cmos028fdsoi Technology

EGRVT models

DK1.2_RF_mmW

Comparison with DK1.1_RF_mmW model(s)

Please use the bookmark to navigate

General information on EGRVT models

- Maximum supply voltage is 1.5 V.
- Validity domain is defined as follows:
  - ✔ Drawn gate length varies from 100nm 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): egvnfet_acc, egvpfet_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 = 1.5V.
  - ✔ 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.
  - ✔ Ig_off : Gate current at Vds = VddV, Vgs = 0V.
  - ✔ Logioff : log10(Ioffsat).
  - ✔ Gain_c : Voltage gain defined as Gm_c / Gd_c.
  - ✔ Ieff : Average drain current (Ilow + Ihigh) / 2.
  - ✔ Ilin : Drain current at Vgs = 1.5V, Vds = 0.05V.
  - ✔ Dibl : Vt_lin - Vt_sat.
  - ✔ Ioff_s : Source current at Vgs = 0V, Vds = vds_satV.
  - ✔ Ioffsat : Drain current at Vgs = 0V, Vds = vds_satV.
  - ✔ 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.
  - ✔ Cgg_inv : Total gate capacitance at Vgs = 1.5V, Vds = 0V, f = 100kHz.
  - ✔ Isat : Drain current at Vgs = 1.5V, Vds = VddV.
  - ✔ Cgd_0v : Gate-to-Drain capacitance at Vgs = 0V, Vds = 0V, f = 100kHz.
  - ✔ Vtgmmax : Threshold voltage at Vds = 0.05 derived from Gm max method.

egvnfet_acc
Electrical characteristics per geometry

egvnfet_acc @ w=2e-06, l=1.0e-07, swshe=0, pre_layout_local=1, sa=1.80e-6, sb=1.80e-6, devtype=PT, as=3.6e-12, ad=3.6e-12, ps=7.6e-06, pd=7.6e-06, vbs=0, vdd=1.5, temp=25.0

DK1.2_RF_mmW wrt DK1.1_RF_mmW

	SSF	SS	TT	FF	FFF
Vt_lin [mV]	590.6 0.0mV	568 0.0mV	506.7 0.0mV	445.9 0.0mV	427.1 0.0mV
Vt_sat [mV]	562.9 0.0mV	542.2 0.0mV	480.5 0.0mV	419.4 0.0mV	402.1 0.0mV
Isat [mA]	0.92 0.0%	0.97 0.0%	1.08 0.0%	1.2 0.0%	1.24 0.0%
Ilin [µA]	148.8 0.0%	176 0.0%	190 0.0%	203 0.0%	224.8 0.0%
Gm_c [mS]	0.8 0.0%	0.87 0.0%	0.92 0.0%	0.97 0.0%	1.02 0.0%
Gd_c [µS]	12.17 0.0%	12.9 0.0%	14.93 0.0%	16.99 0.0%	17.24 0.0%
Gain_c []	65.73 0.0%	67.27 0.0%	61.61 0.0%	57.34 0.0%	59.36 0.0%
VtGmmax [mV]	555.5 0.0mV	540.9 0.0mV	481.6 0.0mV	422.4 0.0mV	408.2 0.0mV
Cgd_0v [aF]	426.1 0.0%	450.6 0.0%	450.9 0.0%	443.7 0.0%	475.1 0.0%
Cgg_inv [fF]	2.34 0.0%	2.42 0.0%	2.42 0.0%	2.41 0.0%	2.52 0.0%
Ieff [µA]	480.3 0.0%	520.8 0.0%	606.8 0.0%	702 0.0%	742.6 0.0%
Ig_on [fA]	2.63e-02 0.0%	7.34e-02 0.0%	0.28 0.0%	1.8 0.0%	3.67 0.0%
Ioffsat [pA]	0.13 0.0%	0.23 0.0%	1.49 0.0%	10.52 0.0%	17.25 0.0%
Ioff_g [aA]	-1.44e-02 -0.0%	-4.09e-02 -0.0%	-0.14 -0.0%	-0.55 -0.0%	-1.46 -0.0%
Ioff_s [pA]	-0.13 -0.0%	-0.23 -0.0%	-1.49 -0.0%	-10.52 -0.0%	-17.25 -0.0%

egvnfet_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=1.5, temp=25.0

DK1.2_RF_mmW wrt DK1.1_RF_mmW

	SSF	SS	TT	FF	FFF
Vt_lin [mV]	603.5 0.0mV	592 0.0mV	532.2 0.0mV	472.9 0.0mV	460.5 0.0mV
Vt_sat [mV]	593.2 0.0mV	581.9 0.0mV	522.2 0.0mV	463.1 0.0mV	450.9 0.0mV
Isat [µA]	114.4 0.0%	120.8 0.0%	140.4 0.0%	161.5 0.0%	169.6 0.0%
Ilin [µA]	13.97 0.0%	14.58 0.0%	15.91 0.0%	17.2 0.0%	17.82 0.0%
Gm_c [µS]	57.97 0.0%	59.88 0.0%	61.81 0.0%	63.79 0.0%	65.62 0.0%
Gd_c [nS]	35.6 0.0%	36.65 0.0%	40.06 0.0%	43.11 0.0%	44.12 0.0%
Gain_c []	1628 0.0%	1634 0.0%	1543 0.0%	1479 0.0%	1487 0.0%
VtGmmax [mV]	607.8 0.0mV	597.5 0.0mV	539.3 0.0mV	481.3 0.0mV	470 0.0mV
Cgd_0v [aF]	425.5 0.0%	450 0.0%	450.2 0.0%	442.9 0.0%	474.2 0.0%
Cgg_inv [fF]	29.79 0.0%	30.54 0.0%	31.13 0.0%	31.82 0.0%	32.61 0.0%
Ieff [µA]	58.46 0.0%	61.86 0.0%	72.74 0.0%	84.65 0.0%	89.1 0.0%
Ig_on [fA]	0.31 0.0%	0.84 0.0%	3.29 0.0%	22.4 0.0%	43.89 0.0%
Ioffsat [fA]	10 0.0%	16.19 0.0%	71.66 0.0%	448.5 0.0%	800.9 0.0%
Ioff_g [aA]	-0.26 -0.0%	-0.74 -0.0%	-2.6 -0.0%	-9.88 -0.0%	-26.4 -0.0%
Ioff_s [fA]	-10 -0.0%	-16.19 -0.0%	-71.66 -0.0%	-448.5 -0.0%	-800.9 -0.0%

egvpfet_acc
Electrical characteristics per geometry

egvpfet_acc @ w=2e-06, l=1.0e-07, swshe=0, pre_layout_local=1, sa=1.80e-6, sb=1.80e-6, devtype=PT, as=3.6e-12, ad=3.6e-12, ps=7.6e-06, pd=7.6e-06, vbs=0, vdd=1.5, temp=25.0

DK1.2_RF_mmW wrt DK1.1_RF_mmW

	SSF	SS	TT	FF	FFF
Vt_lin [mV]	587.4 0.0mV	567.8 0.0mV	463.3 0.0mV	365.3 0.0mV	341.1 0.0mV
Vt_sat [mV]	506.1 0.0mV	489.5 0.0mV	392.2 0.0mV	300 0.0mV	277.7 0.0mV
Isat [µA]	442.1 0.0%	454.1 0.0%	535.4 0.0%	612.7 0.0%	629.2 0.0%
Ilin [µA]	51.59 0.0%	54.15 0.0%	57.91 0.0%	60.5 0.0%	64.21 0.0%
Gm_c [µS]	210.2 0.0%	213.6 0.0%	211 0.0%	205.7 0.0%	203.6 0.0%
Gd_c [µS]	9.24 0.0%	9.07 0.0%	8.29 0.0%	7.46 0.0%	7.11 0.0%
Gain_c []	22.75 0.0%	23.55 0.0%	25.47 0.0%	27.57 0.0%	28.64 0.0%
VtGmmax [mV]	652.8 0.0mV	635.1 0.0mV	529.8 0.0mV	431.8 0.0mV	417.5 0.0mV
Cgd_0v [aF]	530.5 0.0%	560.5 0.0%	555.6 0.0%	544.1 0.0%	584.7 0.0%
Cgg_inv [fF]	2.34 0.0%	2.43 0.0%	2.44 0.0%	2.43 0.0%	2.53 0.0%
Ieff [µA]	205.6 0.0%	214.2 0.0%	260.8 0.0%	308.2 0.0%	322.3 0.0%
Ig_on [aA]	2.08 0.0%	8.35 0.0%	23.31 0.0%	77.45 0.0%	269.7 0.0%
Ioffsat [pA]	1.07 0.0%	1.64 0.0%	22.64 0.0%	325.4 0.0%	628.3 0.0%
Ioff_g [aA]	-5.51 -0.0%	-17.94 -0.0%	-48.85 -0.0%	-149.6 -0.0%	-432 -0.0%
Ioff_s [pA]	-1.07 -0.0%	-1.64 -0.0%	-22.64 -0.0%	-325.4 -0.0%	-628.3 -0.0%

egvpfet_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=1.5, temp=25.0

DK1.2_RF_mmW wrt DK1.1_RF_mmW

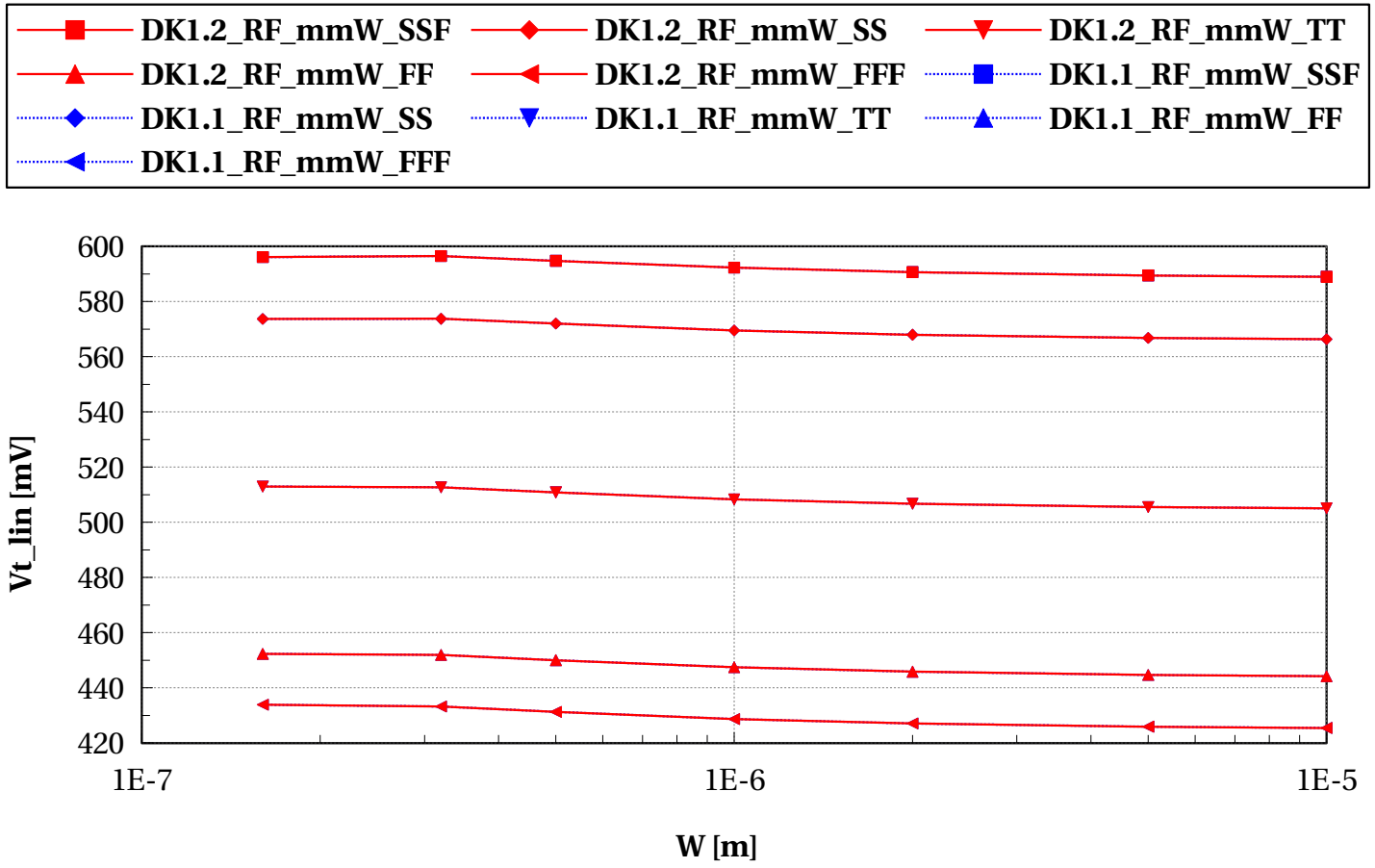
	SSF	SS	TT	FF	FFF
Vt_lin [mV]	604.5 0.0mV	586.3 0.0mV	484.4 0.0mV	388.7 0.0mV	367.6 0.0mV
Vt_sat [mV]	584 0.0mV	566.2 0.0mV	464.9 0.0mV	369.5 0.0mV	348.6 0.0mV
Isat [µA]	23.06 0.0%	24.58 0.0%	30.54 0.0%	36.34 0.0%	38.24 0.0%
Ilin [µA]	3.07 0.0%	3.18 0.0%	3.5 0.0%	3.78 0.0%	3.89 0.0%
Gm_c [µS]	9.23 0.0%	9.44 0.0%	9.53 0.0%	9.47 0.0%	9.58 0.0%
Gd_c [nS]	8.62 0.0%	8.61 0.0%	8.62 0.0%	8.36 0.0%	8.18 0.0%
Gain_c []	1071 0.0%	1097 0.0%	1105 0.0%	1134 0.0%	1171 0.0%
VtGmmax [mV]	690.1 0.0mV	670.8 0.0mV	567.8 0.0mV	474.6 0.0mV	454.9 0.0mV
Cgd_0v [aF]	528 0.0%	557.9 0.0%	552.2 0.0%	539.9 0.0%	579.9 0.0%
Cgg_inv [fF]	28.74 0.0%	29.52 0.0%	30.38 0.0%	31.2 0.0%	31.98 0.0%
Ieff [µA]	11.69 0.0%	12.49 0.0%	15.69 0.0%	18.83 0.0%	19.85 0.0%
Ig_on [fA]	3.99e-03 0.0%	1.73e-02 0.0%	6.59e-02 0.0%	0.29 0.0%	1.09 0.0%
Ioffsat [pA]	9.21e-02 0.0%	0.21 0.0%	0.87 0.0%	4.57 0.0%	9.88 0.0%
Ioff_g [fA]	-9.98e-02 -0.0%	-0.32 -0.0%	-0.88 -0.0%	-2.71 -0.0%	-7.82 -0.0%
Ioff_s [pA]	-9.20e-02 -0.0%	-0.21 -0.0%	-0.86 -0.0%	-4.57 -0.0%	-9.87 -0.0%

egvnfet_acc
Electrical characteristics scaling

Scaling versus Width (L=0.10u,Temp=25,Vbs=0V)

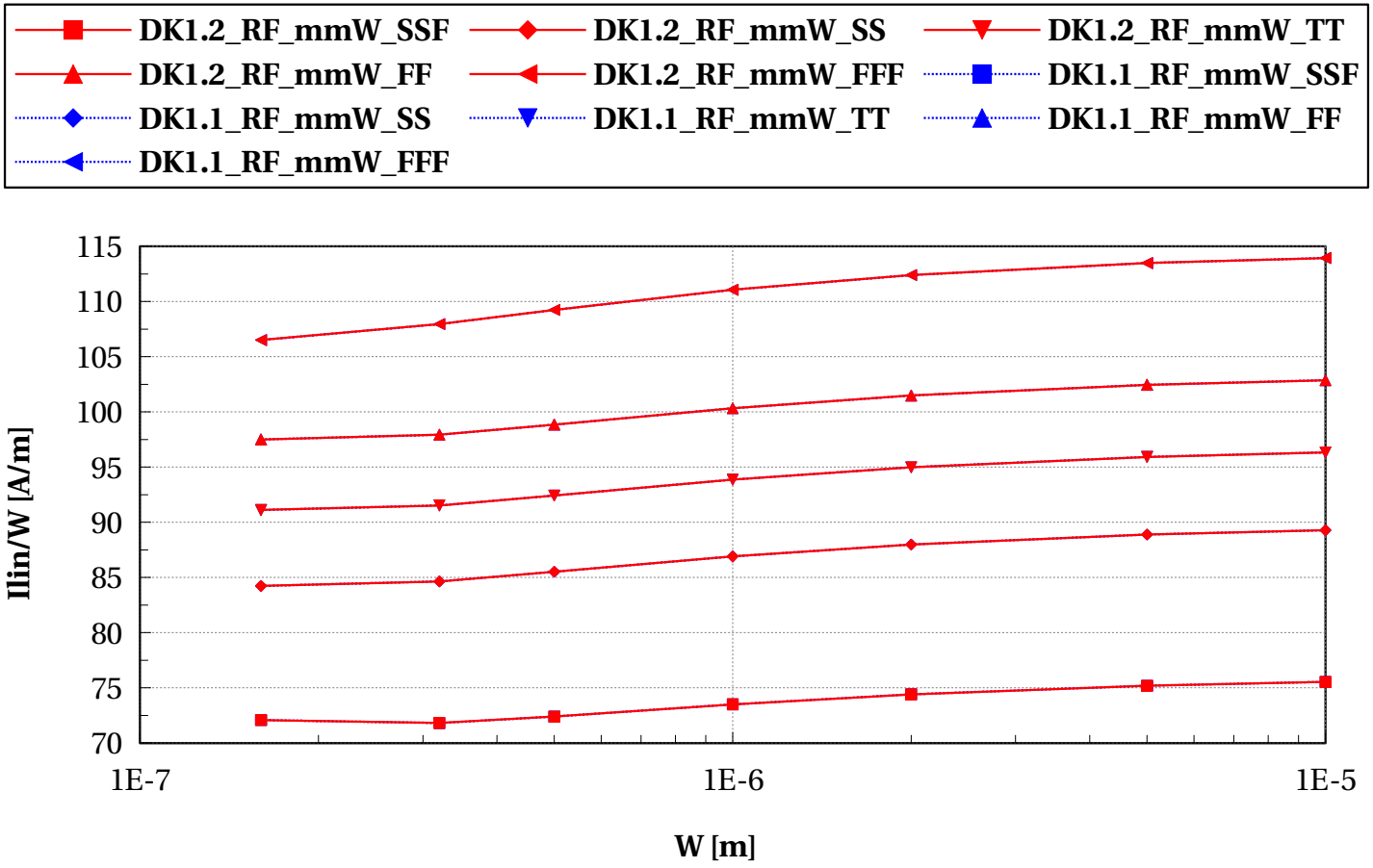
egvnfet_acc, Vt_lin [mV] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



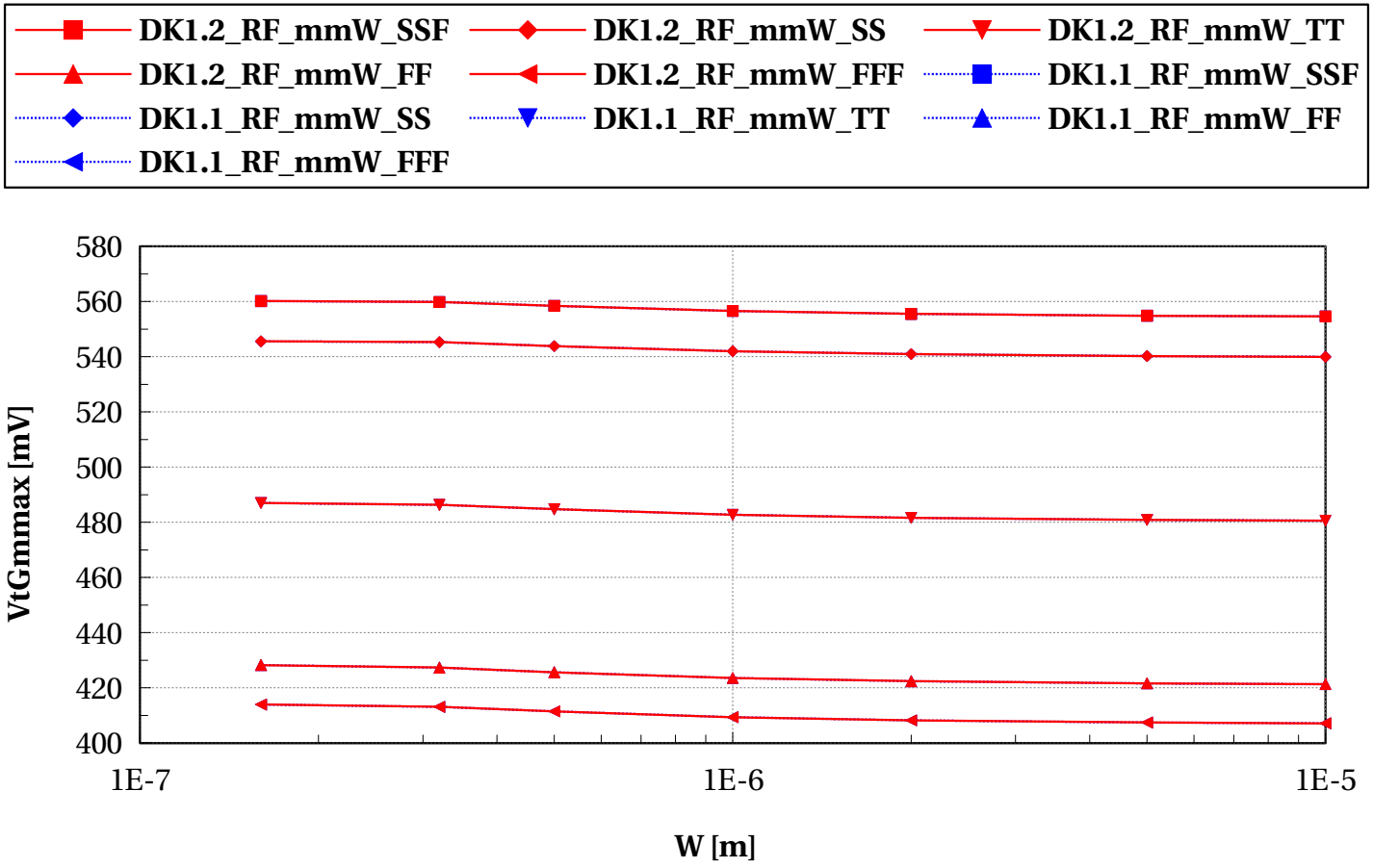
egvnfet_acc, Ilin/W [A/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



