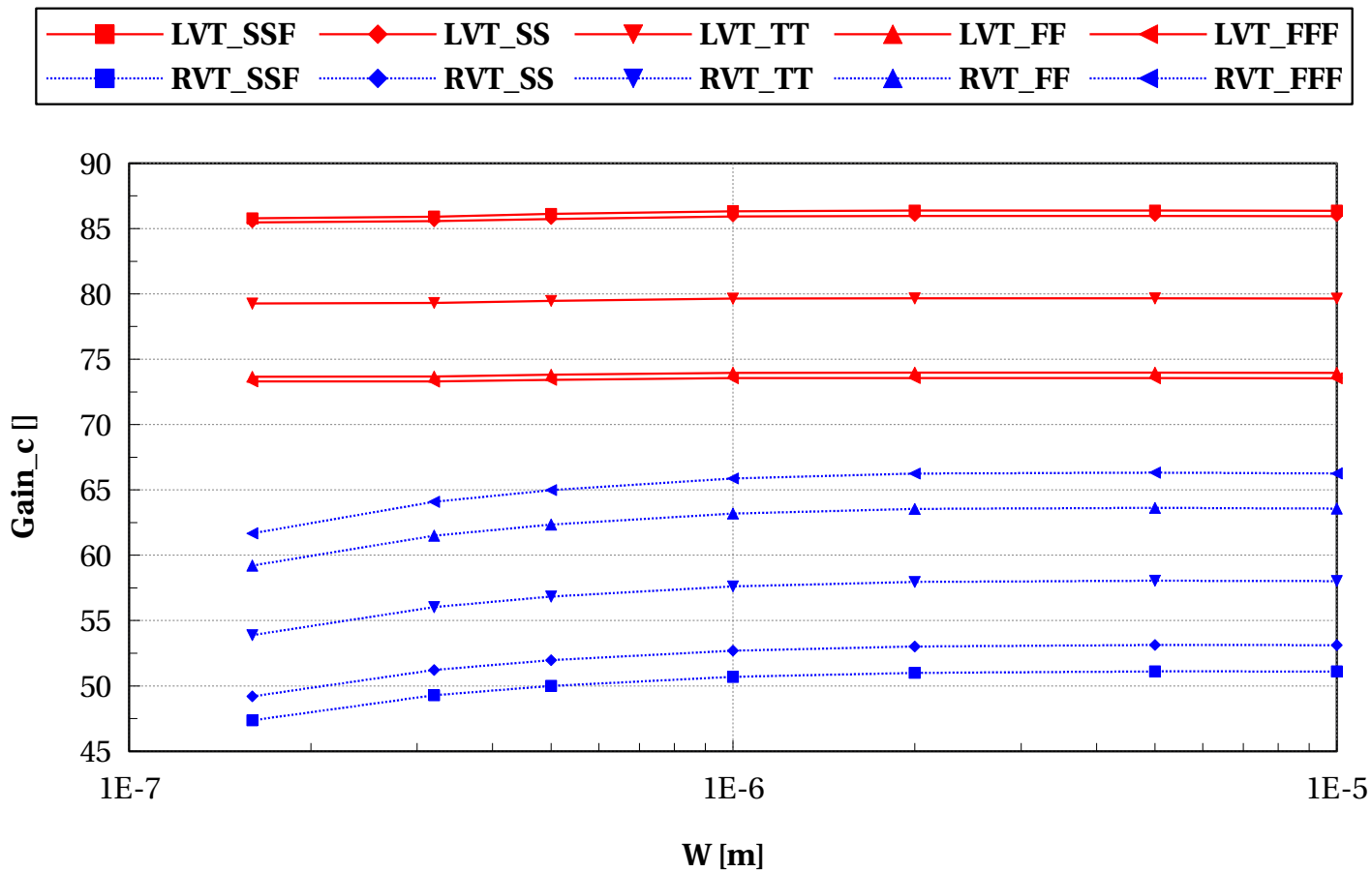
eglvtpfet_acc, Gm_c/W [s/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



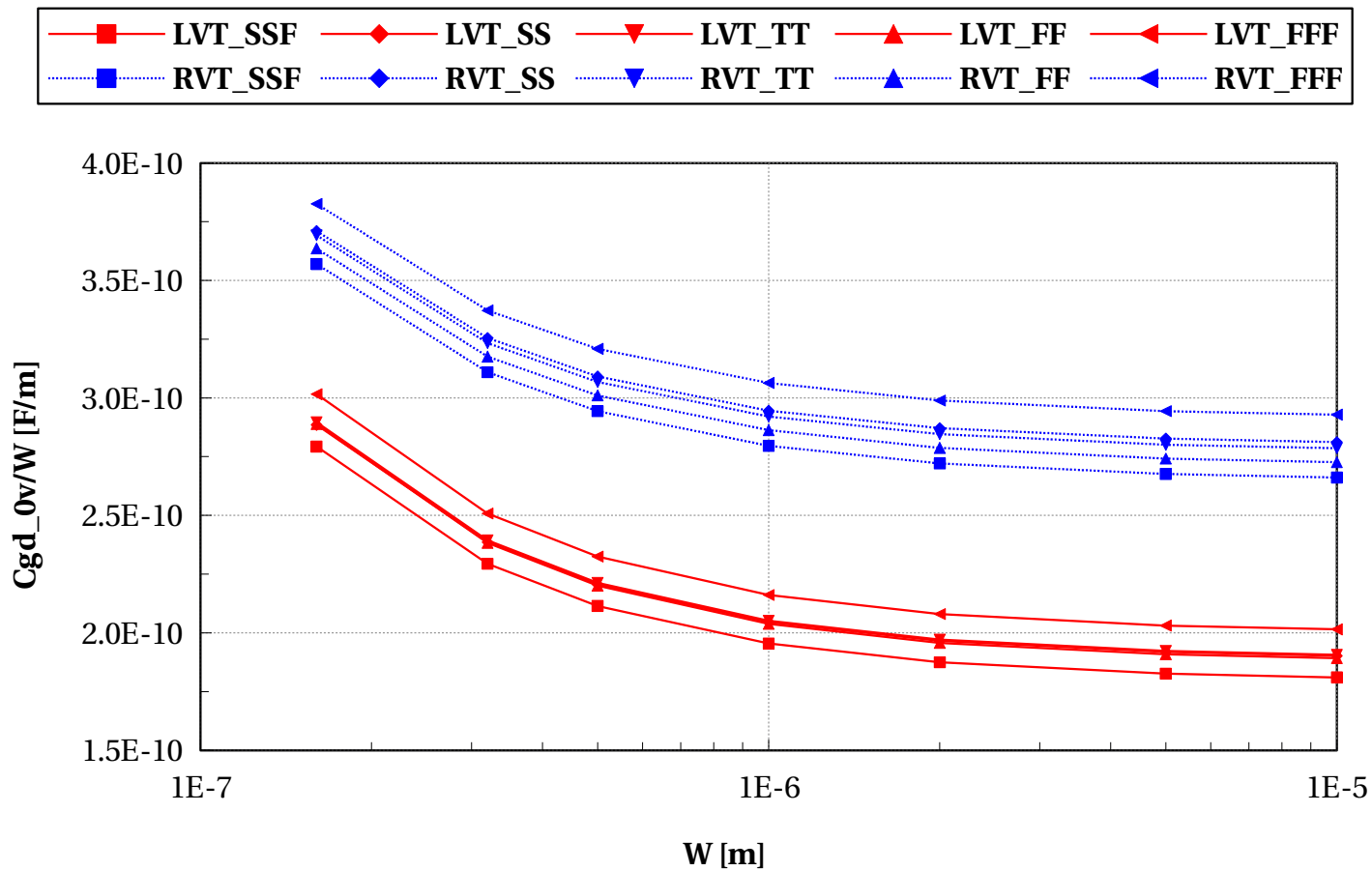
eglvtpfet_acc, Gain_c [] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



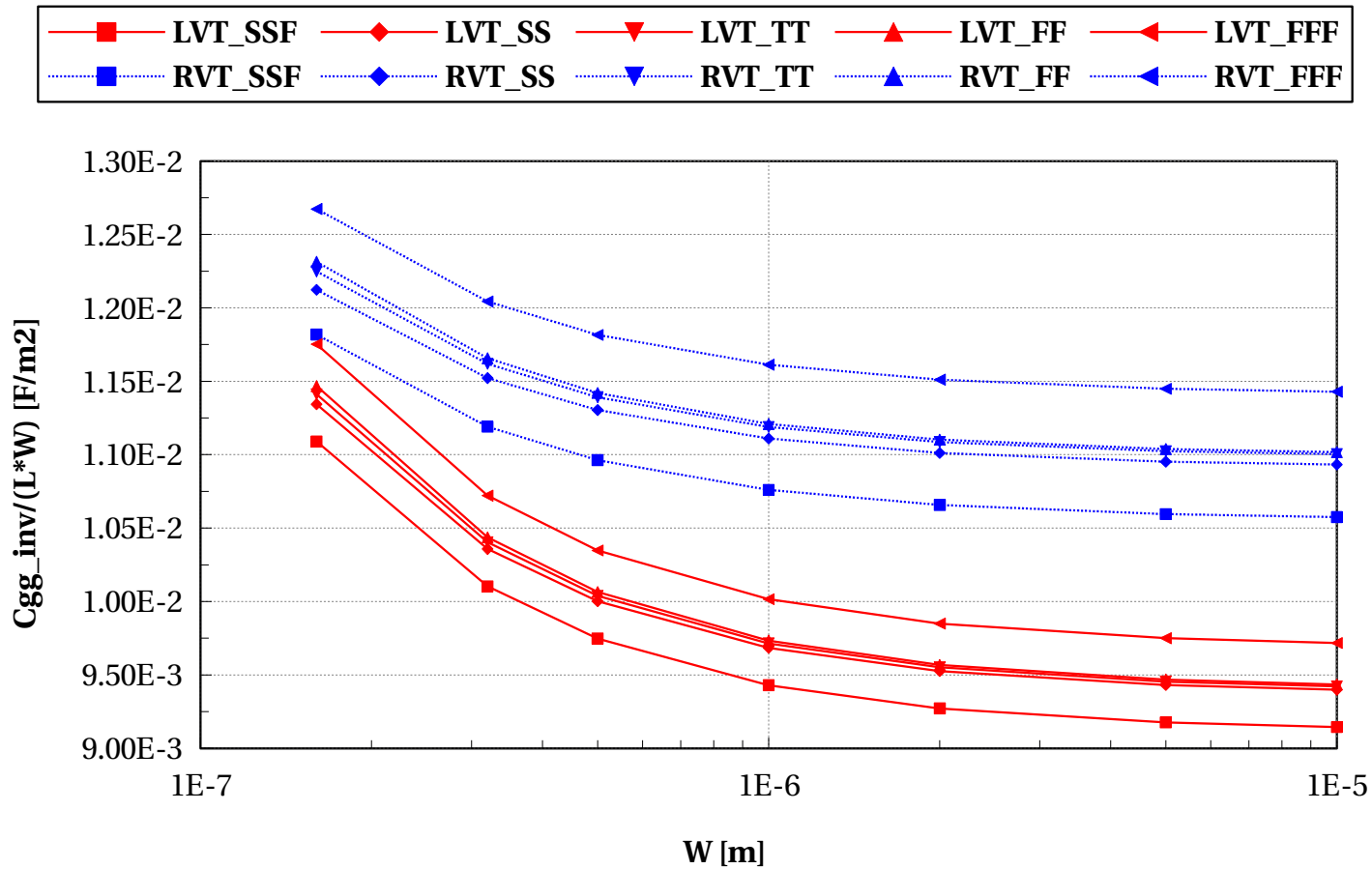
eglvtpfet_acc, Cgd_0v/W [F/m] vs W [m]

Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



eglvtpfet_acc, Cgg_inv/(L*W) [F/m2] vs W [m]

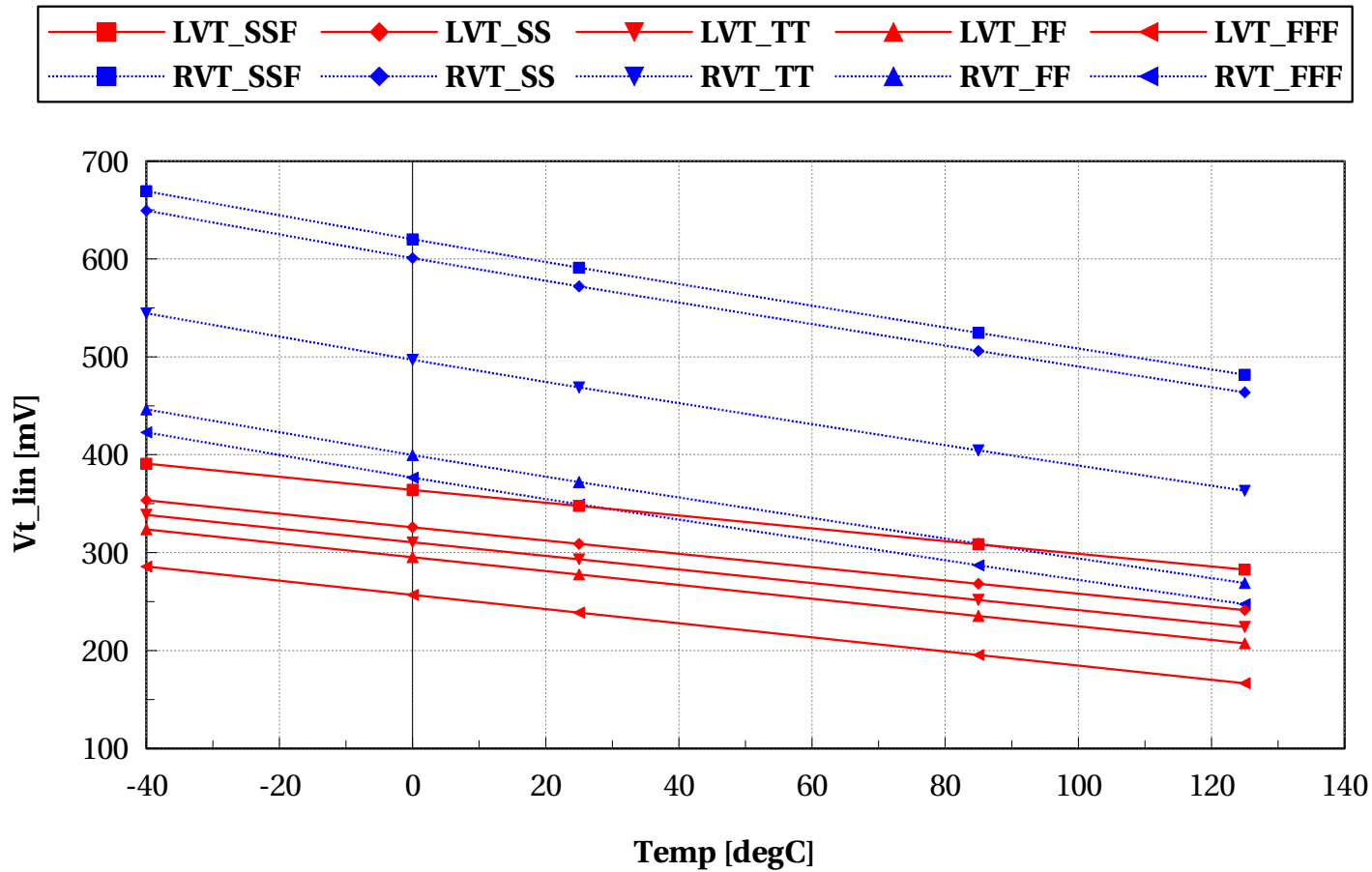
Temp==25 and l==0.15e-6 and w>0.135e-6 and devType=="PCELLwoWPE"



Scaling versus Temp, $L=0.15\mu$, $W=2\mu$

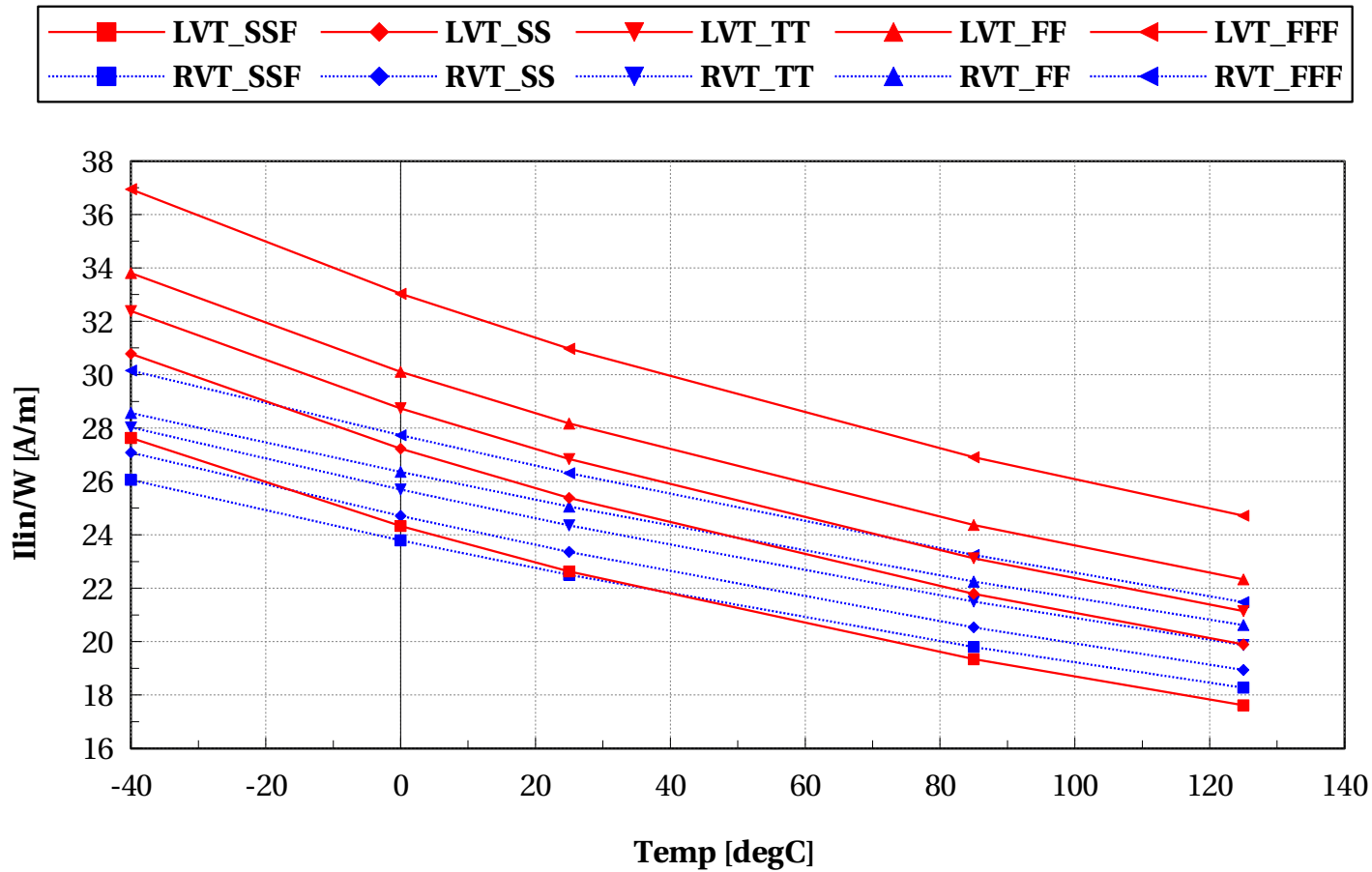
eglvtpfet_acc, Vt_lin [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



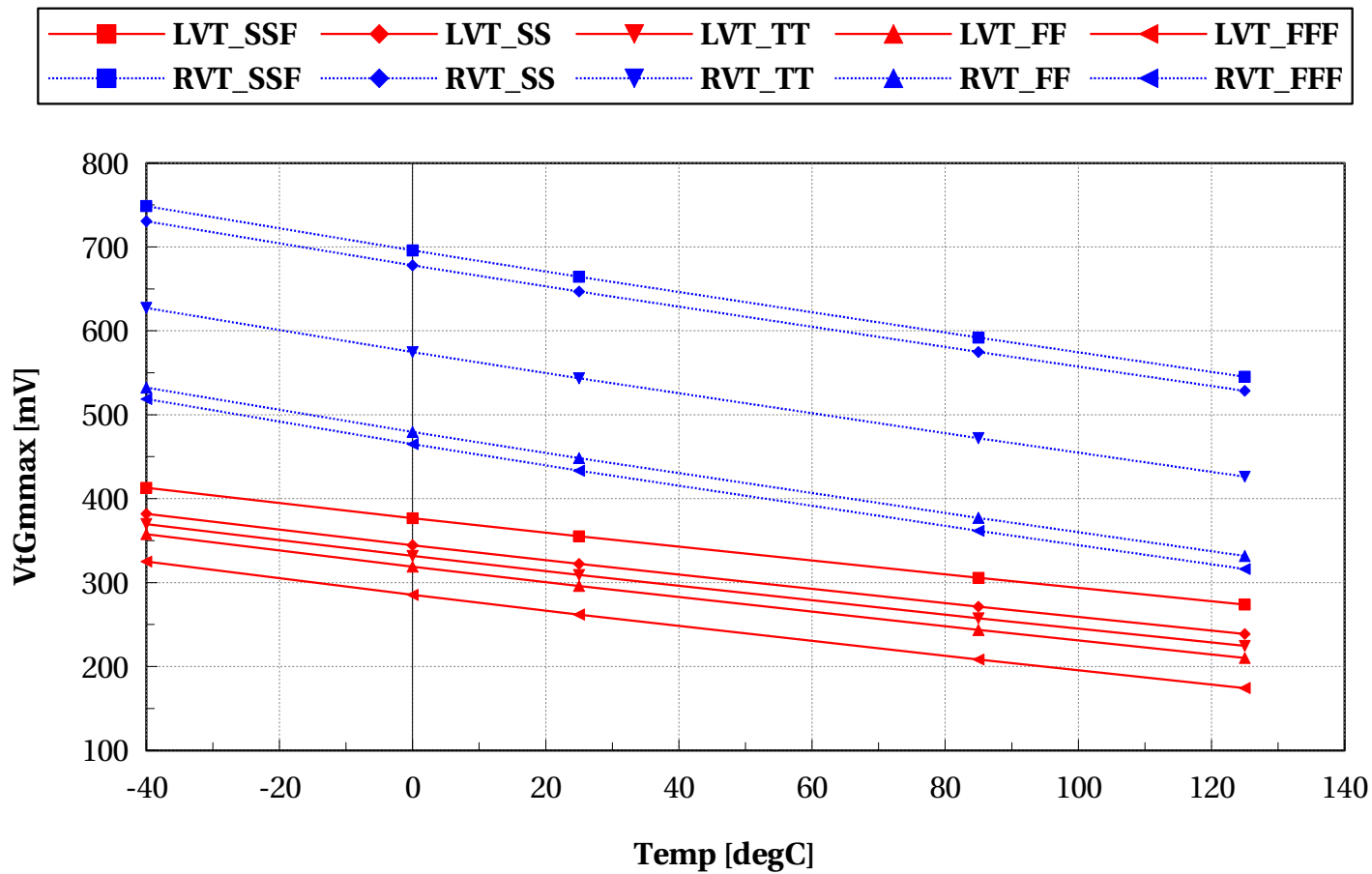
eglvtpfet_acc, I_{lin}/W [A/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



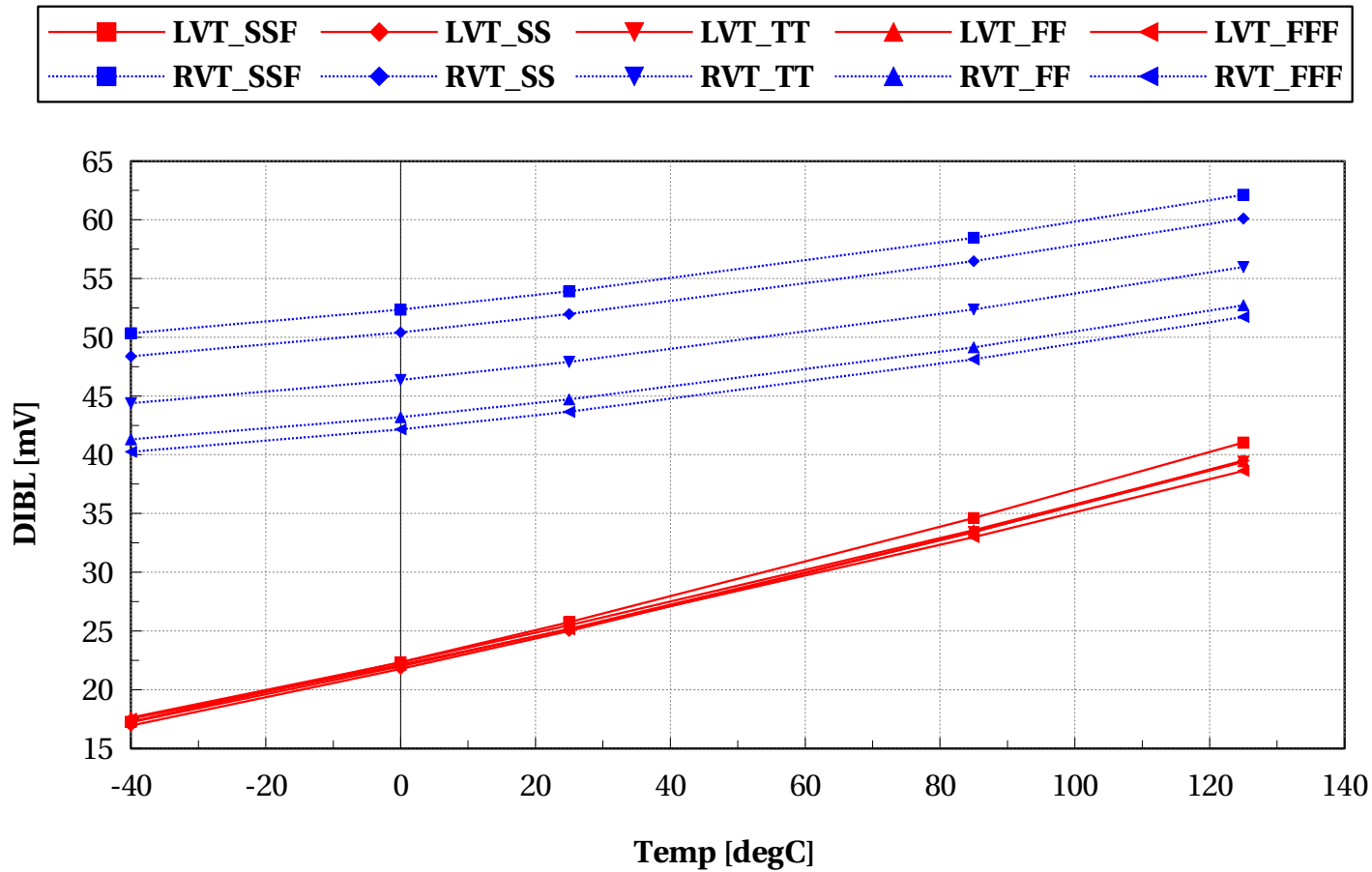
eglvtpfet_acc, VtGmmax [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



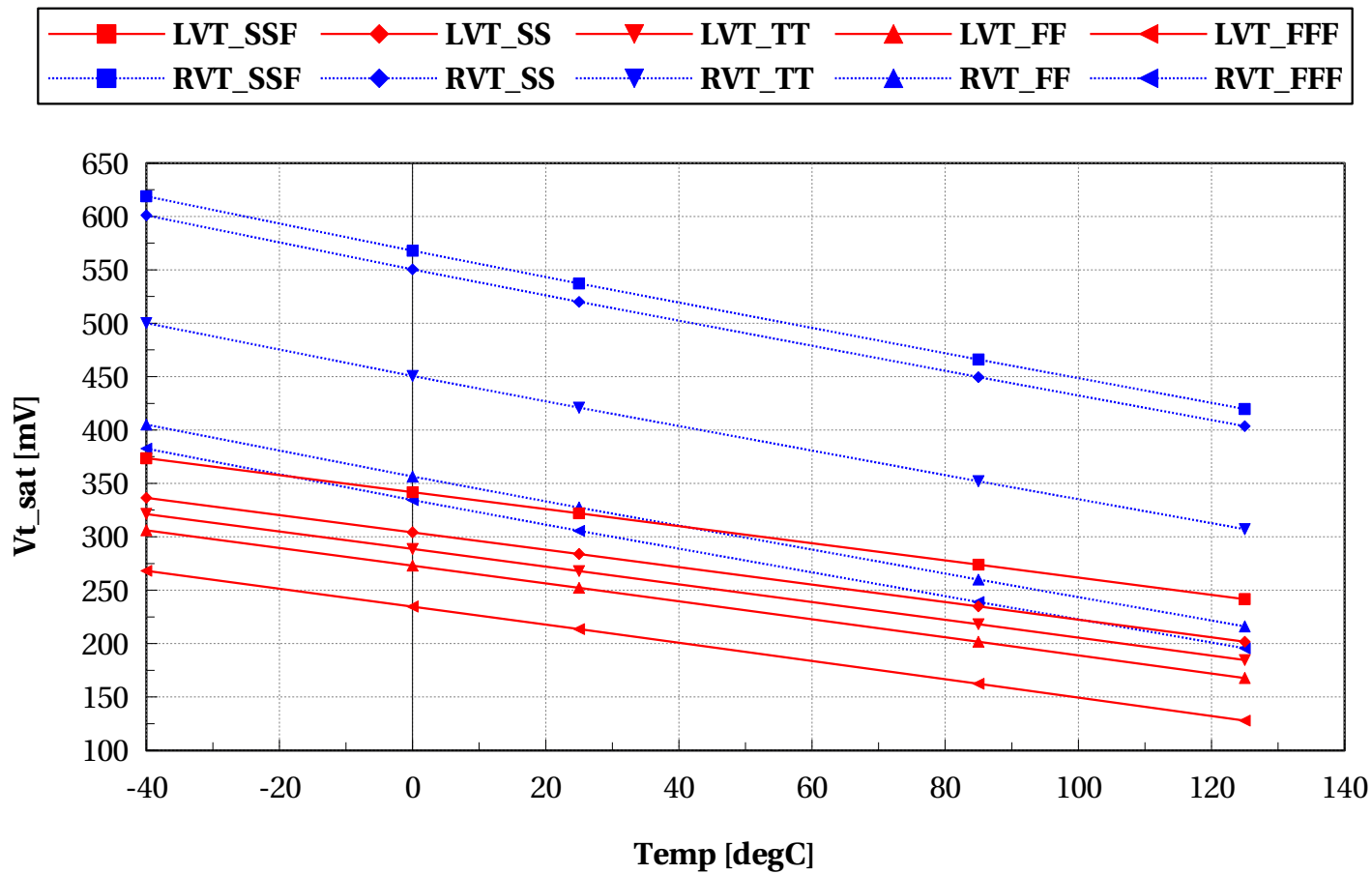
eglvtpfet_acc, DIBL [mV] vs Temp [degC]

$l=0.15\text{e-}6$ and $w=2\text{e-}6$ and devType=="PCELLwoWPE"



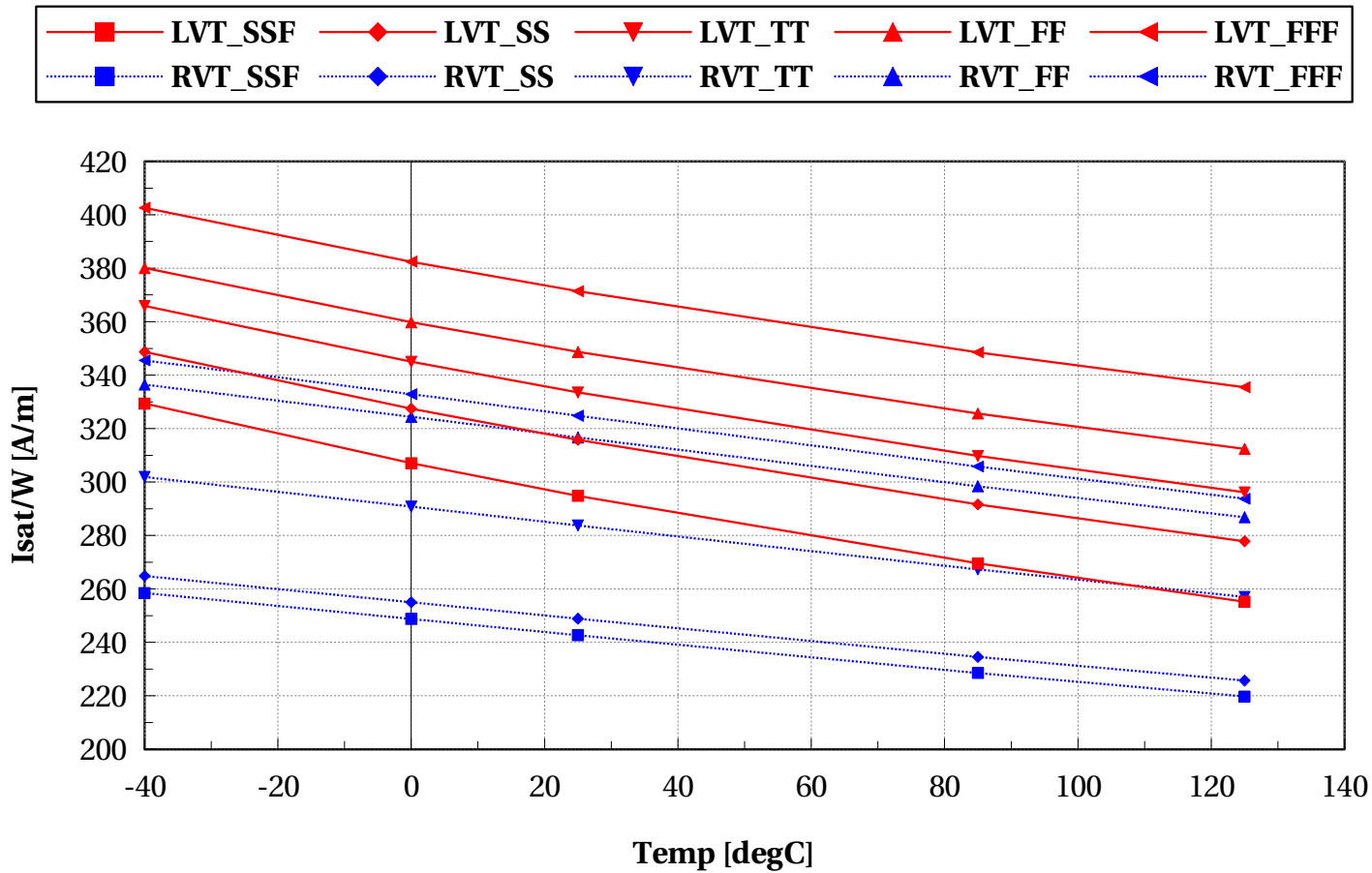
eglvtpfet_acc, Vt_sat [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



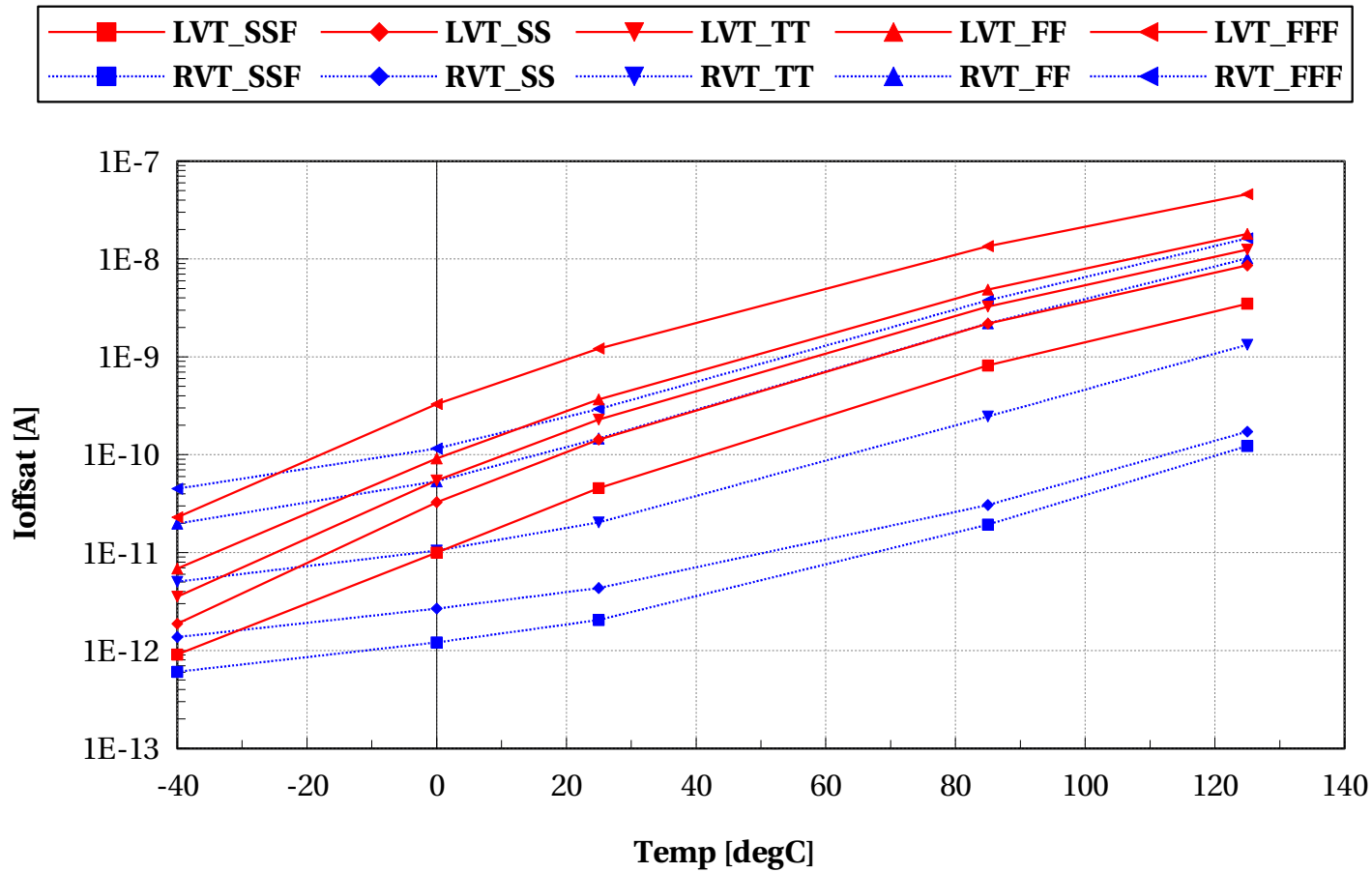
eglvtpfet_acc, Isat/W [A/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



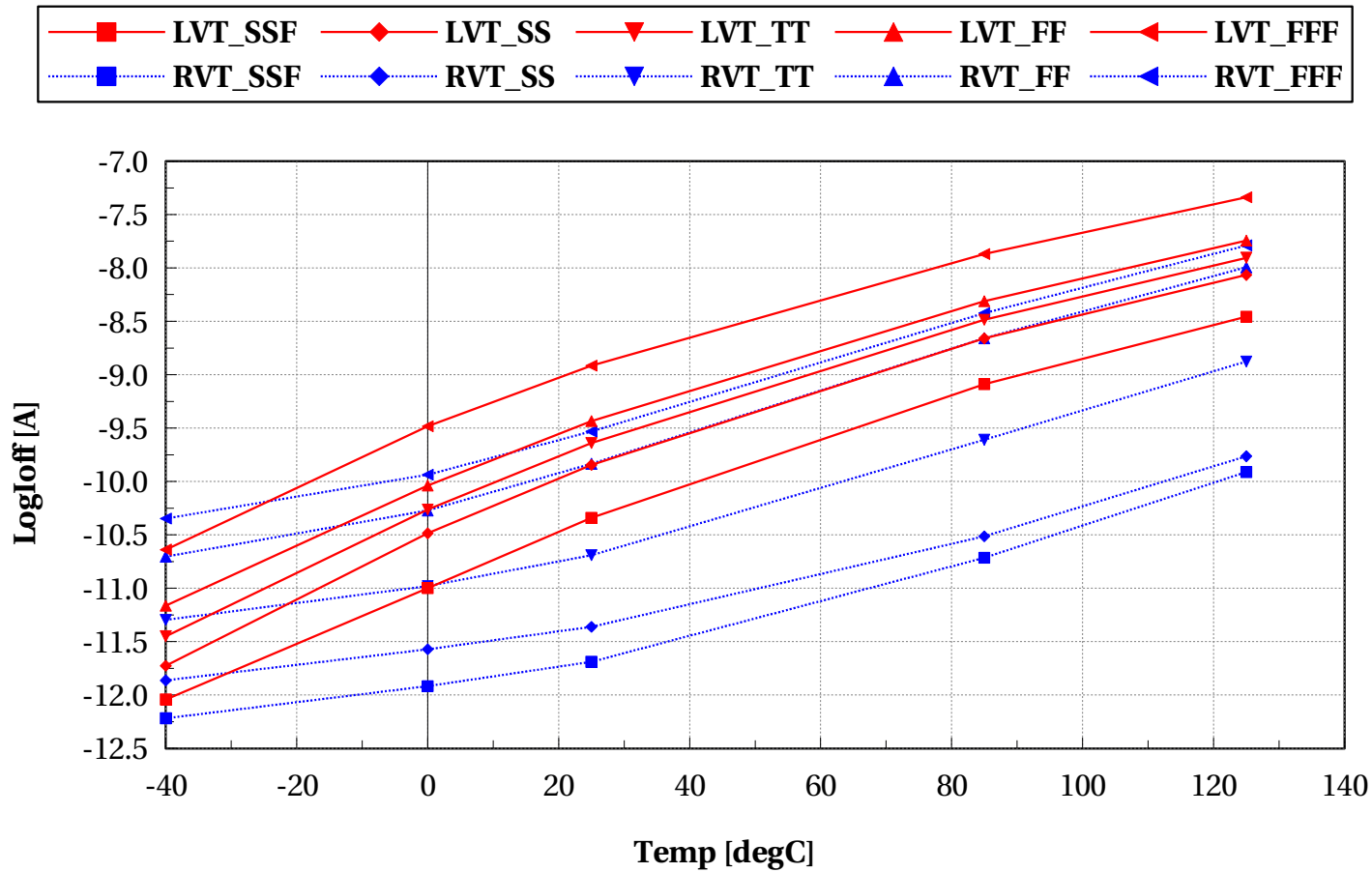
eglvtpfet_acc, Ioffsat [A] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



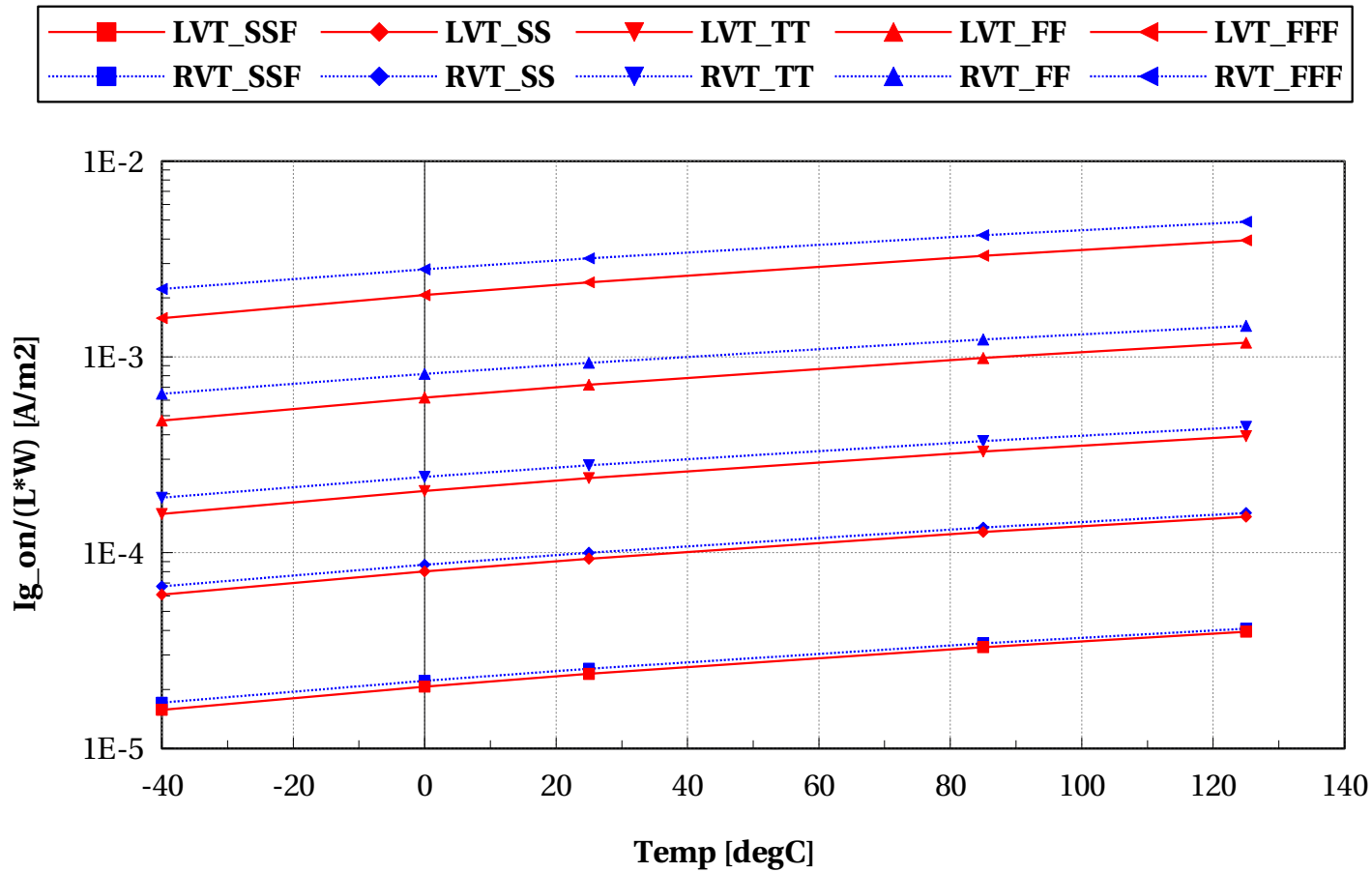
eglvtpfet_acc, LogIoff [A] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



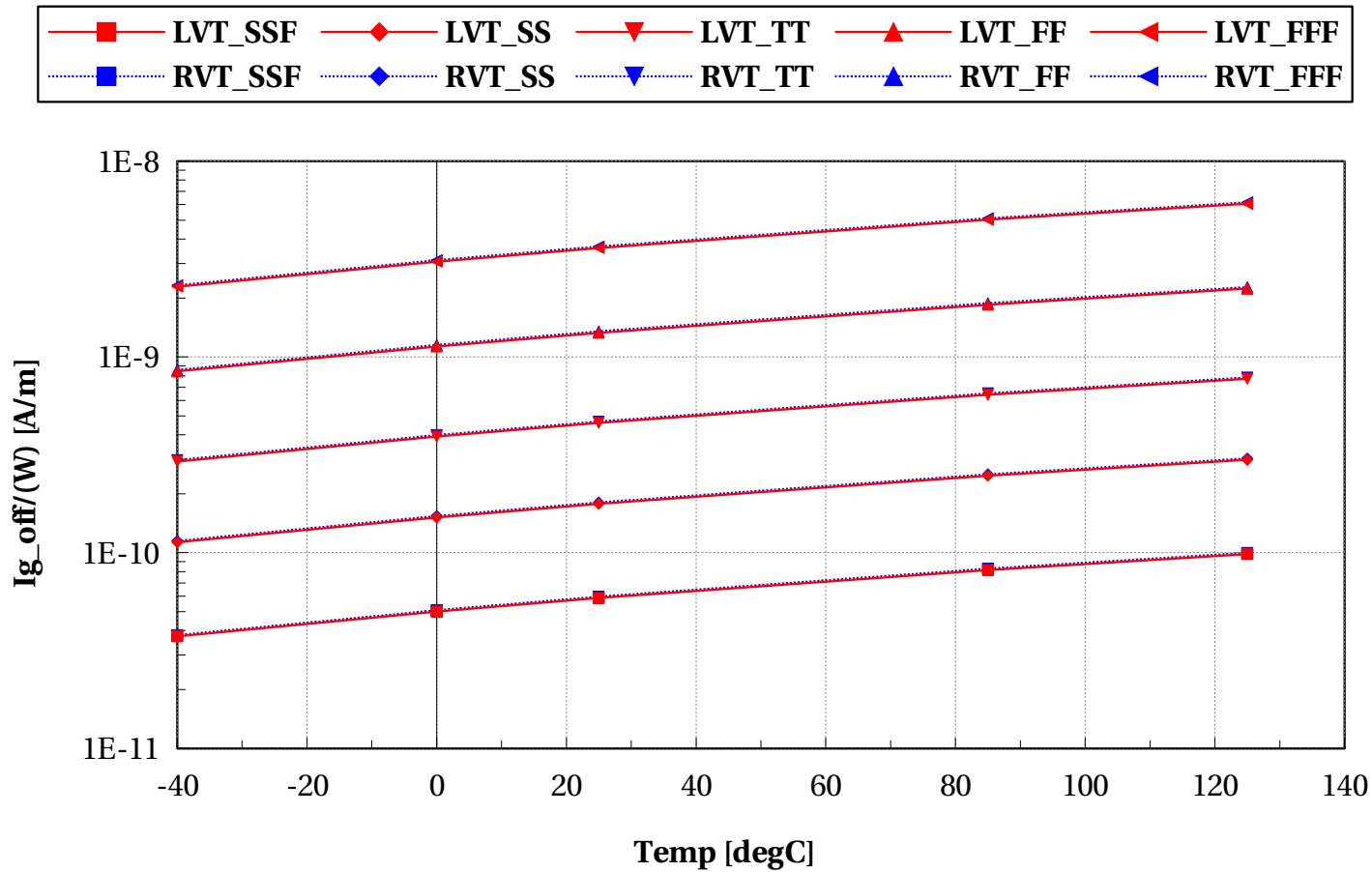
eglvtpfet_acc, $I_{g_on}/(L*W)$ [A/m²] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



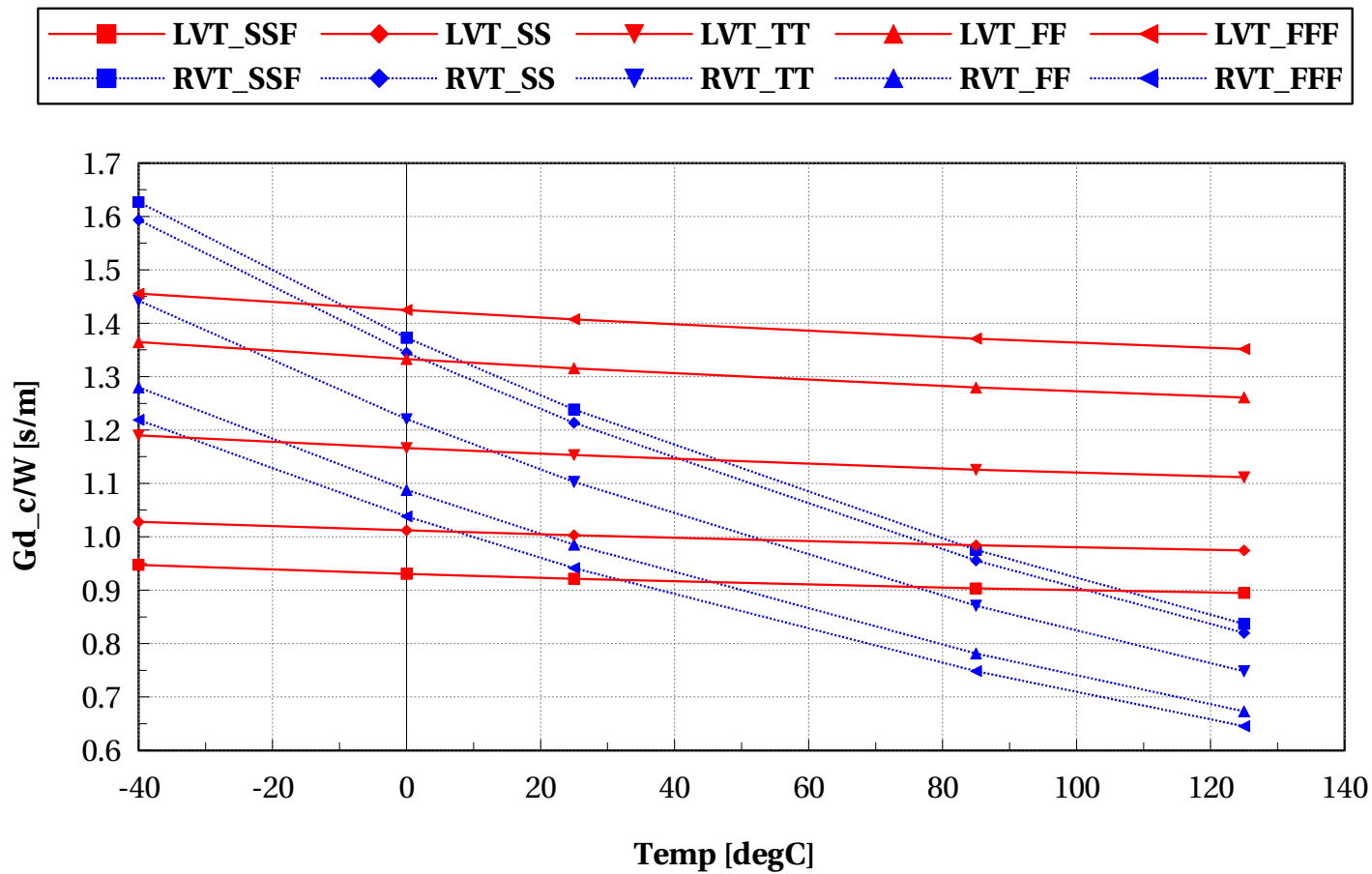
eglvtpfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



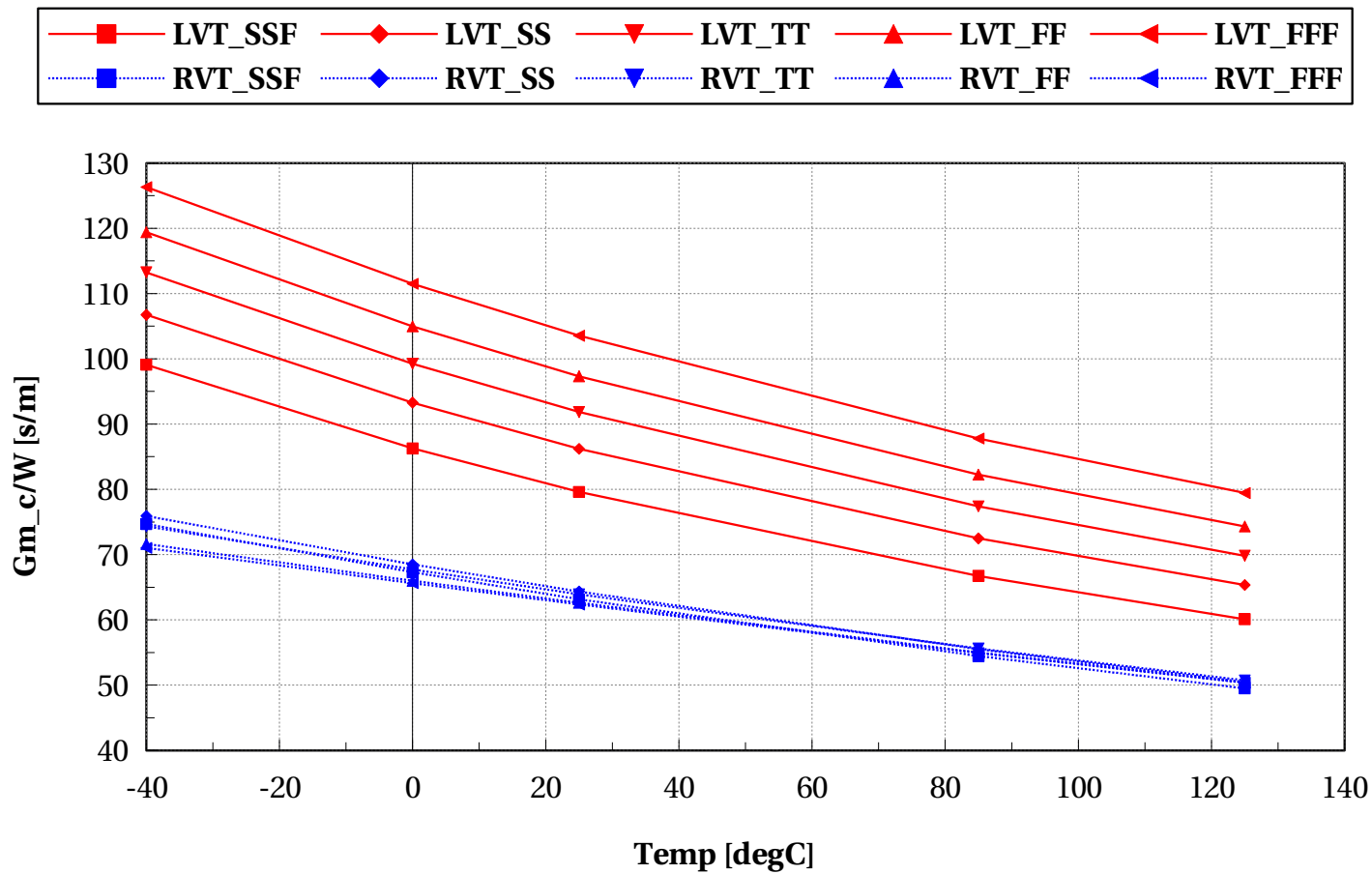
eglvtpfet_acc, Gd_c/W [s/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



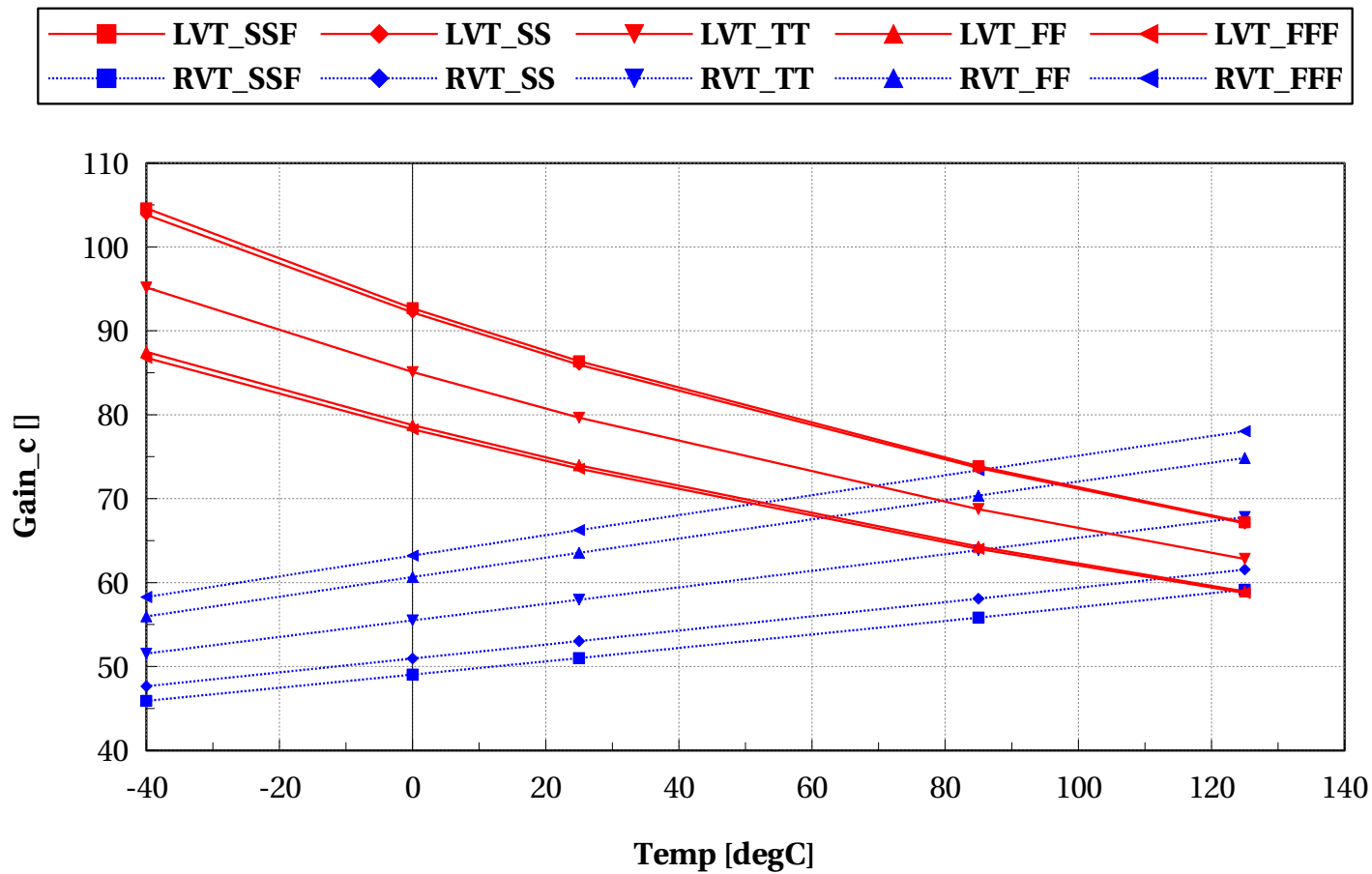
eglvtpfet_acc, Gm_c/W [s/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