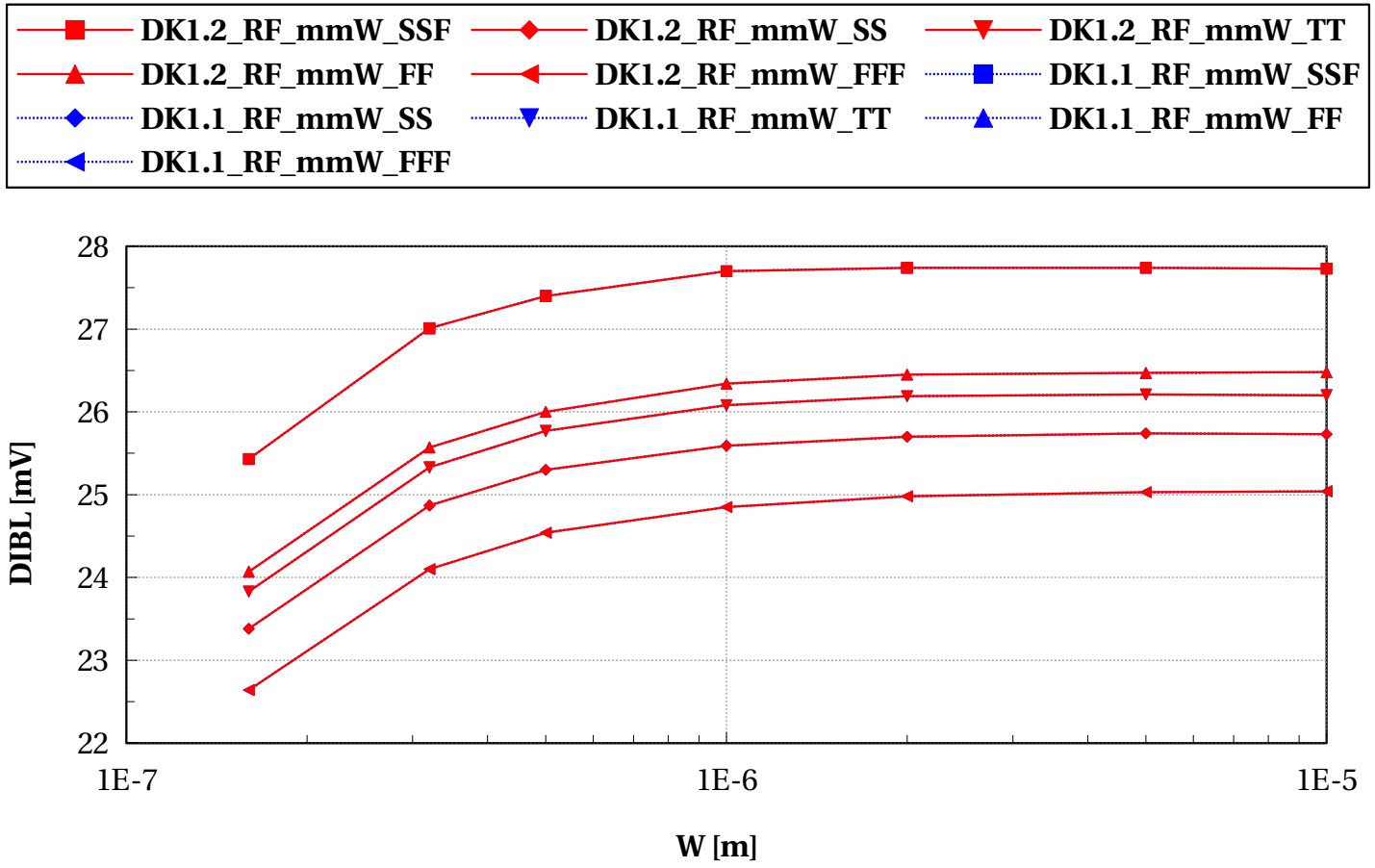
egvnfet_acc, VtGmmax [mV] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



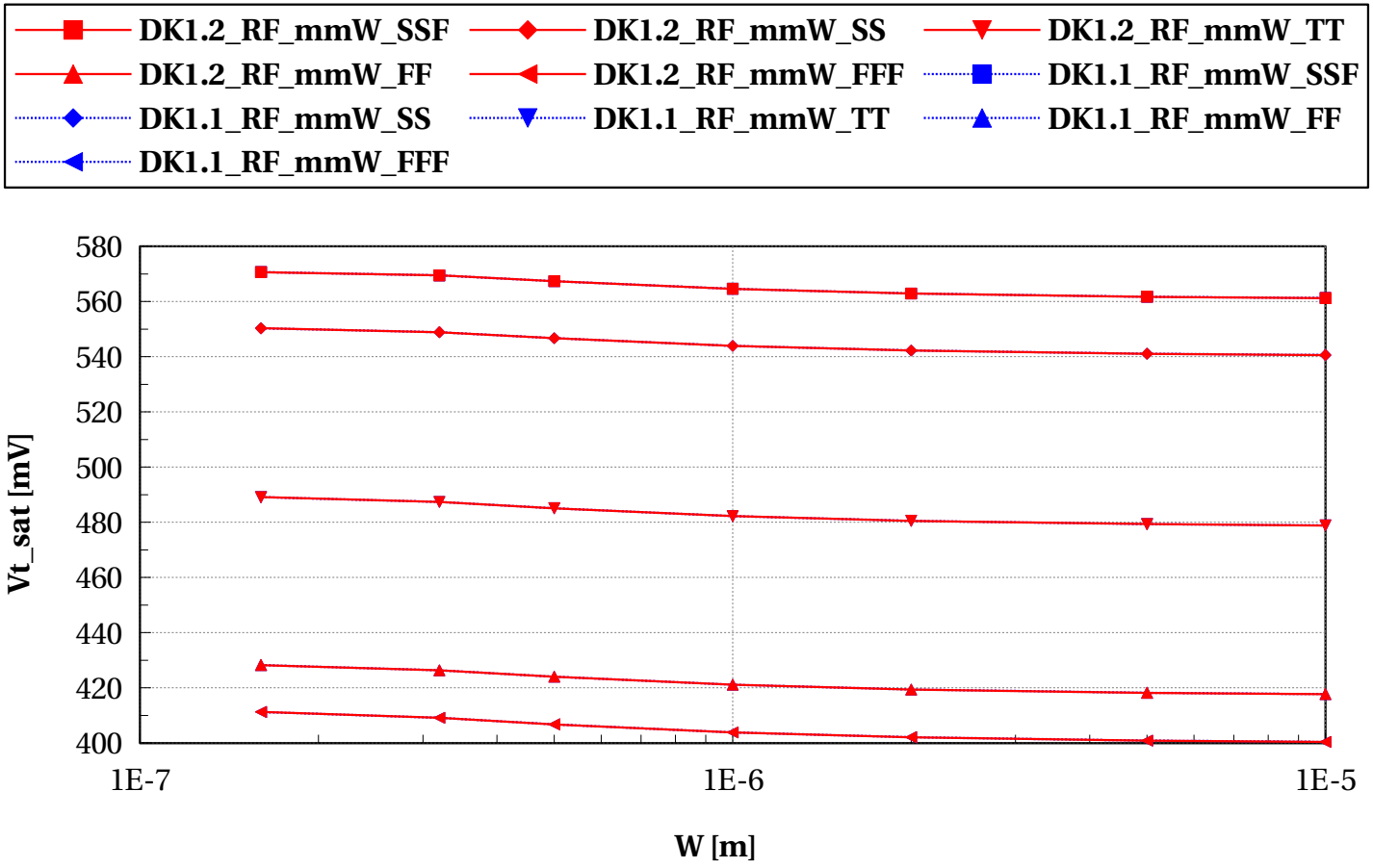
egvnfet_acc, DIBL [mV] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



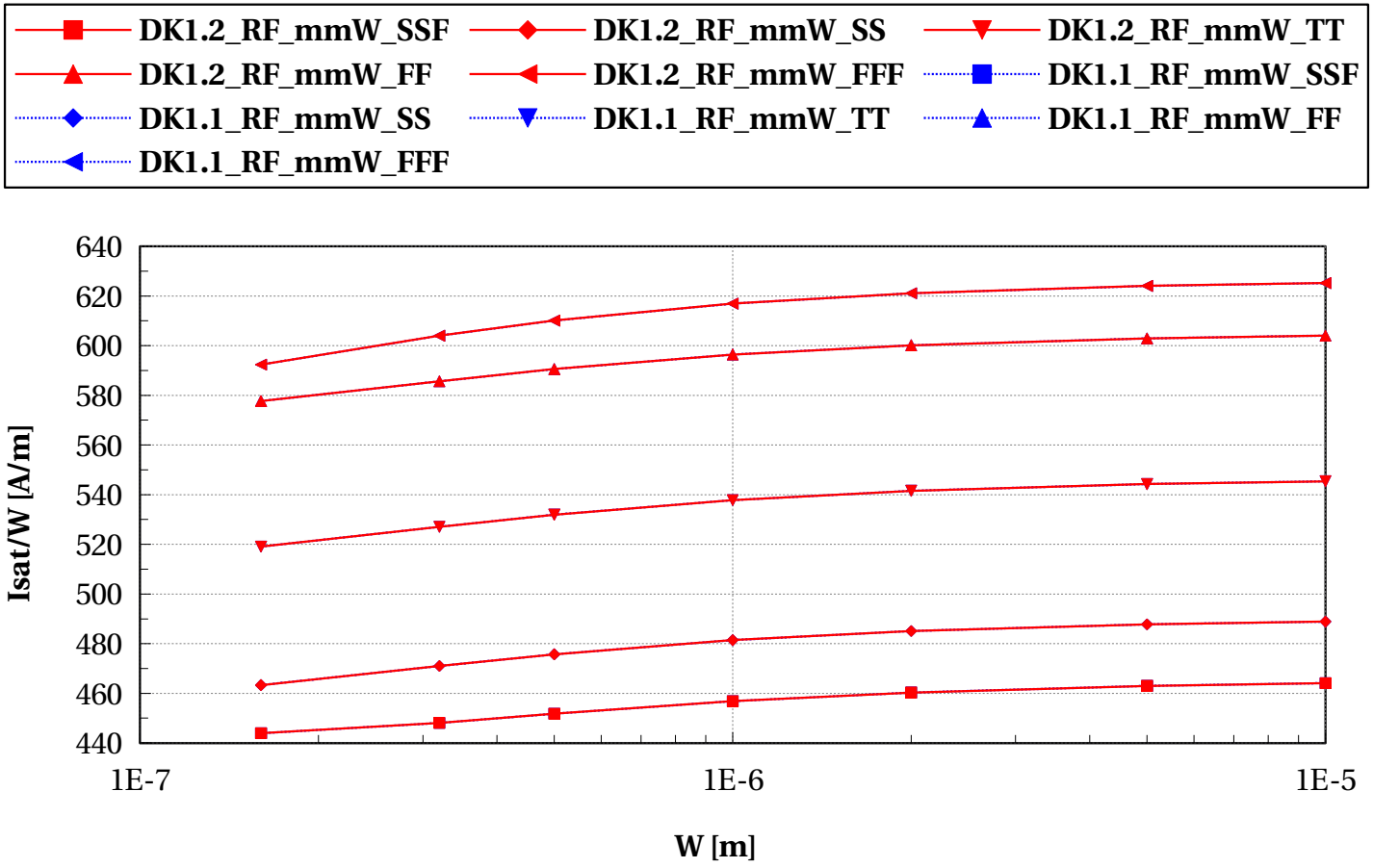
egvnfet_acc, Vt_sat [mV] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



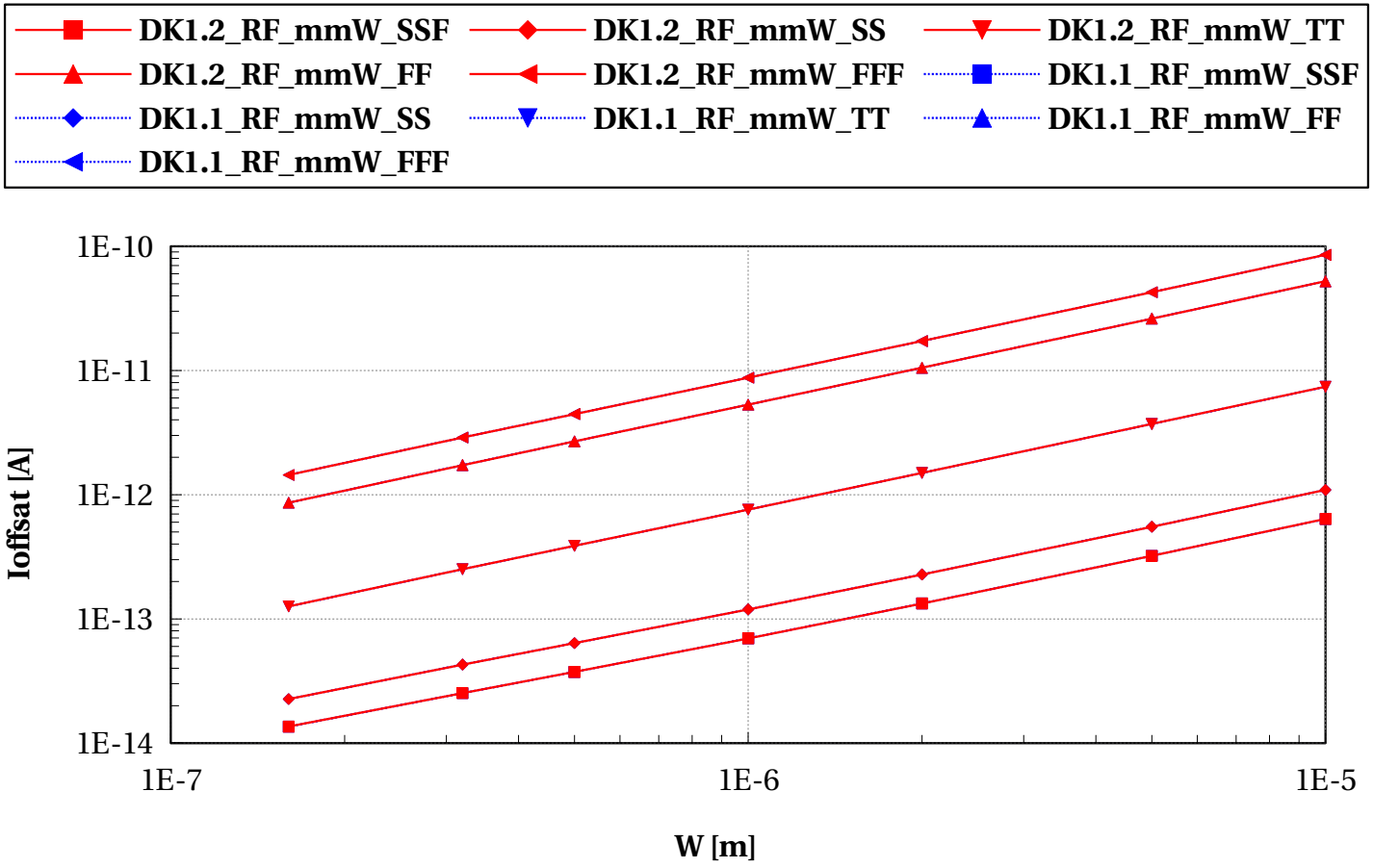
egvnfet_acc, Isat/W [A/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



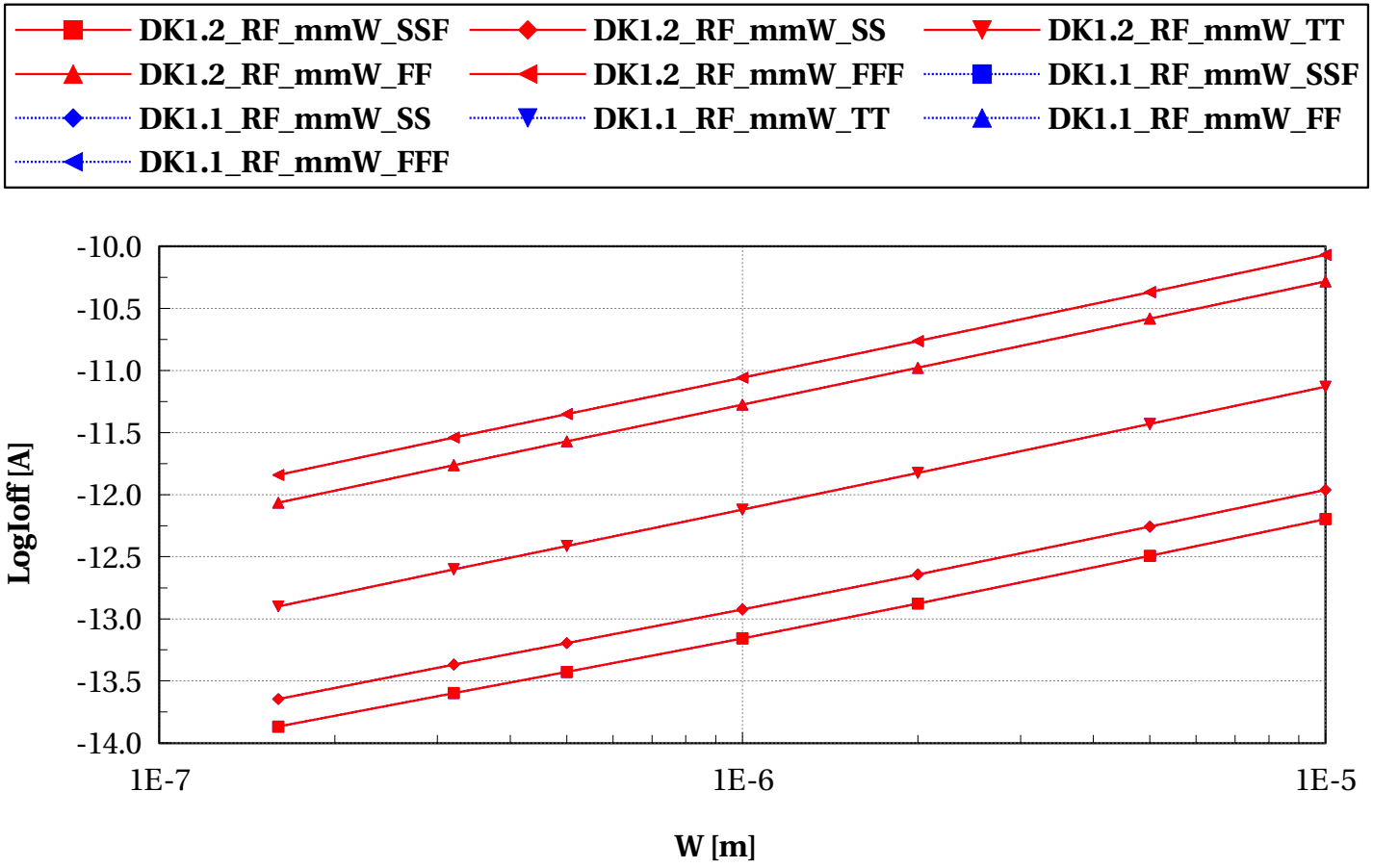
egvnfet_acc, Ioffsat [A] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



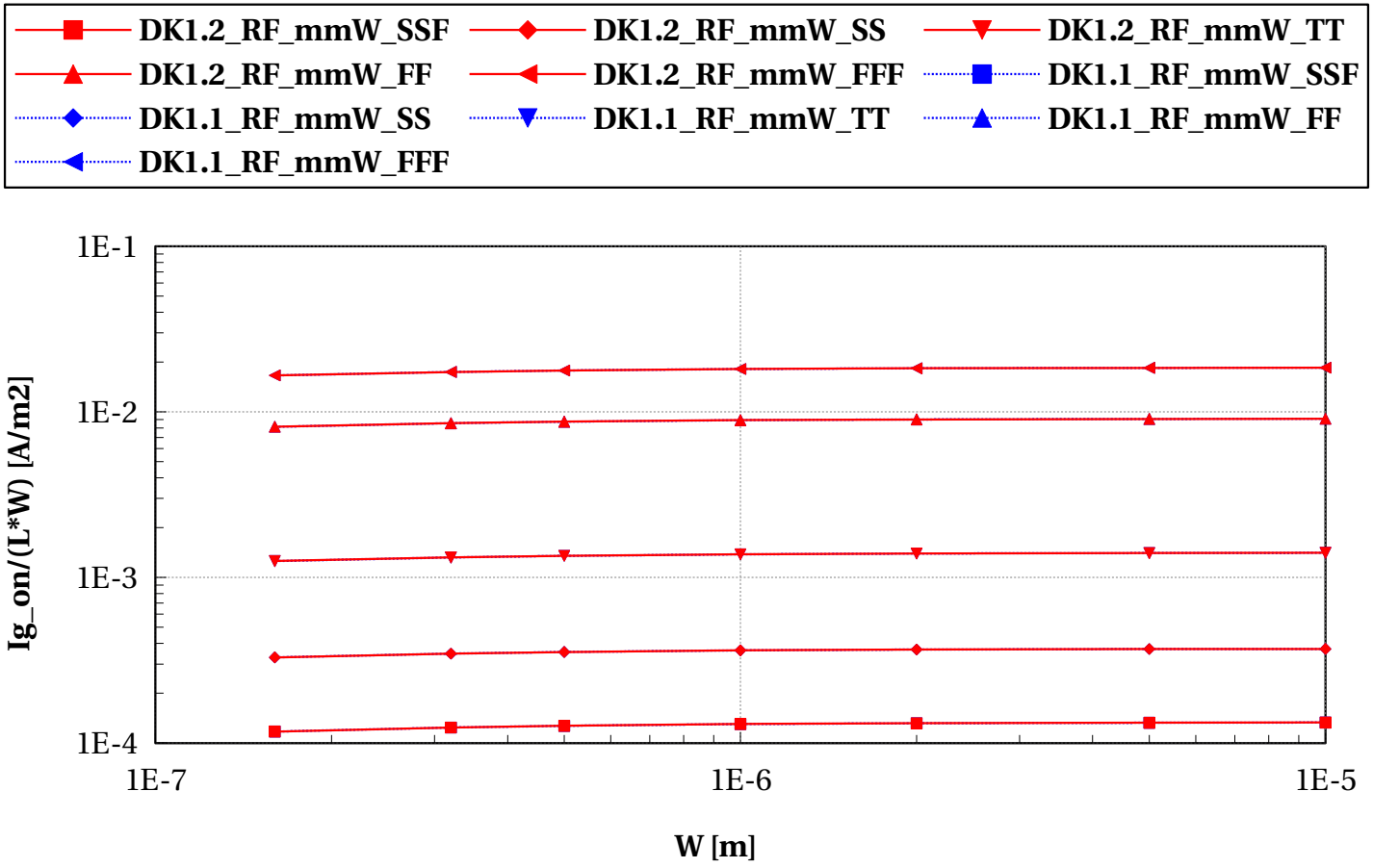
egvnfet_acc, LogIoff [A] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