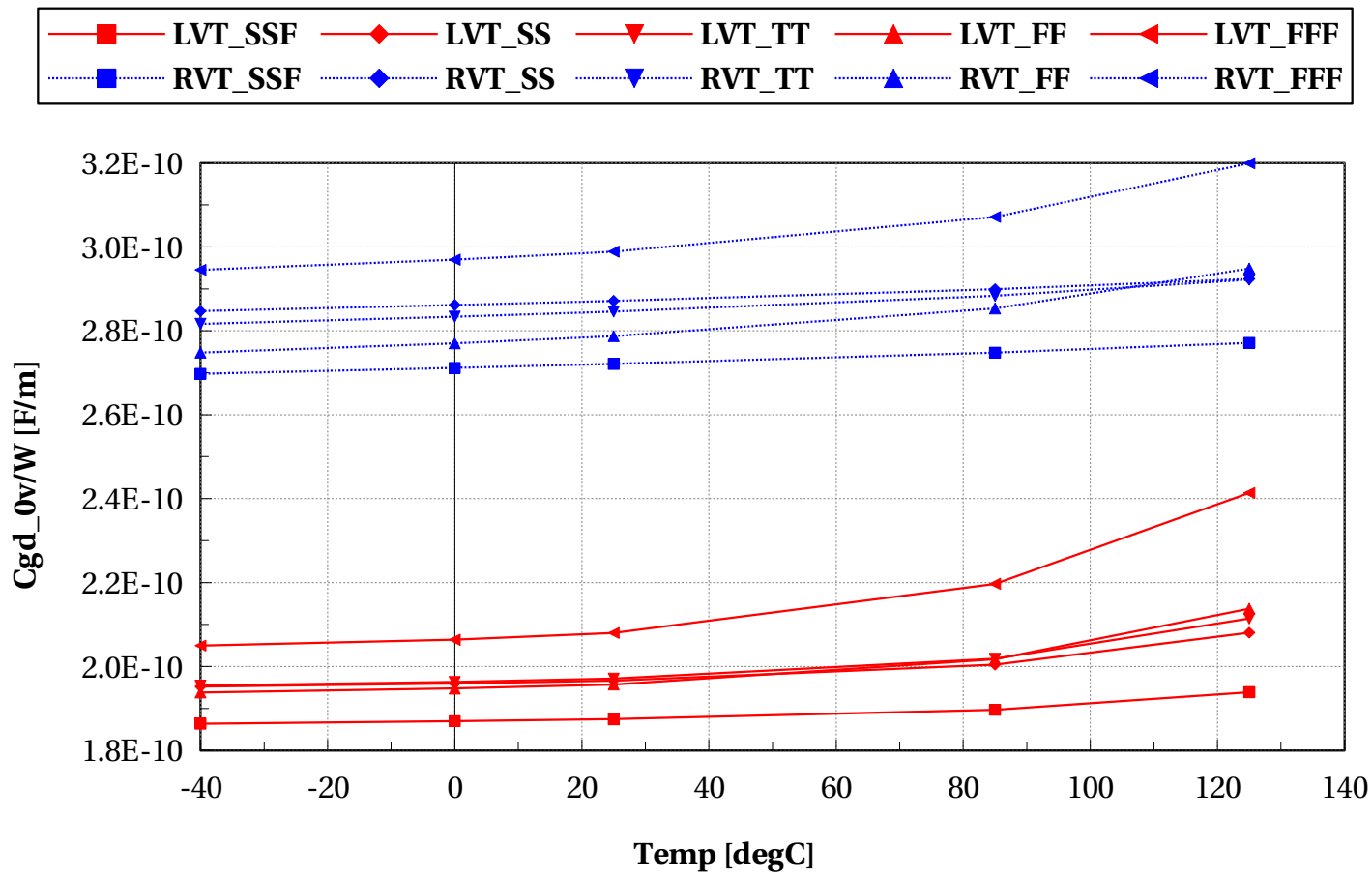
eglvtpfet_acc, Gain_c [] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



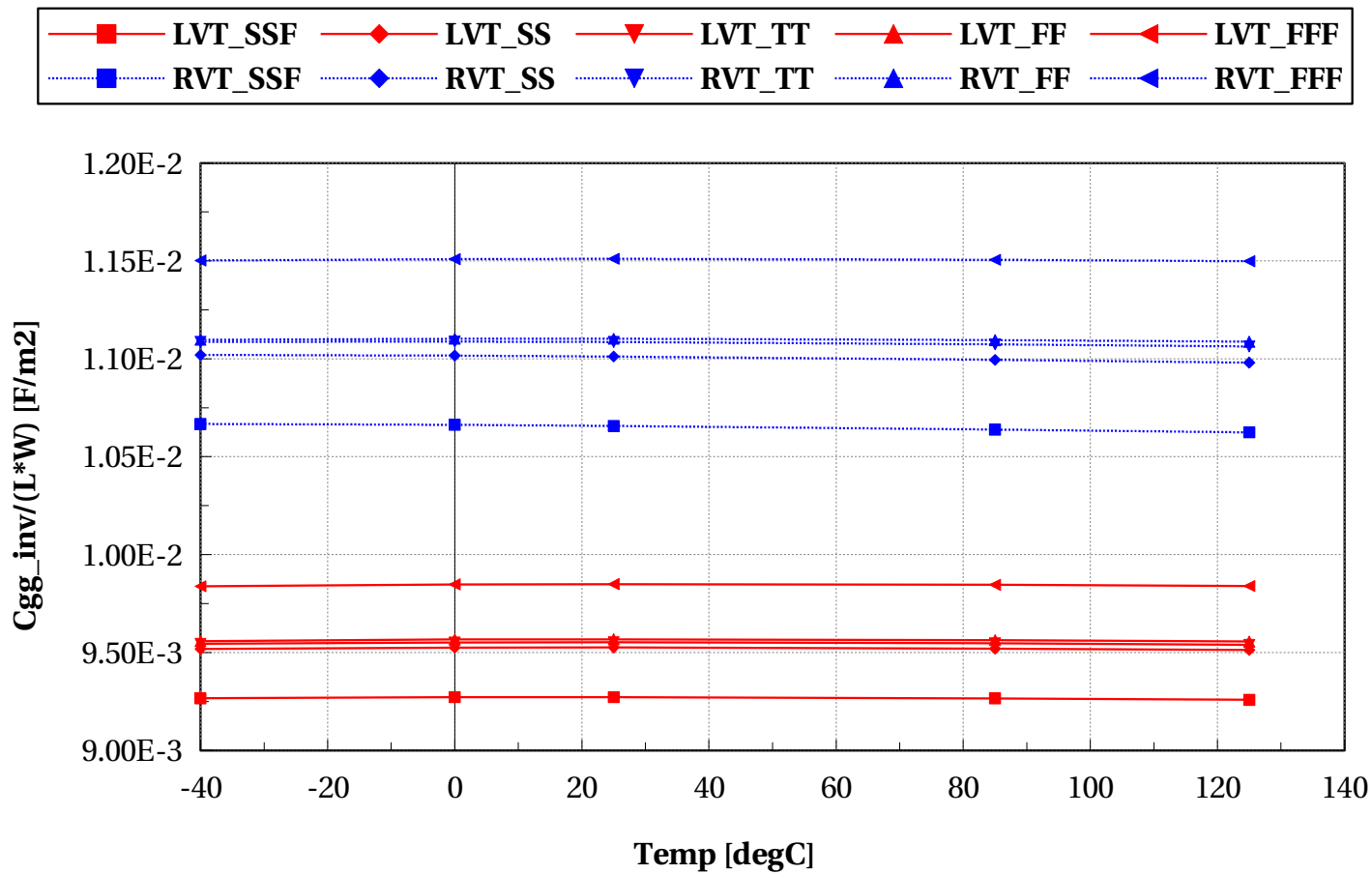
eglvtpfet_acc, Cgd_0v/W [F/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



eglvtpfet_acc, Cgg_inv/(L*W) [F/m2] vs Temp [degC]

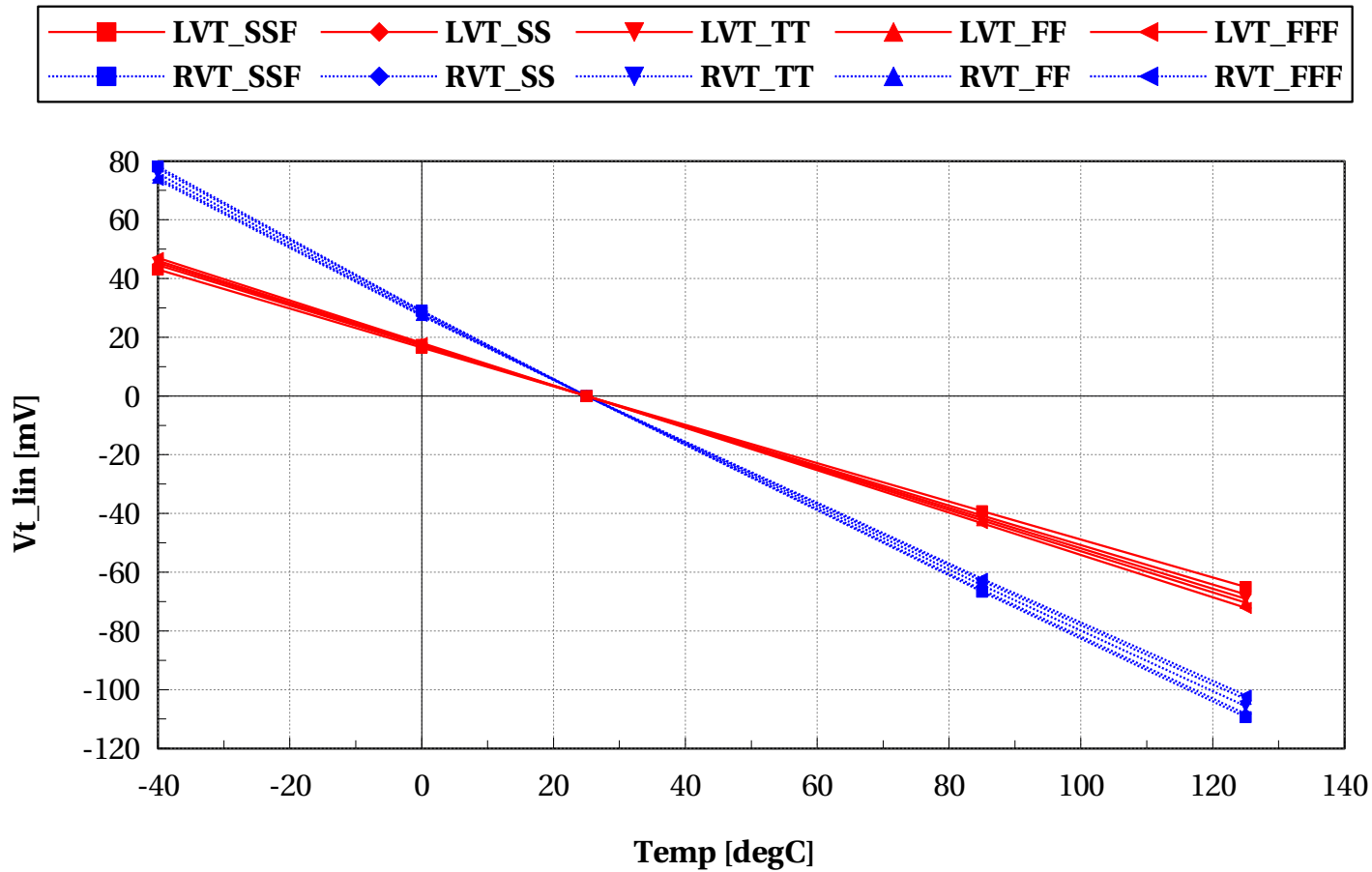
$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



Scaling versus Temp, $L=0.15\mu$, $W=2\mu$

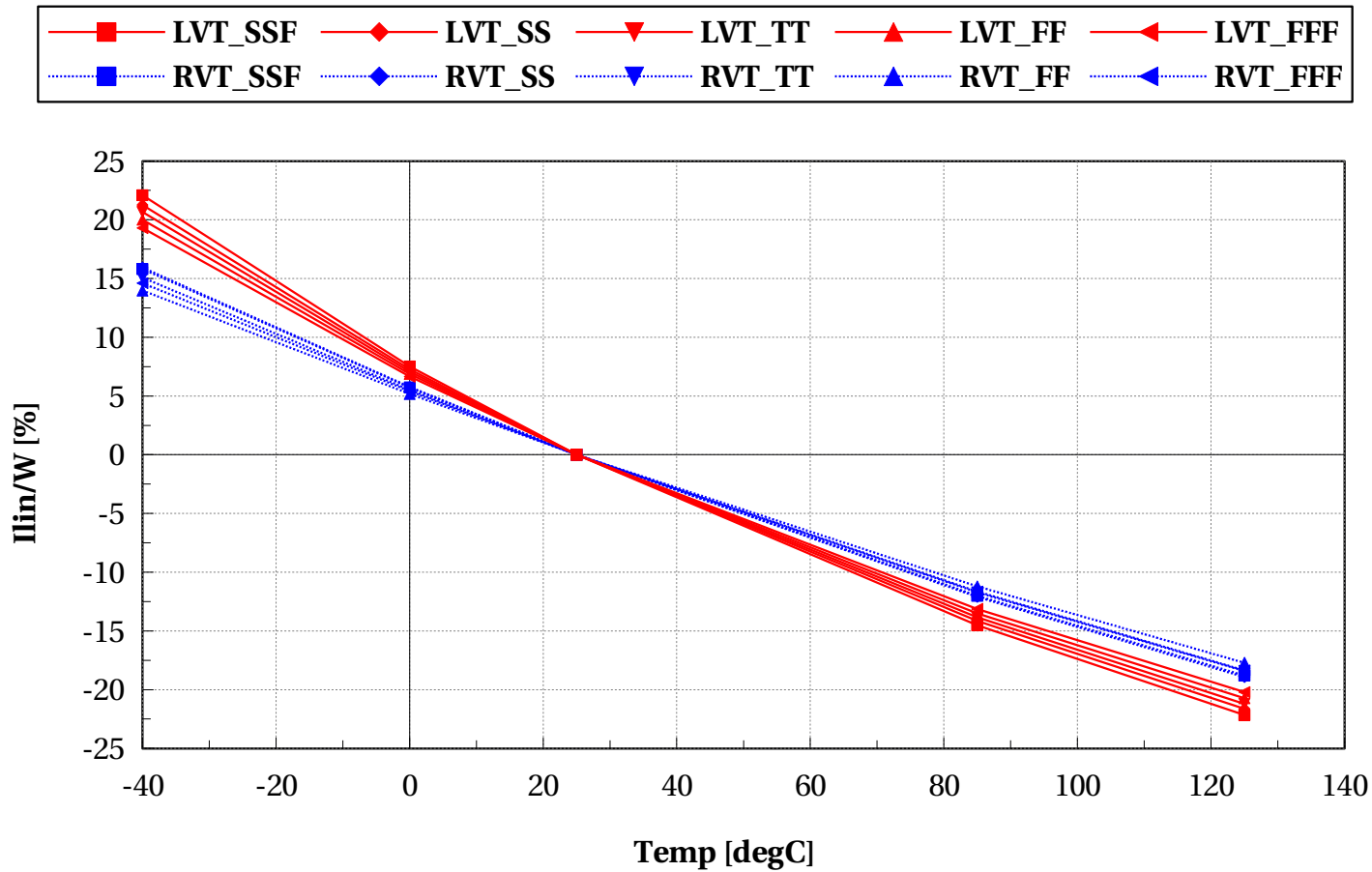
eglvtpfet_acc, Vt_lin [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



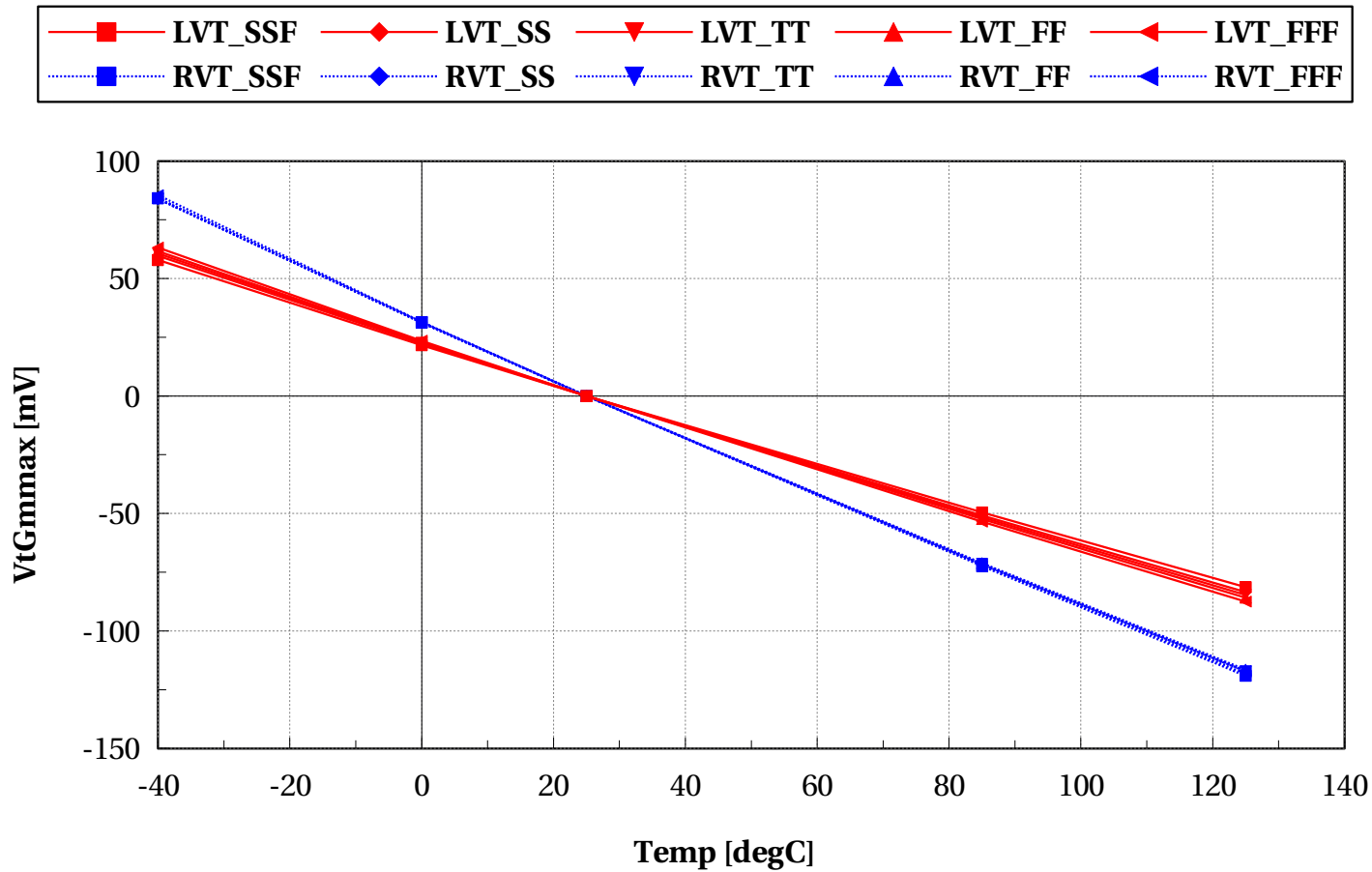
eglvtpfet_acc, I_{lin}/W [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



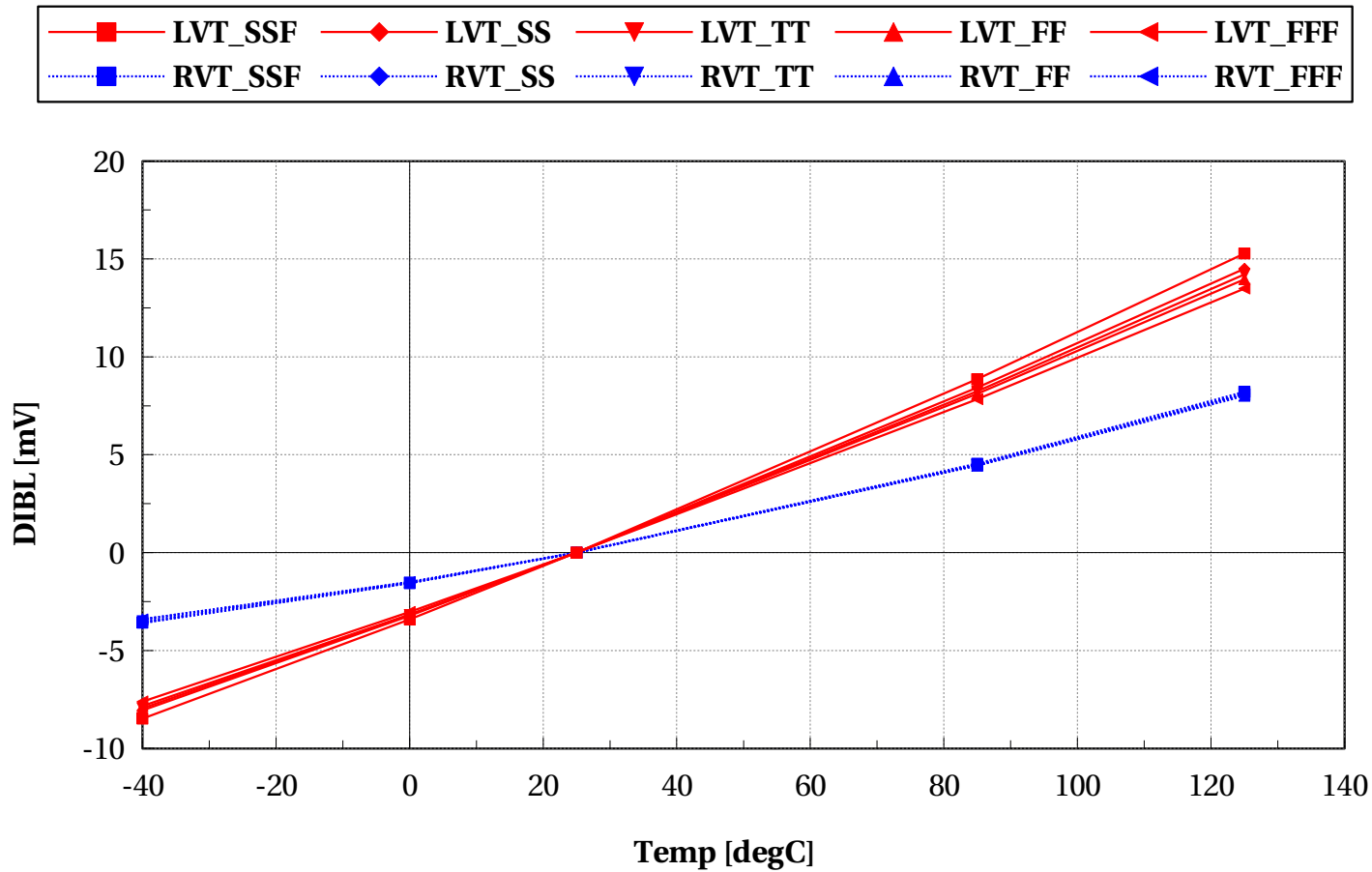
eglvtpfet_acc, VtGmmax [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



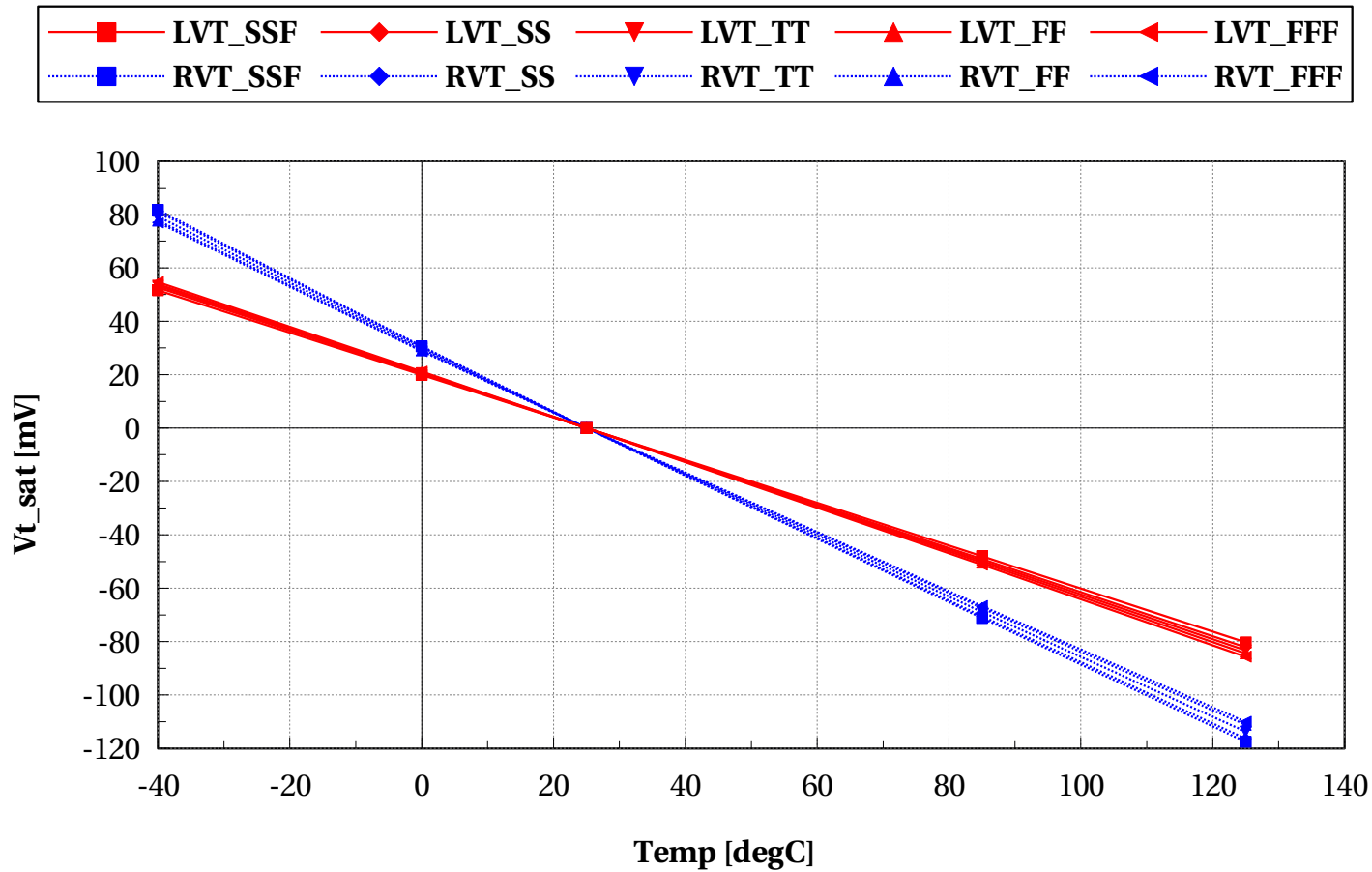
eglvtpfet_acc, DIBL [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



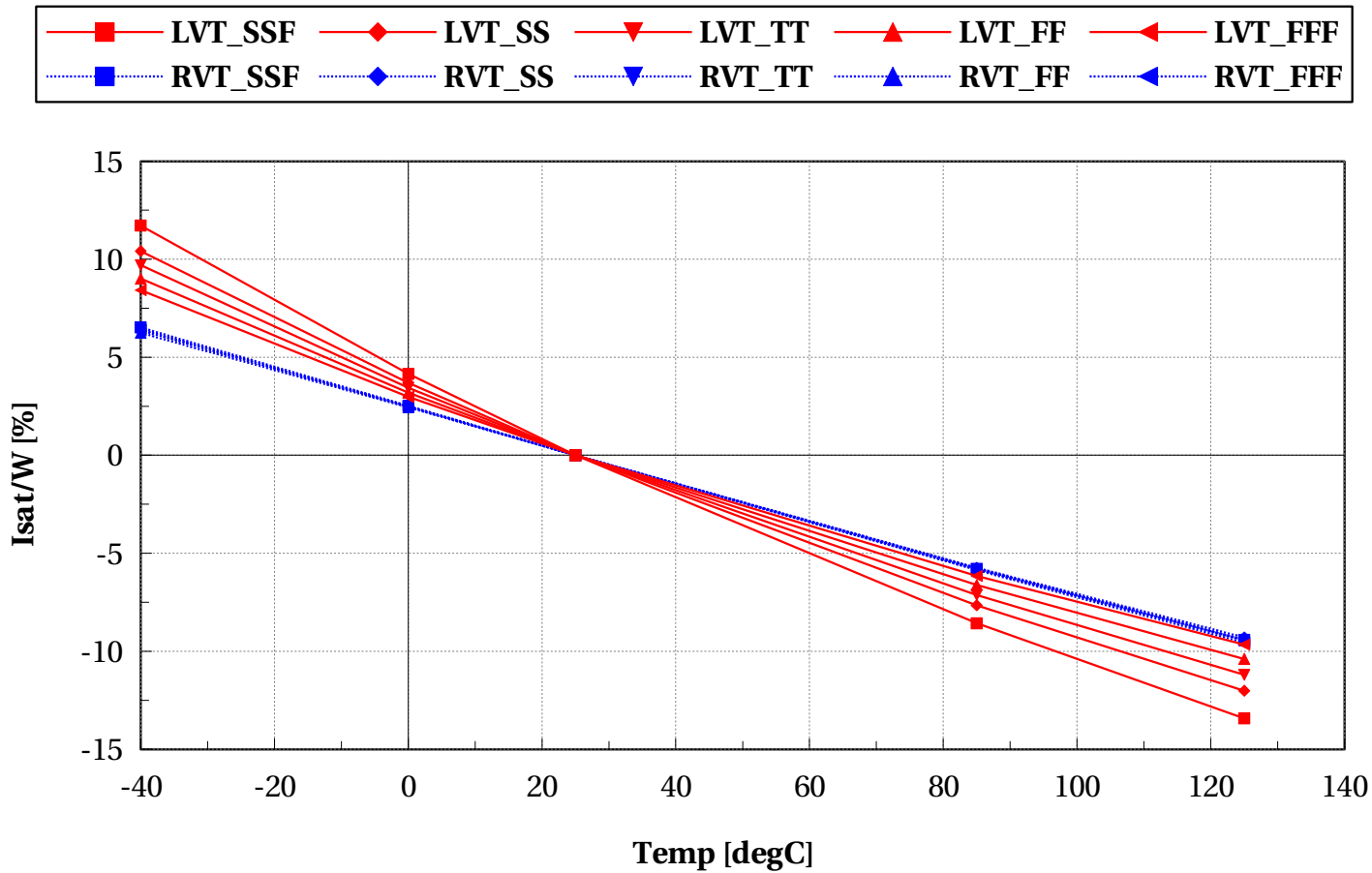
eglvtpfet_acc, Vt_sat [mV] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



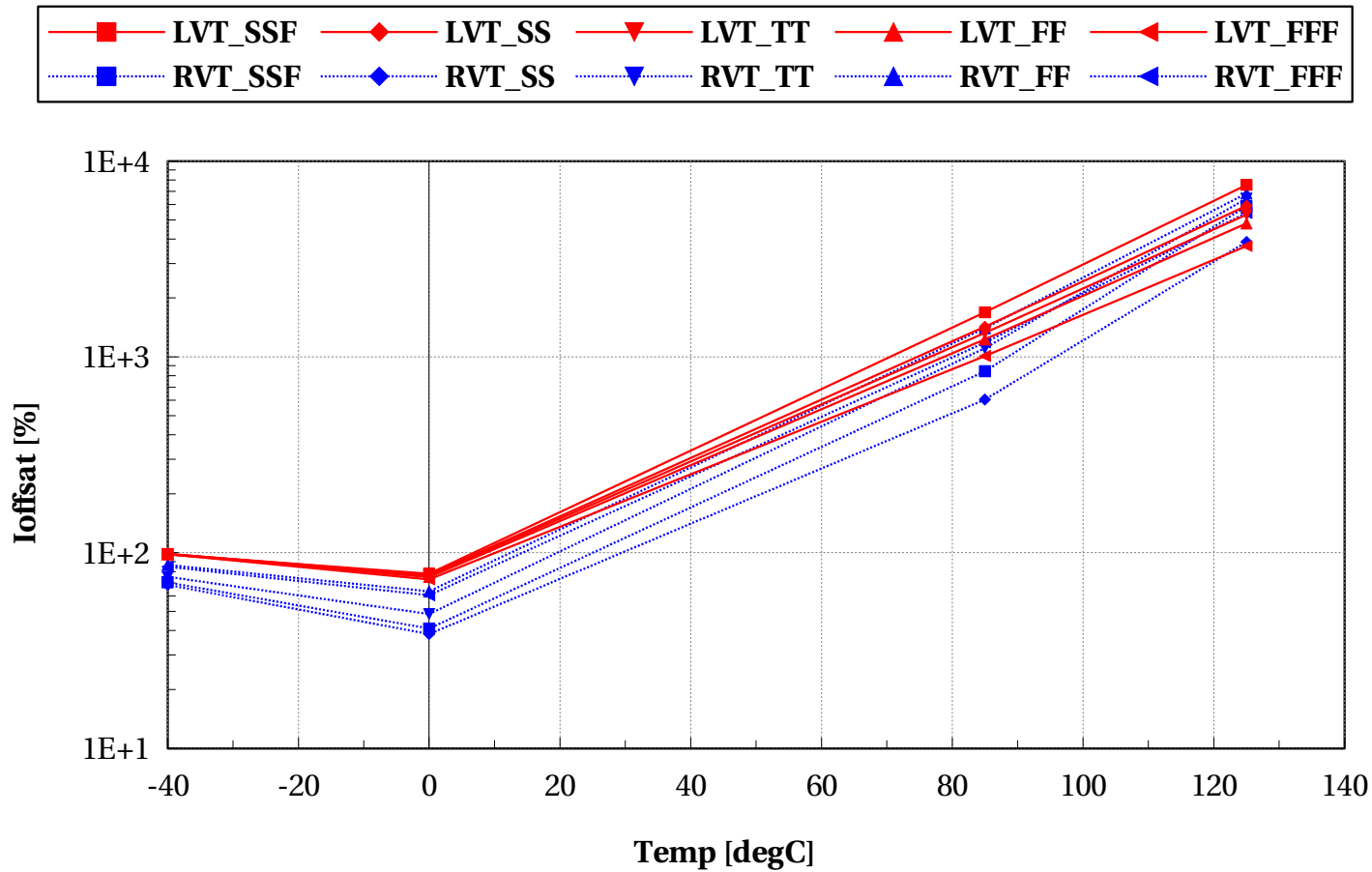
eglvtpfet_acc, Isat/W [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



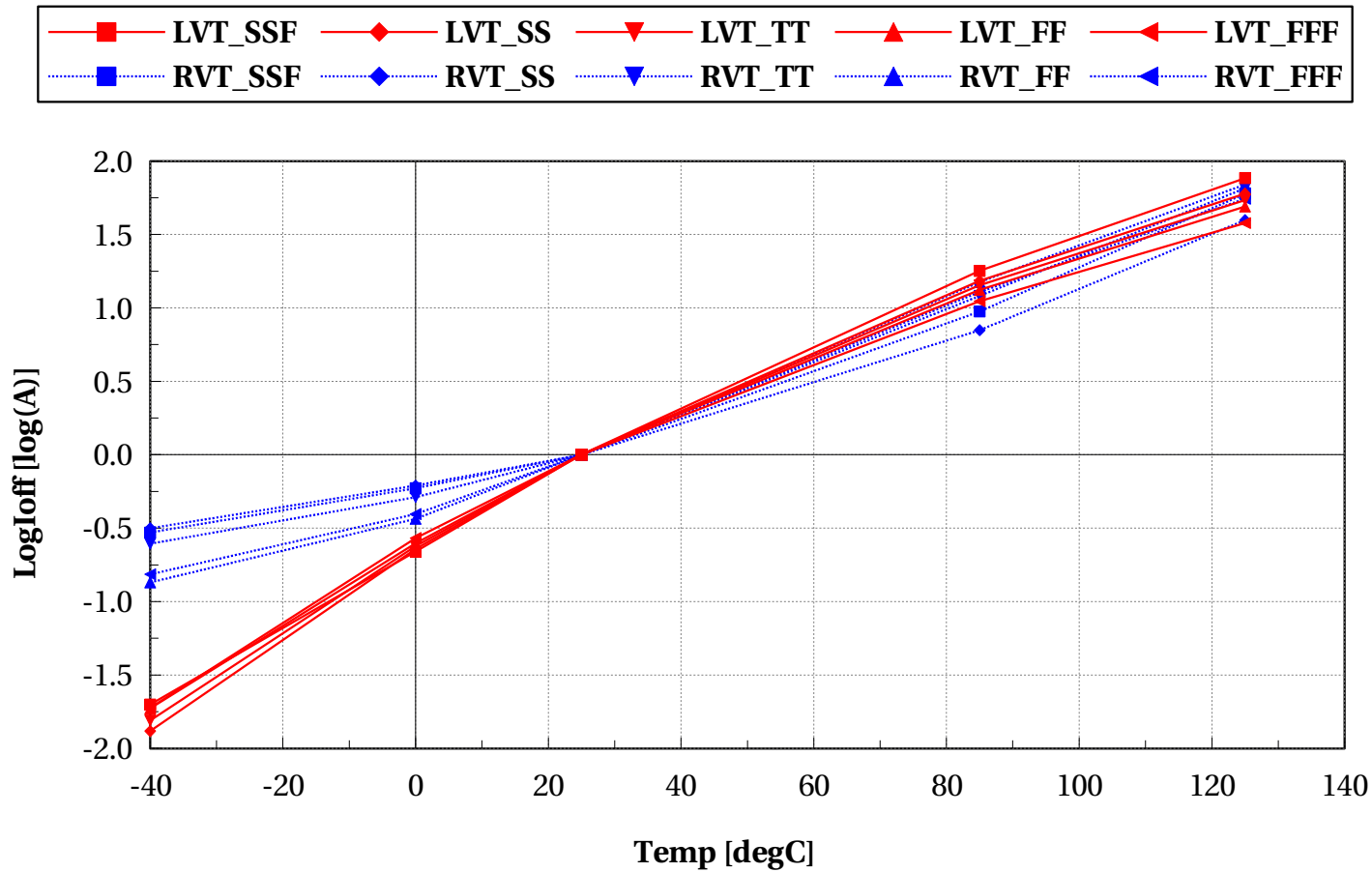
eglvtpfet_acc, Ioffsat [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



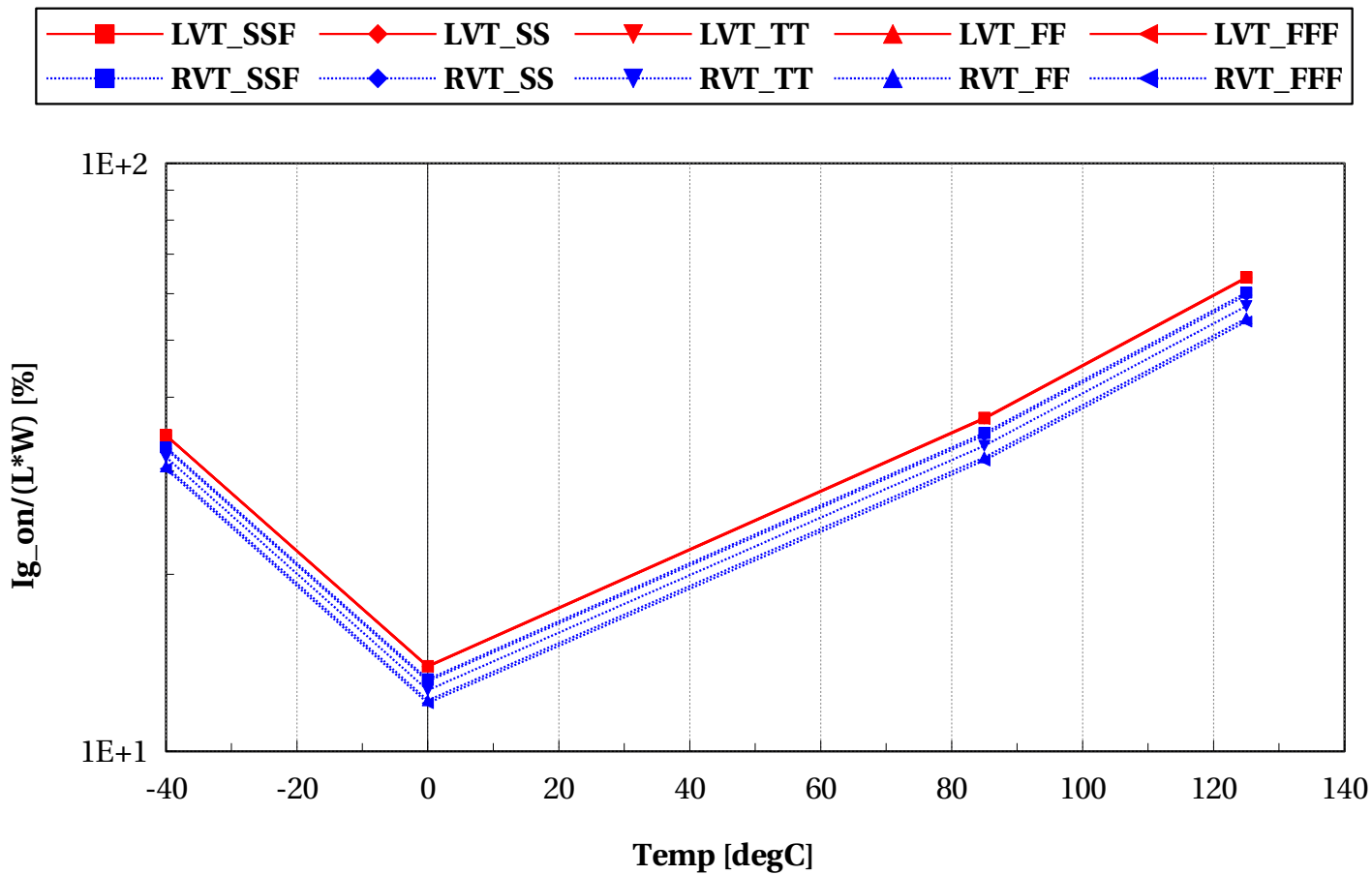
eglvtpfet_acc, LogIoff [log(A)] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



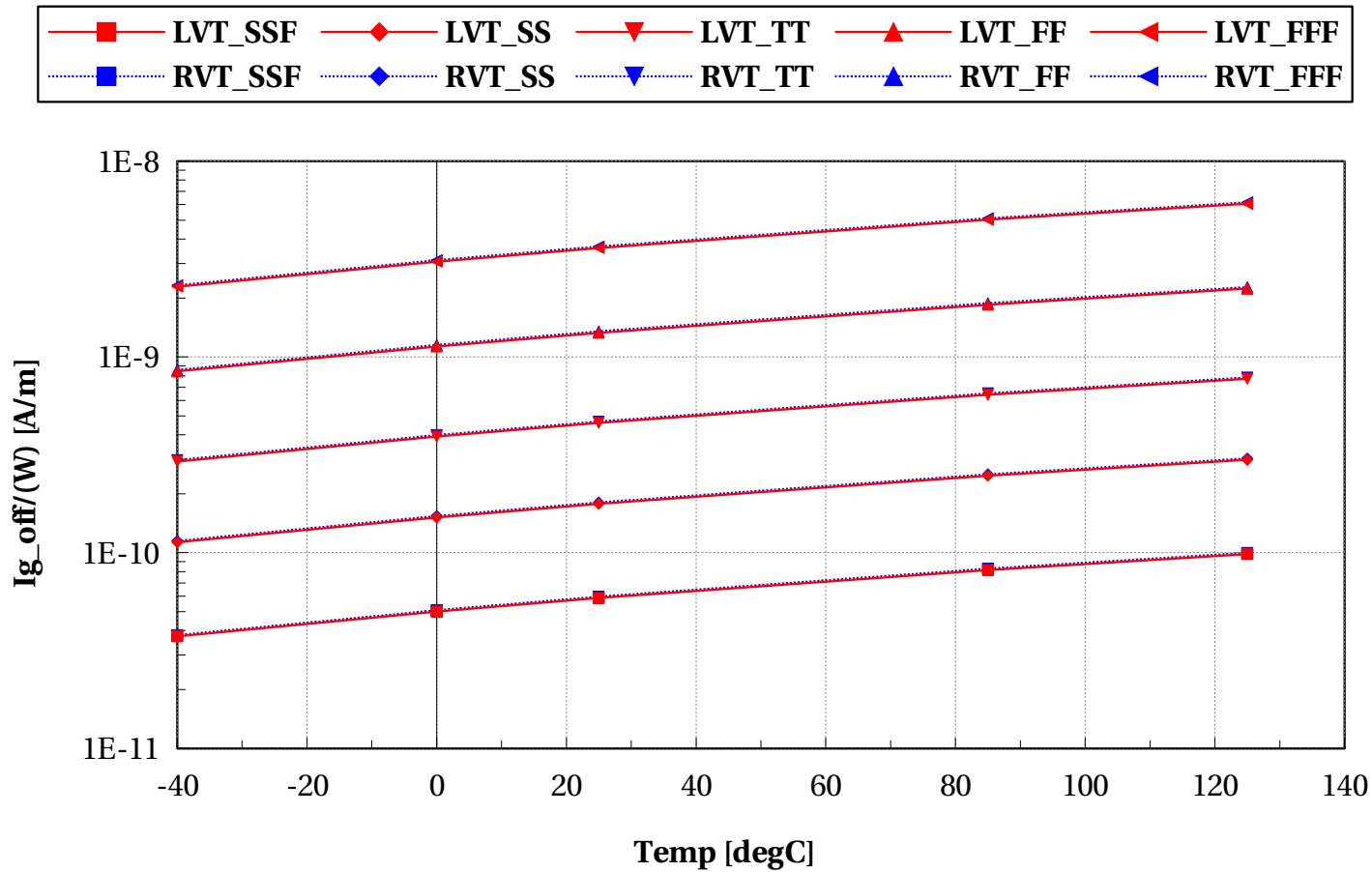
eglvtpfet_acc, Ig_on/(L*W) [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



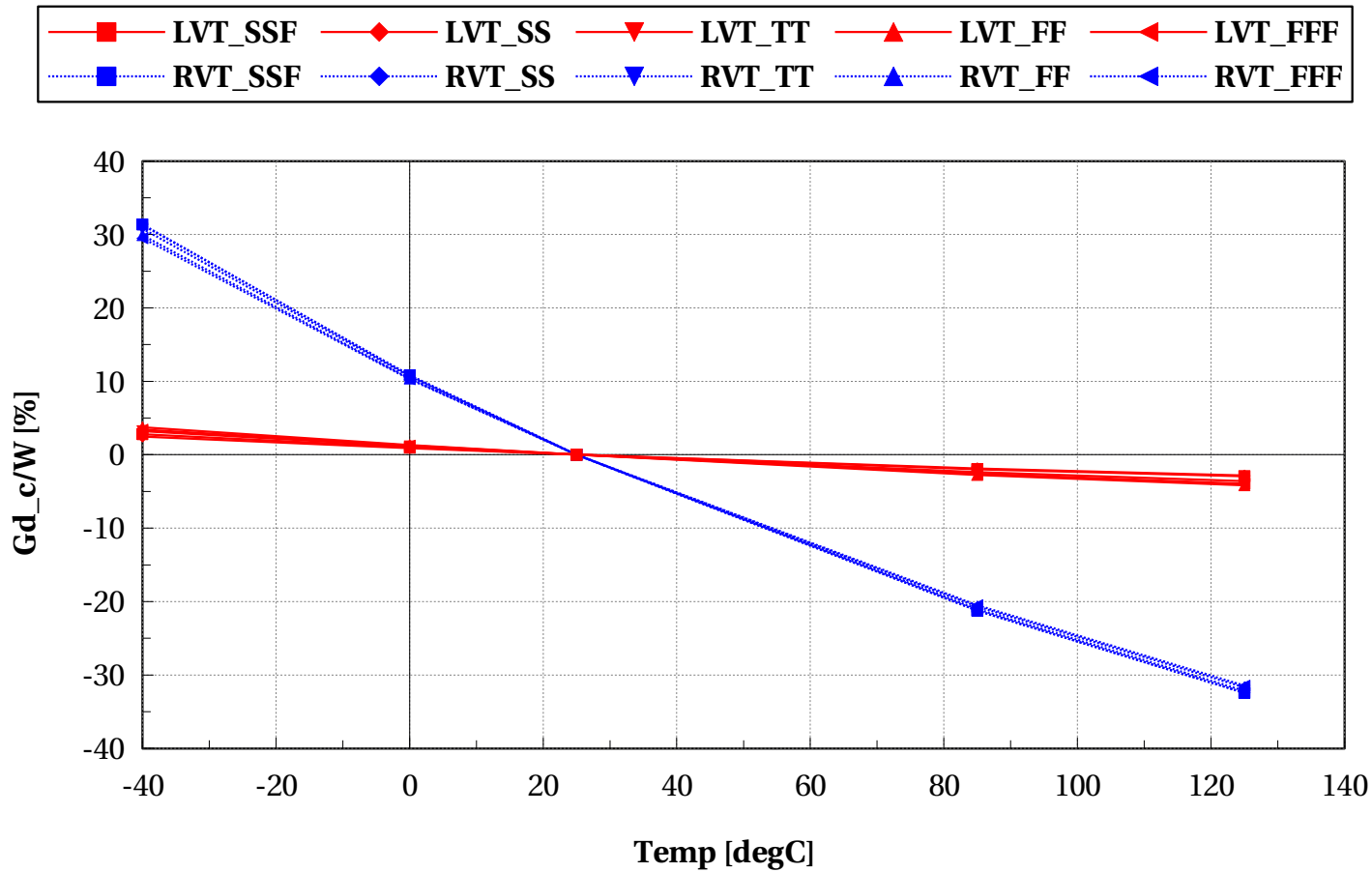
eglvtpfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



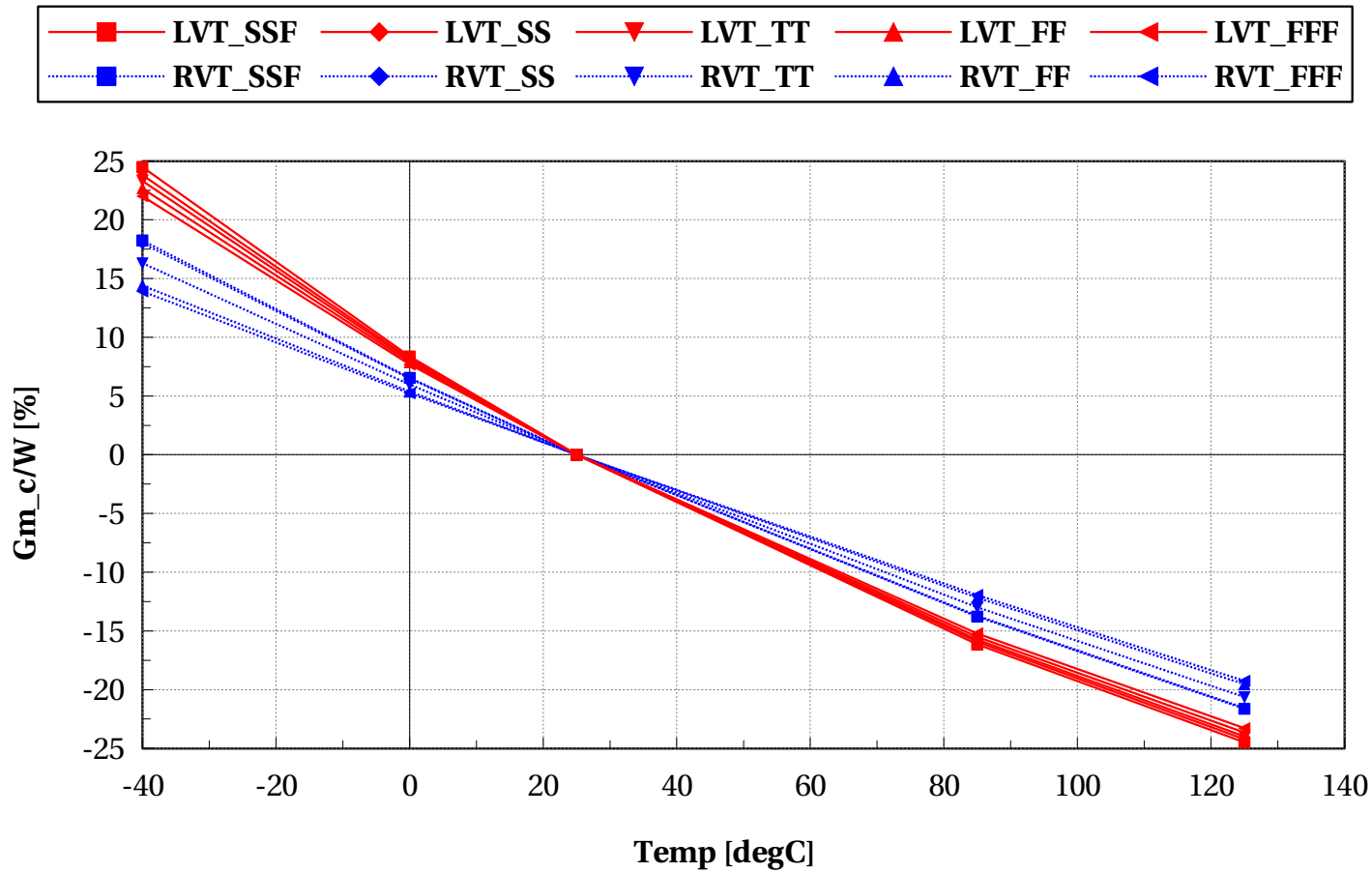
eglvtpfet_acc, Gd_c/W [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



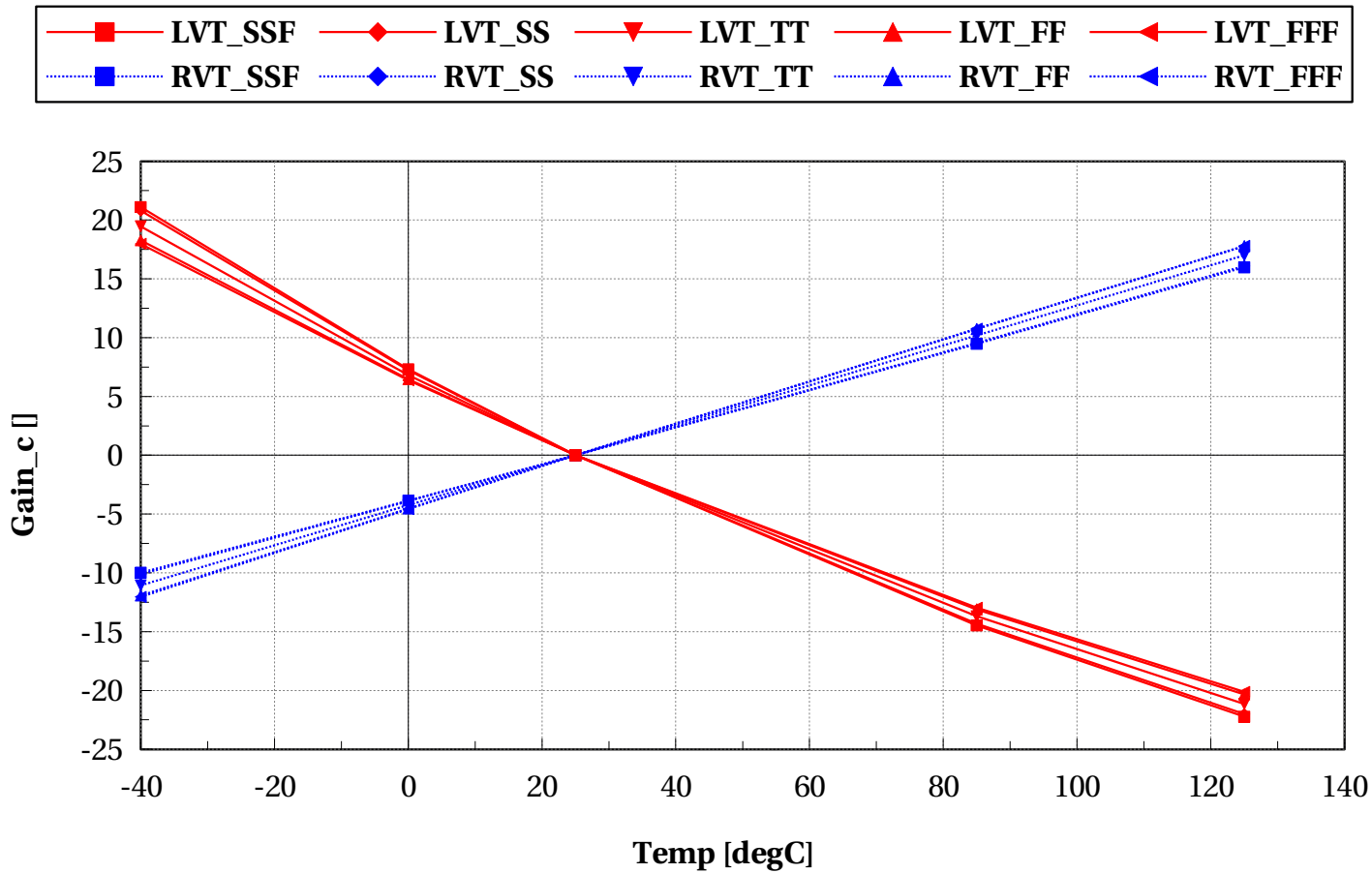
eglvtpfet_acc, Gm_c/W [%] vs Temp [degC]

$l=0.15\mu\text{m}$ and $w=2\mu\text{m}$ and devType=="PCELLwoWPE"



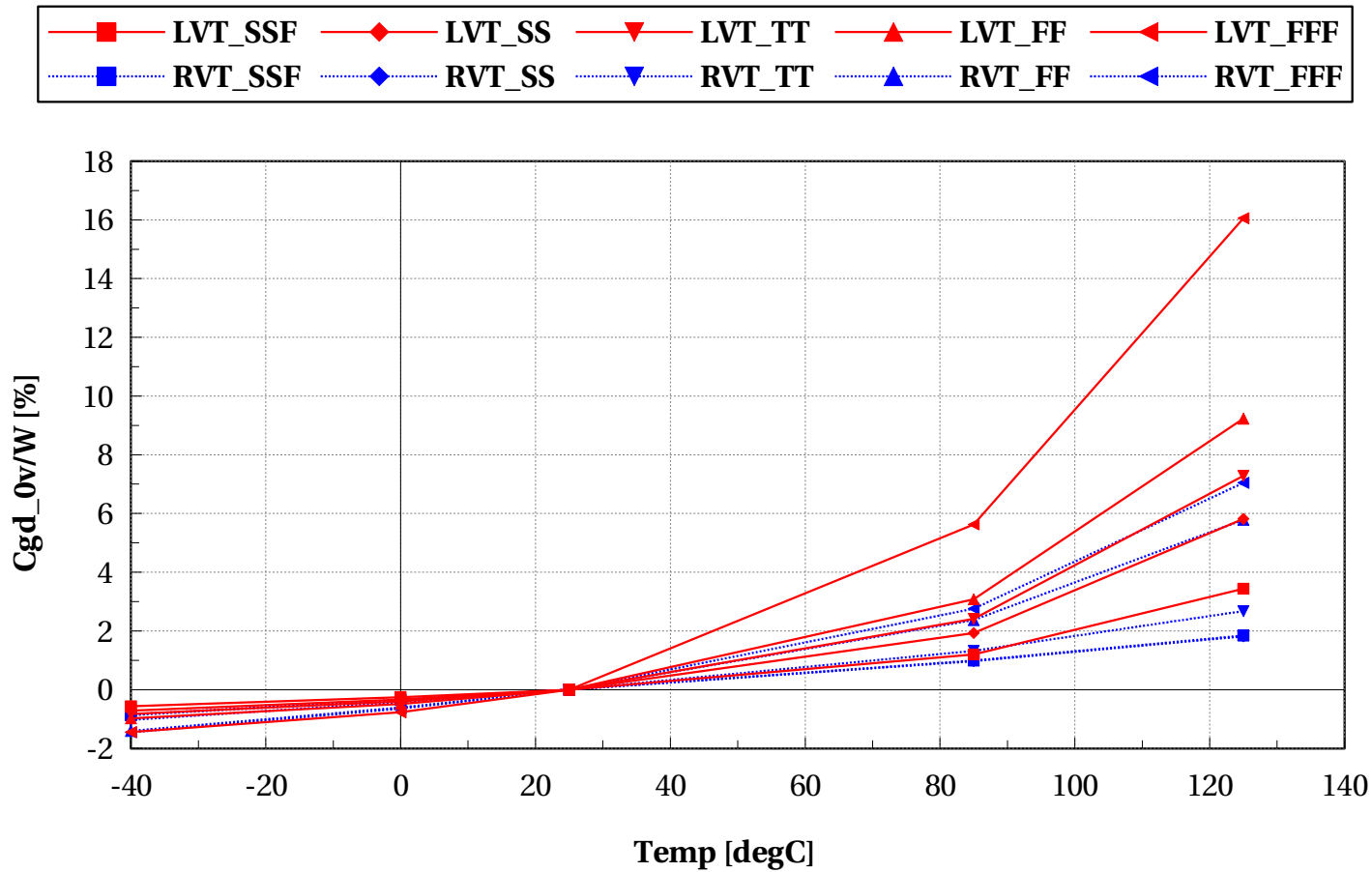
eglvtpfet_acc, Gain_c [] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