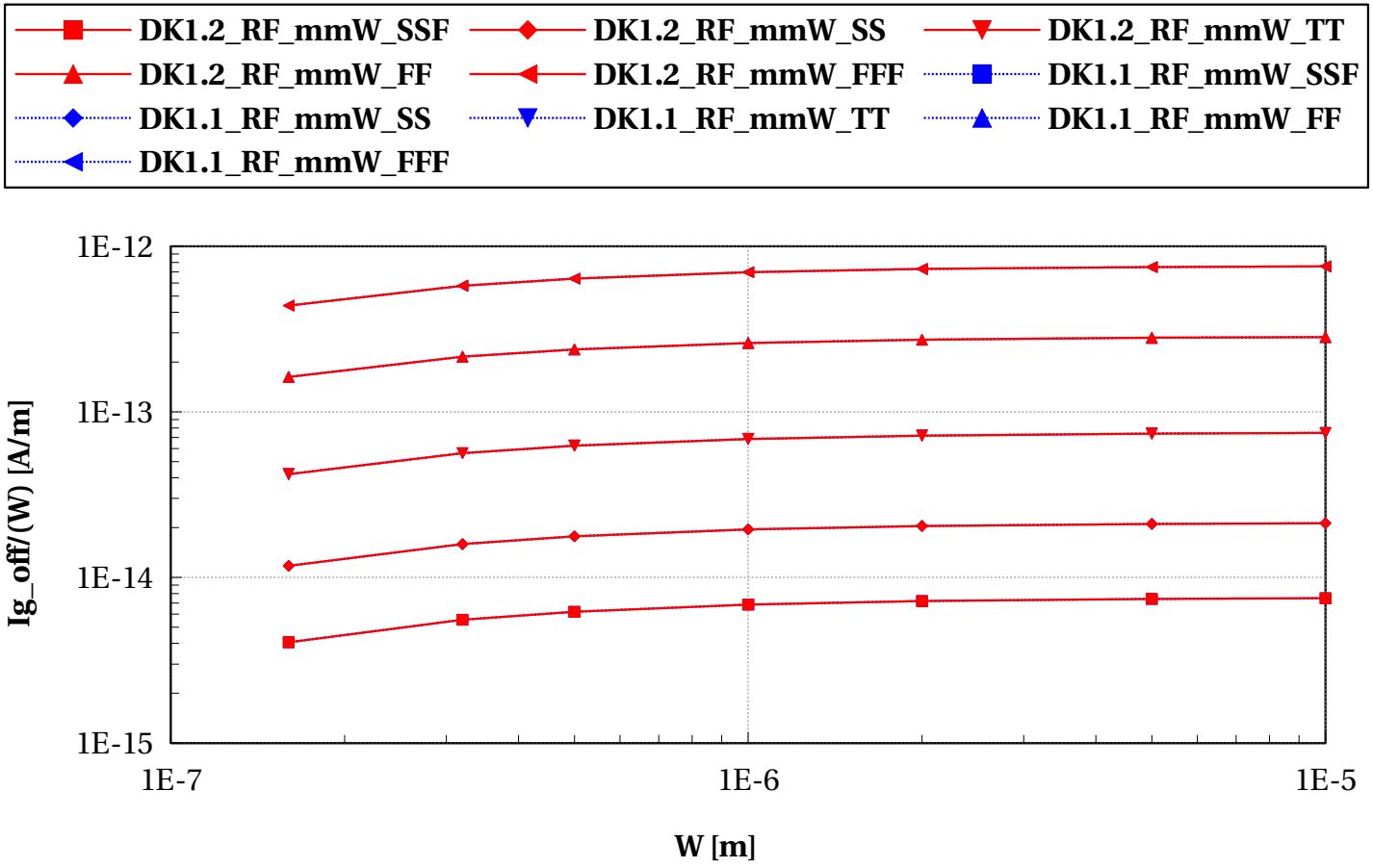
egvnfet_acc, Ig_on/(L*W) [A/m2] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



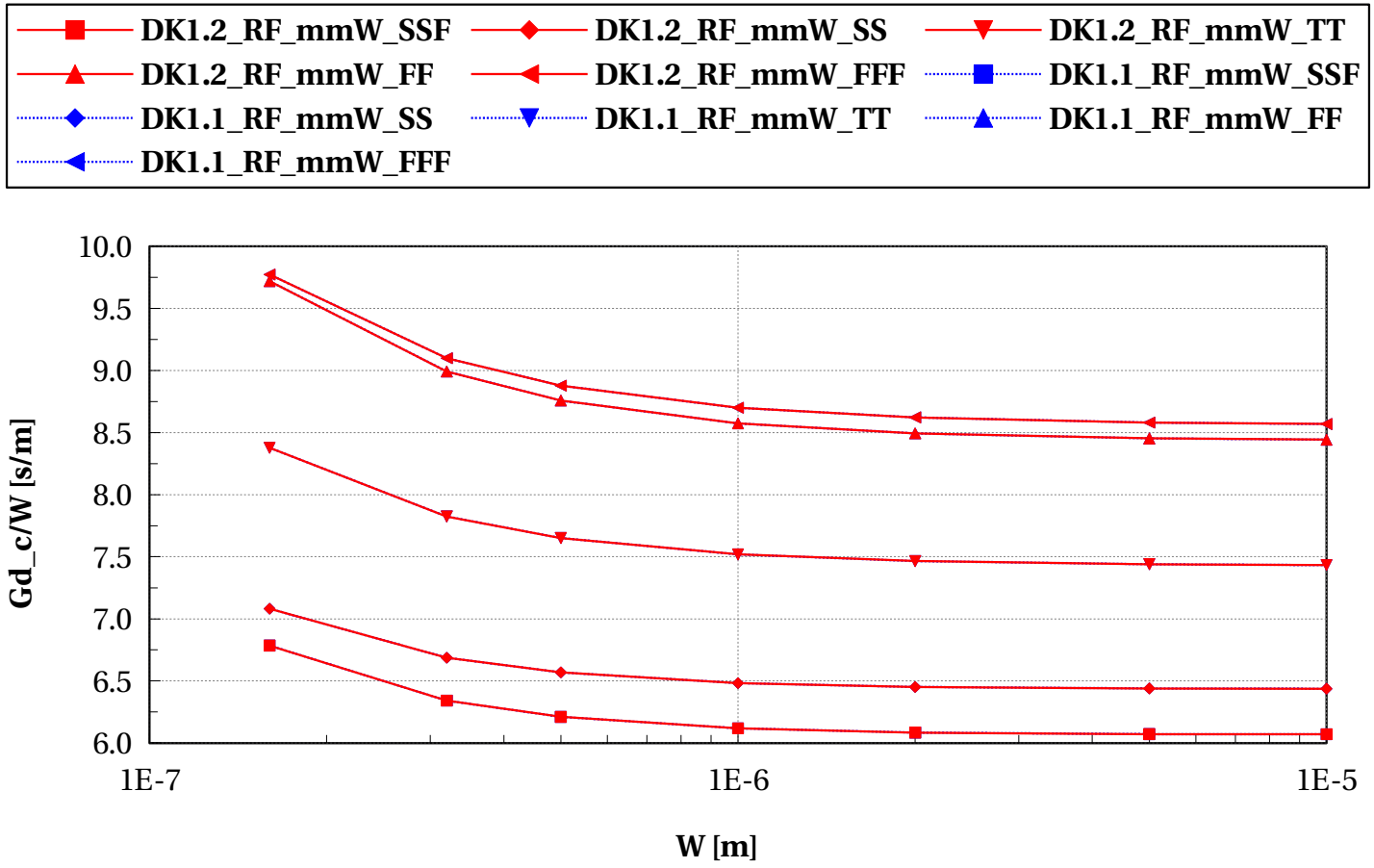
egvnfet_acc, Ig_off/(W) [A/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



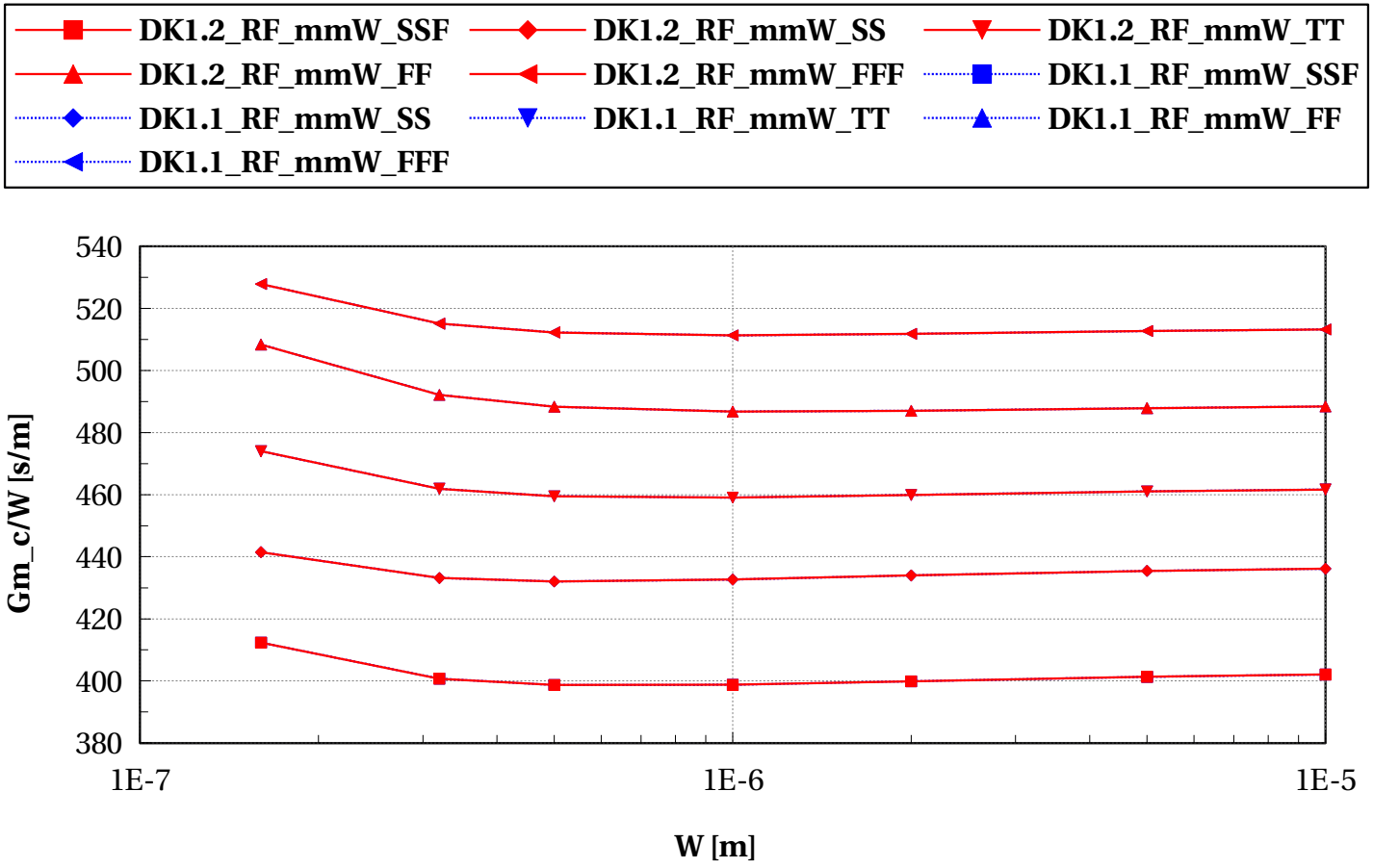
egvnfet_acc, Gd_c/W [s/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



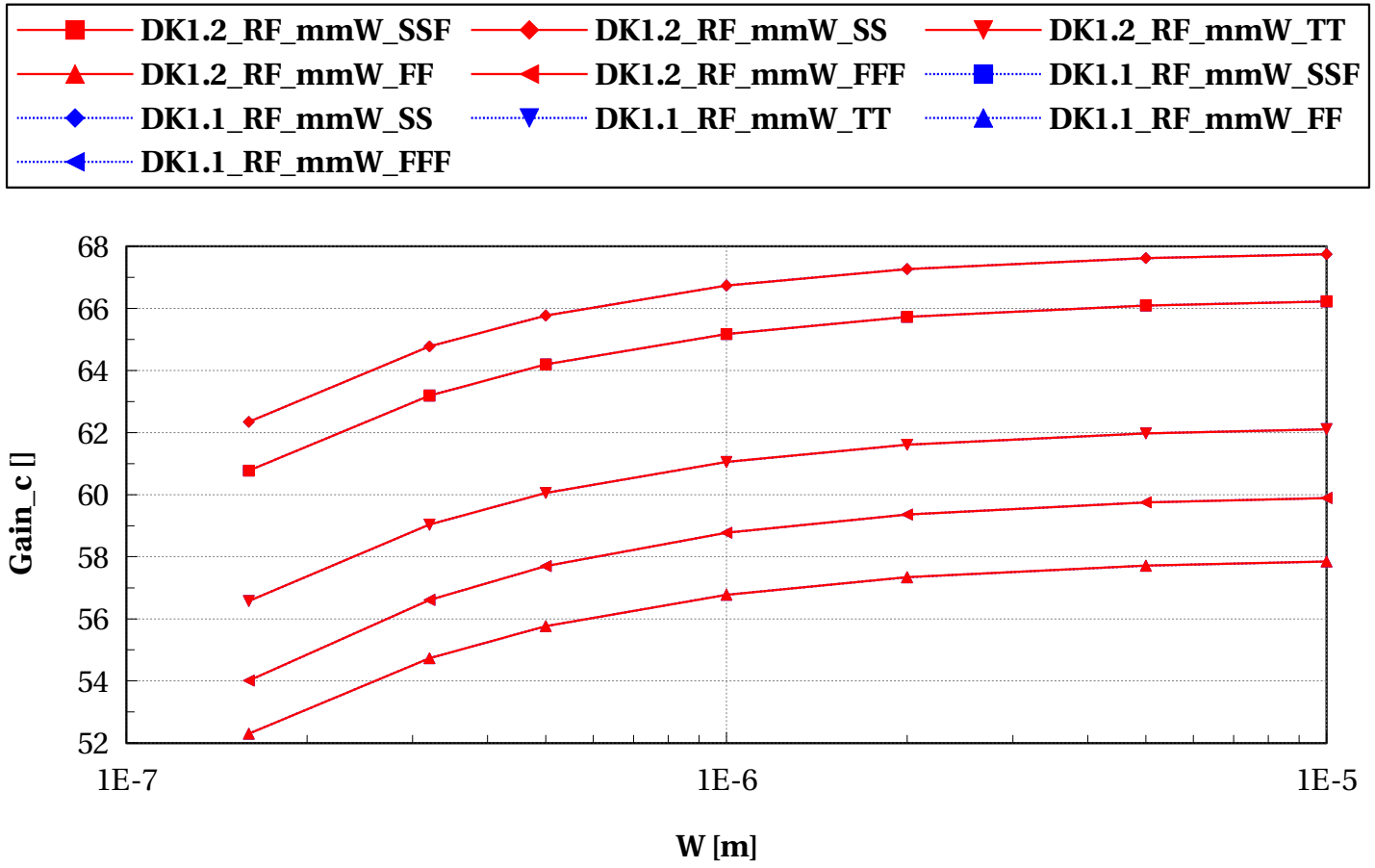
egvnfet_acc, Gm_c/W [s/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



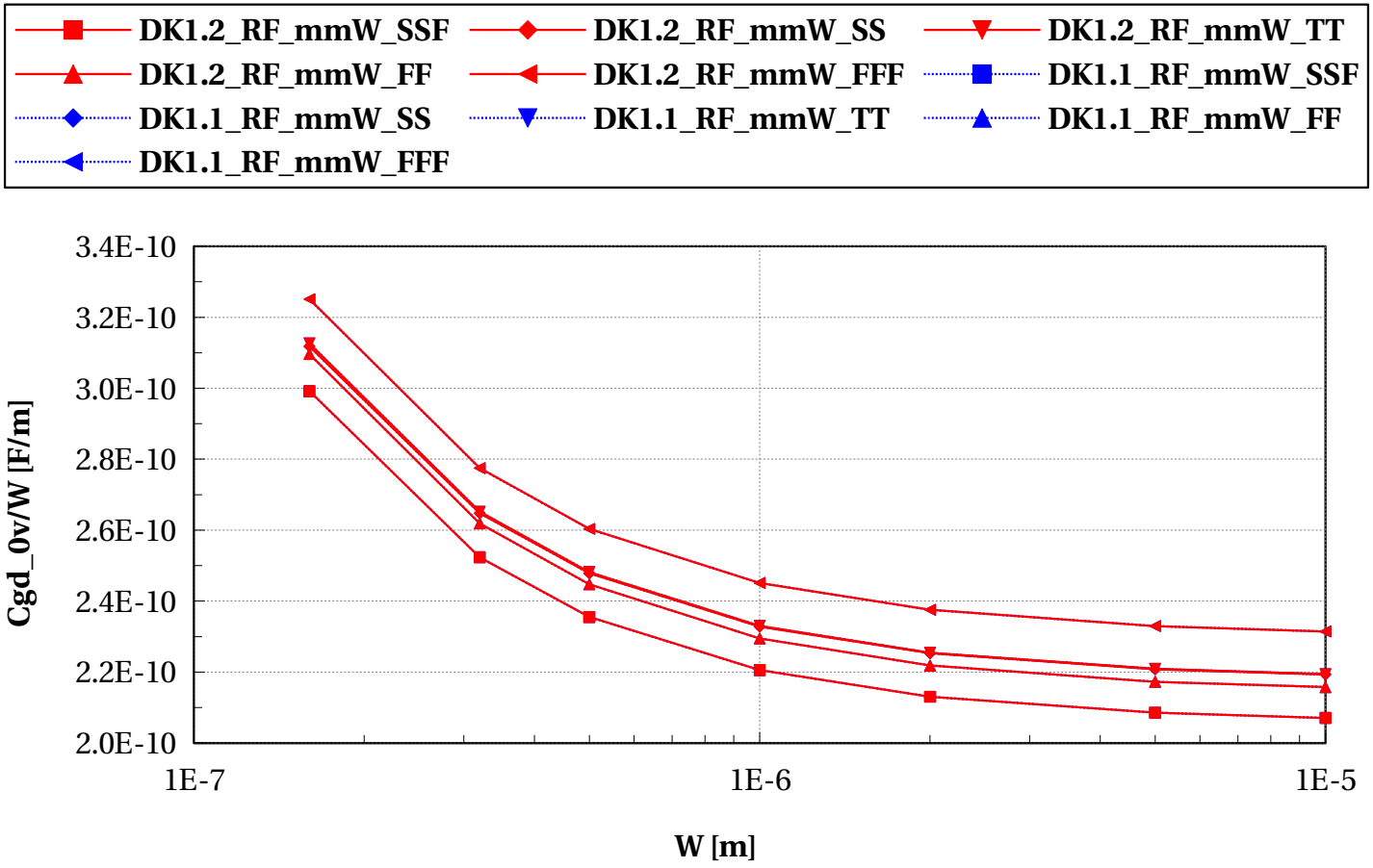
egvnfet_acc, Gain_c [] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



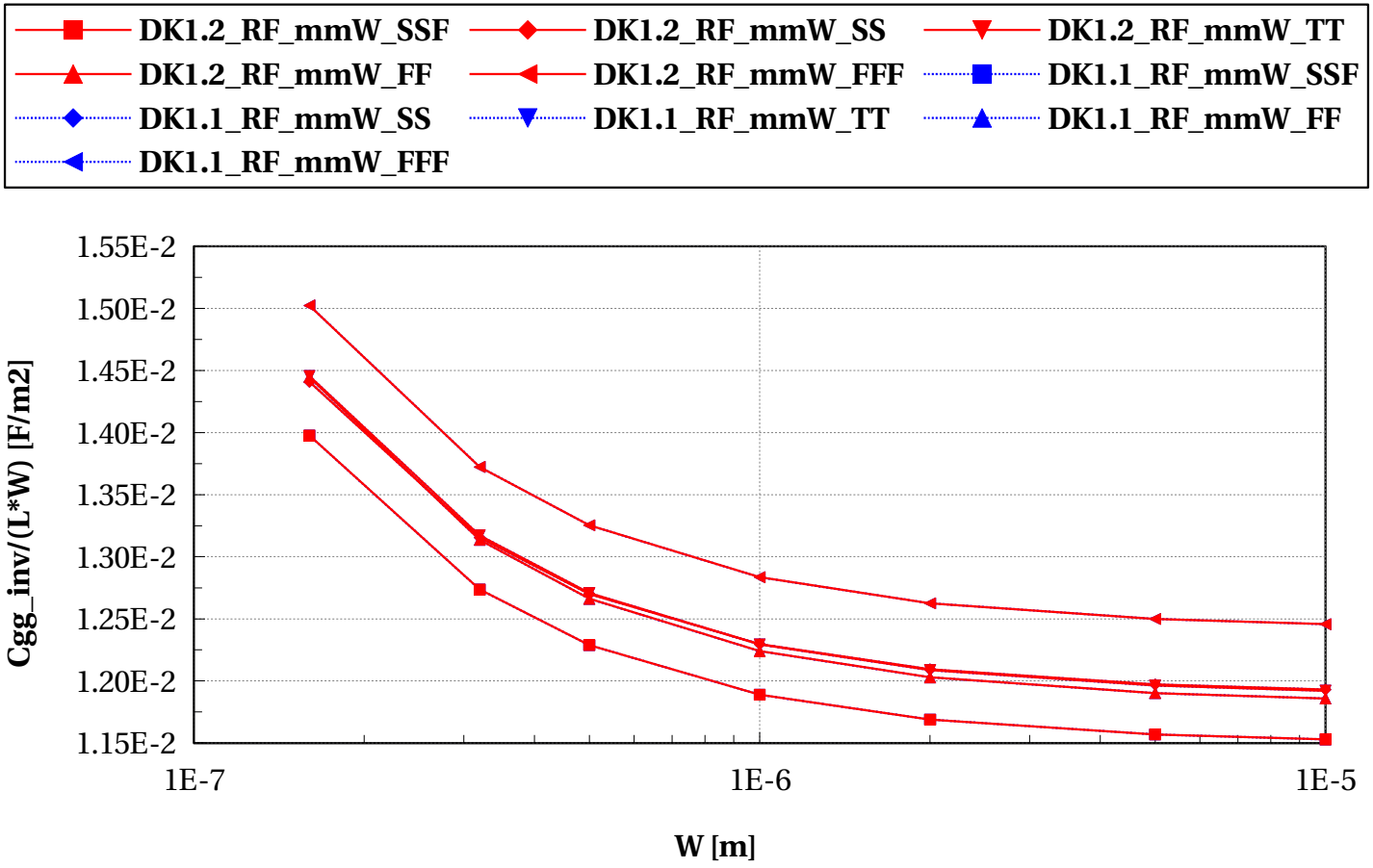
egvnfet_acc, Cgd_0v/W [F/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



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

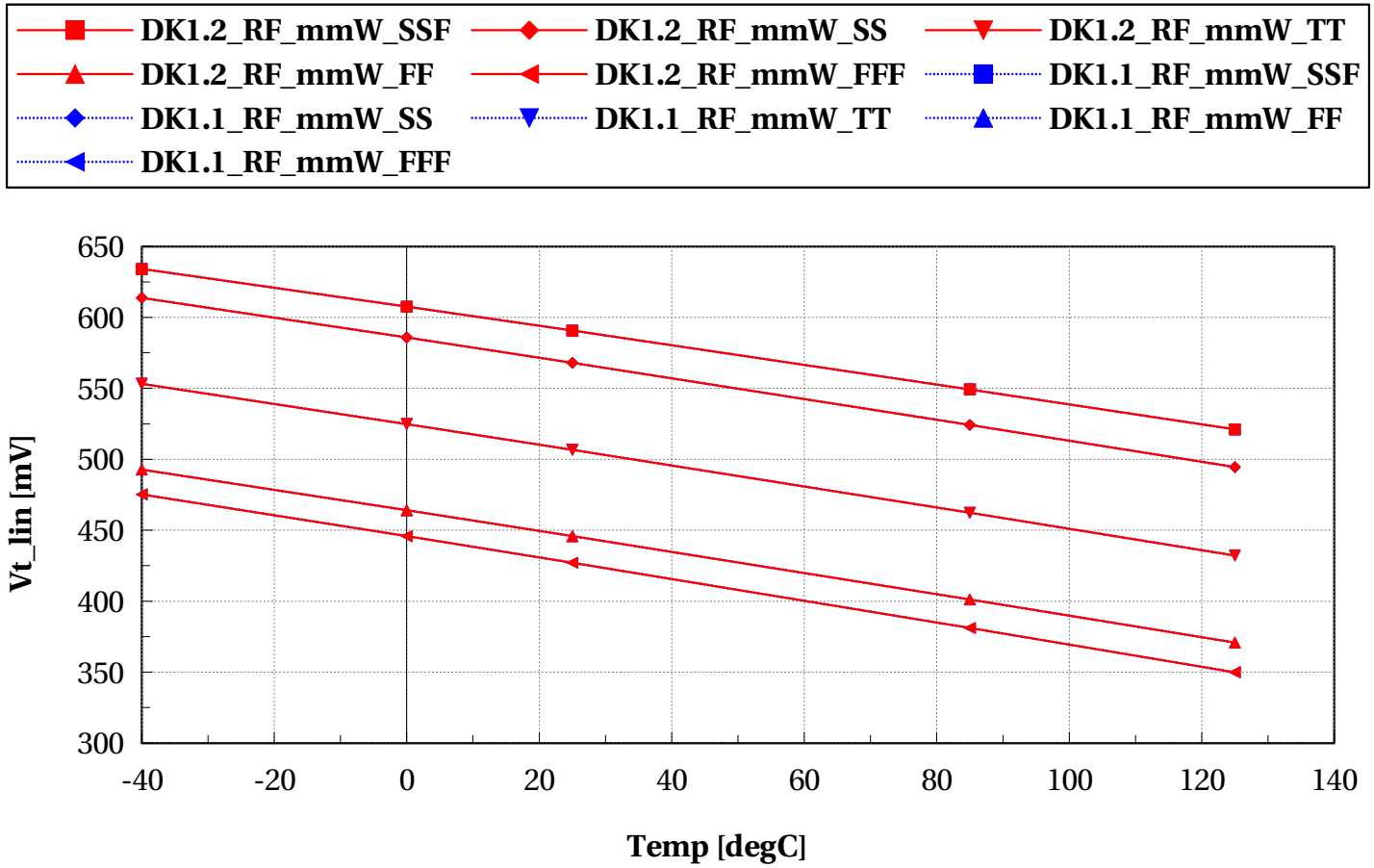
l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



Scaling versus Temp @ L=0.1u, W=2u

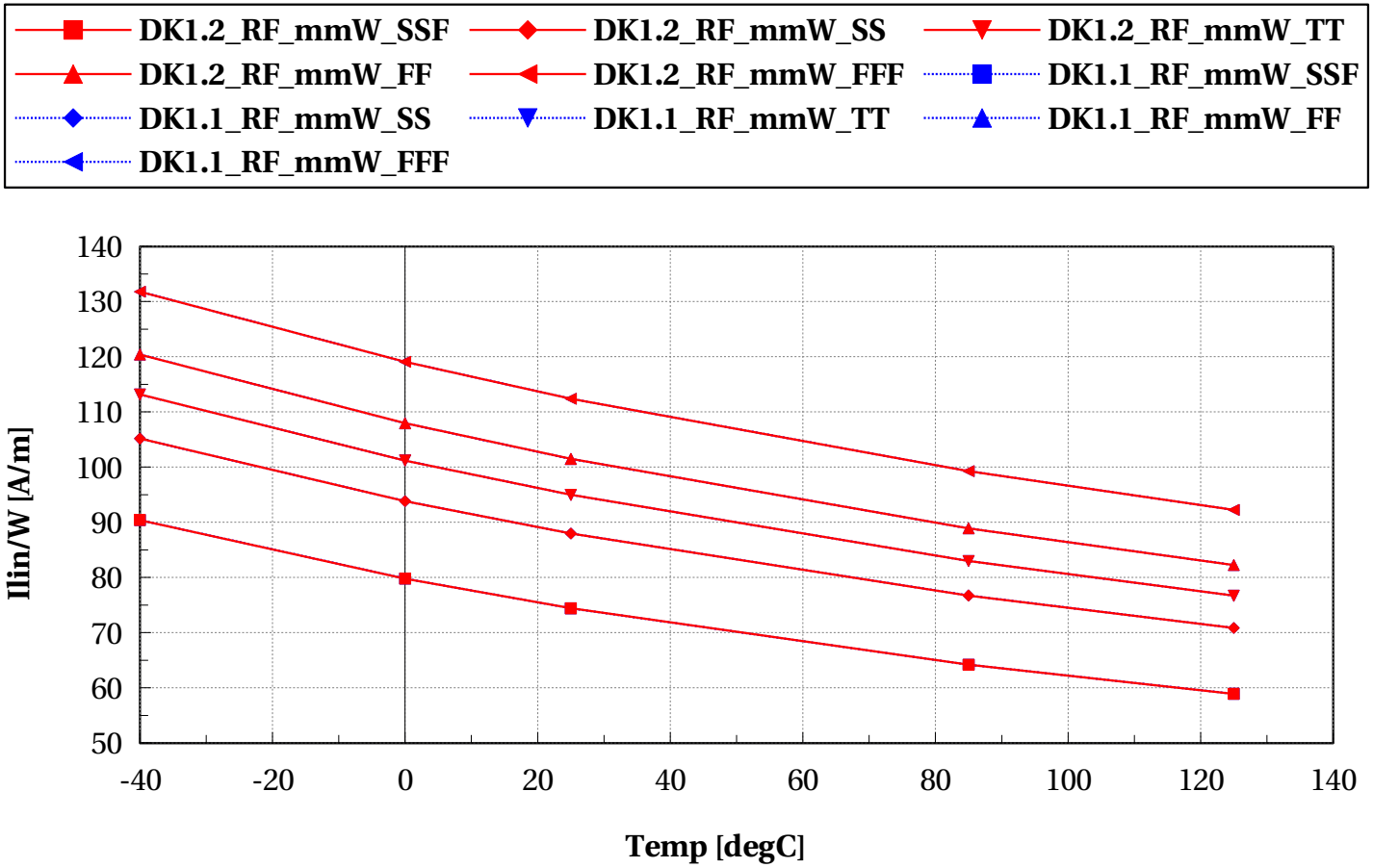
egvnfet_acc, Vt_lin [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



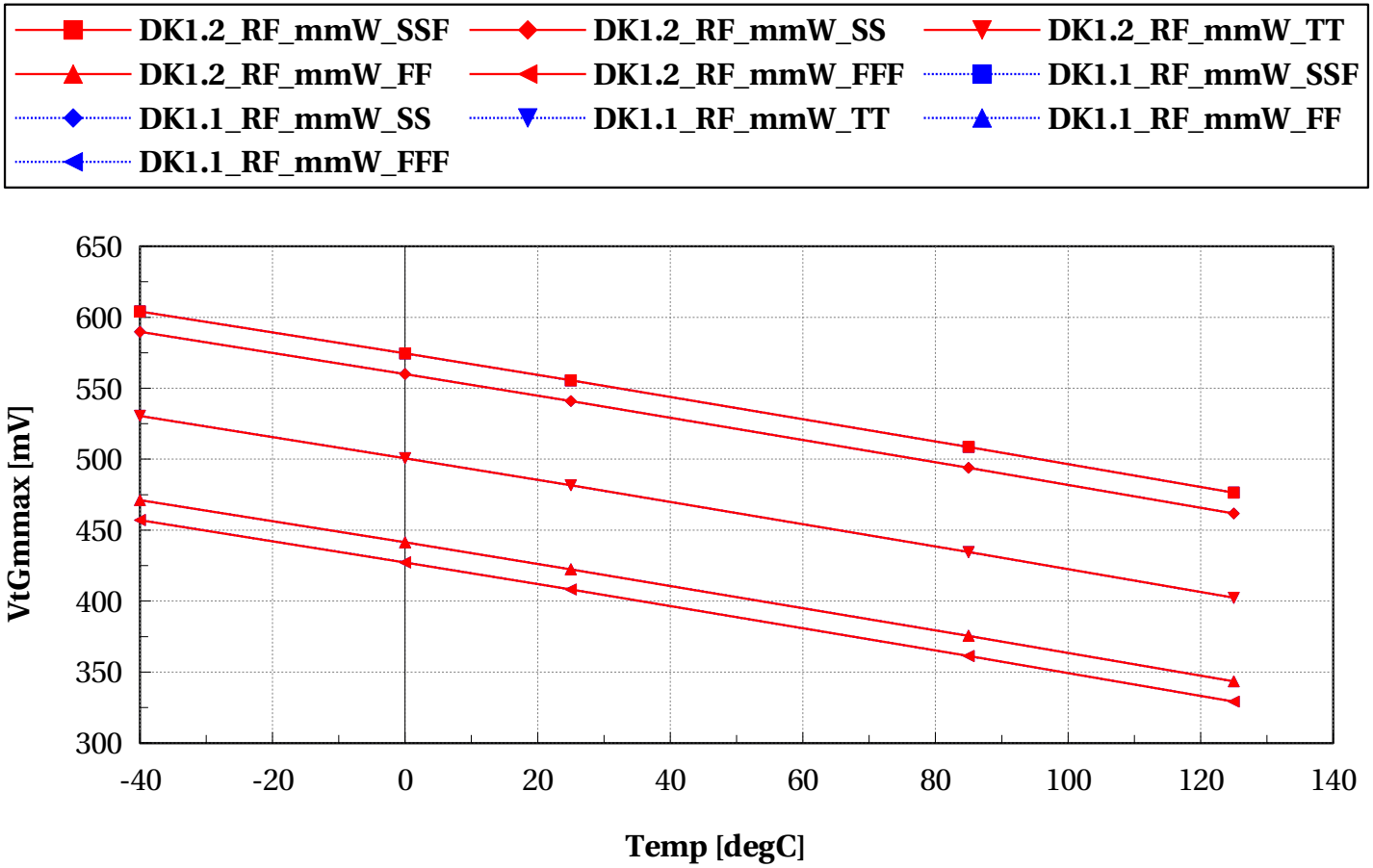
egvnfet_acc, Ilin/W [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



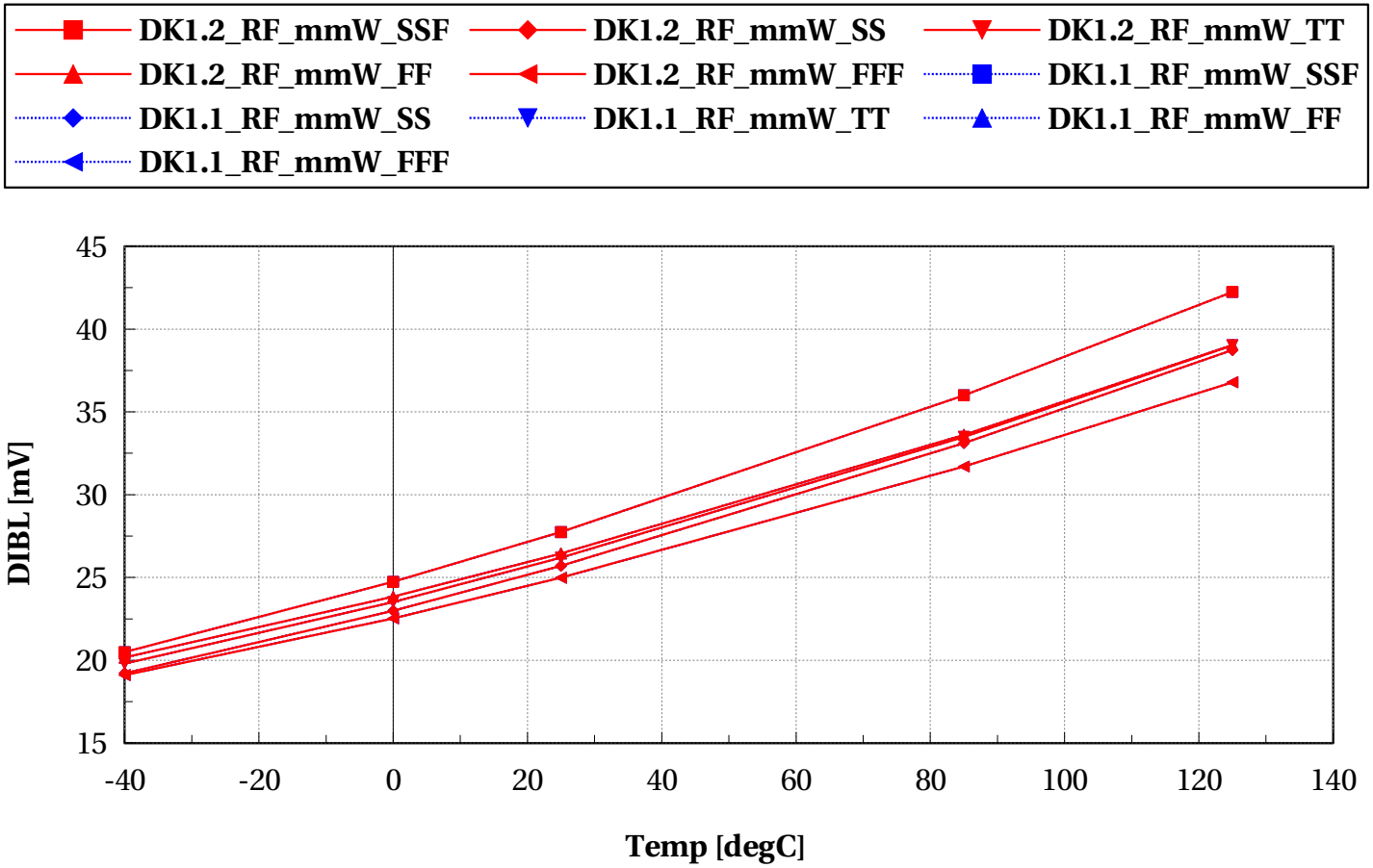
egvnfet_acc, VtGmmax [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



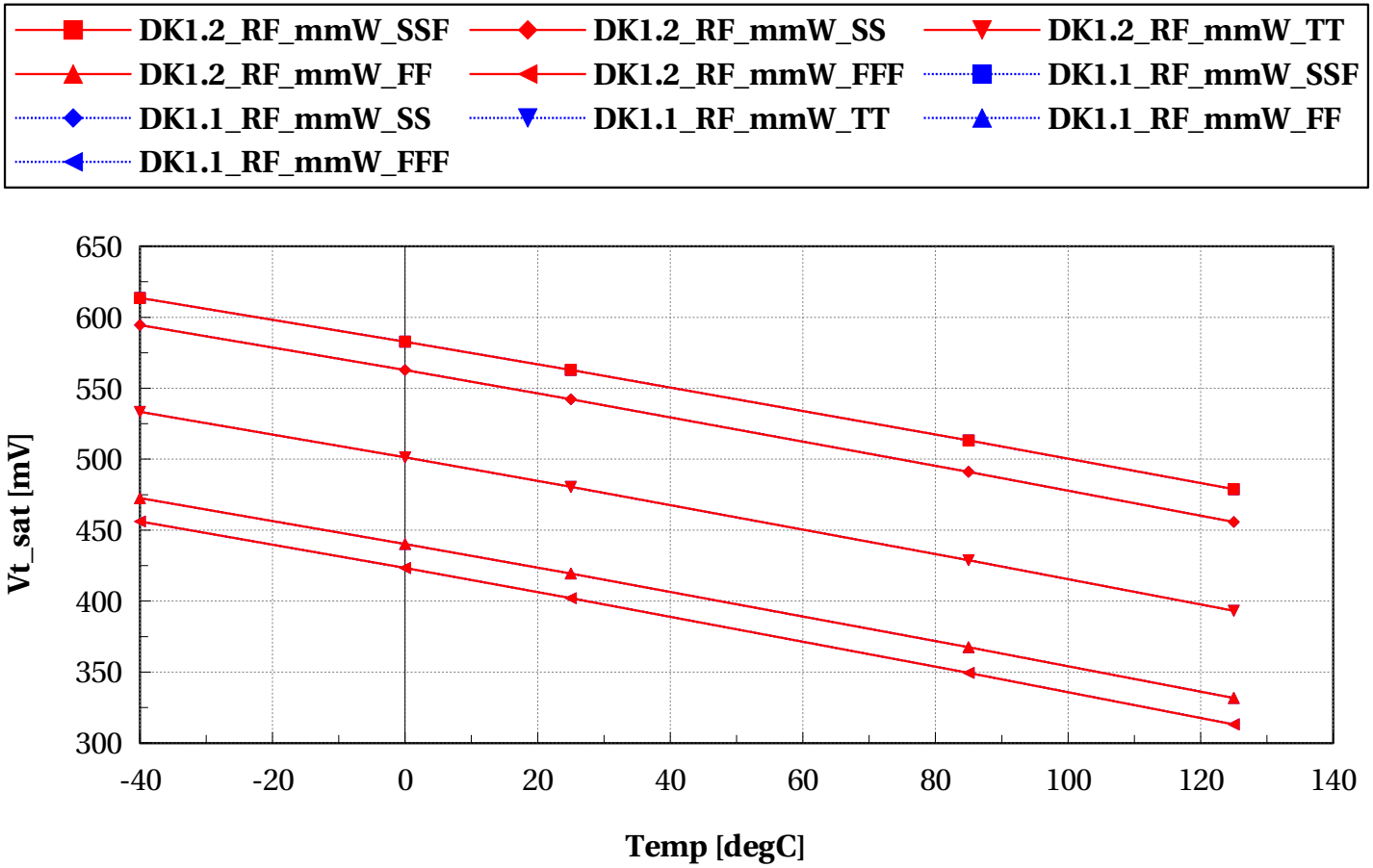
egvnfet_acc, DIBL [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



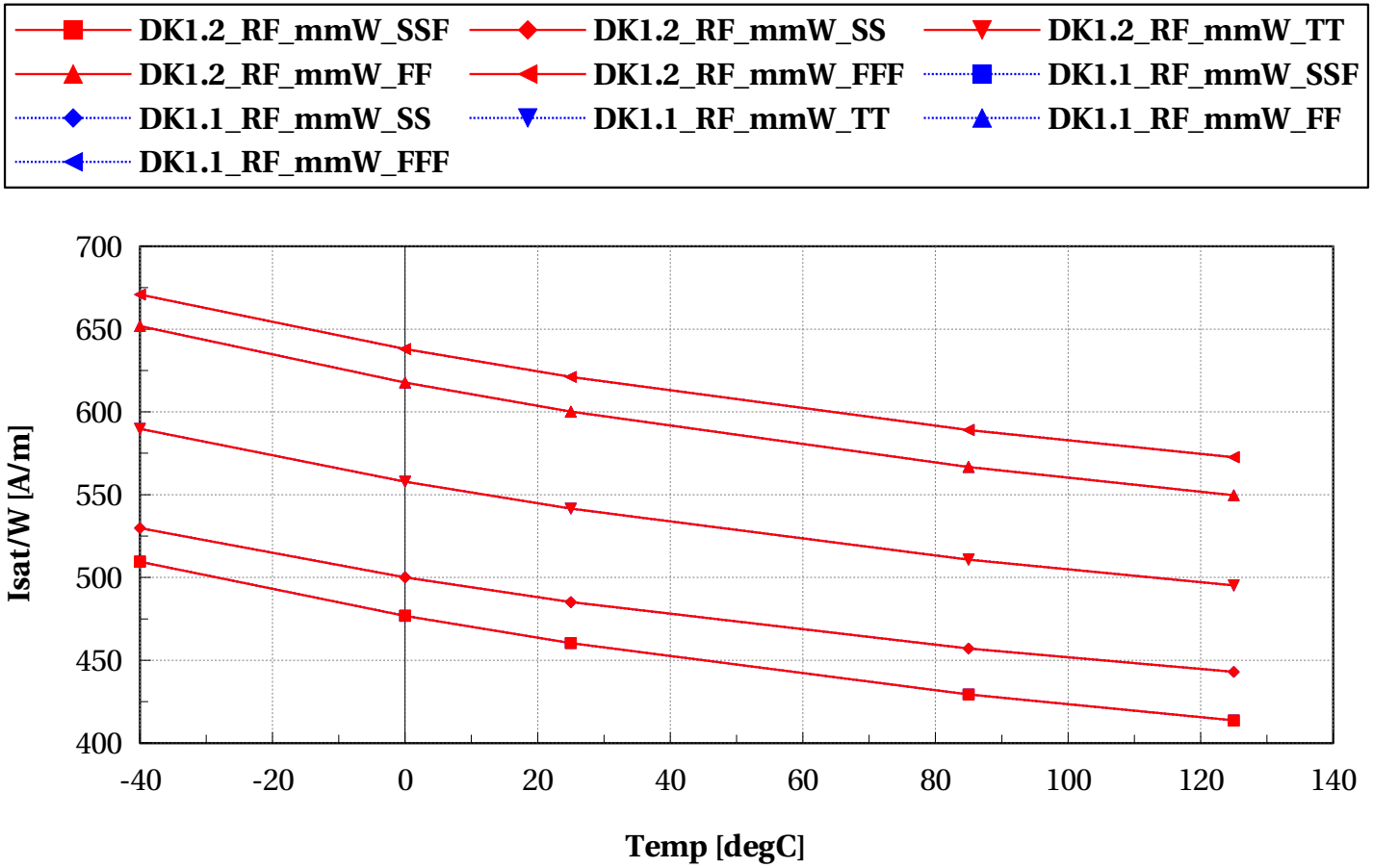
egvnfet_acc, Vt_sat [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