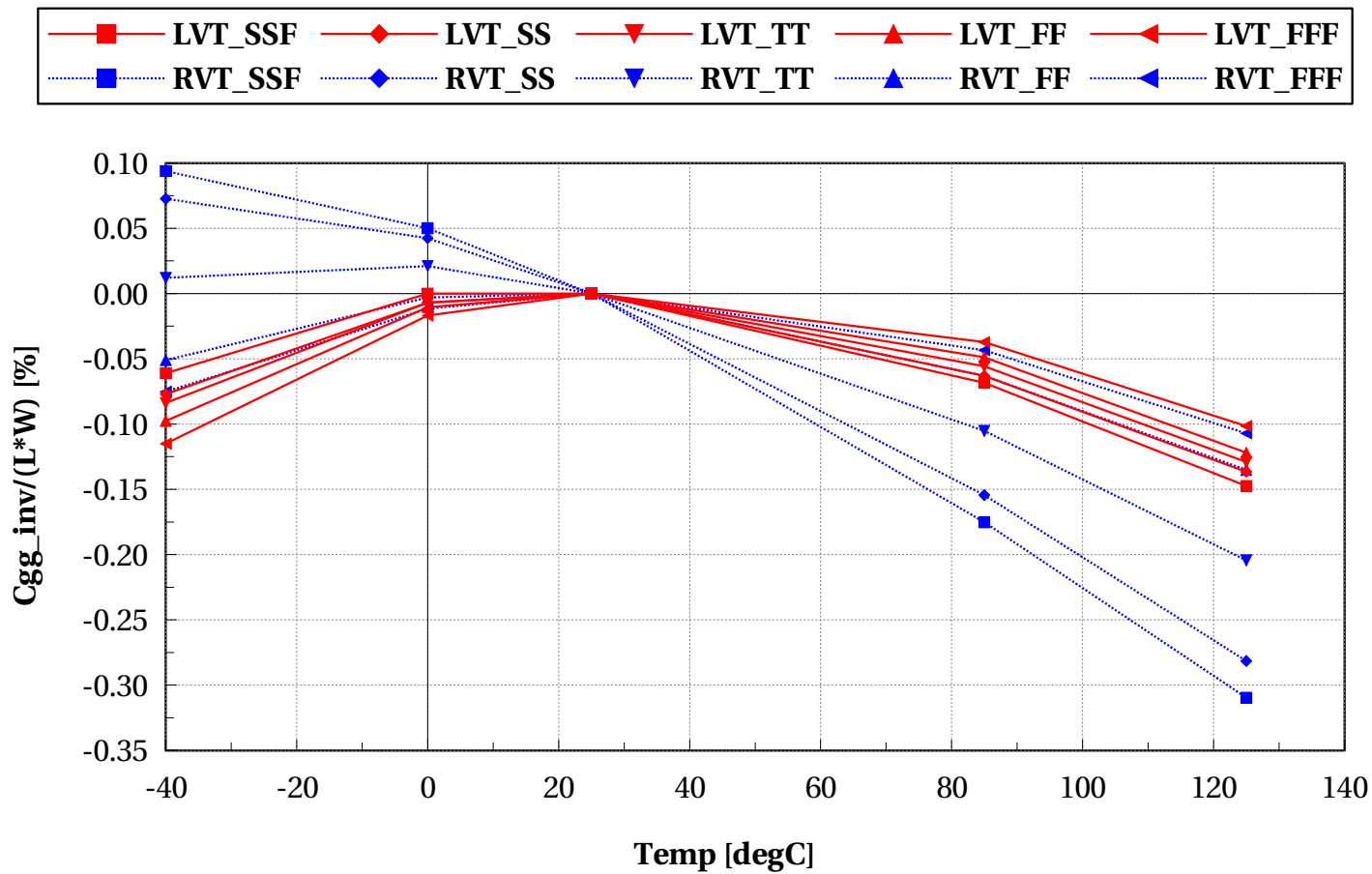
eglvtpfet_acc, Cgd_0v/W [%] vs Temp [degC]

$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



eglvtpfet_acc, Cgg_inv/(L*W) [%] vs Temp [degC]

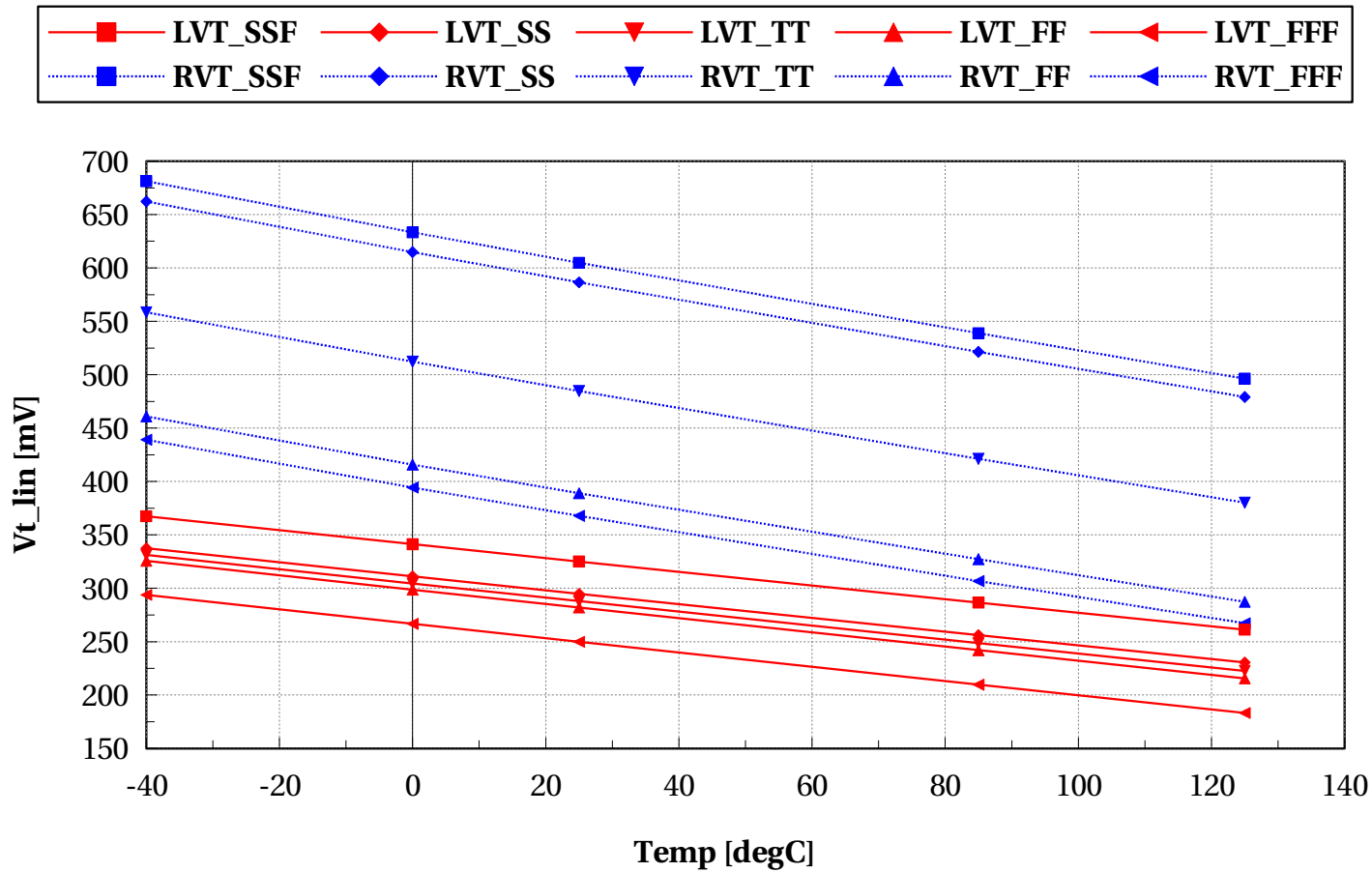
$l=0.15e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



Scaling versus Temp @ $L=2u$, $W=2u$

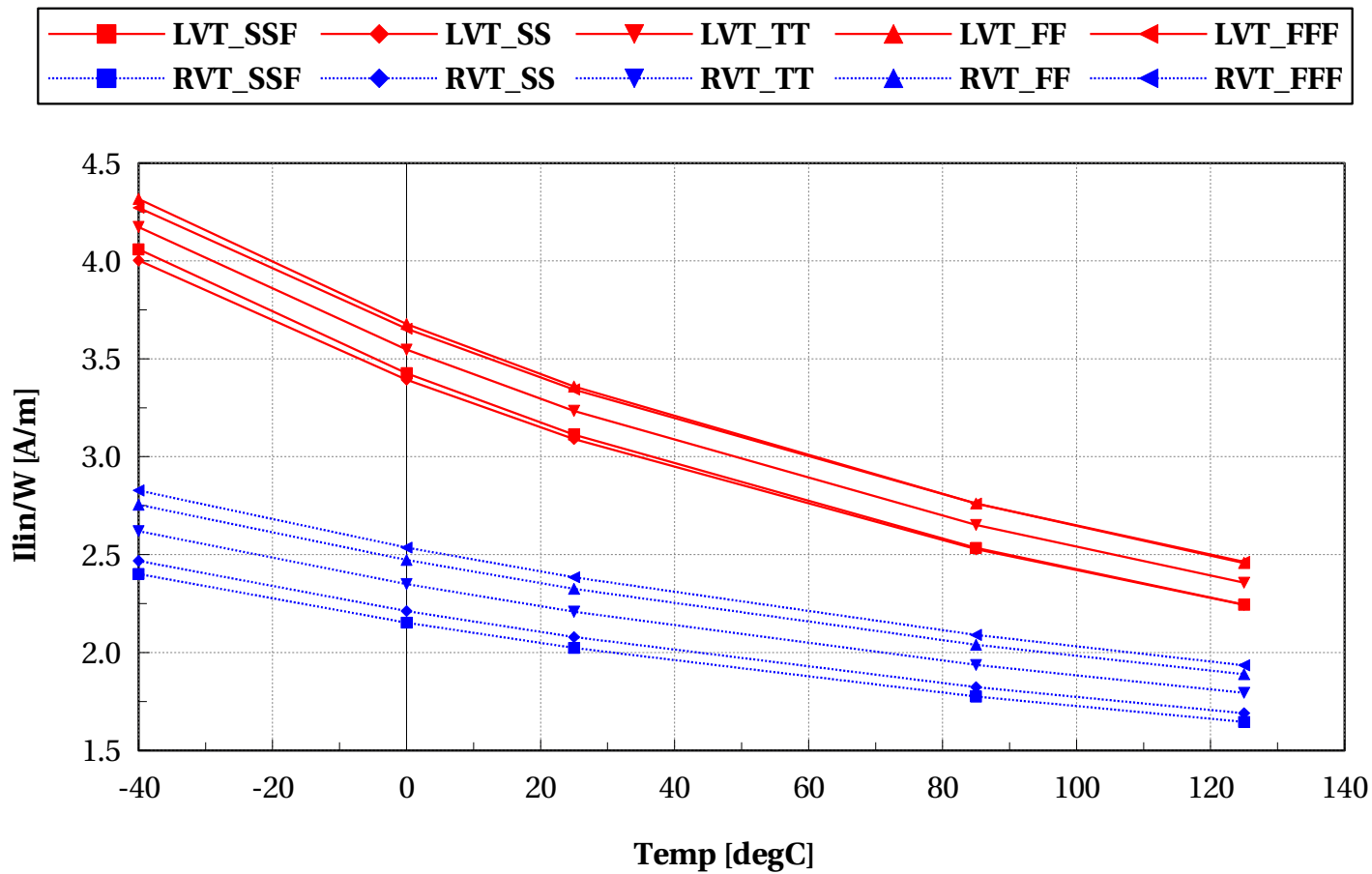
eglvtpfet_acc, Vt_lin [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



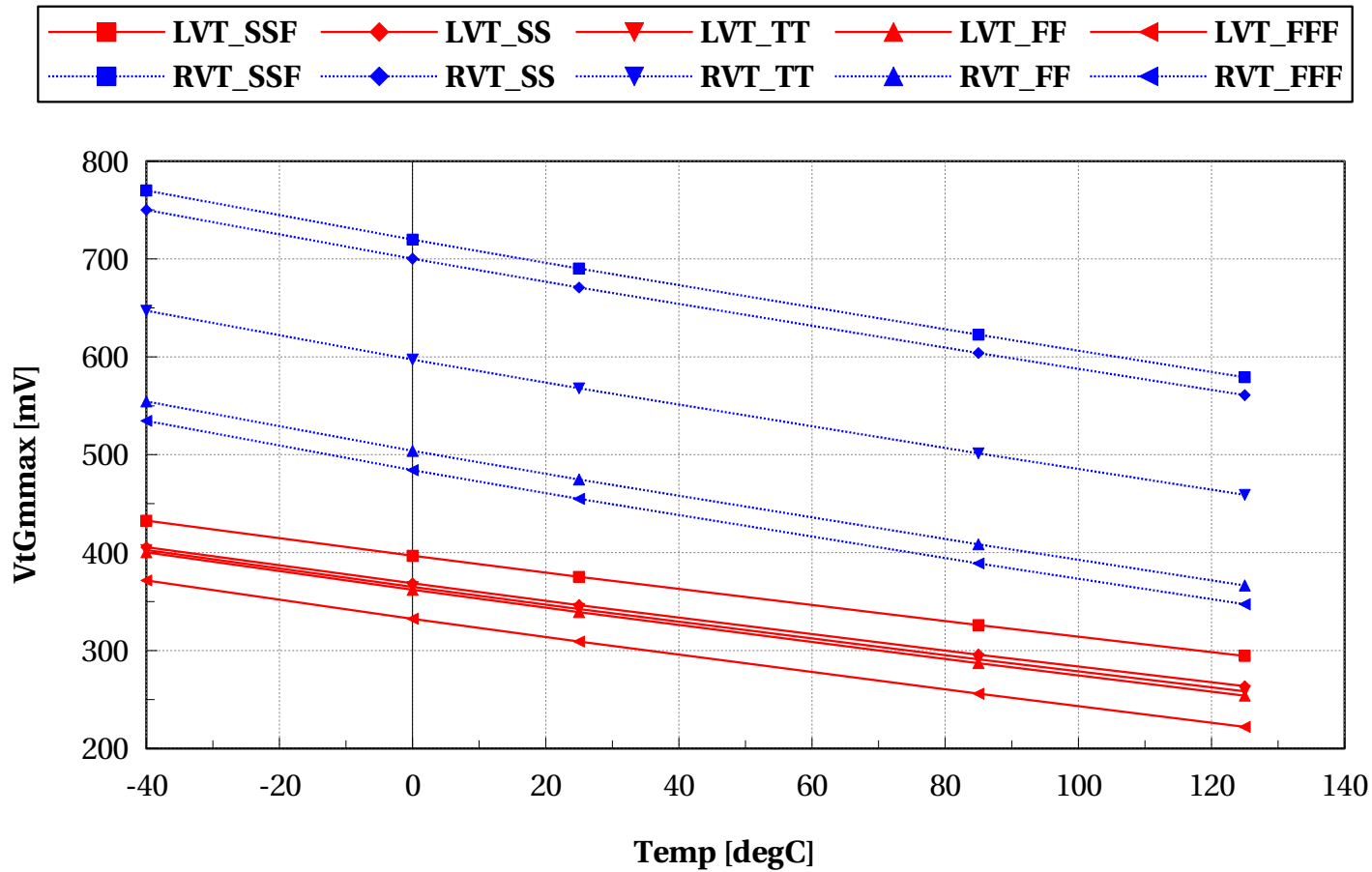
eglvtpfet_acc, I_{lin}/W [A/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



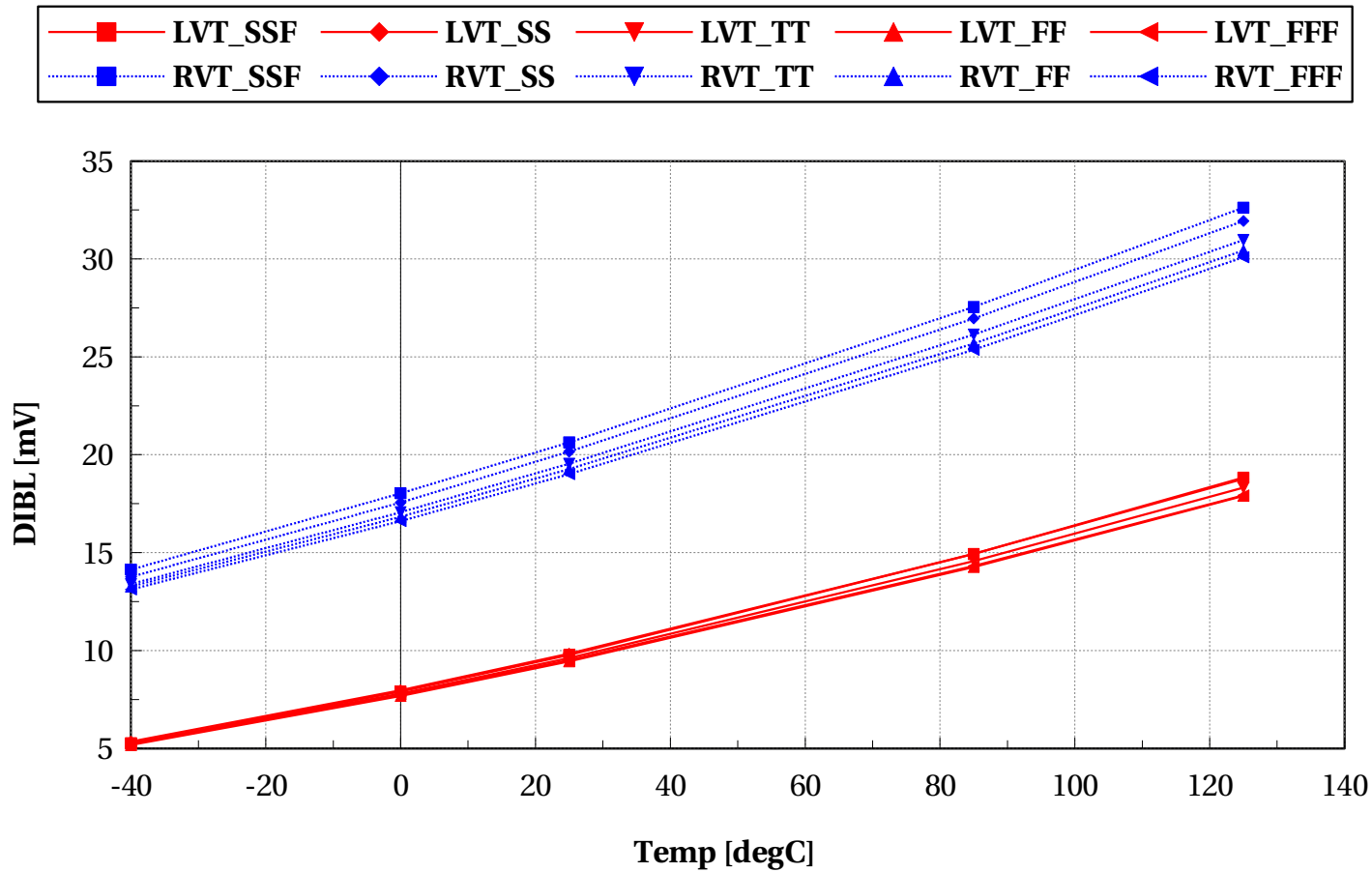
eglvtpfet_acc, VtGmmax [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



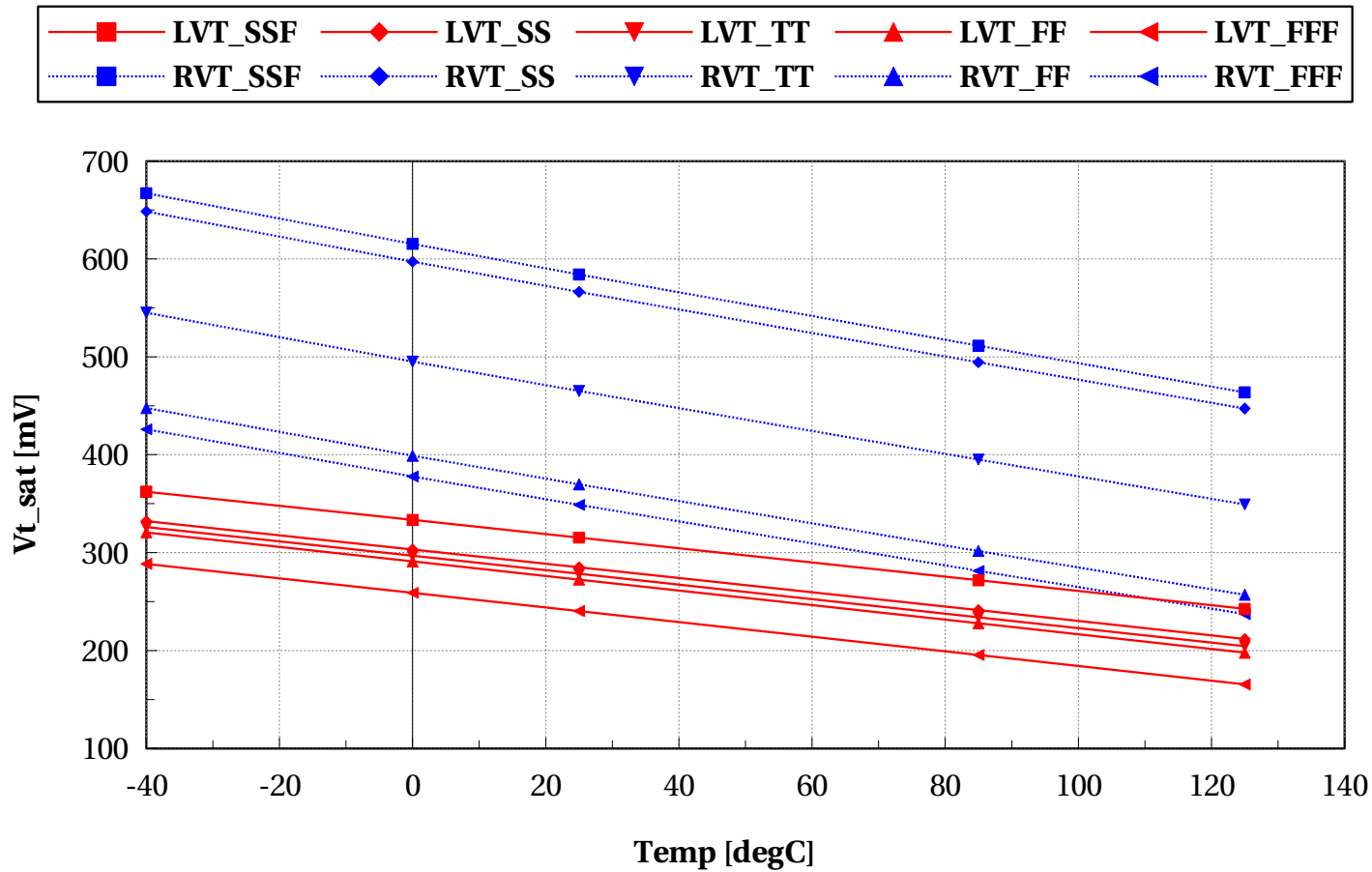
eglvtpfet_acc, DIBL [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



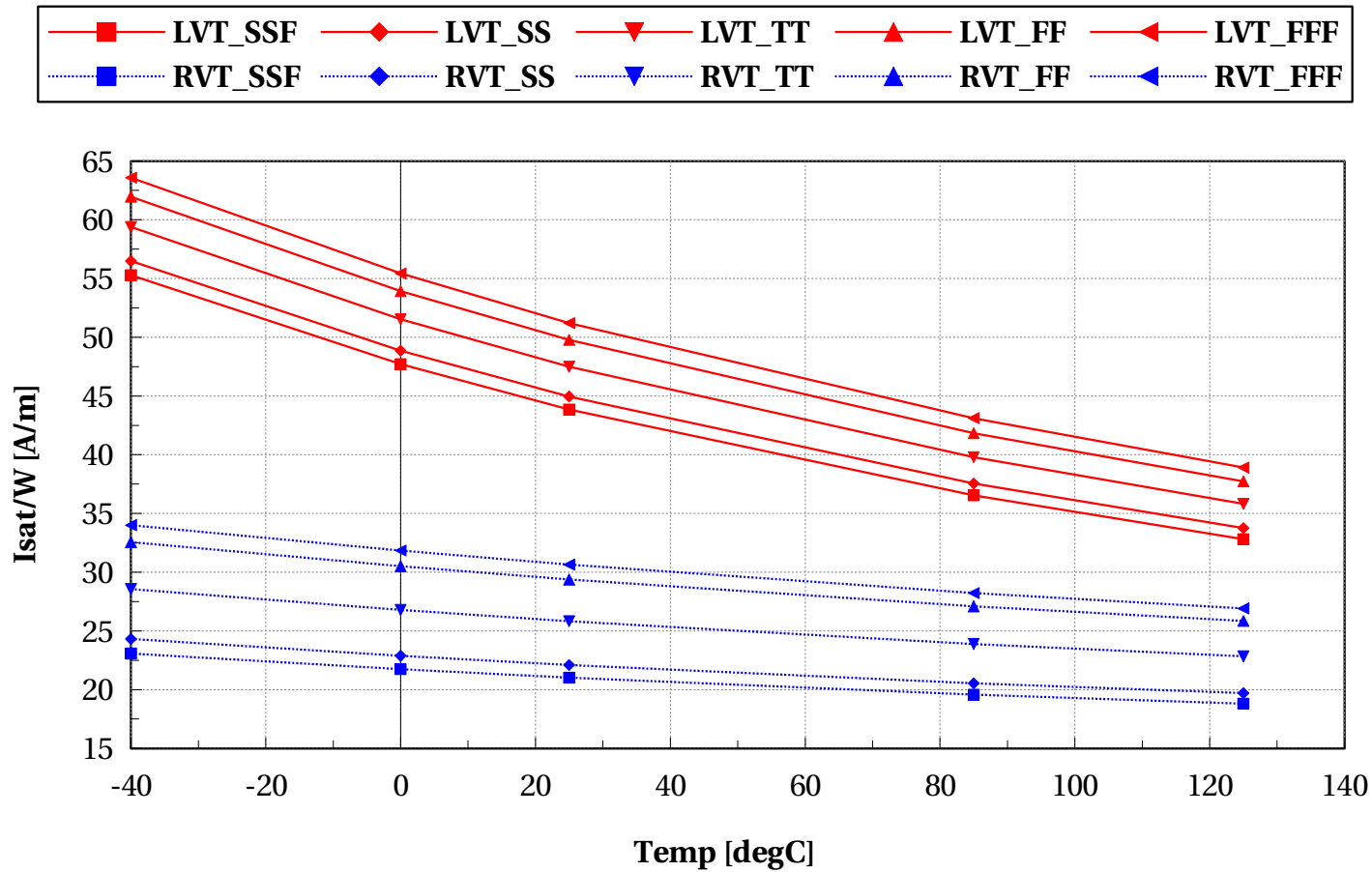
eglvtpfet_acc, Vt_sat [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



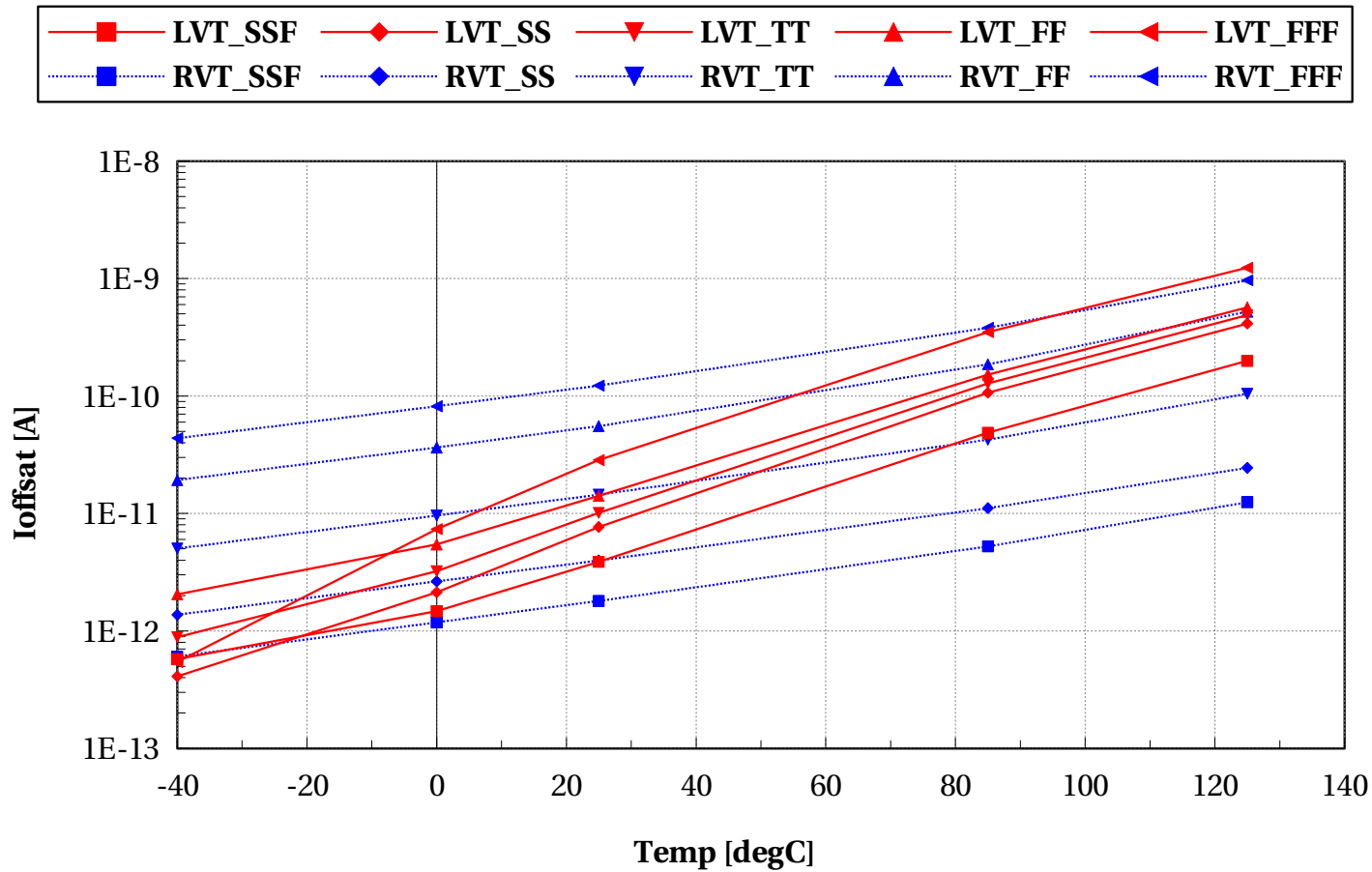
eglvtpfet_acc, Isat/W [A/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



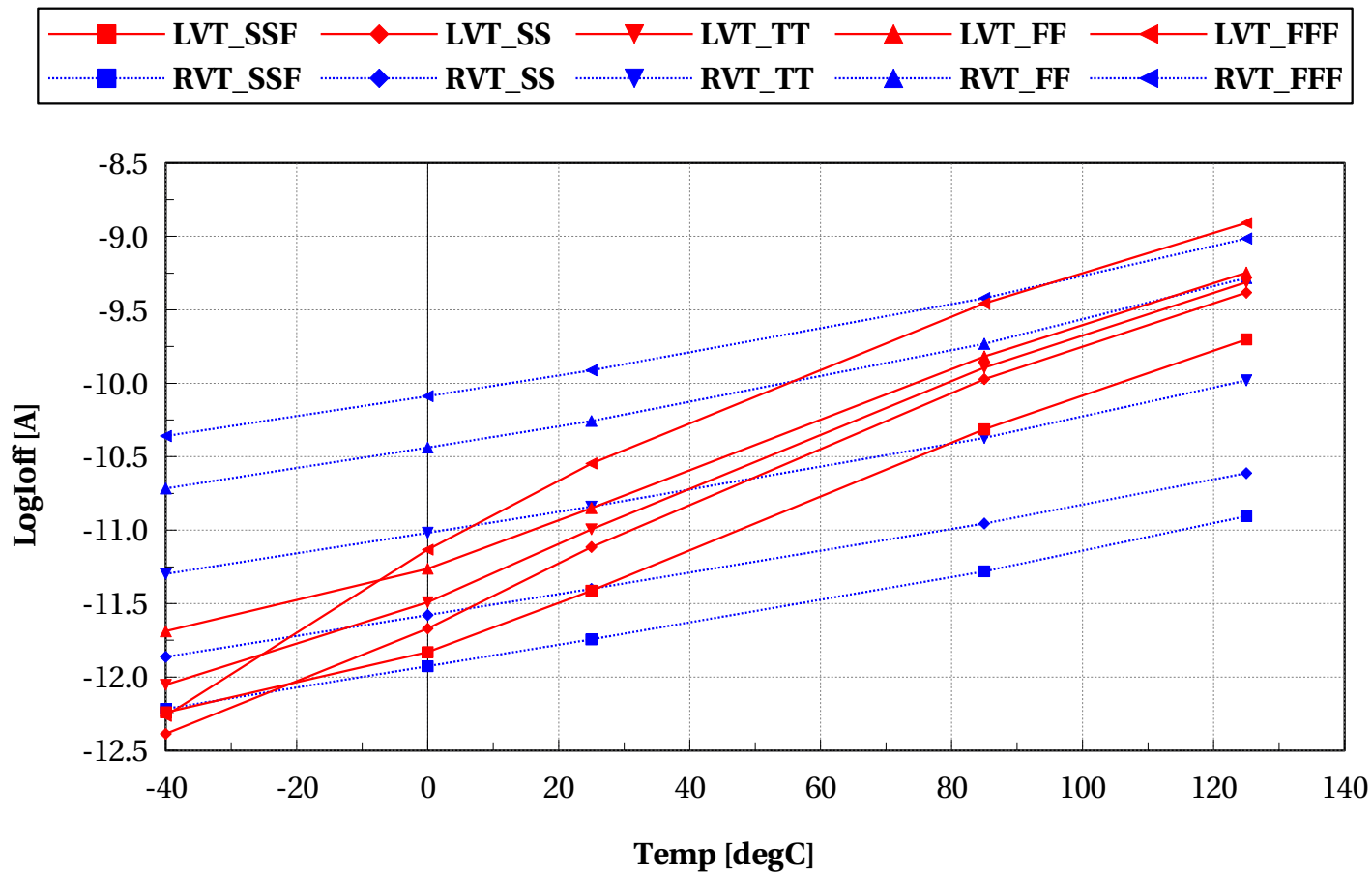
eglvtpfet_acc, Ioffsat [A] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