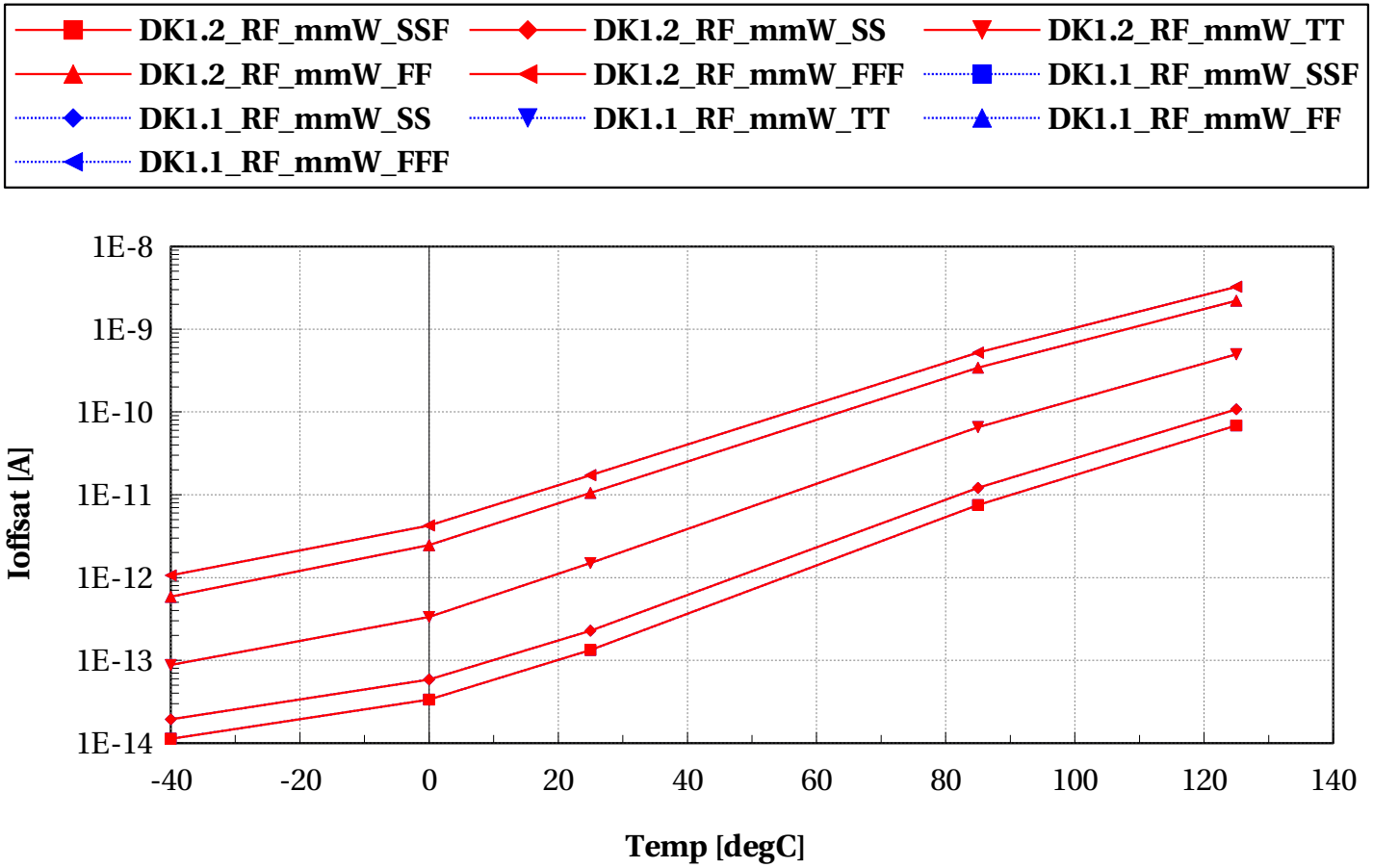
egvnfet_acc, Isat/W [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



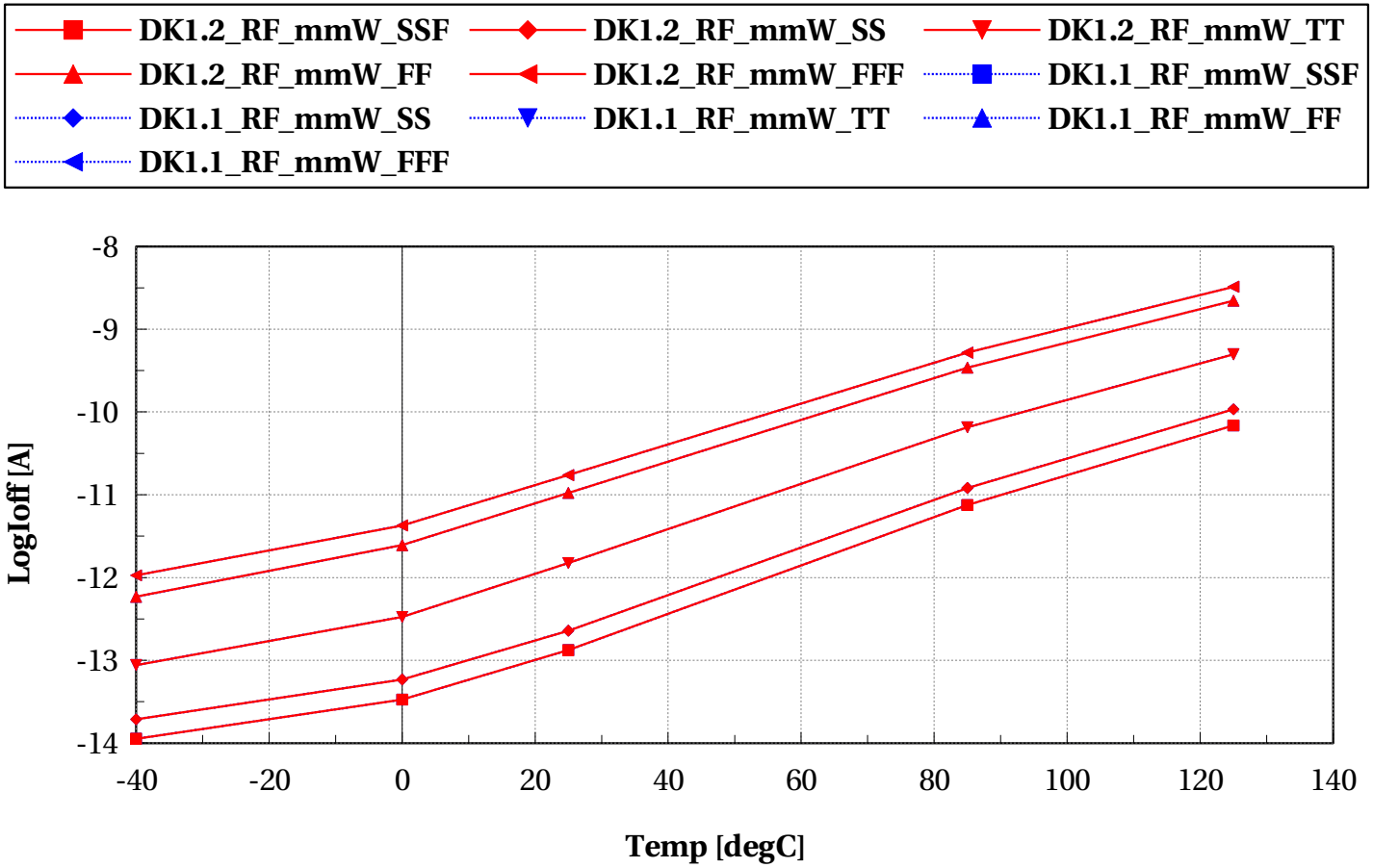
egvnfet_acc, Ioffsat [A] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



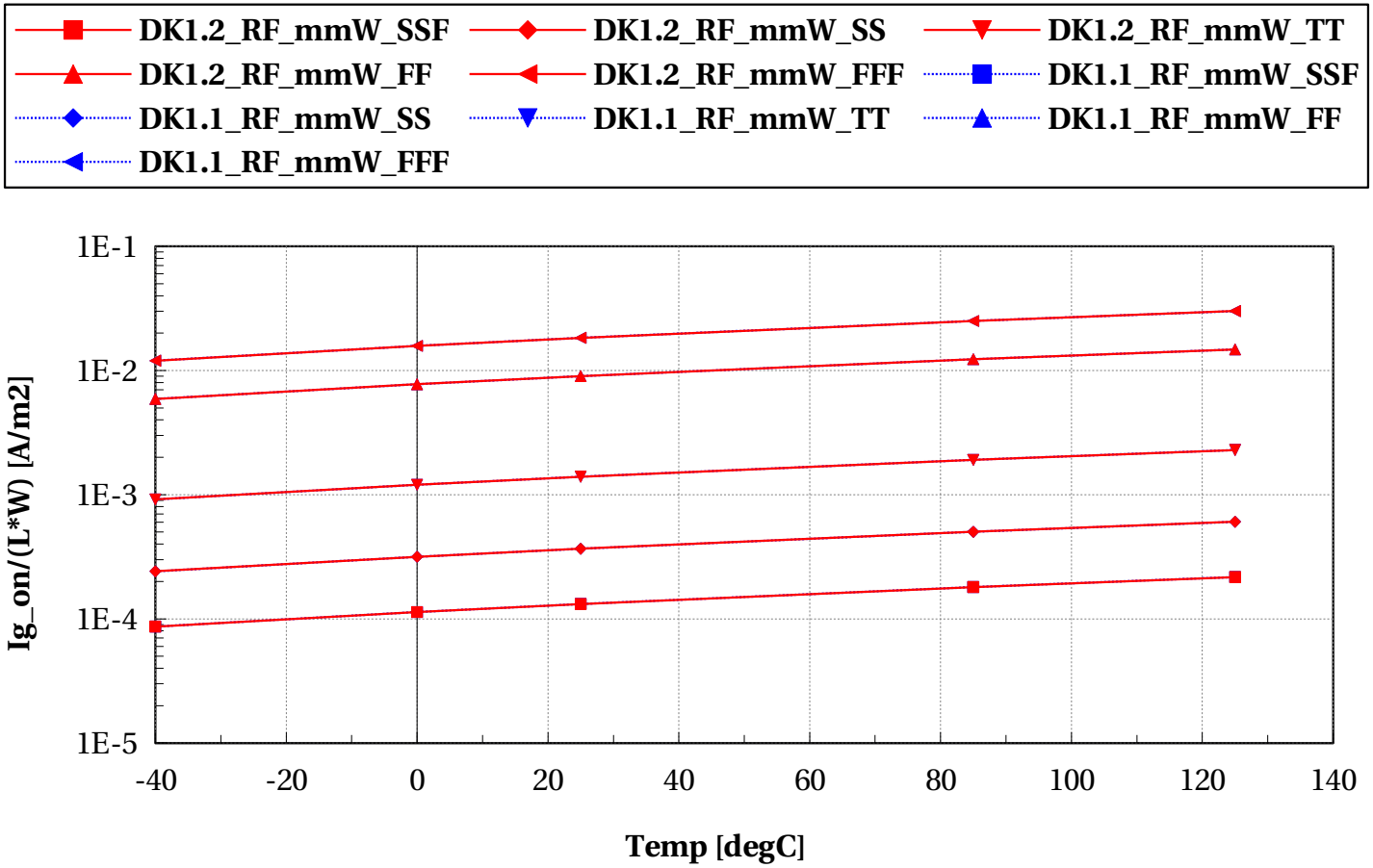
egvnfet_acc, LogIoff [A] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



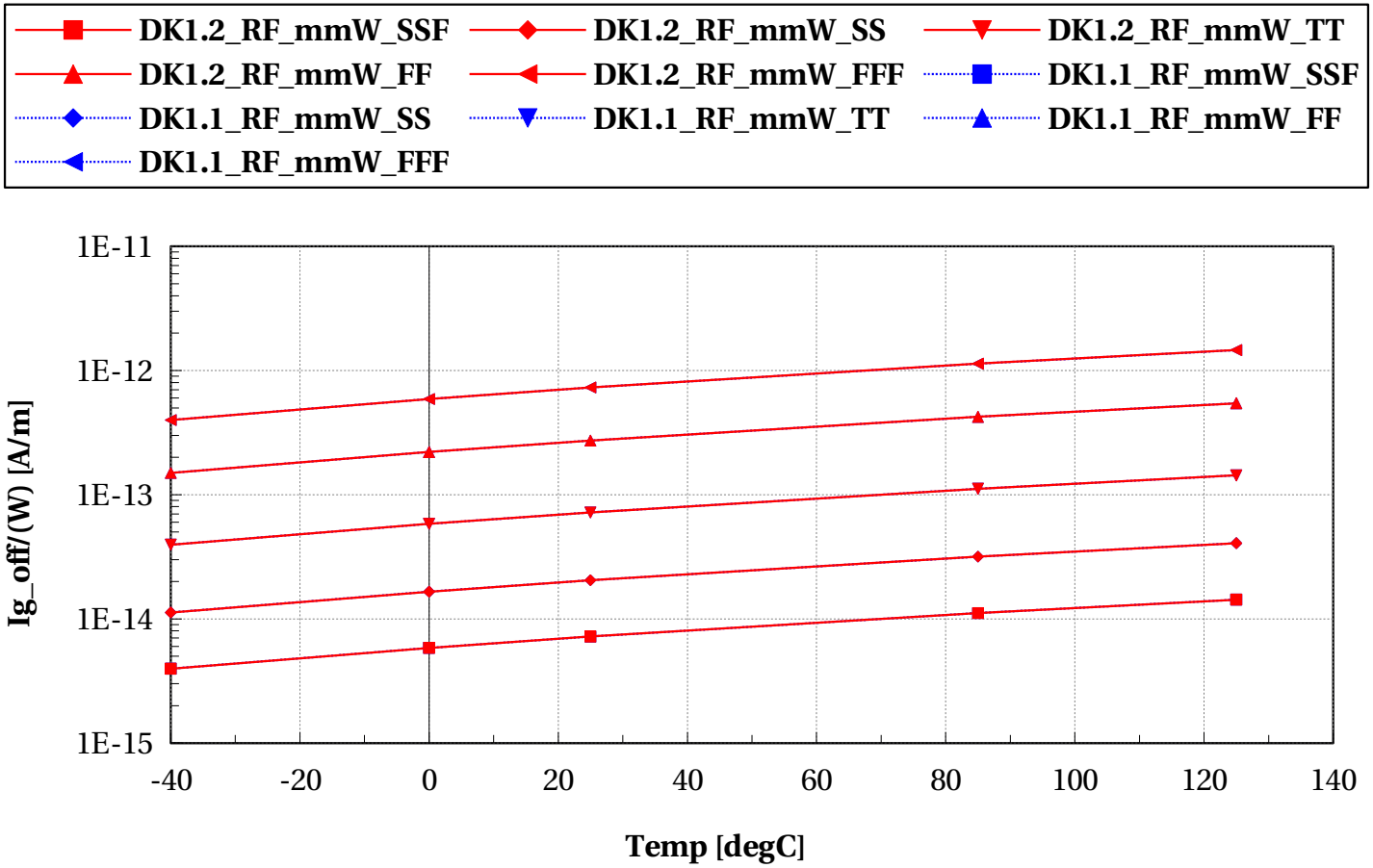
egvnfet_acc, Ig_on/(L*W) [A/m2] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



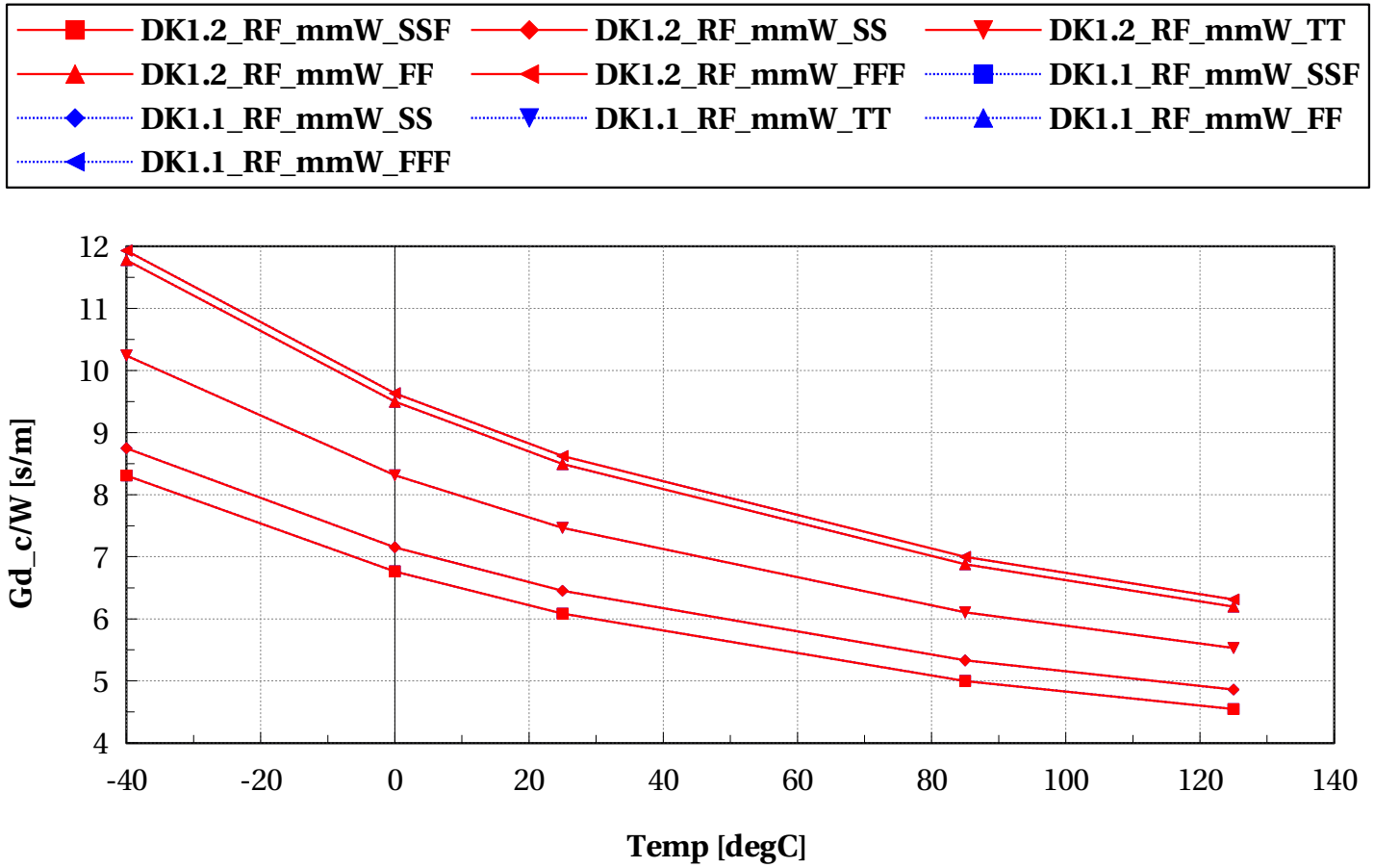
egvnfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



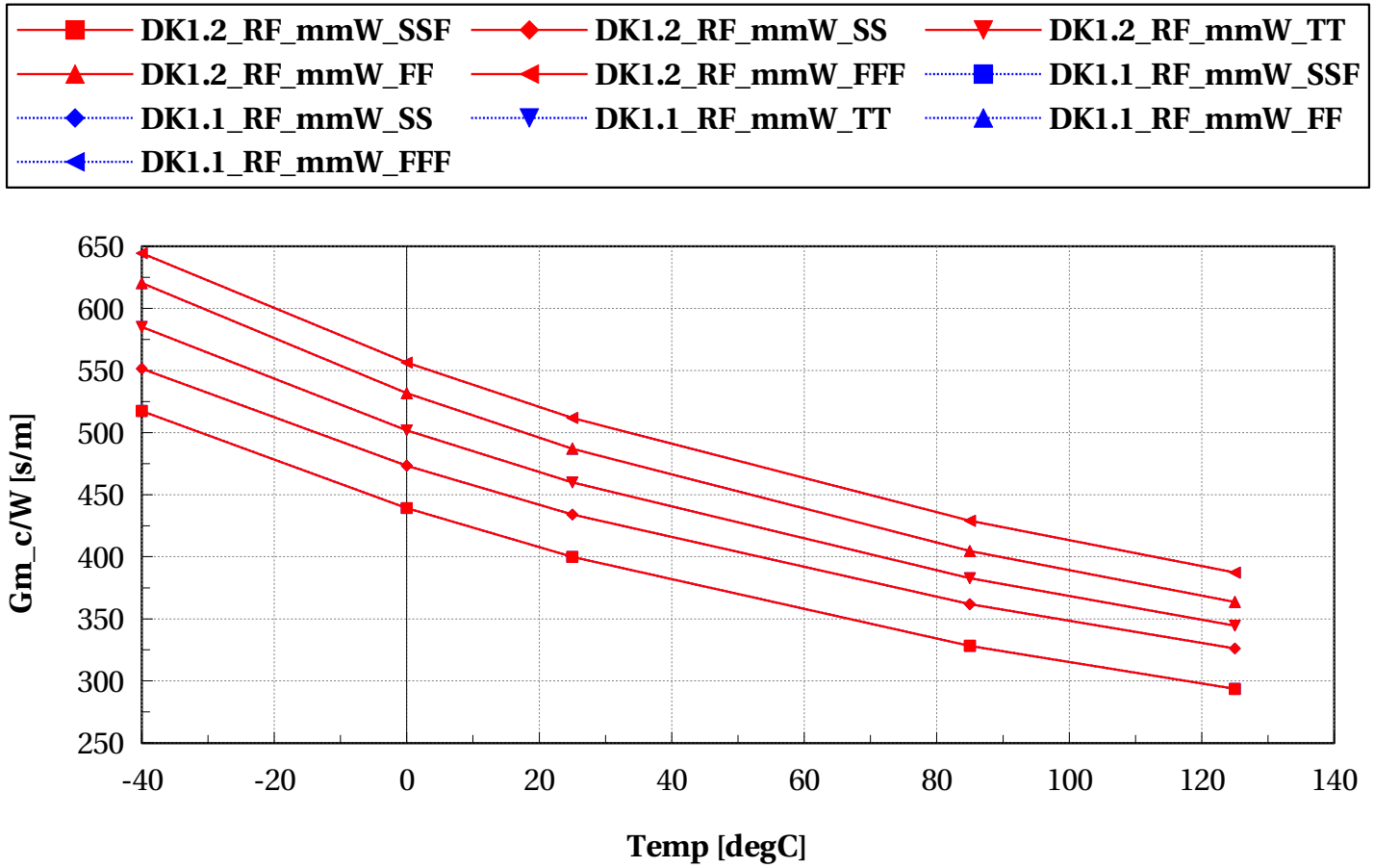
egvnfet_acc, Gd_c/W [s/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



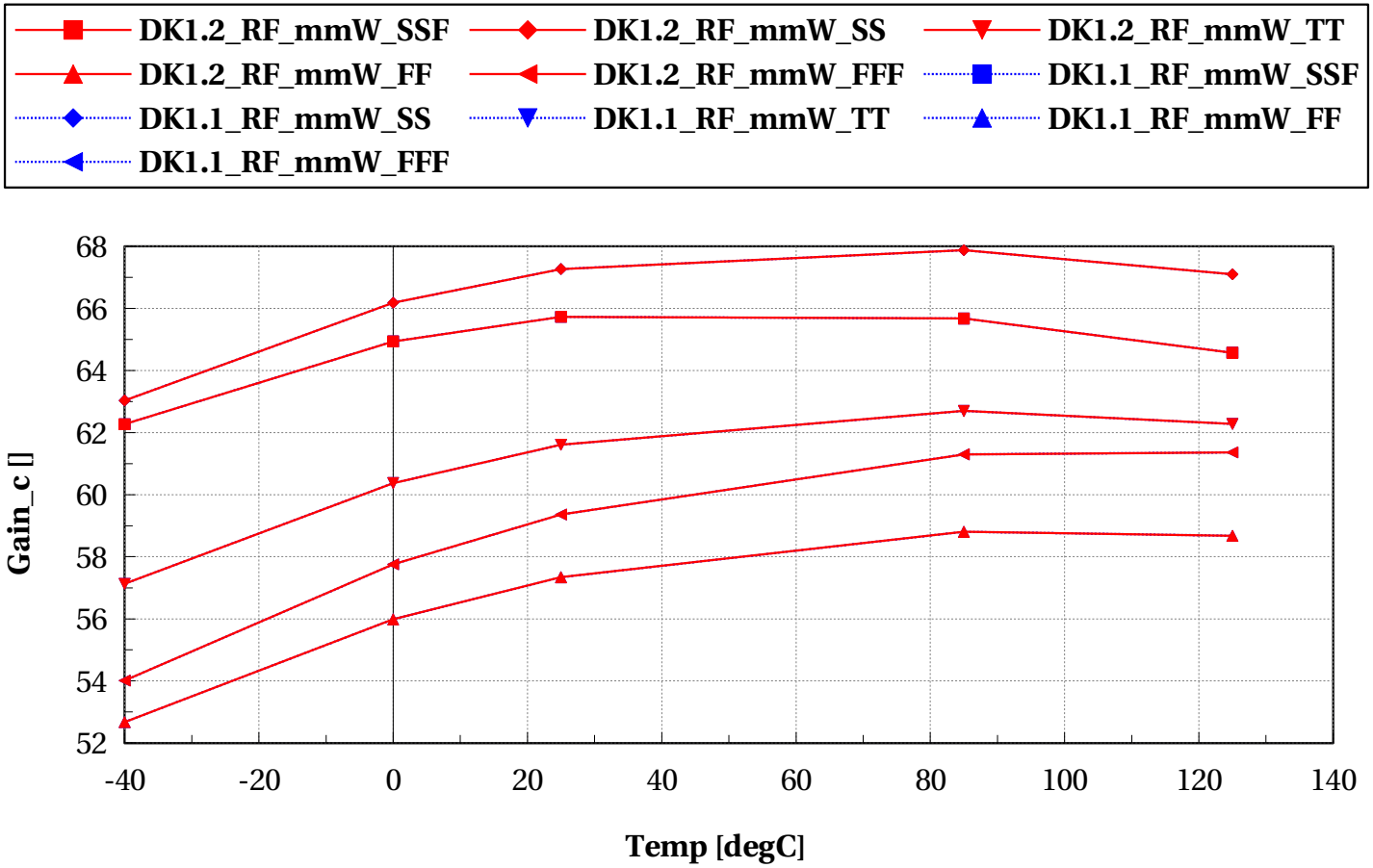
egvnfet_acc, Gm_c/W [s/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



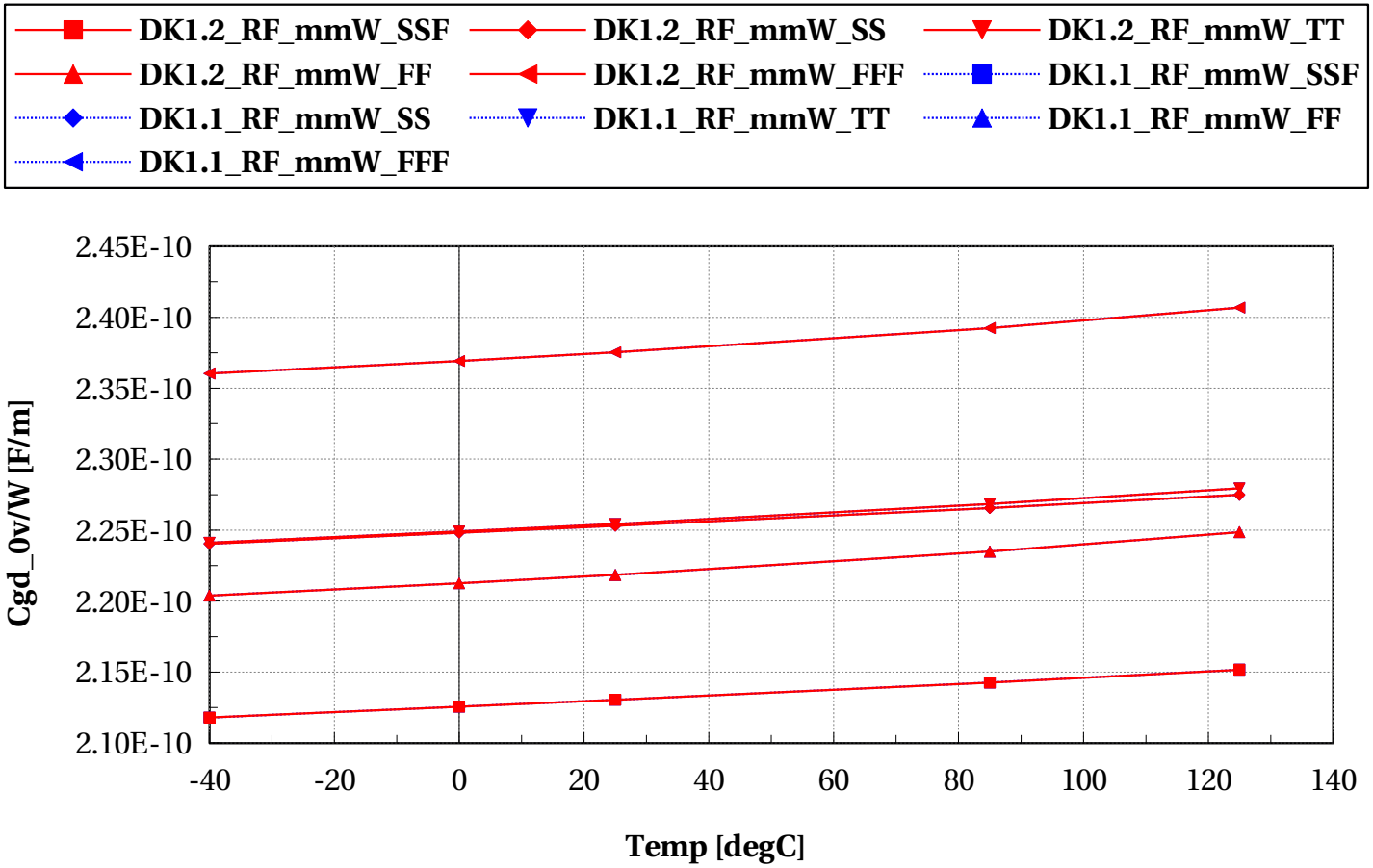
egvnfet_acc, Gain_c [] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



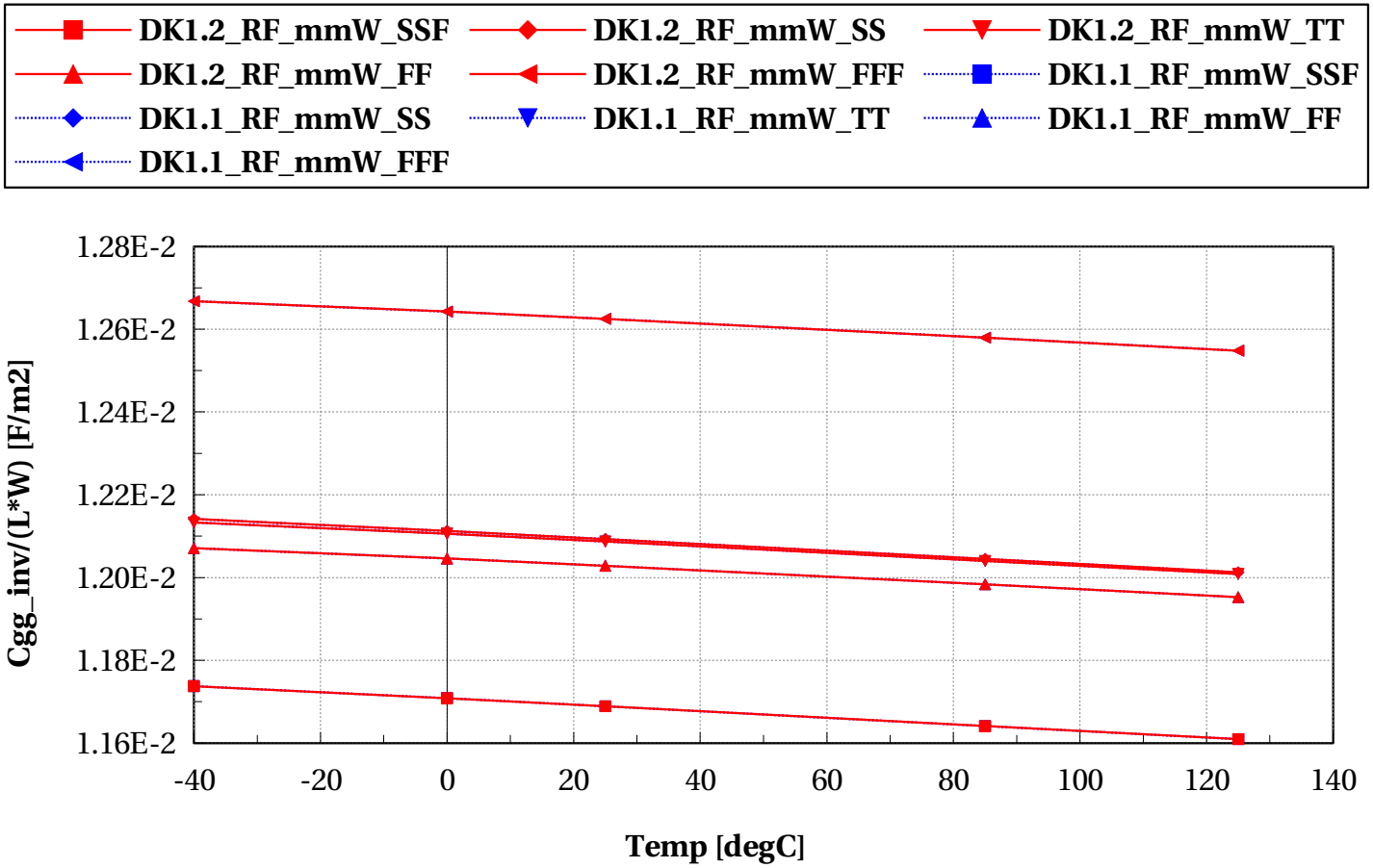
egvnfet_acc, Cgd_0v/W [F/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



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

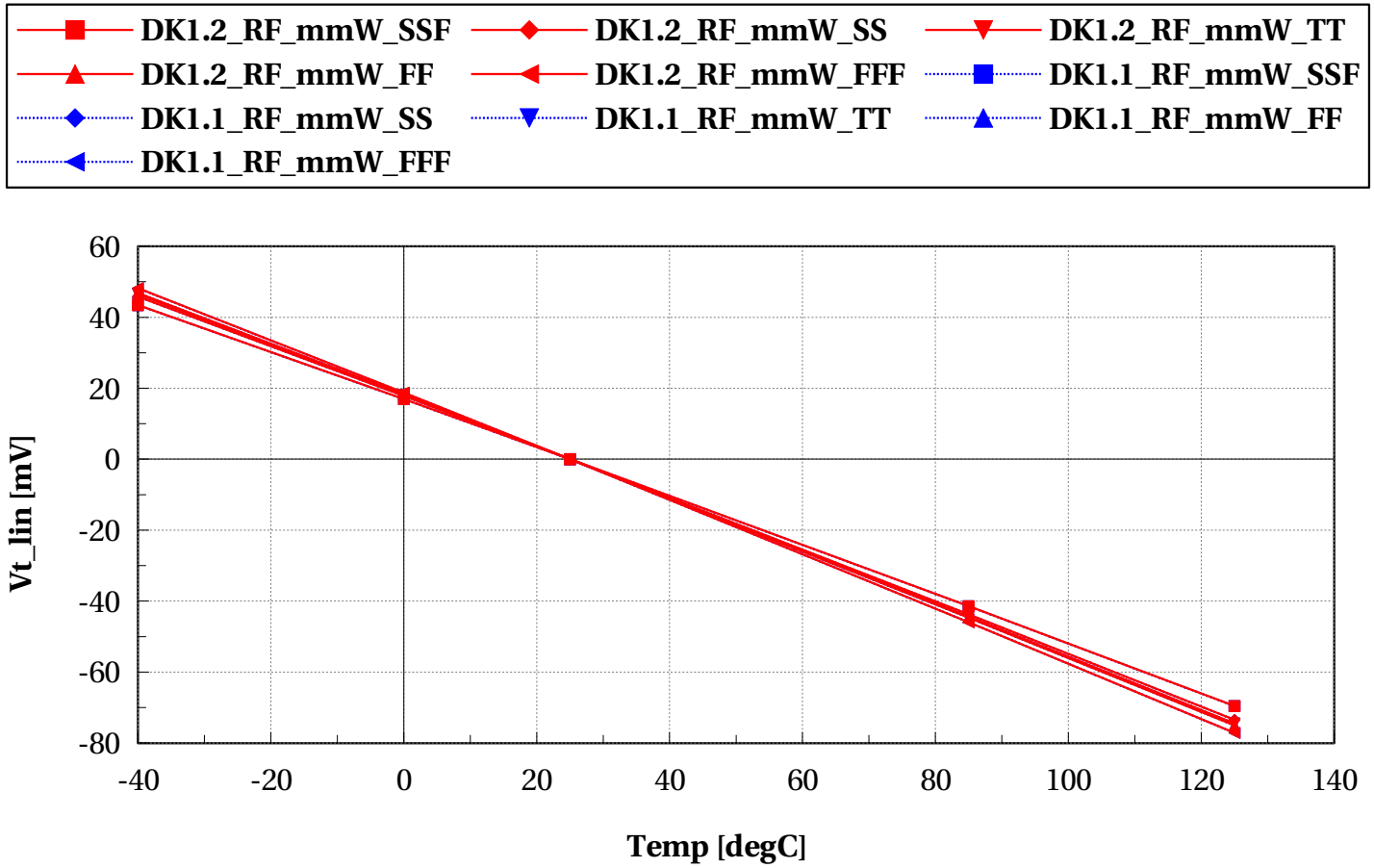
l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



Normalized scaling versus Temp @ L=0.1u, W=2u

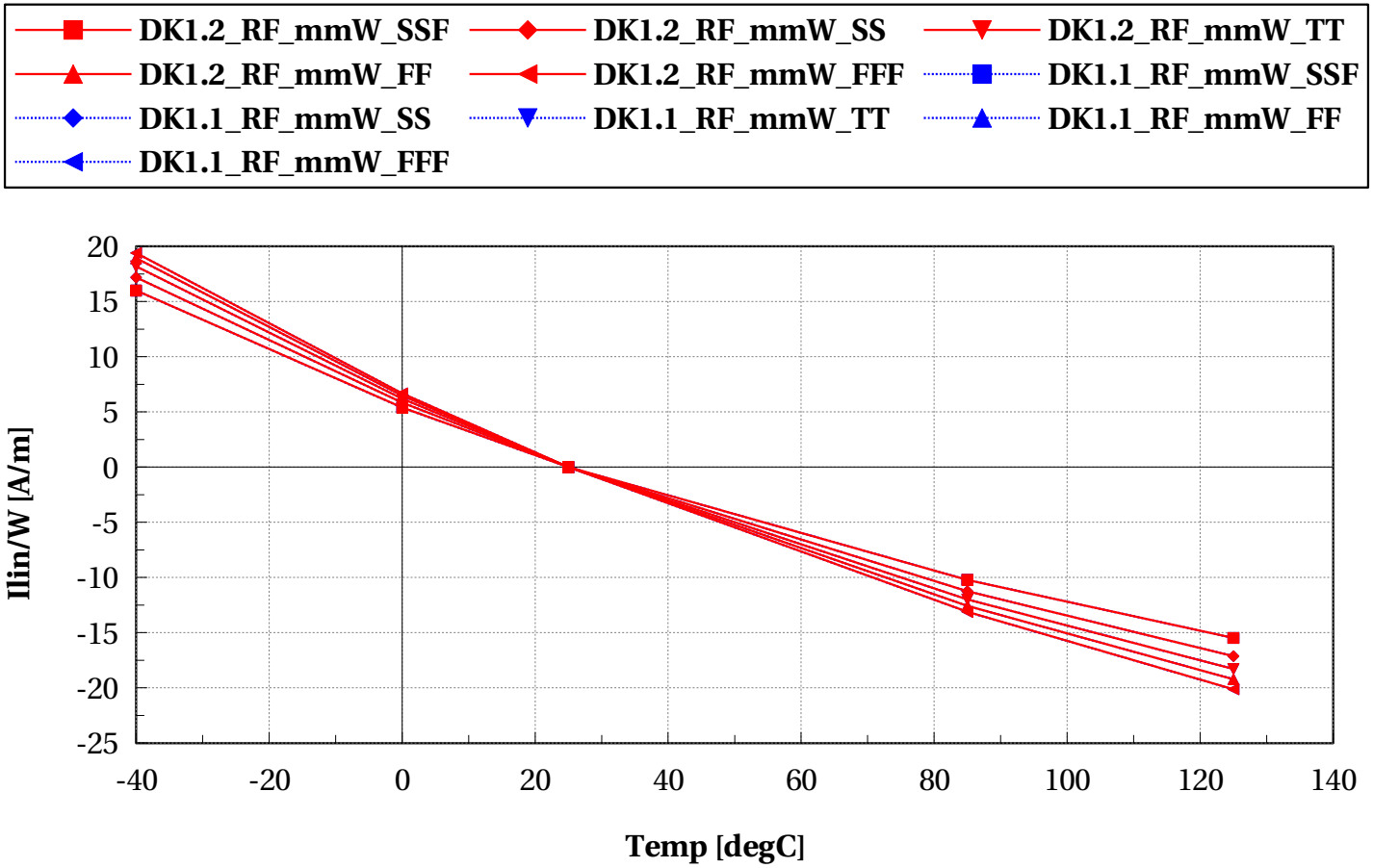
egvnfet_acc, Vt_lin [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