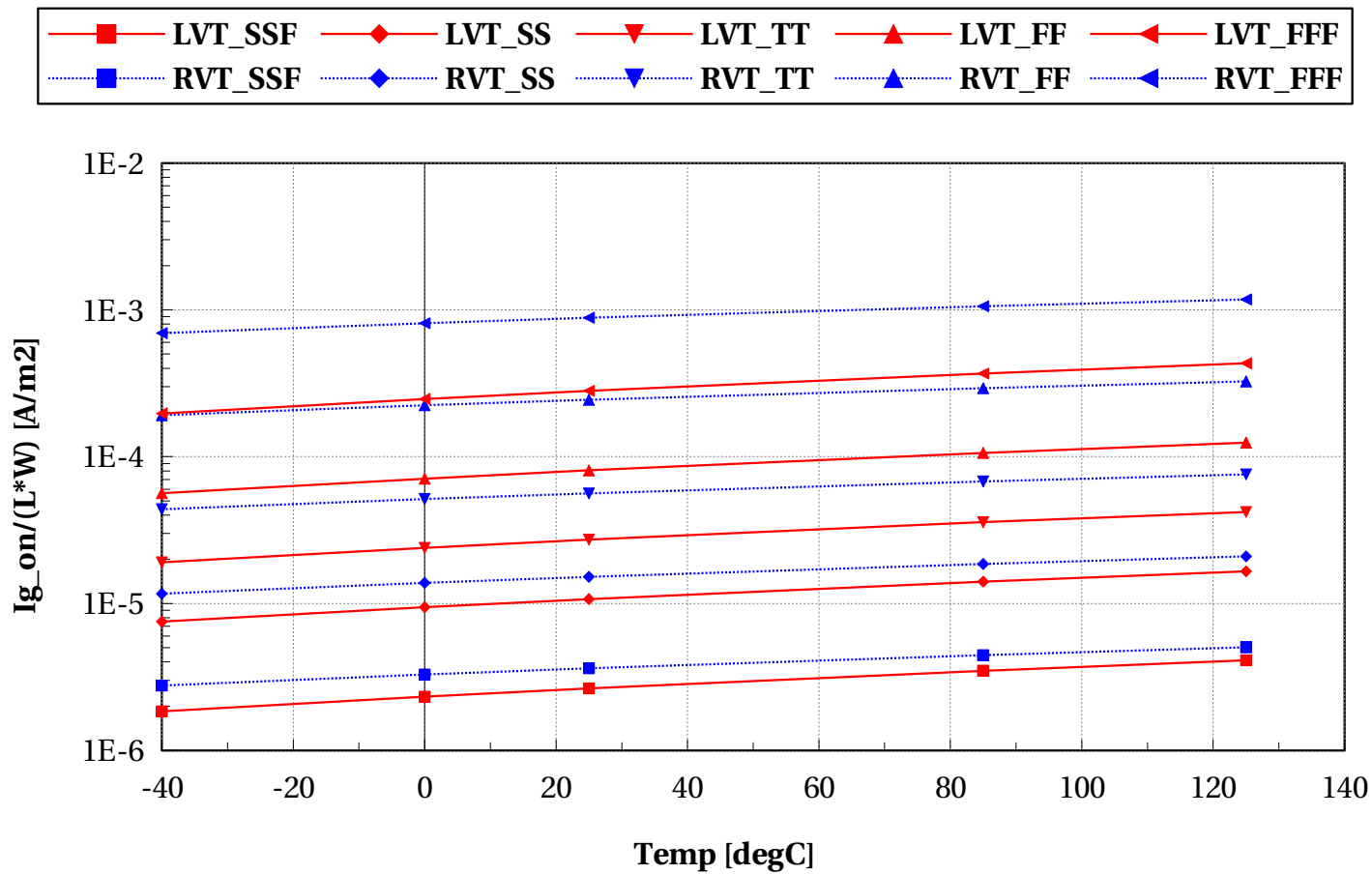
eglvtpfet_acc, LogIoff [A] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



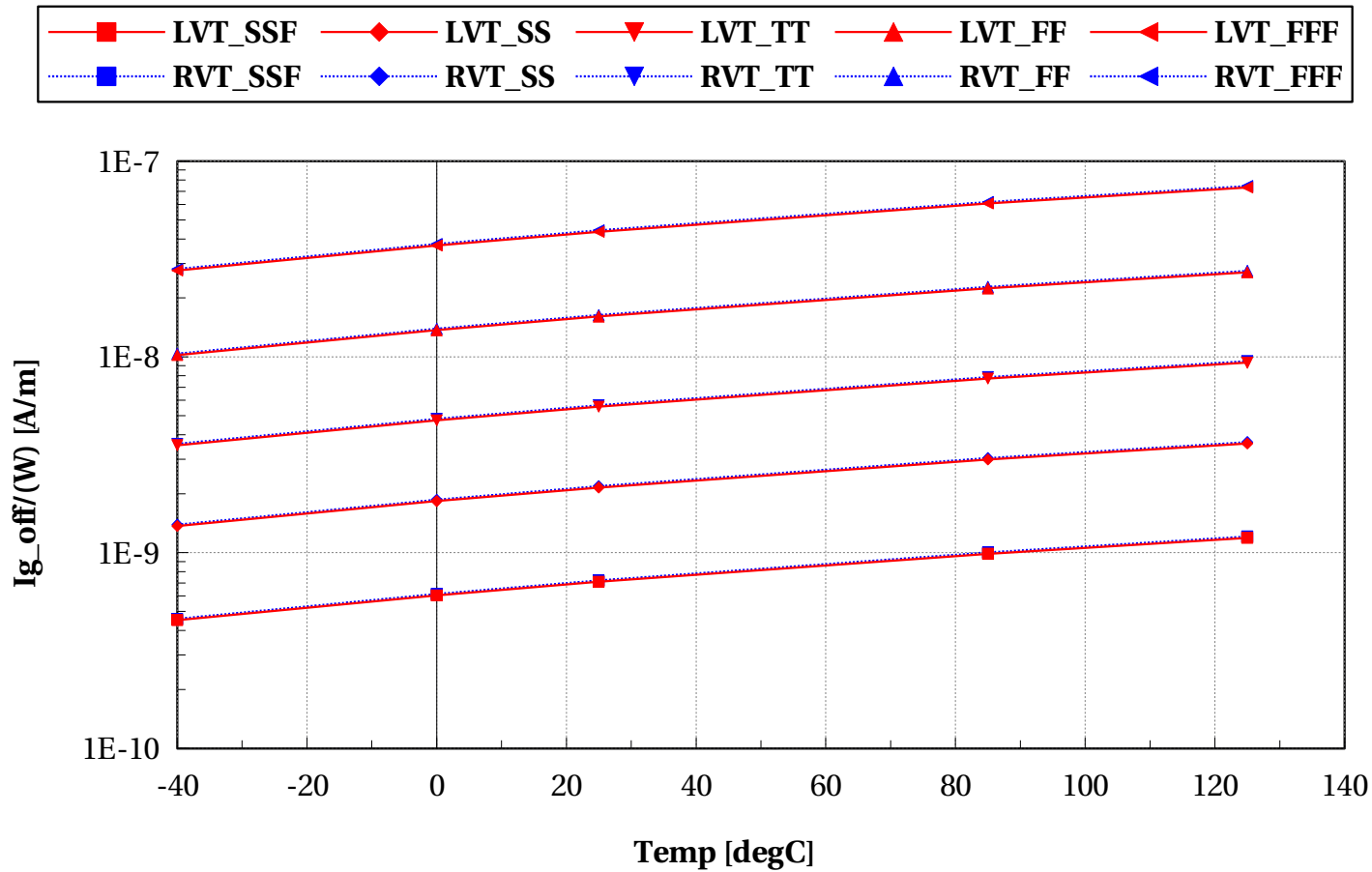
eglvtpfet_acc, Ig_on/(L*W) [A/m2] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



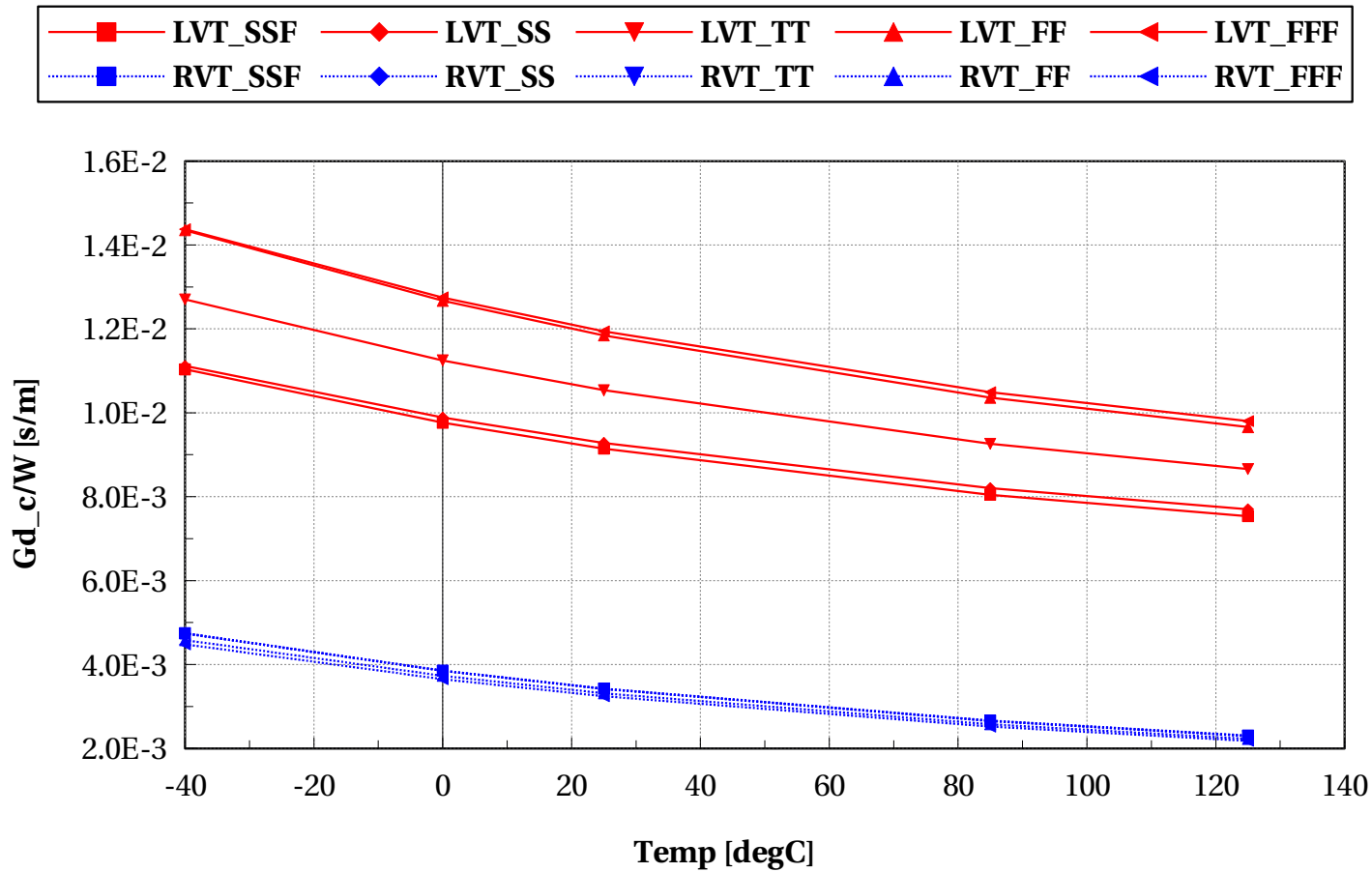
eglvtpfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



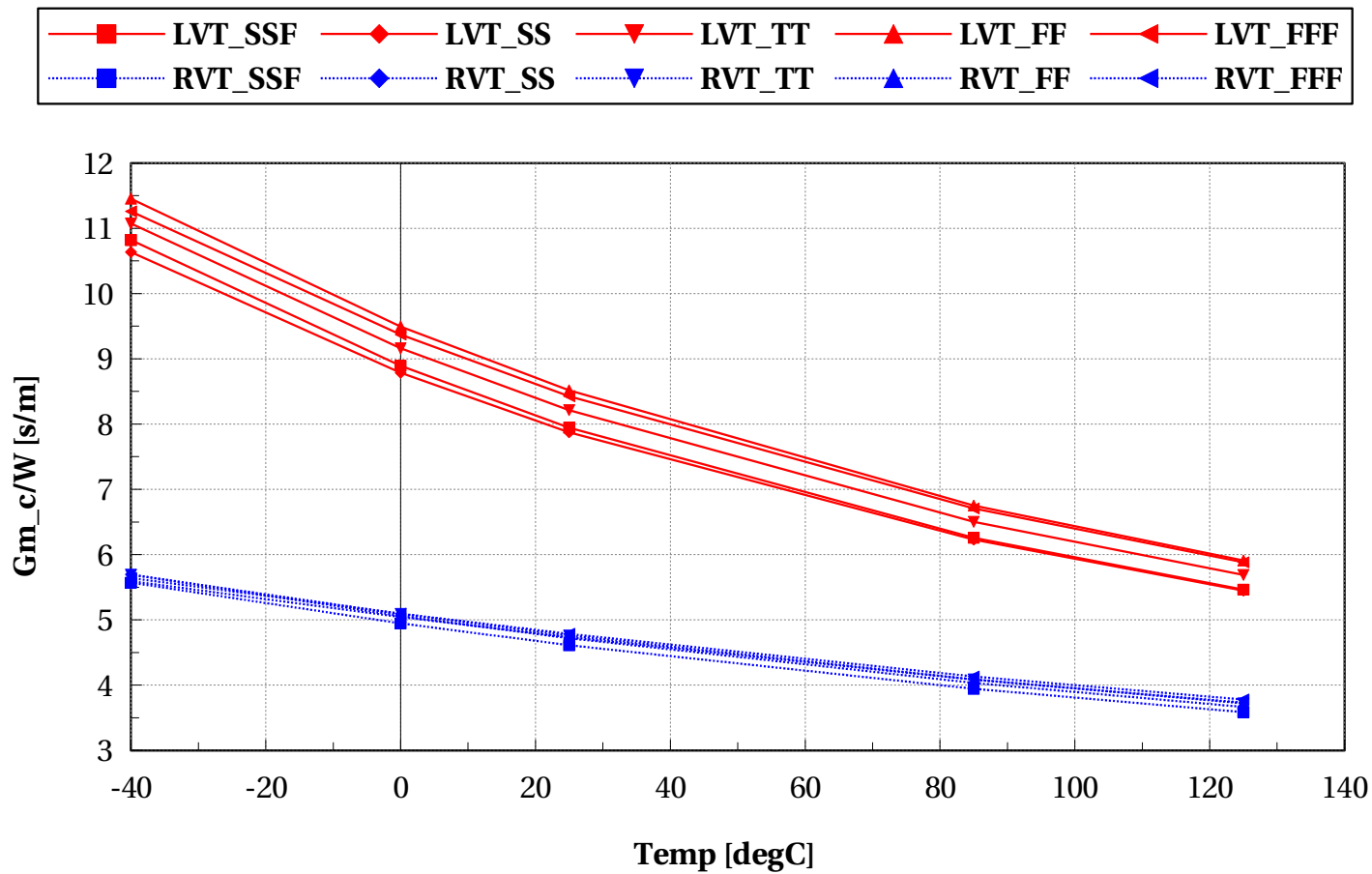
eglvtpfet_acc, Gd_c/W [s/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



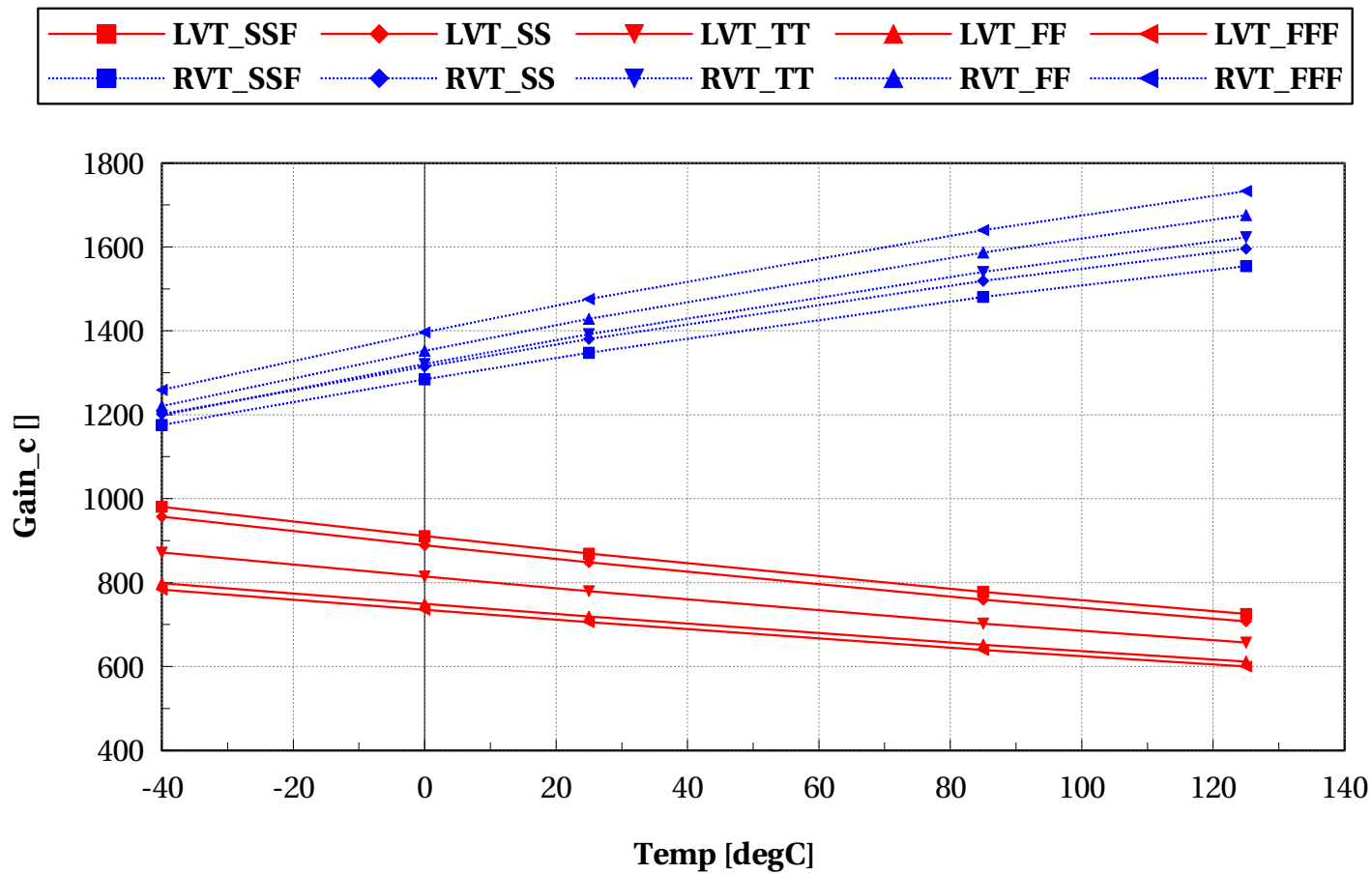
eglvtpfet_acc, Gm_c/W [s/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



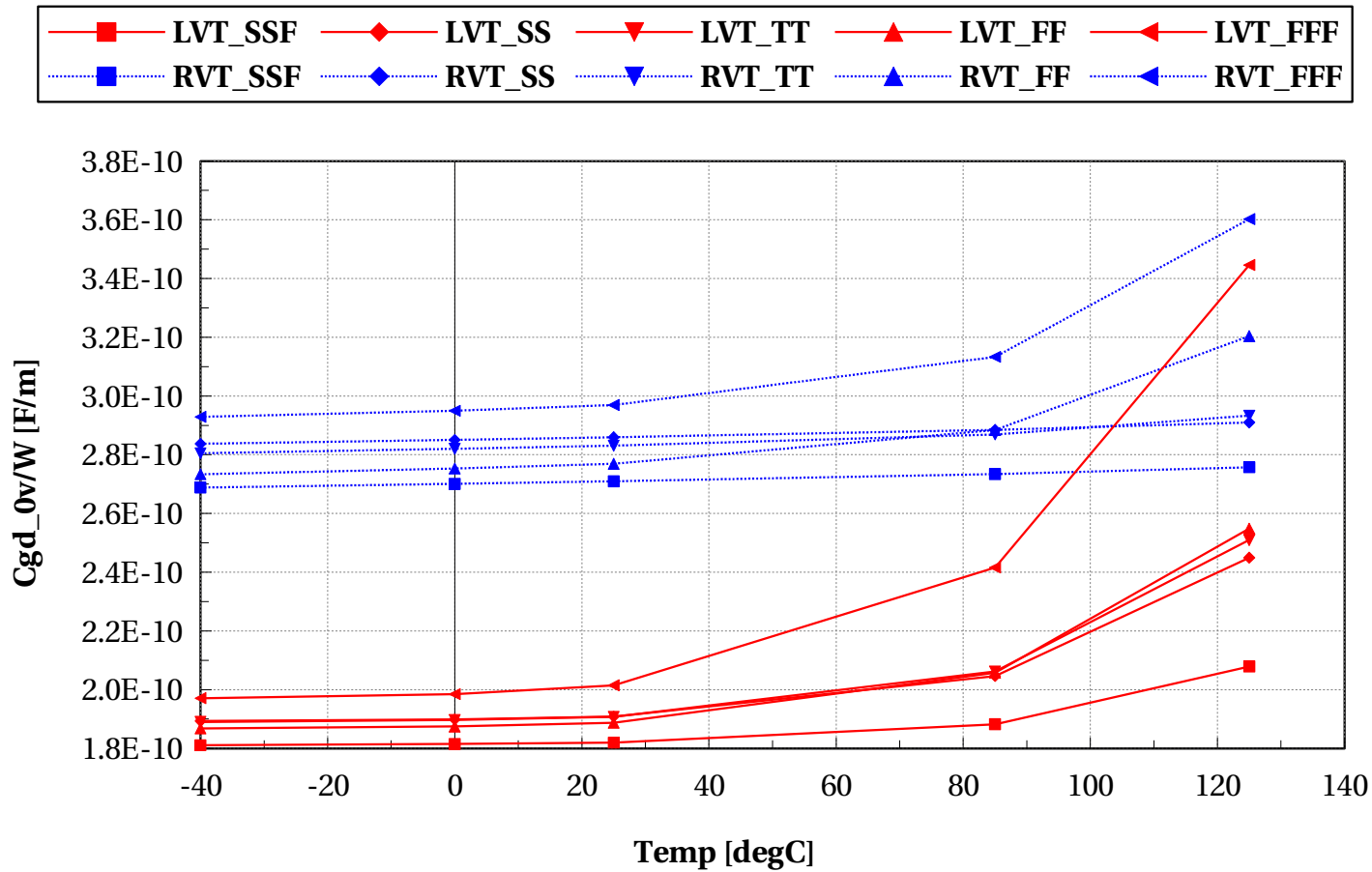
eglvtpfet_acc, Gain_c [] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



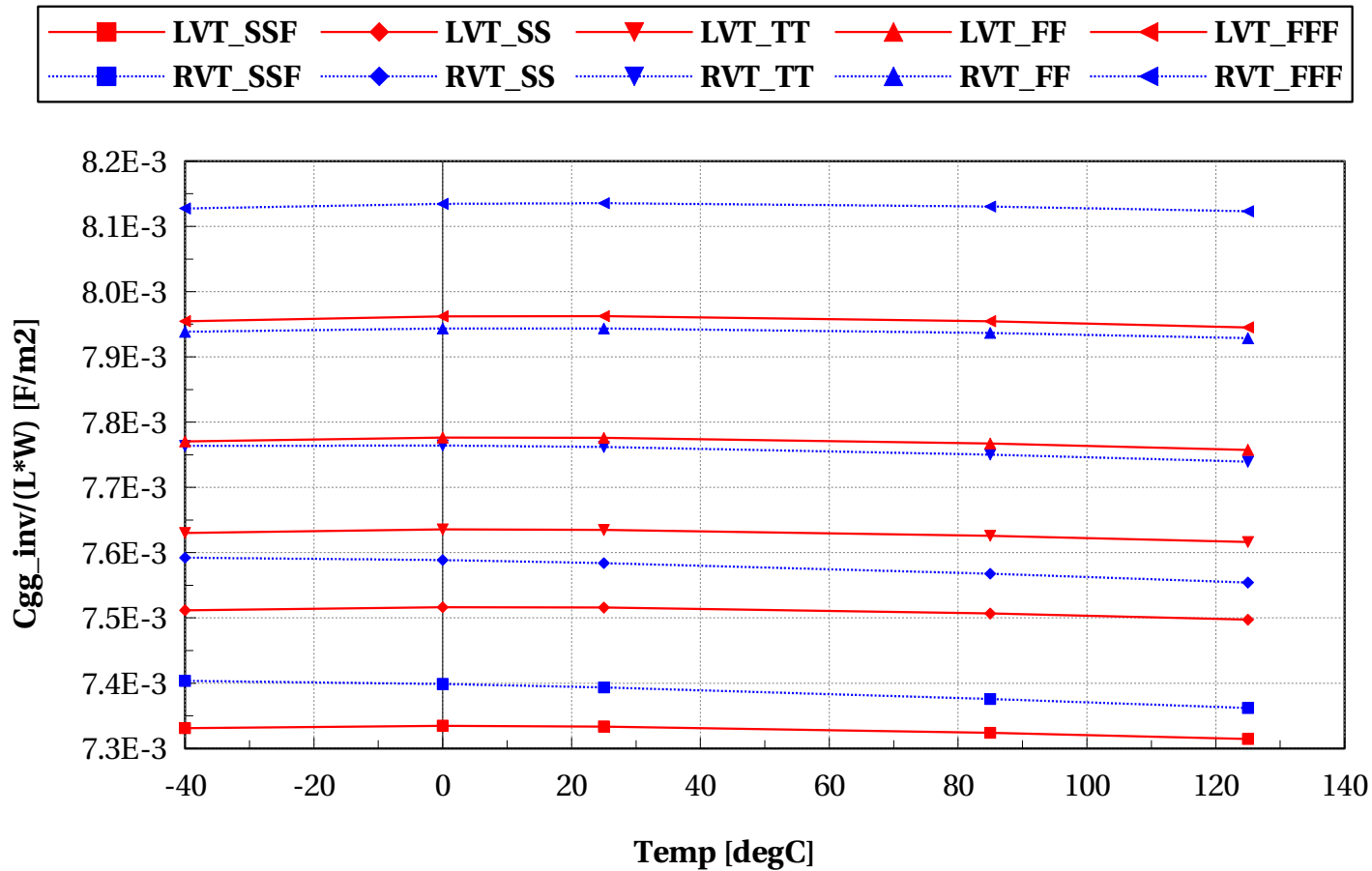
eglvtpfet_acc, Cgd_0v/W [F/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



eglvtpfet_acc, Cgg_inv/(L*W) [F/m2] vs Temp [degC]

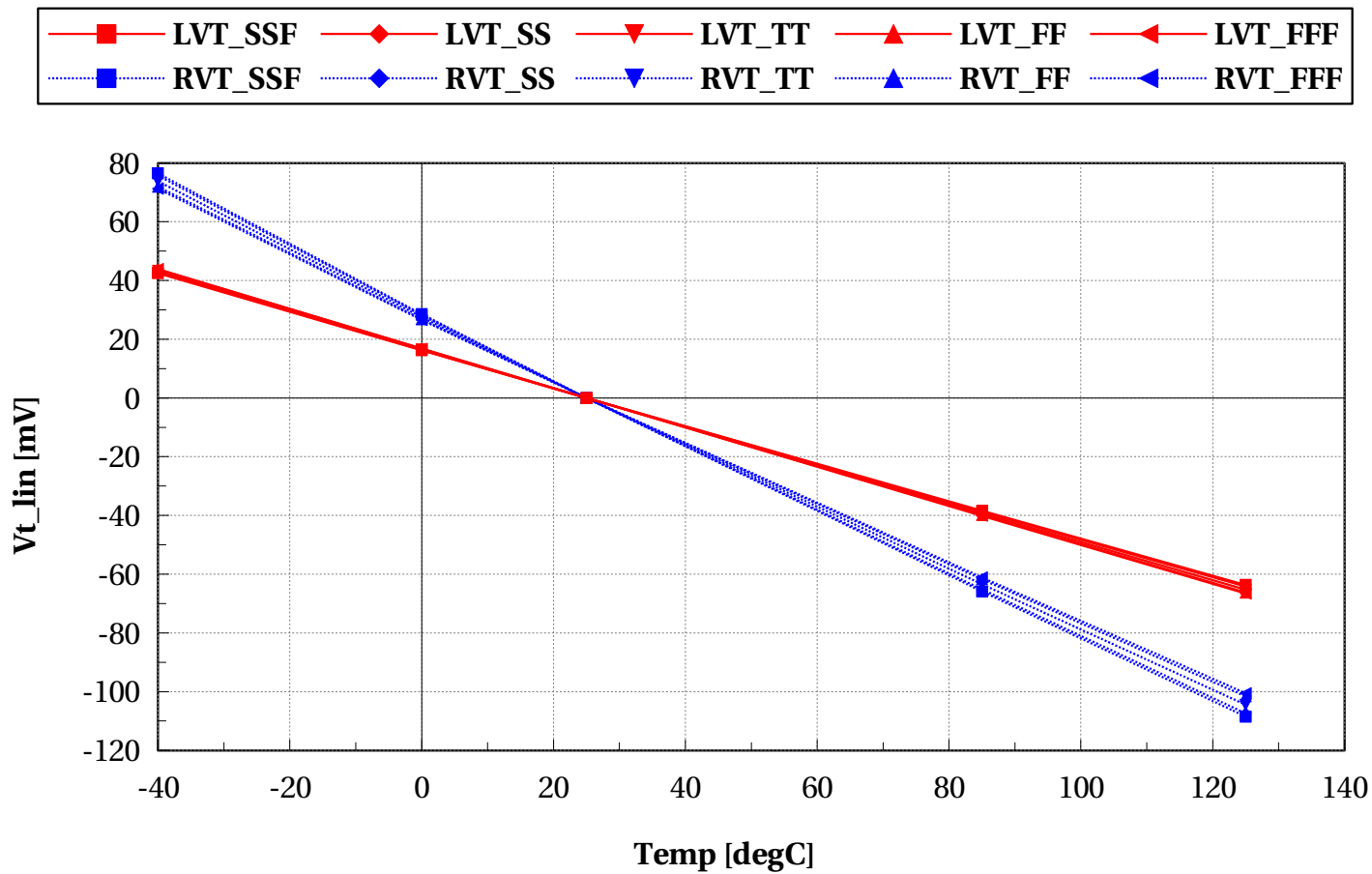
$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