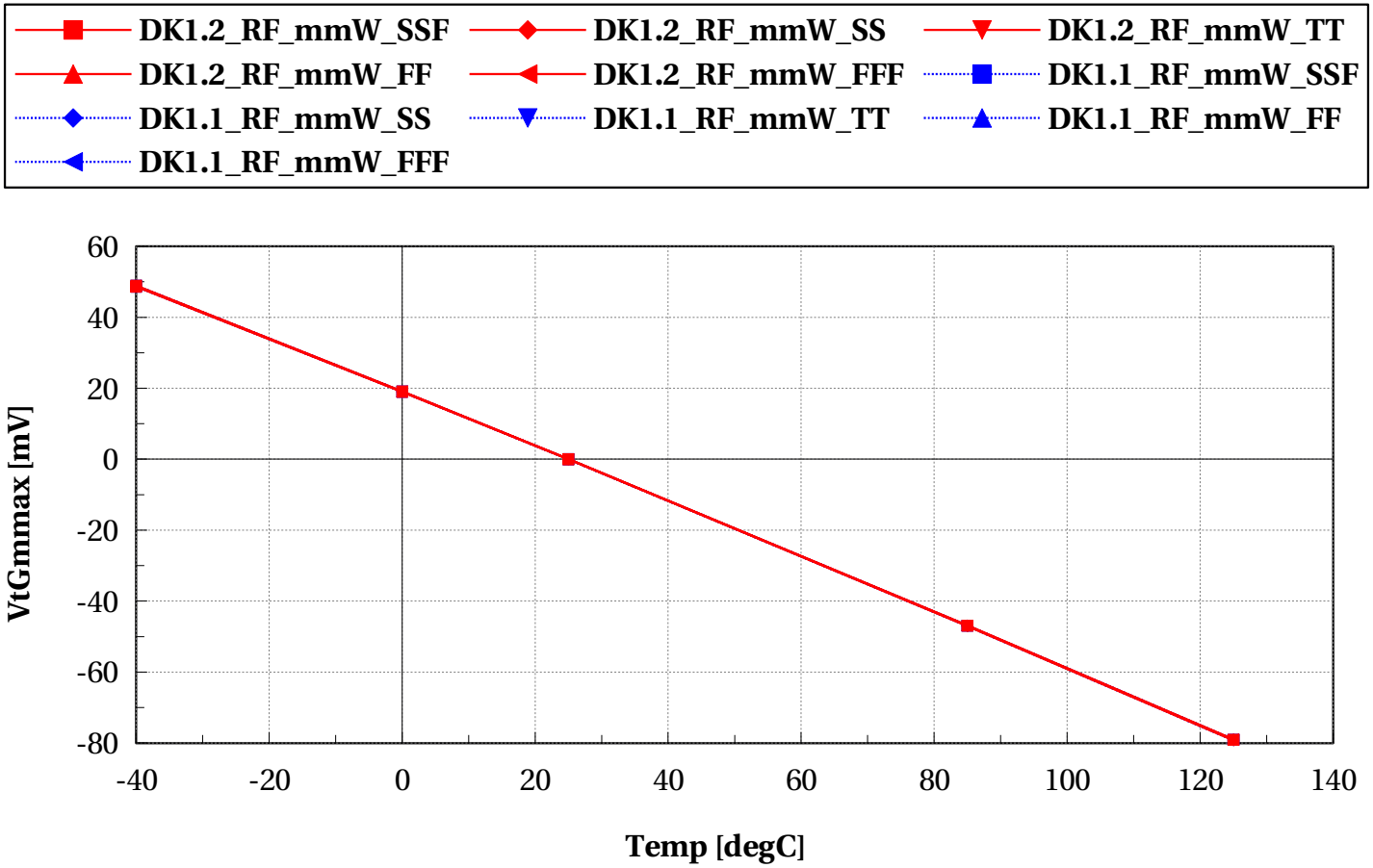
egvnfet_acc, Ilin/W [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



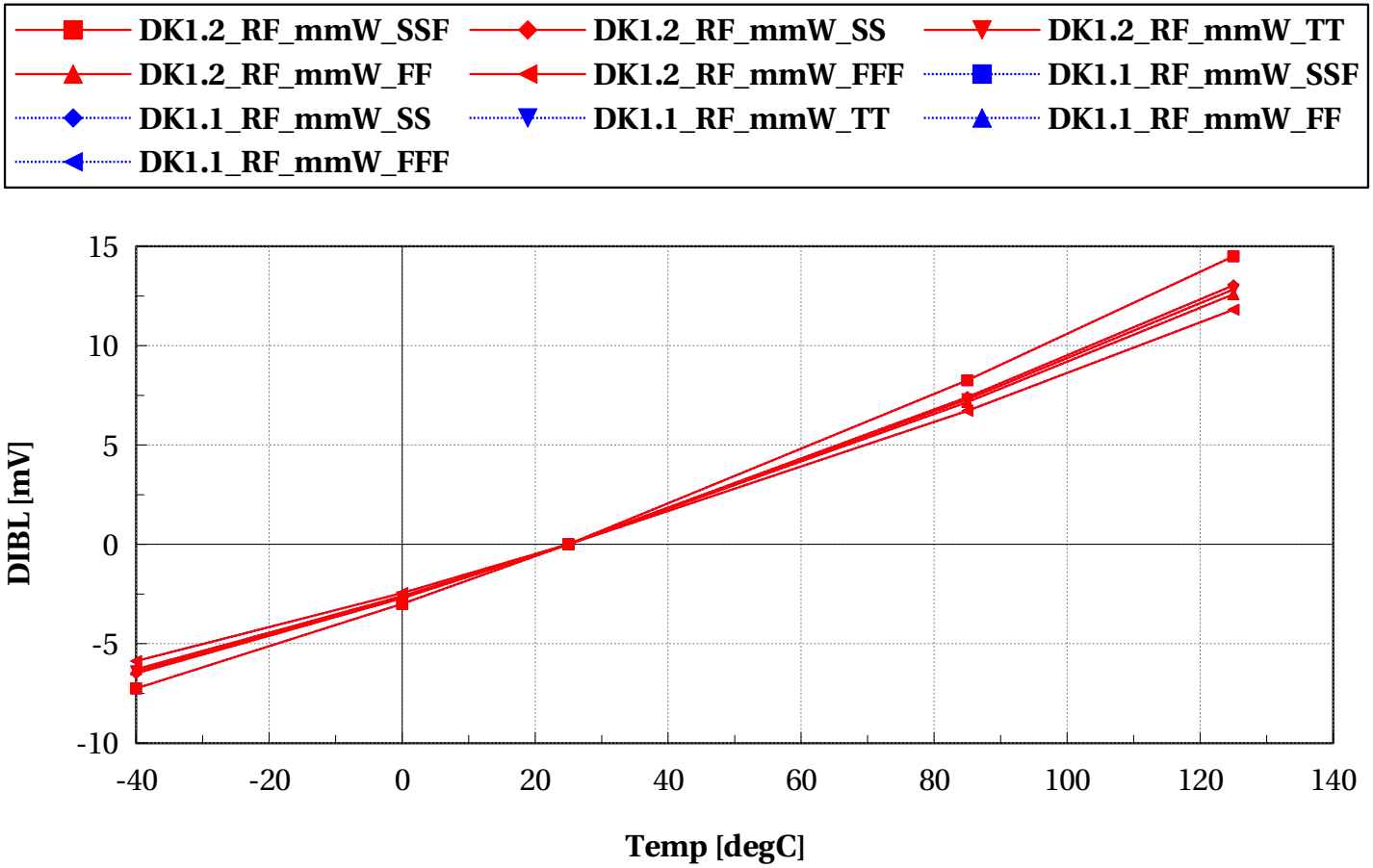
egvnfet_acc, VtGmmax [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



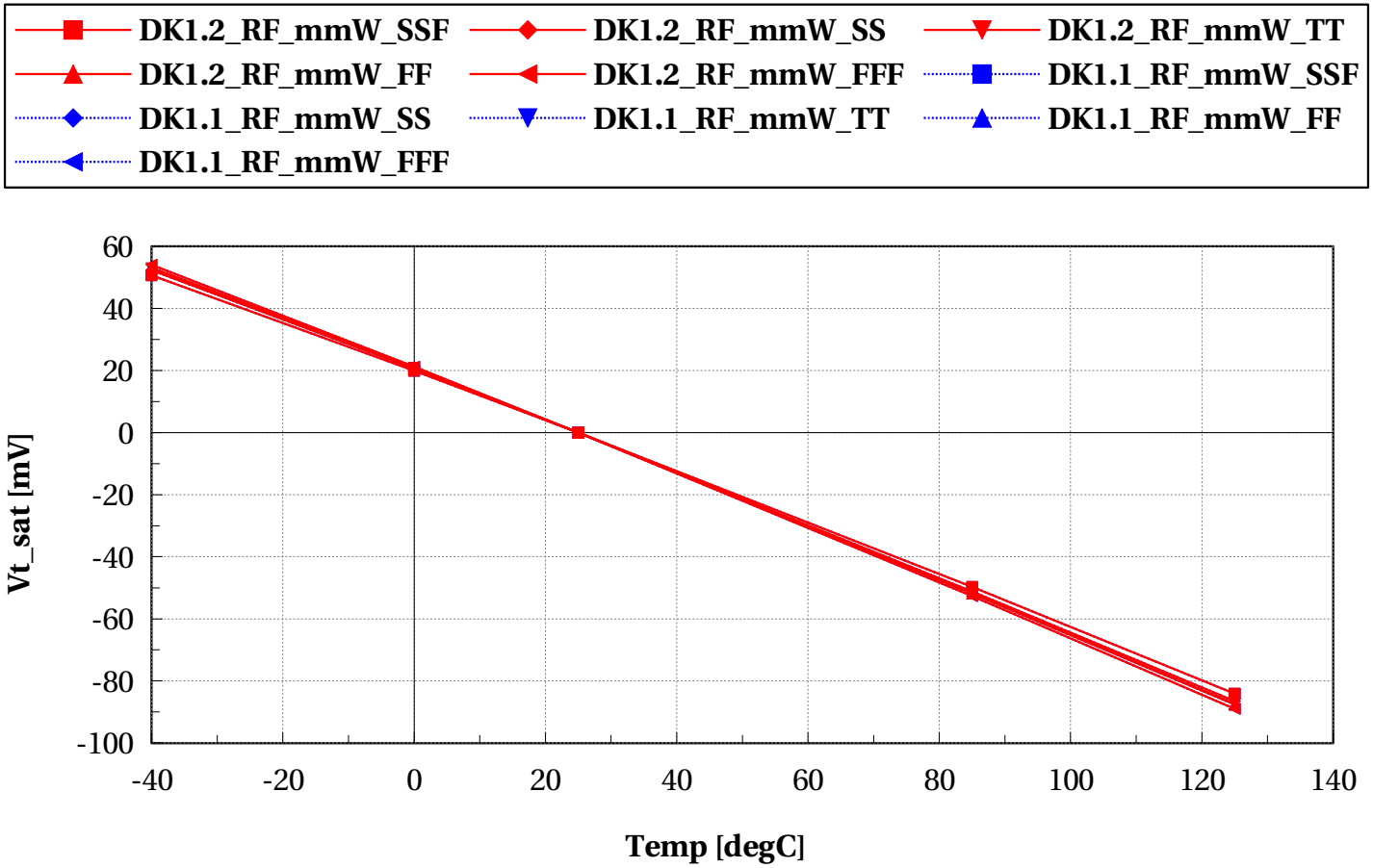
egvnfet_acc, DIBL [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



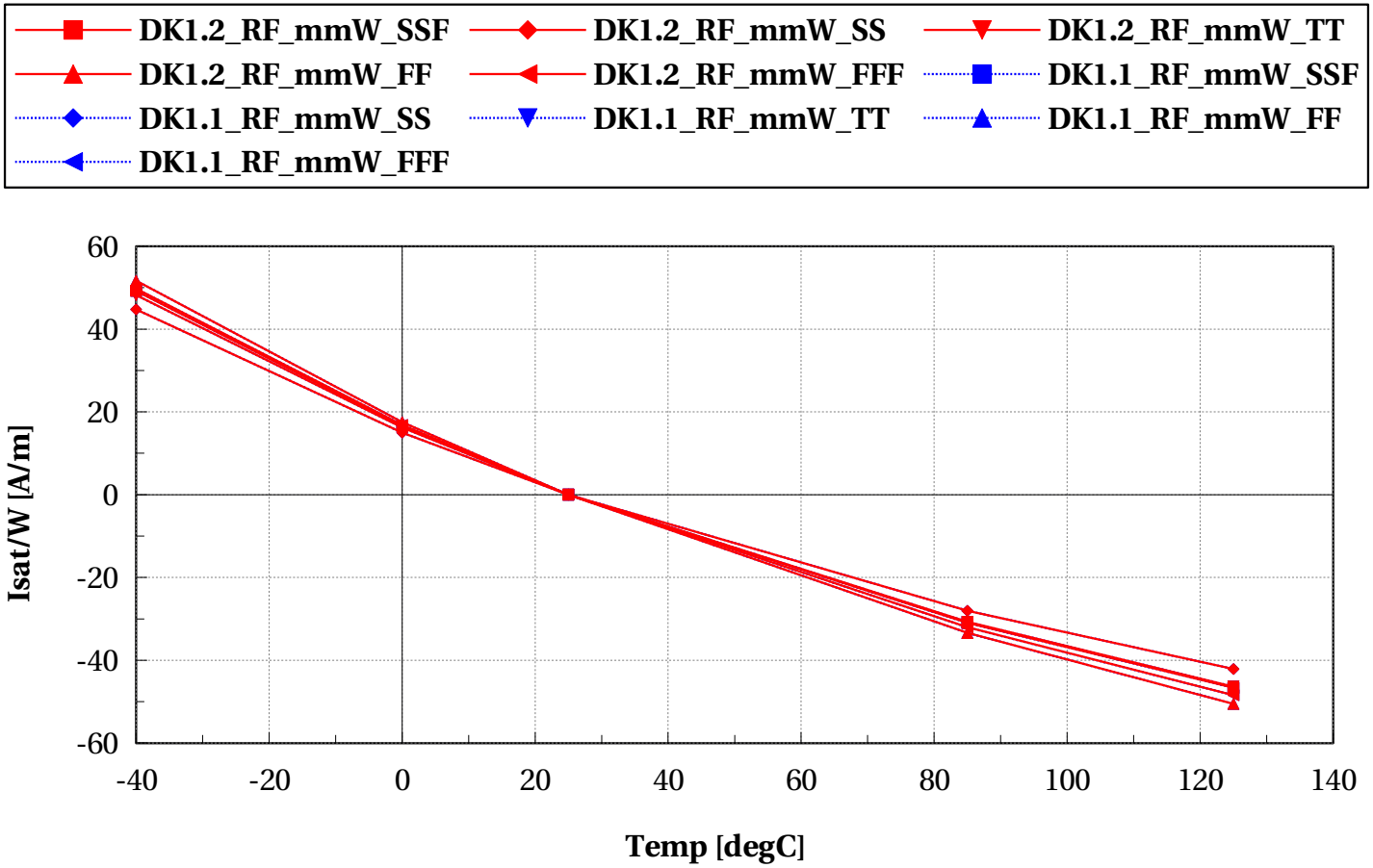
egvnfet_acc, Vt_sat [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



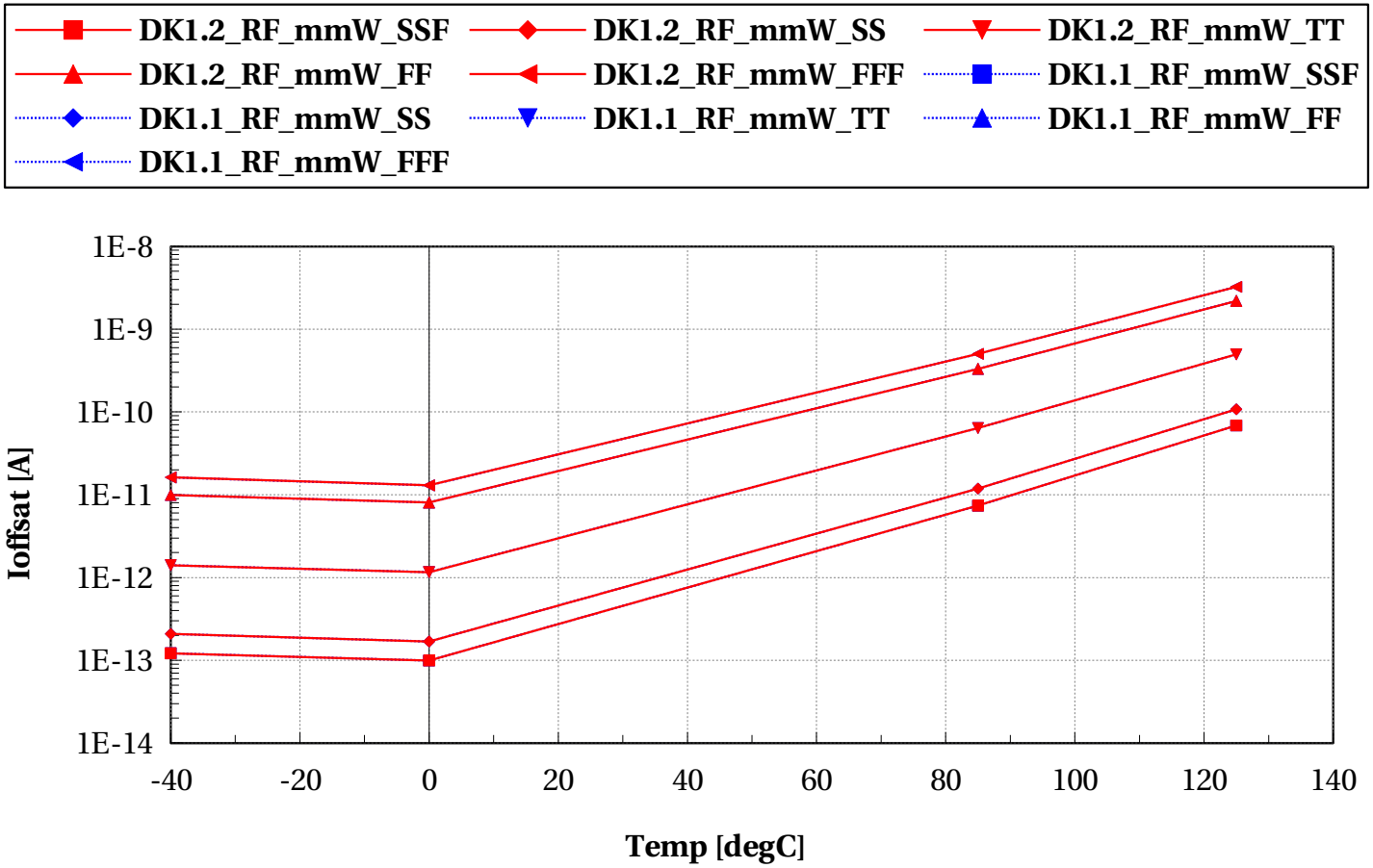
egvnfet_acc, Isat/W [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



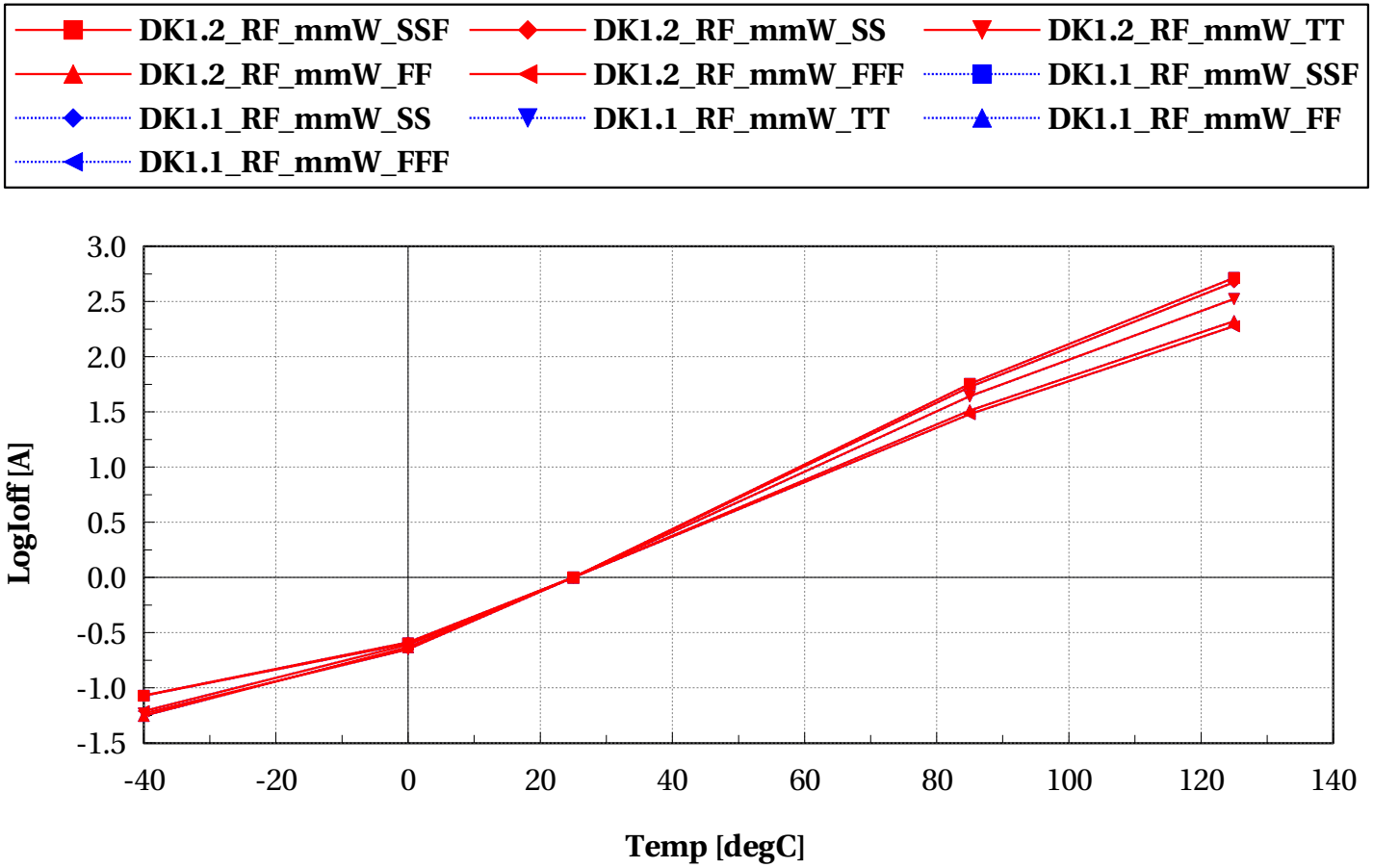
egvnfet_acc, Ioffsat [A] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