Normalized scaling versus Temp @ L=2u, W=2u

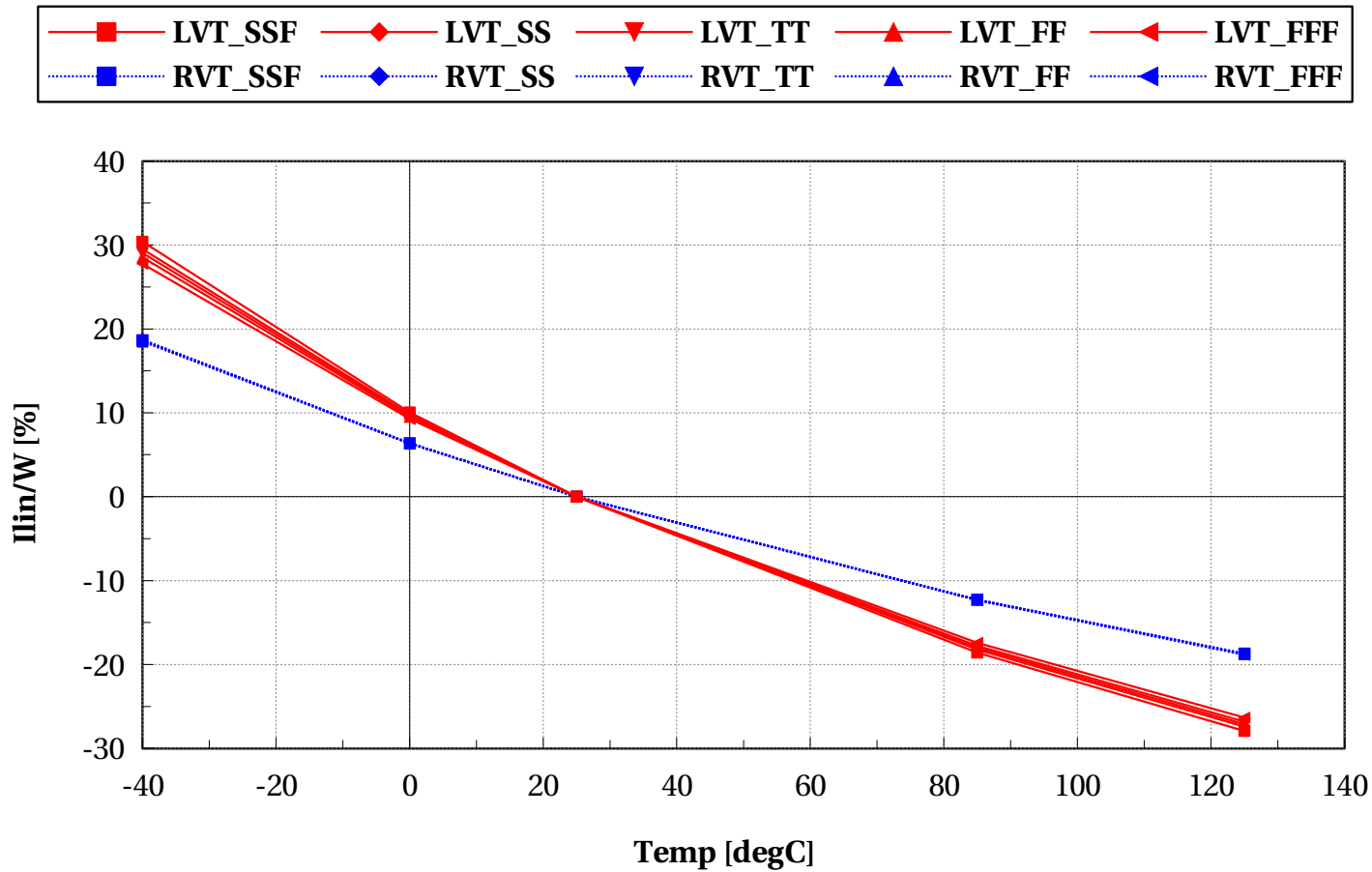
eglvtpfet_acc, Vt_lin [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



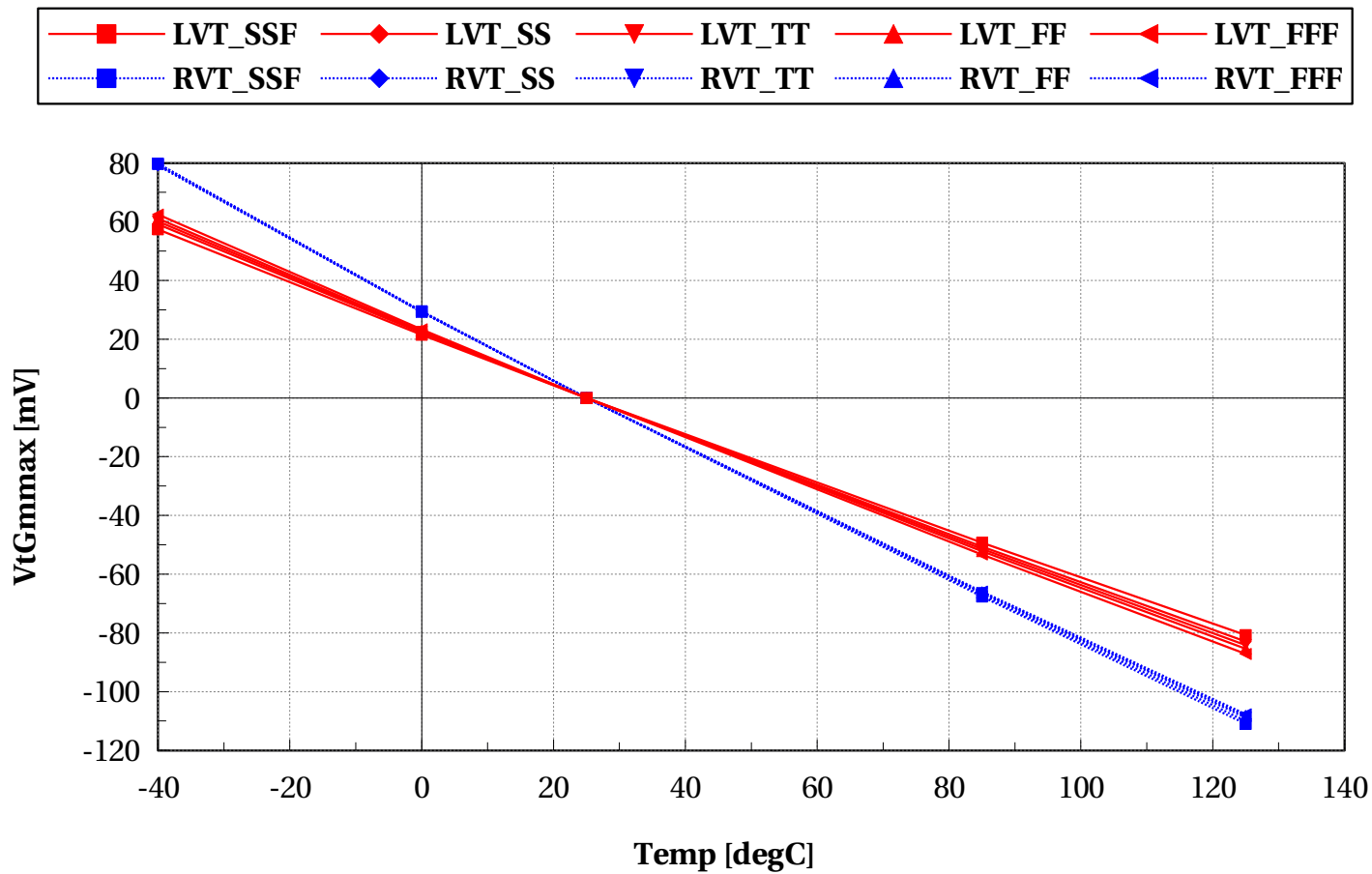
eglvtpfet_acc, Ilin/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



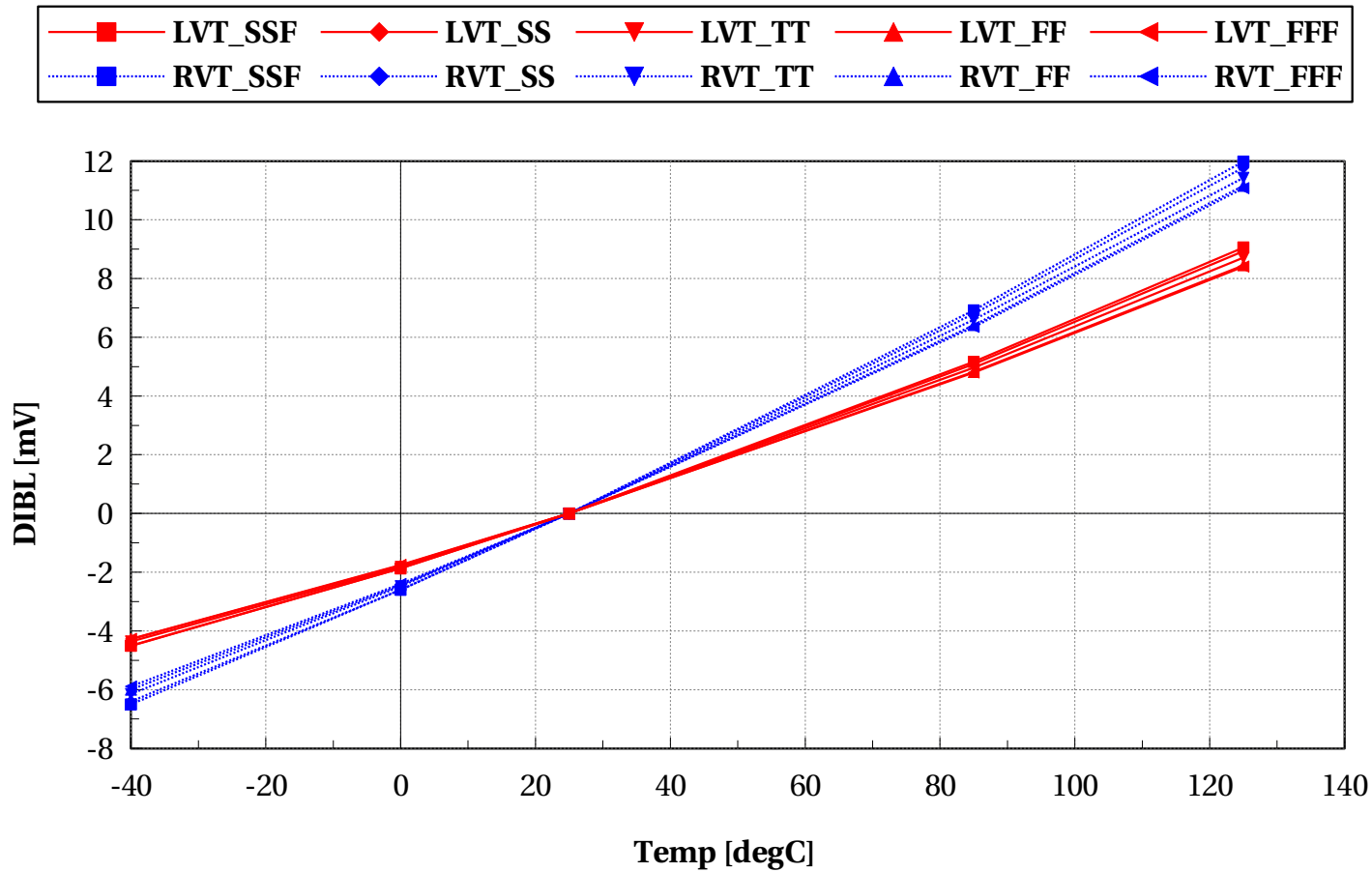
eglvtpfet_acc, VtGmmax [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



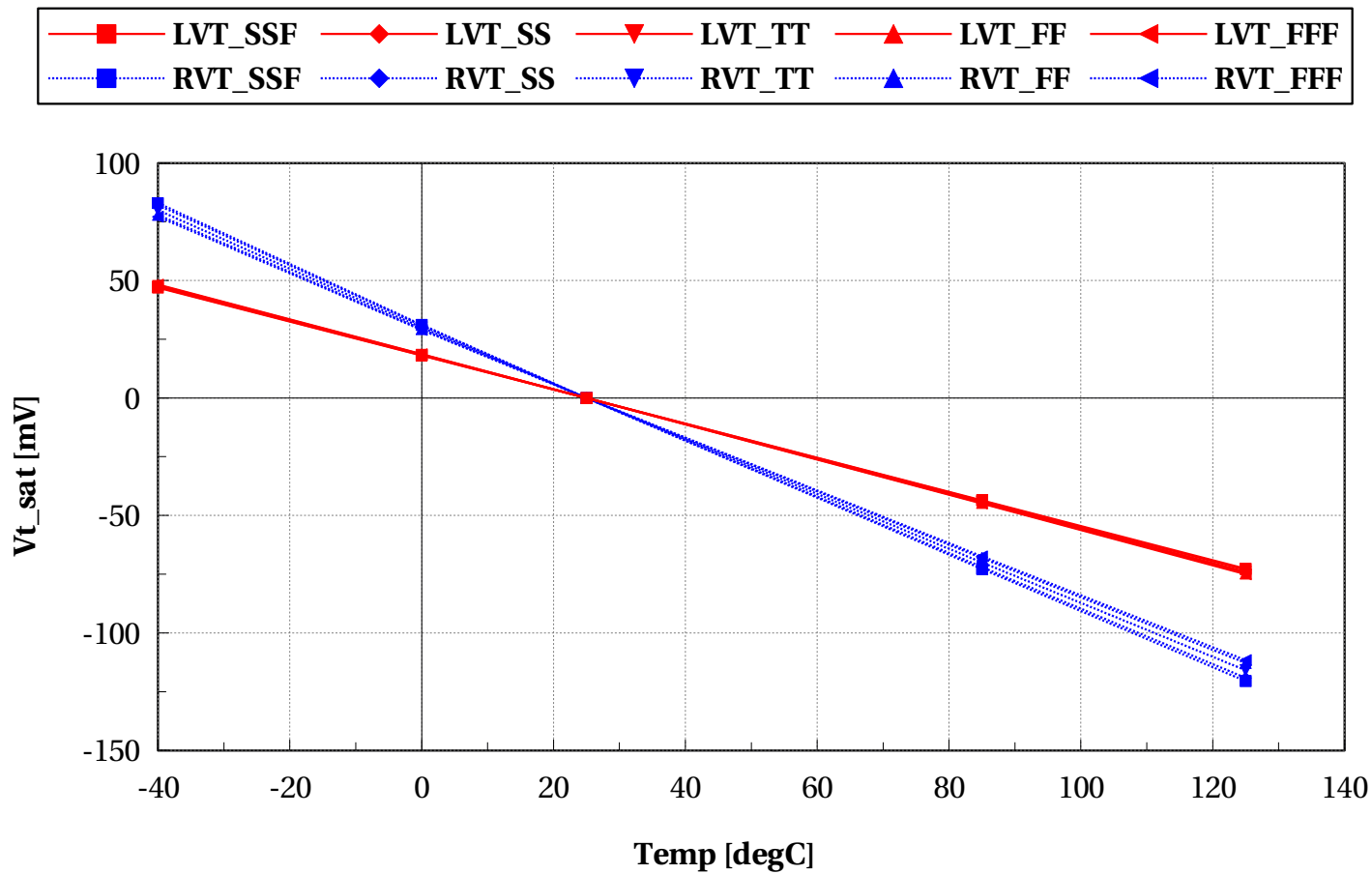
eglvtpfet_acc, DIBL [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



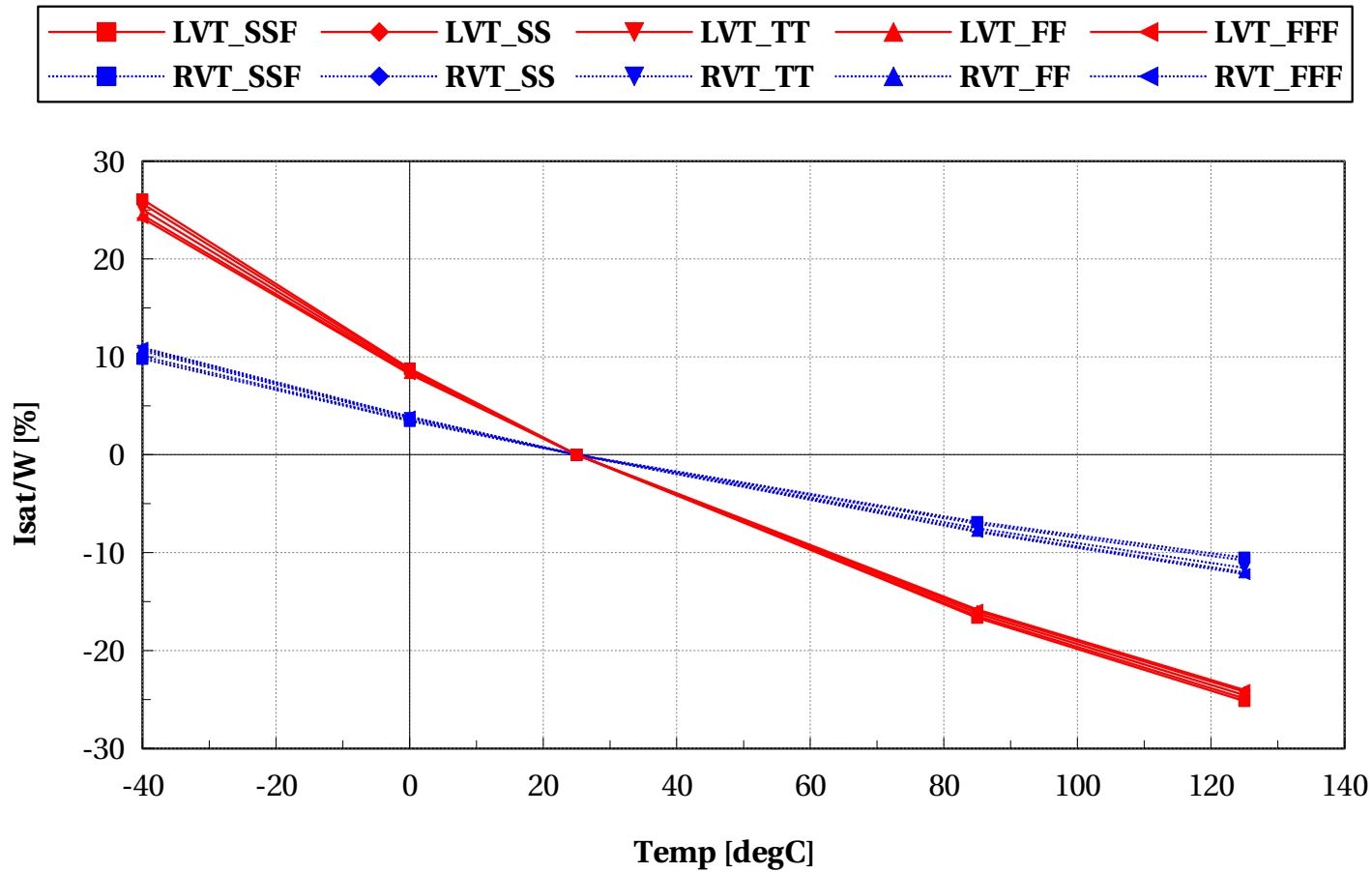
eglvtpfet_acc, Vt_sat [mV] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



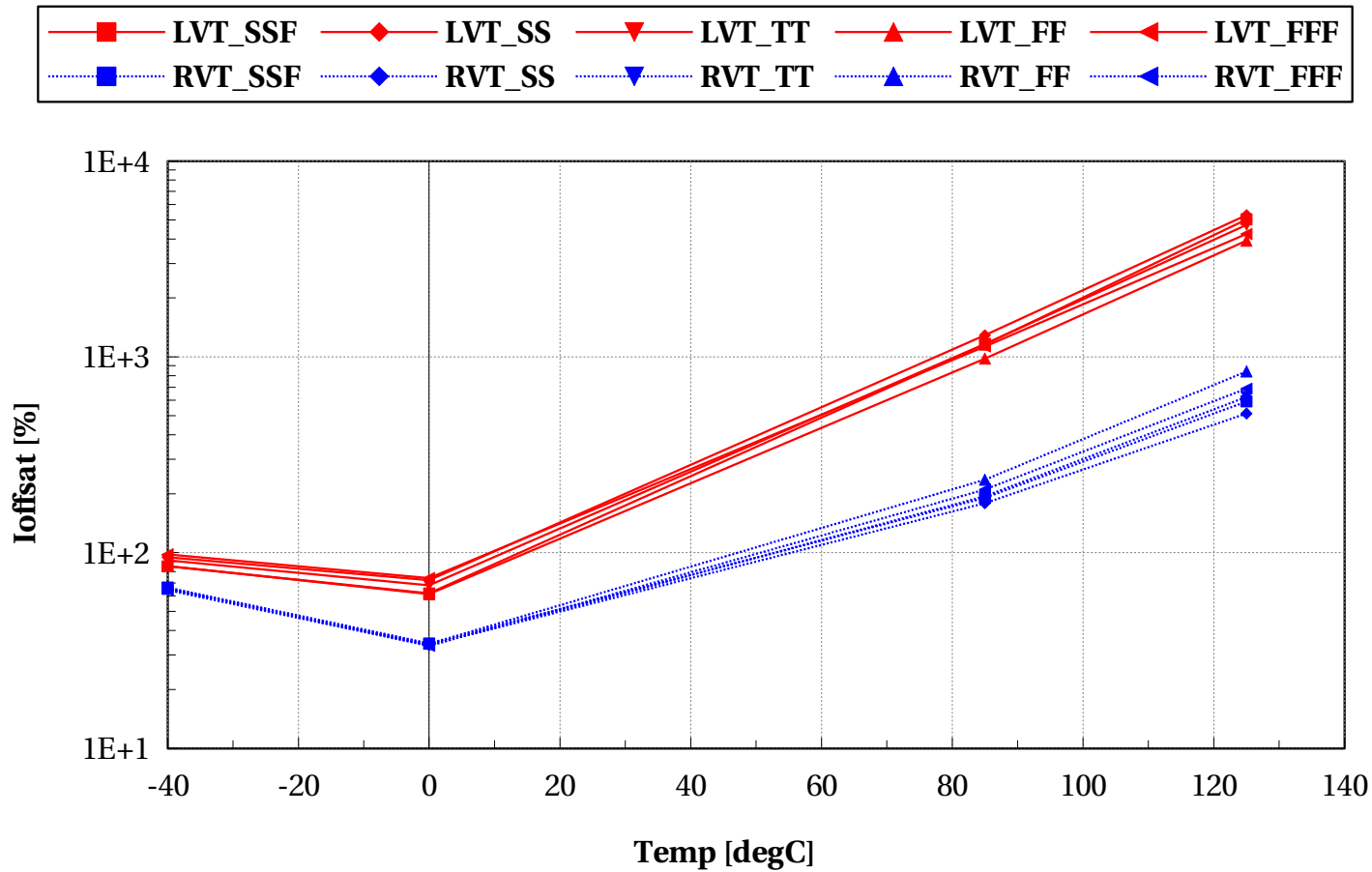
eglvtpfet_acc, Isat/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



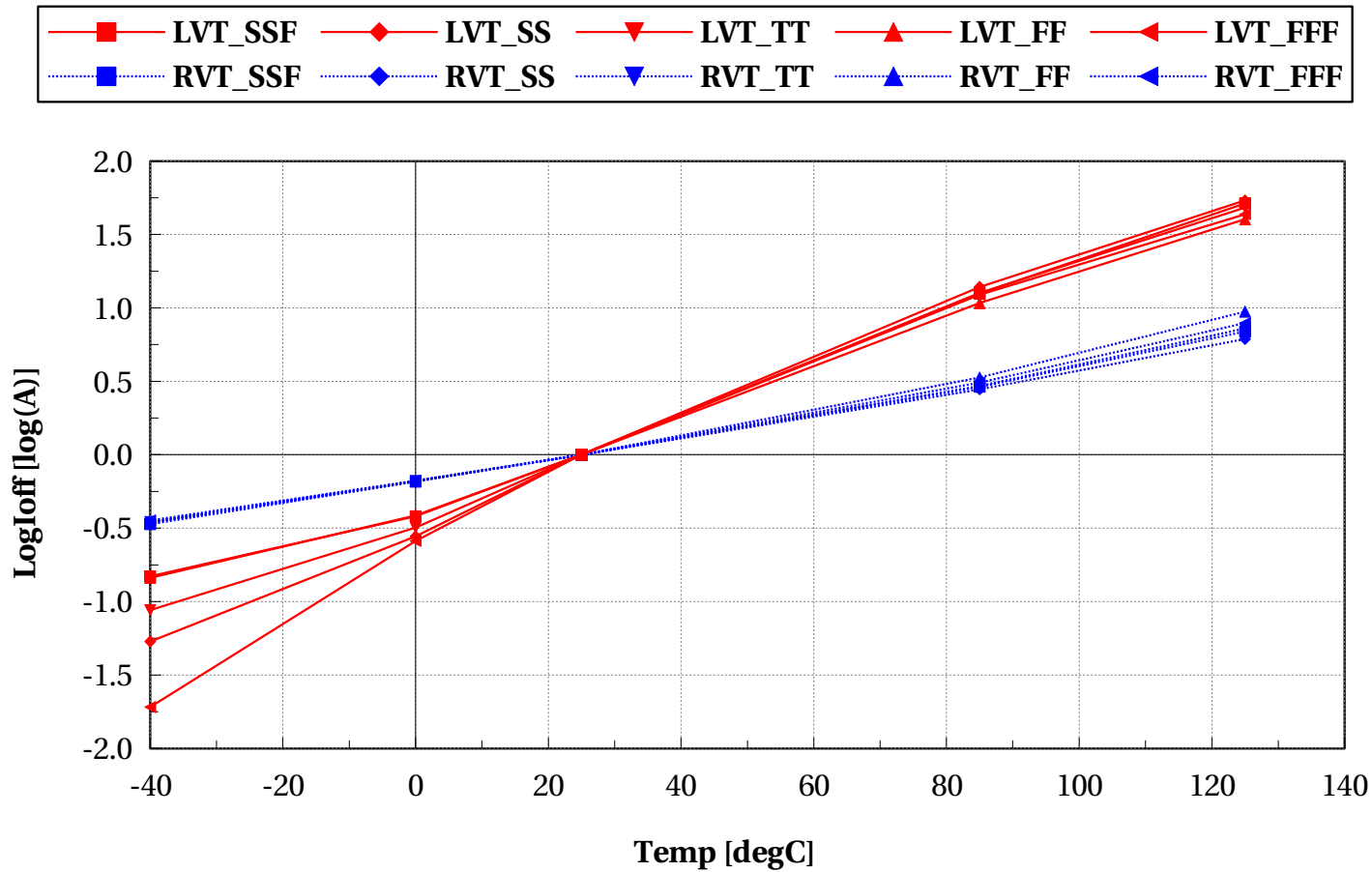
eglvtpfet_acc, Ioffsat [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



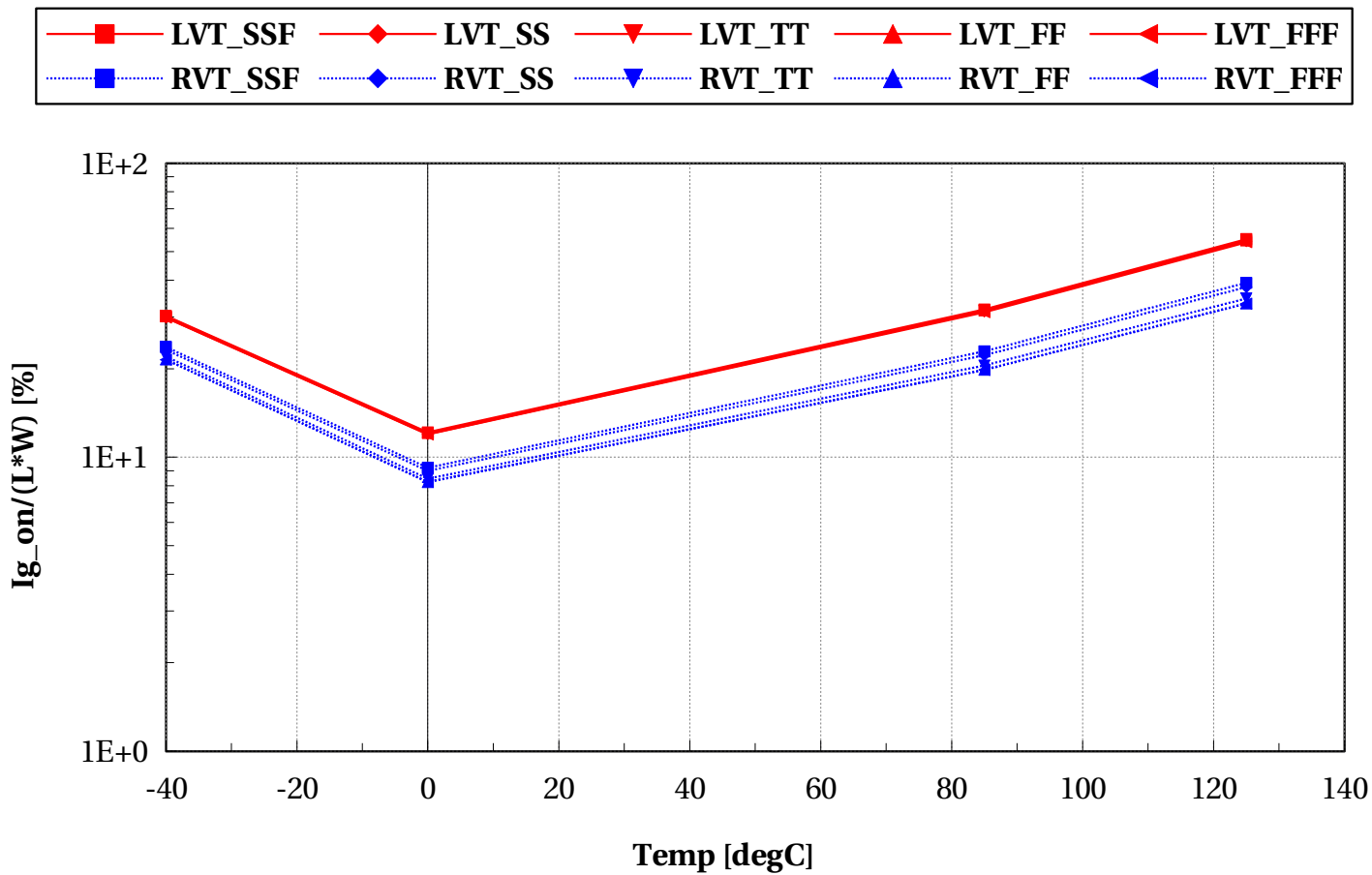
eglvtpfet_acc, LogIoff [log(A)] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



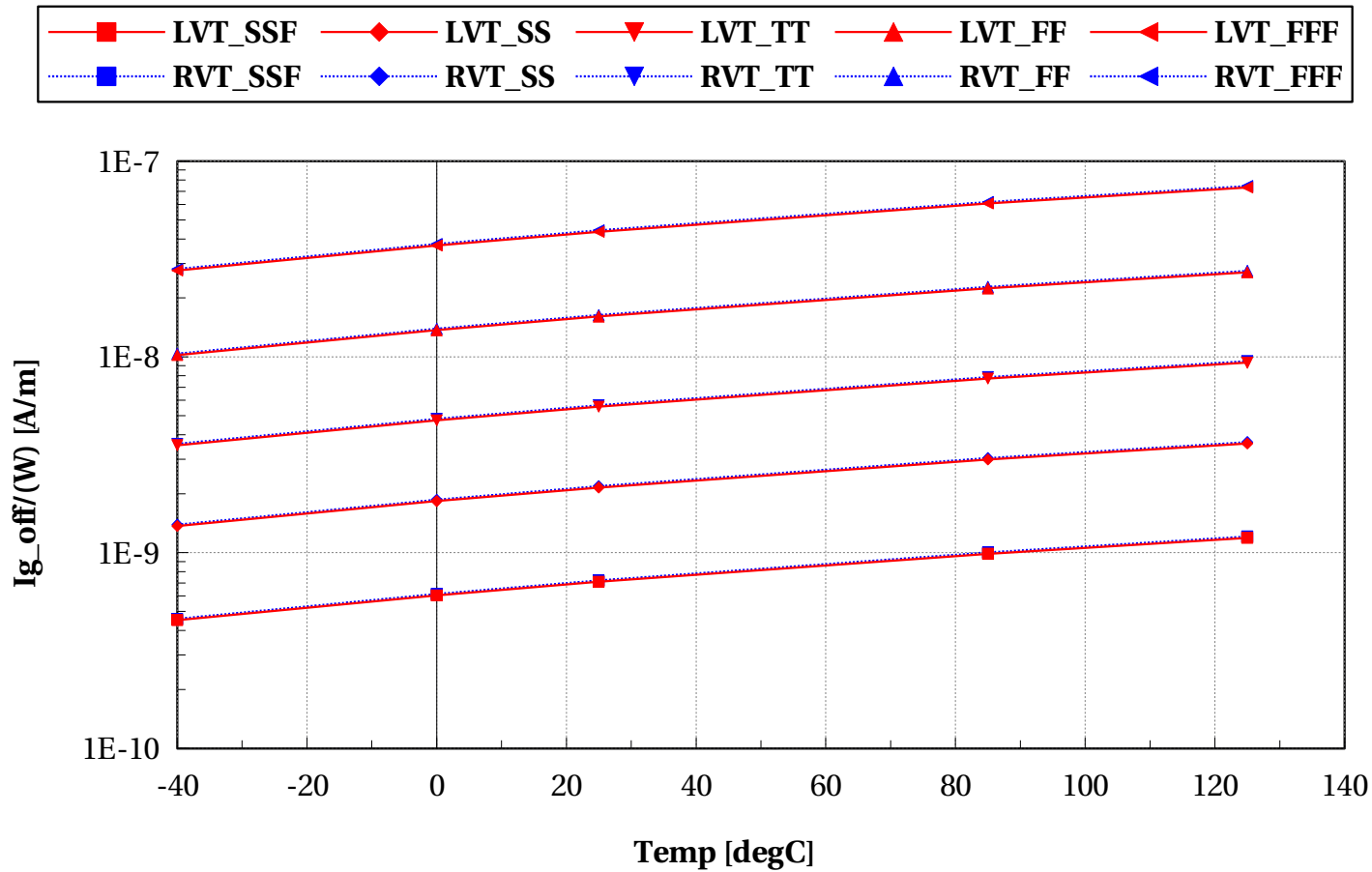
eglvtpfet_acc, Ig_on/(L*W) [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



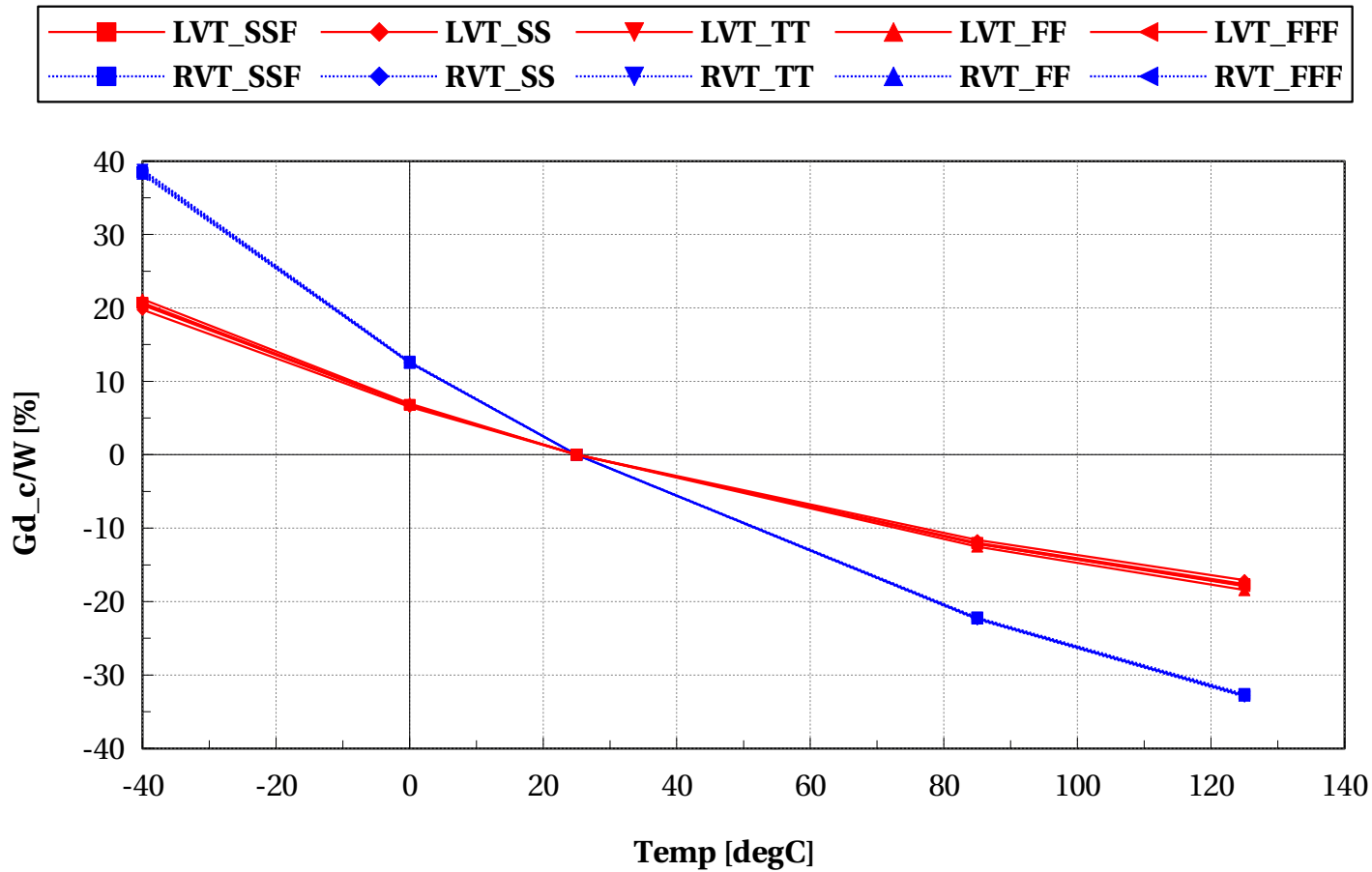
eglvtpfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



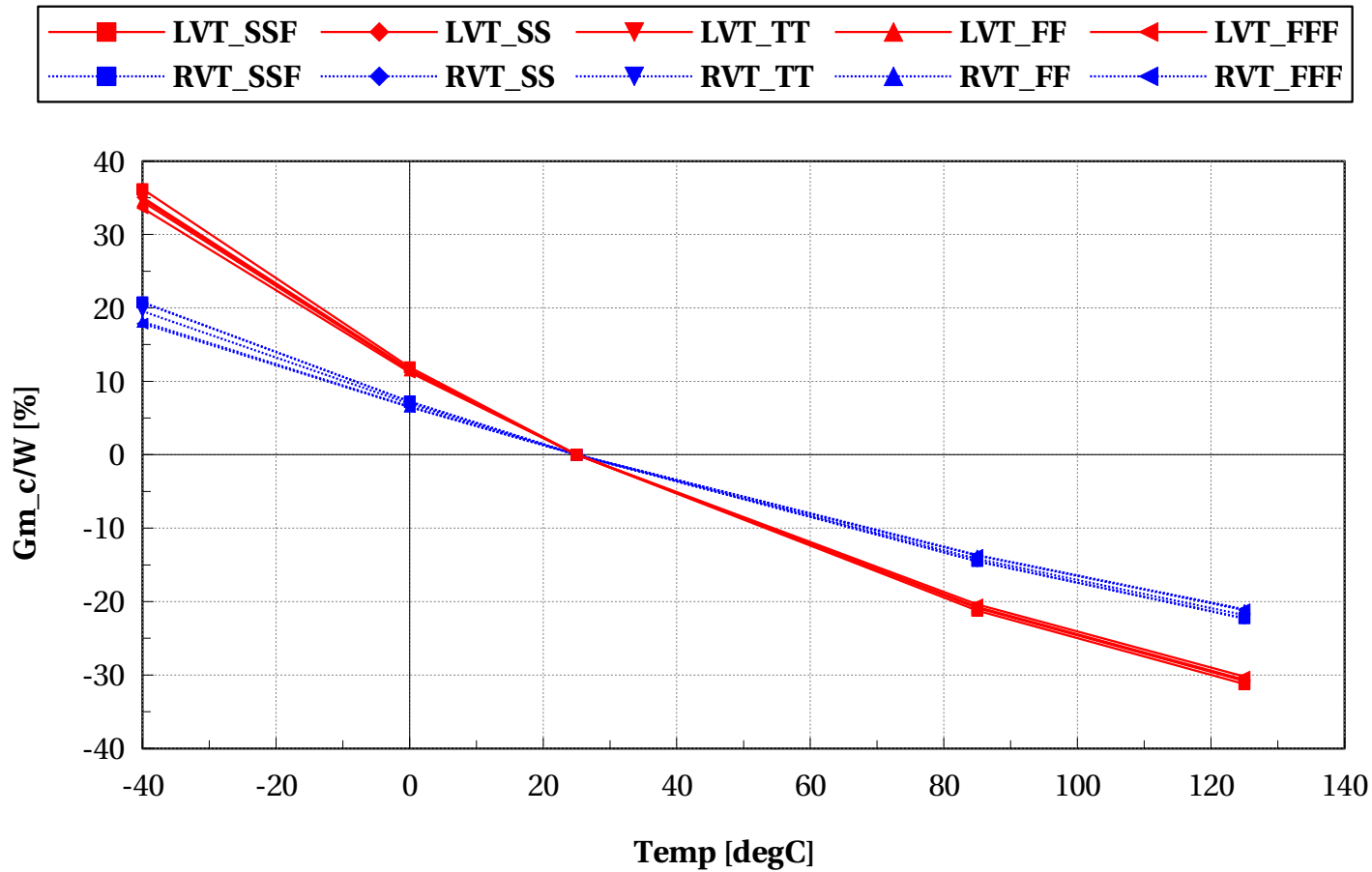
eglvtpfet_acc, Gd_c/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



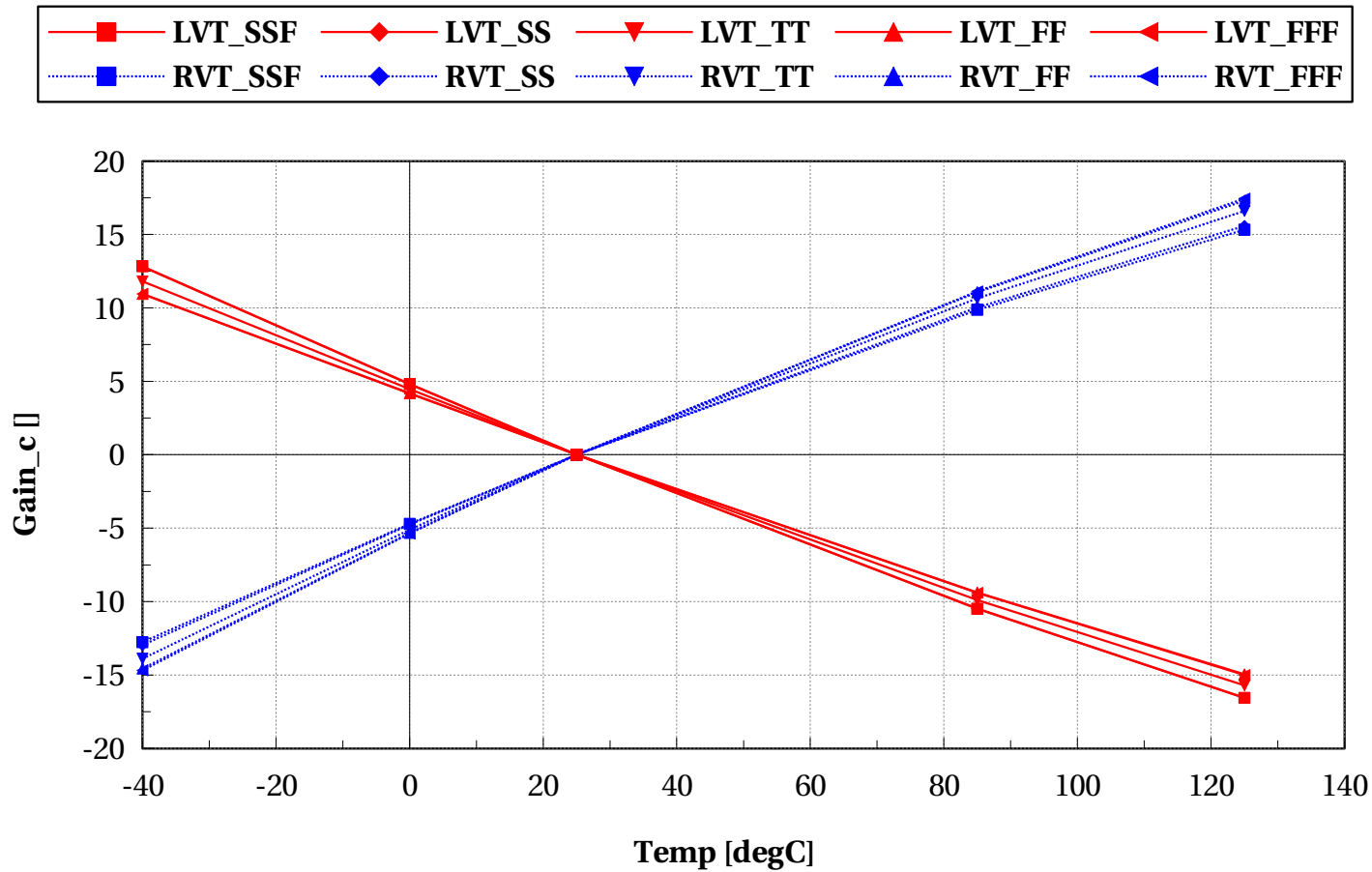
eglvtpfet_acc, Gm_c/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



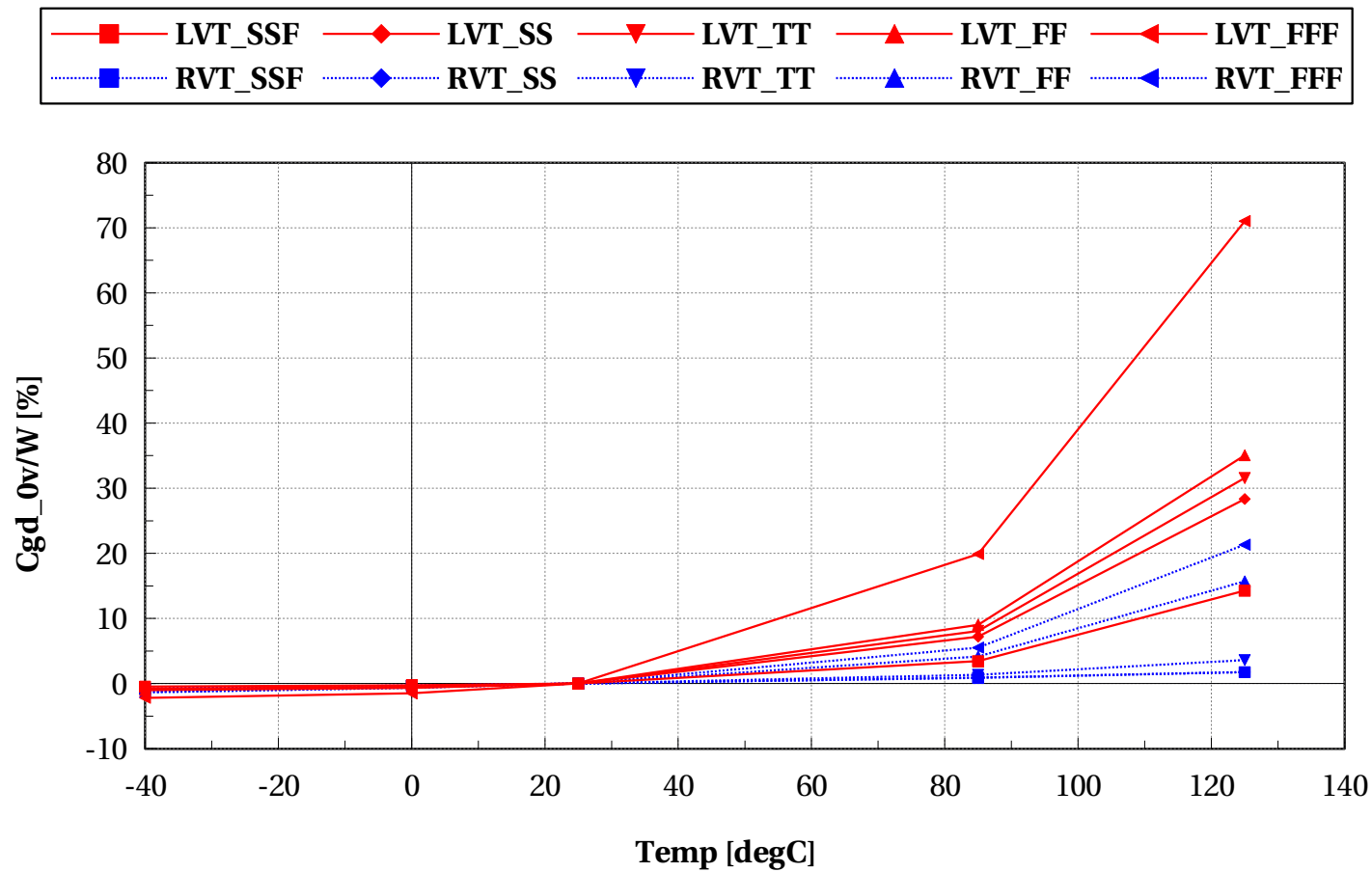
eglvtpfet_acc, Gain_c [] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



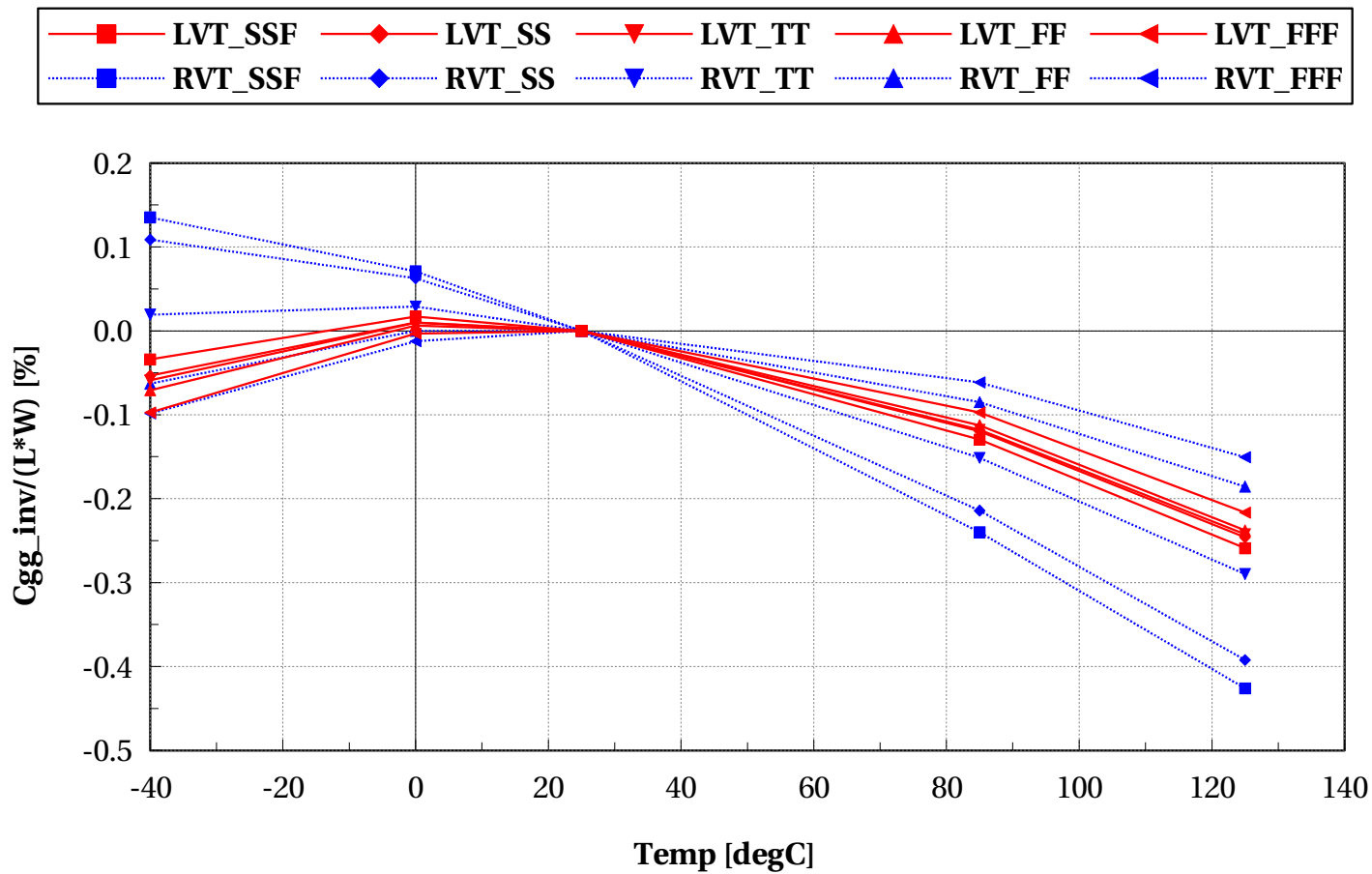
eglvtpfet_acc, Cgd_0v/W [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



eglvtpfet_acc, Cgg_inv/(L*W) [%] vs Temp [degC]

$l=2e-6$ and $w=2e-6$ and devType=="PCELLwoWPE"



Annex

Conditions of simulations

The simulations were done with SBenchLSF Alpha using Eldo simulator 2018.2.

- Model eglvtnfet_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 = 1.2.d
 - ✗ ams_release = 2018.2
 - ✗ vgs_stop = vdd V
 - ✗ dlshrink_ivt = 0
 - ✗ sbenchlsf_release = Alpha
 - ✗ vds_sat = Vdd V
 - ✗ mc_nsigma = 3
 - ✗ shrink_ivt = 1

- ✗ $\text{dlshrink_tinv} = 0$
- ✗ $\text{vgs_start} = -0.5 \text{ V}$
- ✗ $\text{plashrink_ivt} = 1$
- ✗ $\text{ithslwi} = 10\text{e-}9 \text{ A}$
- ✗ $\text{vds_cbd} = 0 \text{ V}$
- ✗ $\text{vddmax} = \text{vdd}$
- ✗ $\text{voffset} = 0.2 \text{ V}$
- ✗ $\text{mc_runs} = 1000$
- ✗ $\text{vstep_ivt} = 0.005 \text{ V}$
- ✗ $\text{vgs_off} = 0 \text{ V}$
- ✗ $\text{temp} = 25 \text{ }^\circ\text{C}$
- ✗ $\text{f_ext} = 100\text{k Hz}$
- ✗ $\text{vbs} = 0 \text{ V}$
- ✗ $\text{vdd} = 1.8 \text{ V}$
- ✗ $\text{shrink_tinv} = 0.9$
- ✗ $\text{vds_gmgd} = \text{Vdd}/2 \text{ V}$
- ✓ Sweep Parameters
 - ✗ $\text{temp} = -40.0, 0.0, 25.0, 85.0, 125.0$
- ✓ Extra parameters
 - ✗ $\text{eglt_dev} = 0$
 - ✗ $\text{gflag_noisedev_eglt_cmos028fdsoi} = 0$
- Model eglt_pfet_acc (LVT)
 - ✓ Input Parameters
 - ✗ $\text{vds_off} = \text{vds_sat V}$
 - ✗ $\text{vds_cgd} = 0 \text{ V}$

- ✗ $v_{ds_cgg} = 0\text{ V}$
- ✗ $mc_sens = 0$
- ✗ $v_{ds_lin} = 0.05\text{ V}$
- ✗ $ivt = 70e-9\text{ A}$
- ✗ $model_version = 1.2.d$
- ✗ $ams_release = 2018.2$
- ✗ $v_{gs_stop} = v_{dd}\text{ V}$
- ✗ $dlshrink_ivt = 0$
- ✗ $sbenchlsf_release = \text{Alpha}$
- ✗ $v_{ds_sat} = V_{dd}\text{ V}$
- ✗ $mc_nsigma = 3$
- ✗ $shrink_ivt = 1$
- ✗ $dlshrink_tinv = 0$
- ✗ $v_{gs_start} = -0.5\text{ V}$
- ✗ $plashrink_ivt = 1$
- ✗ $ithslwi = 10e-9\text{ A}$
- ✗ $v_{ds_cbd} = 0\text{ V}$
- ✗ $v_{ddmax} = v_{dd}$
- ✗ $v_{offset} = 0.2\text{ V}$
- ✗ $mc_runs = 1000$
- ✗ $v_{step_ivt} = 0.005\text{ V}$
- ✗ $v_{gs_off} = 0\text{ V}$
- ✗ $temp = 25\text{ }^{\circ}\text{C}$
- ✗ $f_{ext} = 100k\text{ Hz}$
- ✗ $v_{bs} = 1.8\text{ V}$

- ✗ vdd = 1.8 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
 - ✗ eglvt_dev = 0
 - ✗ gflag__noisedev__eglvt__cmos028fdsoi = 0
- Model egnfet_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.c
 - ✗ 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 = 0

- ✗ $v_{gs_start} = -0.5 \text{ V}$
- ✗ $plashrink_ivt = 1$
- ✗ $ithslwi = 10e-9 \text{ A}$
- ✗ $v_{ds_cbd} = 0 \text{ V}$
- ✗ $v_{ddmax} = v_{dd}$
- ✗ $v_{offset} = 0.2 \text{ V}$
- ✗ $mc_runs = 1000$
- ✗ $v_{step_ivt} = 0.005 \text{ V}$
- ✗ $v_{gs_off} = 0 \text{ V}$
- ✗ $temp = 25 \text{ }^{\circ}\text{C}$
- ✗ $f_{ext} = 100k \text{ Hz}$
- ✗ $v_{bs} = 0 \text{ V}$
- ✗ $v_{dd} = 1.8 \text{ V}$
- ✗ $shrink_tinv = 0.9$
- ✗ $v_{ds_gmgd} = V_{dd}/2 \text{ V}$
- ✓ Sweep Parameters
 - ✗ $temp = -40.0, 0.0, 25.0, 85.0, 125.0$
- ✓ Extra parameters
 - ✗ $eg_dev = 0$
 - ✗ $eglt_dev = 0$
 - ✗ $gflag_noisedev_eg_cmos028fdsoi = 0$
 - ✗ $gflag_noisedev_eglt_cmos028fdsoi = 0$
- Model egpfet_acc (RVT)
 - ✓ Input Parameters
 - ✗ $v_{ds_off} = v_{ds_sat} \text{ V}$

- ✗ $vds_cgd = 0\text{ V}$
- ✗ $vds_cgg = 0\text{ V}$
- ✗ $mc_sens = 0$
- ✗ $vds_lin = 0.05\text{ V}$
- ✗ $ivt = 70e-9\text{ A}$
- ✗ $model_version = 1.2.c$
- ✗ $ams_release = 2018.3$
- ✗ $vgs_stop = vdd\text{ V}$
- ✗ $dlshrink_ivt = 0$
- ✗ $sbenchlsf_release = \text{Alpha}$
- ✗ $vds_sat = Vdd\text{ V}$
- ✗ $mc_nsigma = 3$
- ✗ $shrink_ivt = 1$
- ✗ $dlshrink_tinv = 0$
- ✗ $vgs_start = -0.5\text{ V}$
- ✗ $plashrink_ivt = 1$
- ✗ $ithslwi = 10e-9\text{ A}$
- ✗ $vds_cbd = 0\text{ V}$
- ✗ $vddmax = vdd$
- ✗ $voffset = 0.2\text{ V}$
- ✗ $mc_runs = 1000$
- ✗ $vstep_ivt = 0.005\text{ V}$
- ✗ $vgs_off = 0\text{ V}$
- ✗ $temp = 25\text{ }^{\circ}\text{C}$
- ✗ $f_ext = 100k\text{ Hz}$

- ✗ $v_{bs} = 0\text{ V}$
- ✗ $v_{dd} = 1.8\text{ V}$
- ✗ $\text{shrink_tinv} = 0.9$
- ✗ $v_{ds_gm_gd} = V_{dd}/2\text{ V}$
- ✓ Sweep Parameters
 - ✗ $\text{temp} = -40.0, 0.0, 25.0, 85.0, 125.0$
- ✓ Extra parameters
 - ✗ $\text{eg_dev} = 0$
 - ✗ $\text{eglv_dev} = 0$
 - ✗ $\text{gflag_noisedev_eg_cmos028fdsoi} = 0$
 - ✗ $\text{gflag_noisedev_eglv_cmos028fdsoi} = 0$