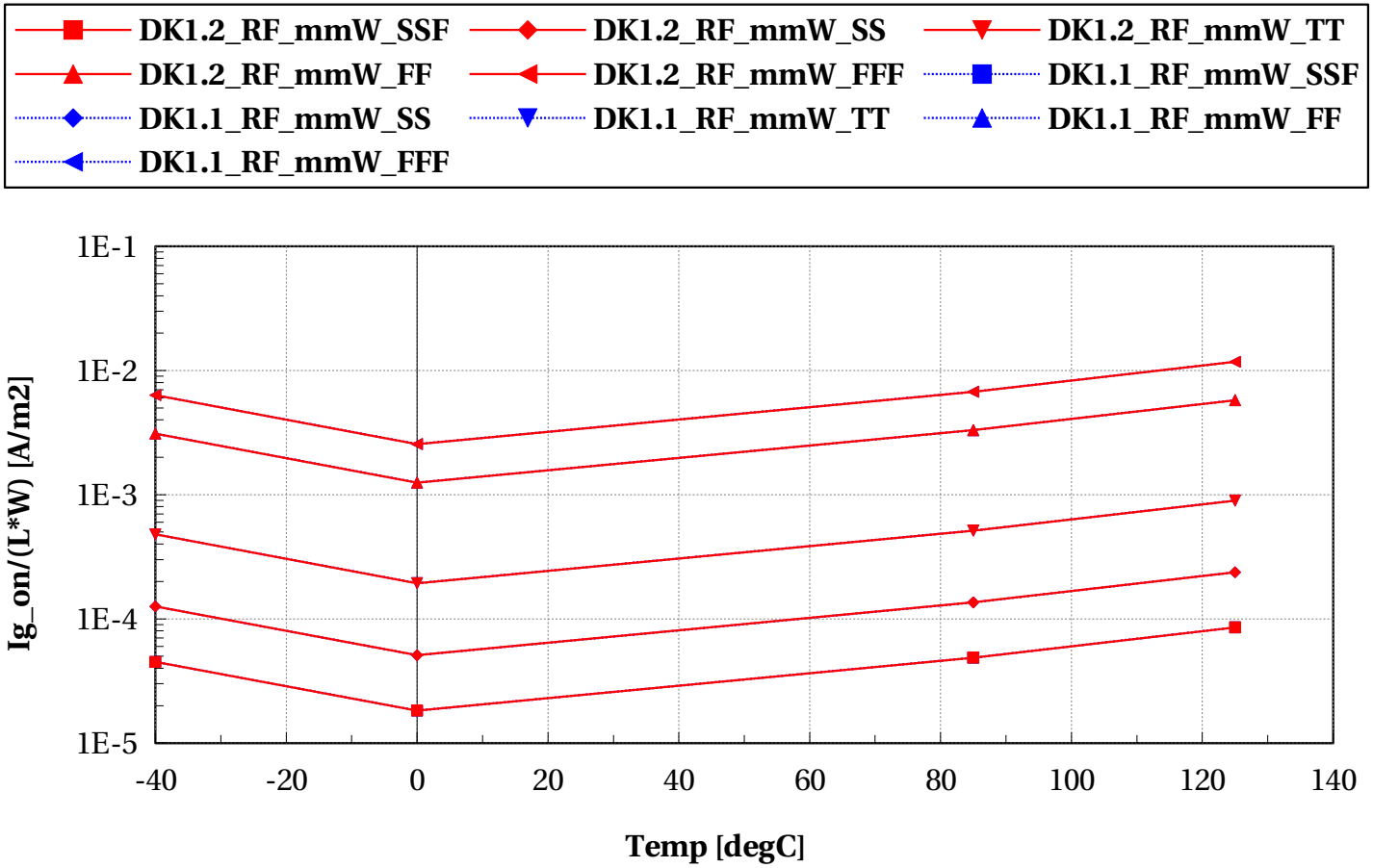
egvnfet_acc, LogIoff [A] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



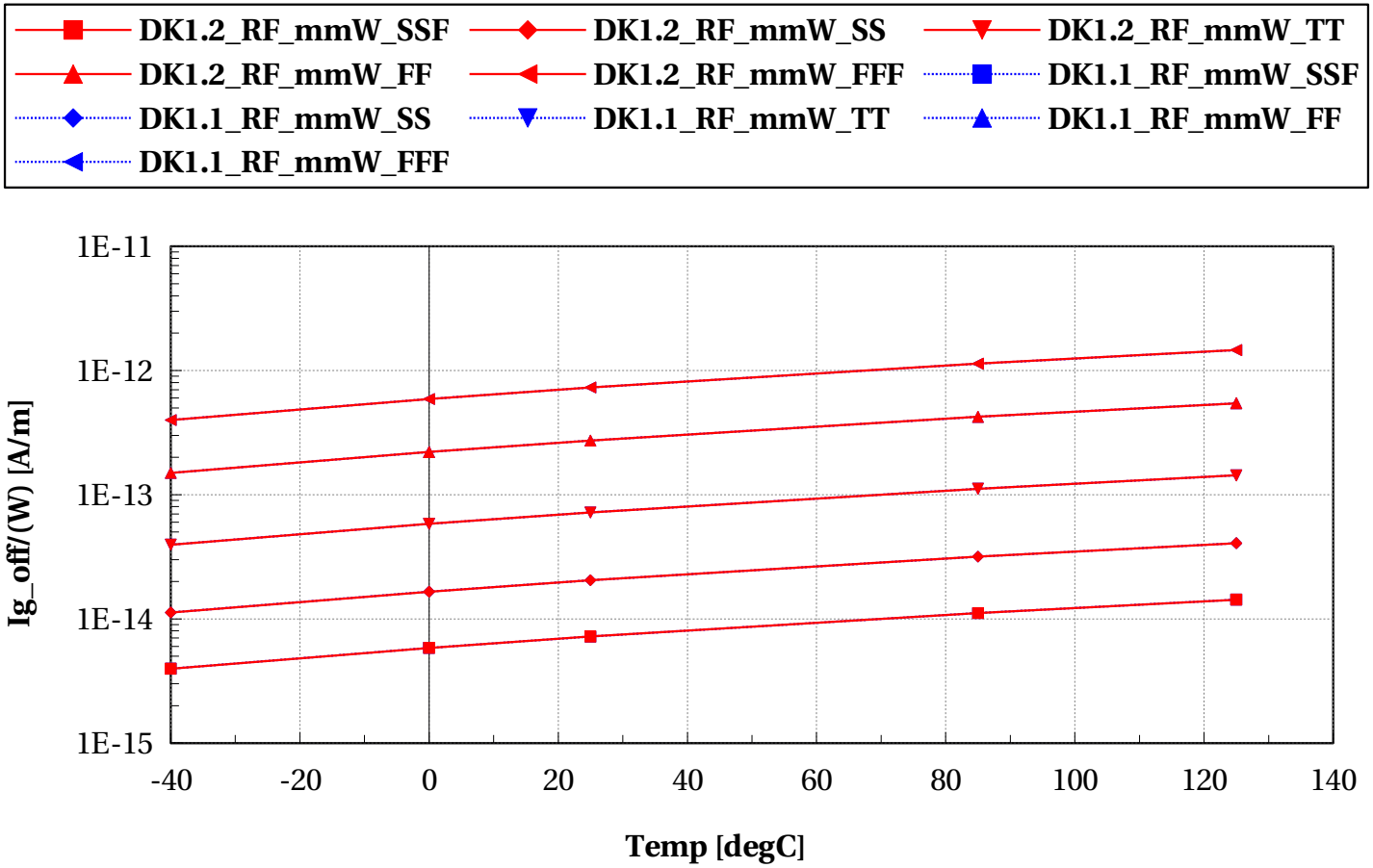
egvnfet_acc, Ig_on/(L*W) [A/m2] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



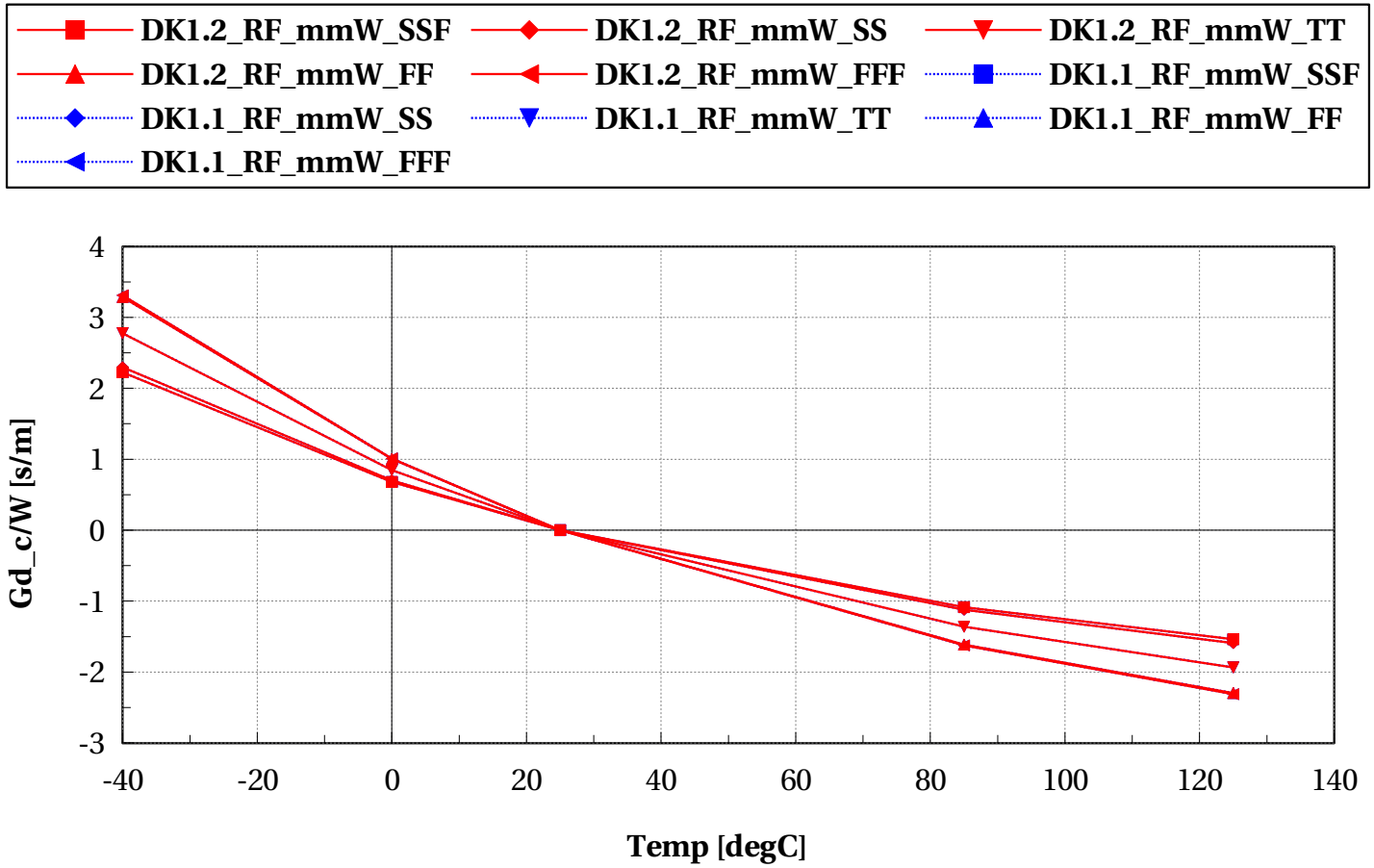
egvnfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



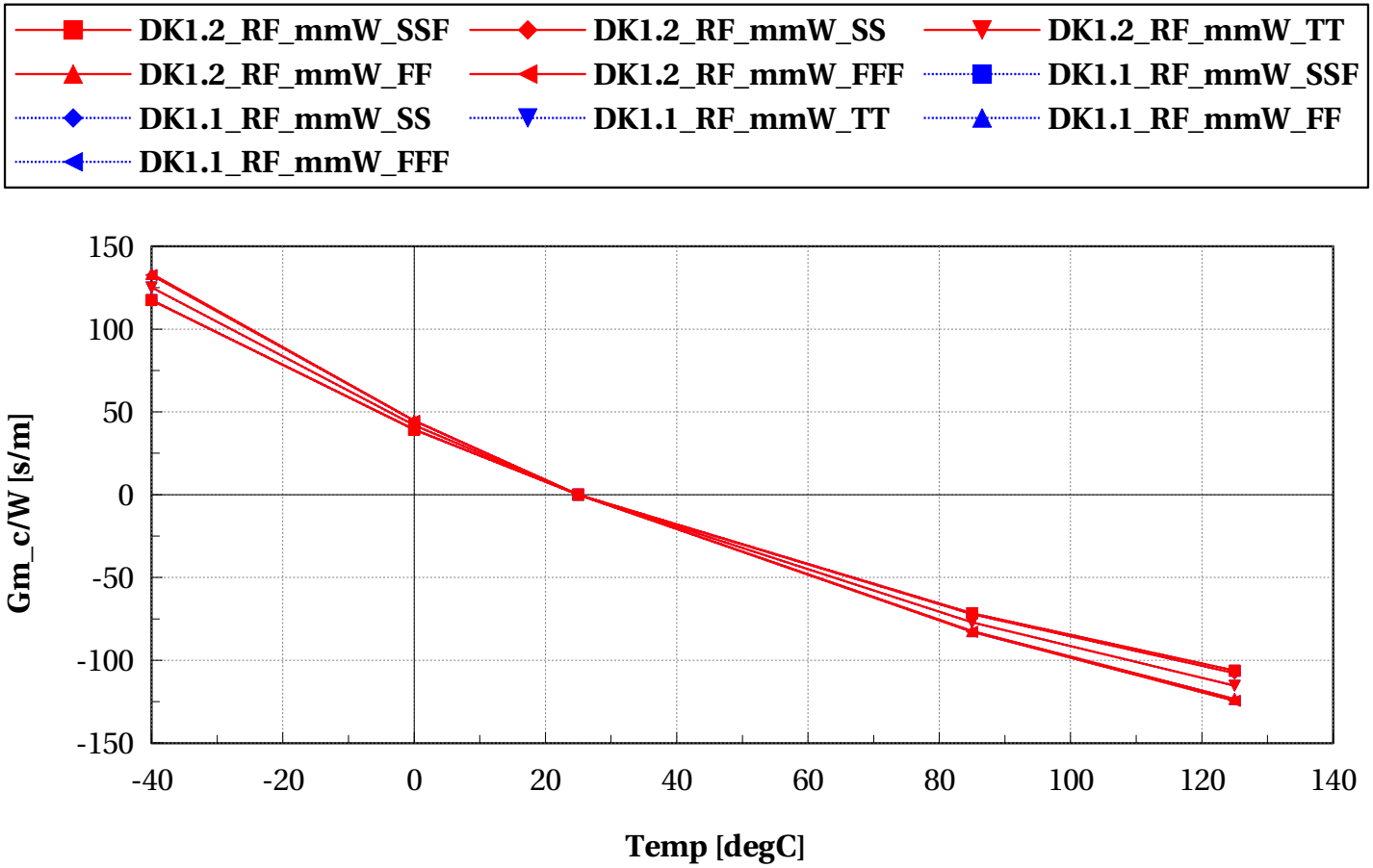
egvnfet_acc, Gd_c/W [s/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



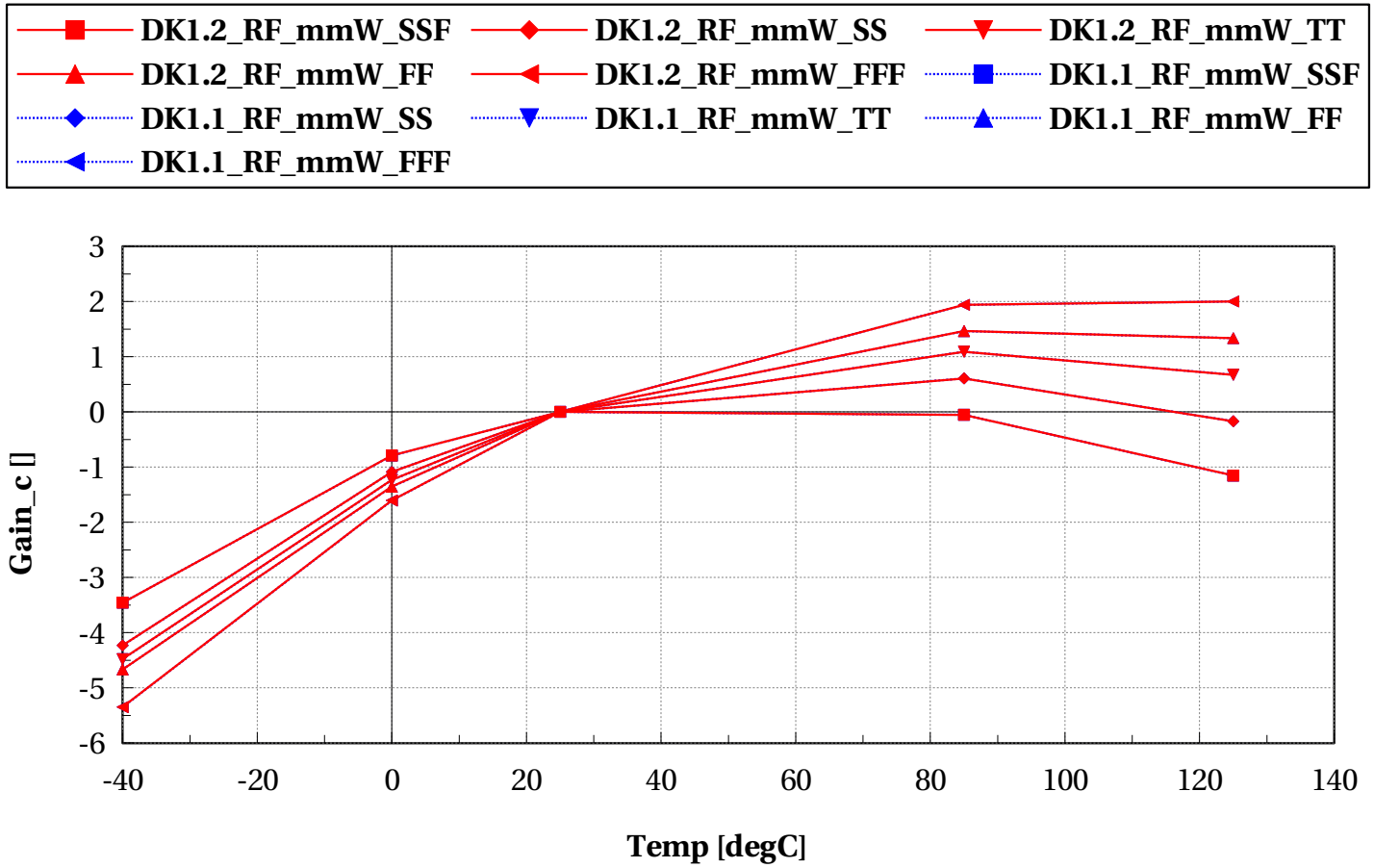
egvnfet_acc, Gm_c/W [s/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



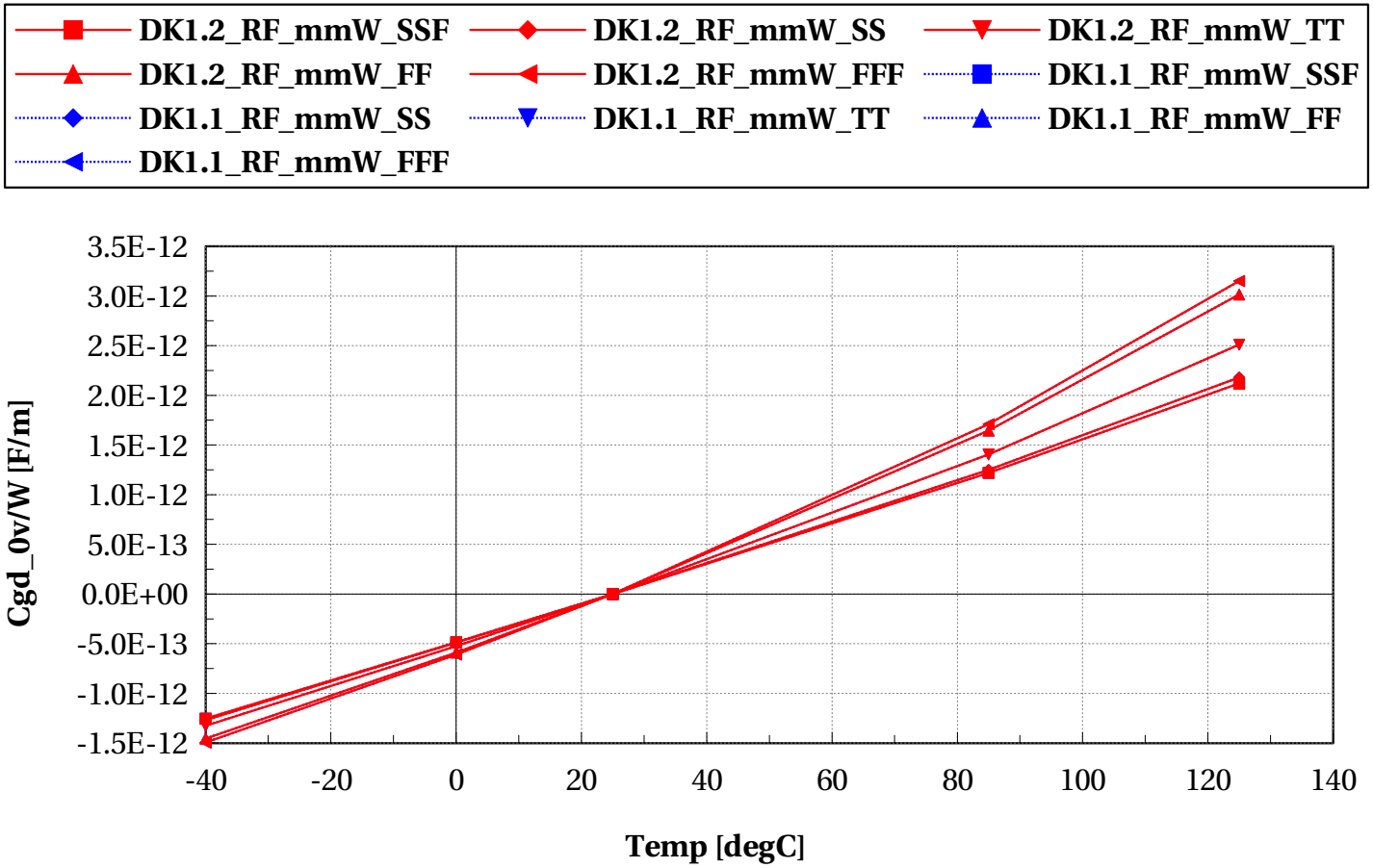
egvnfet_acc, Gain_c [] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



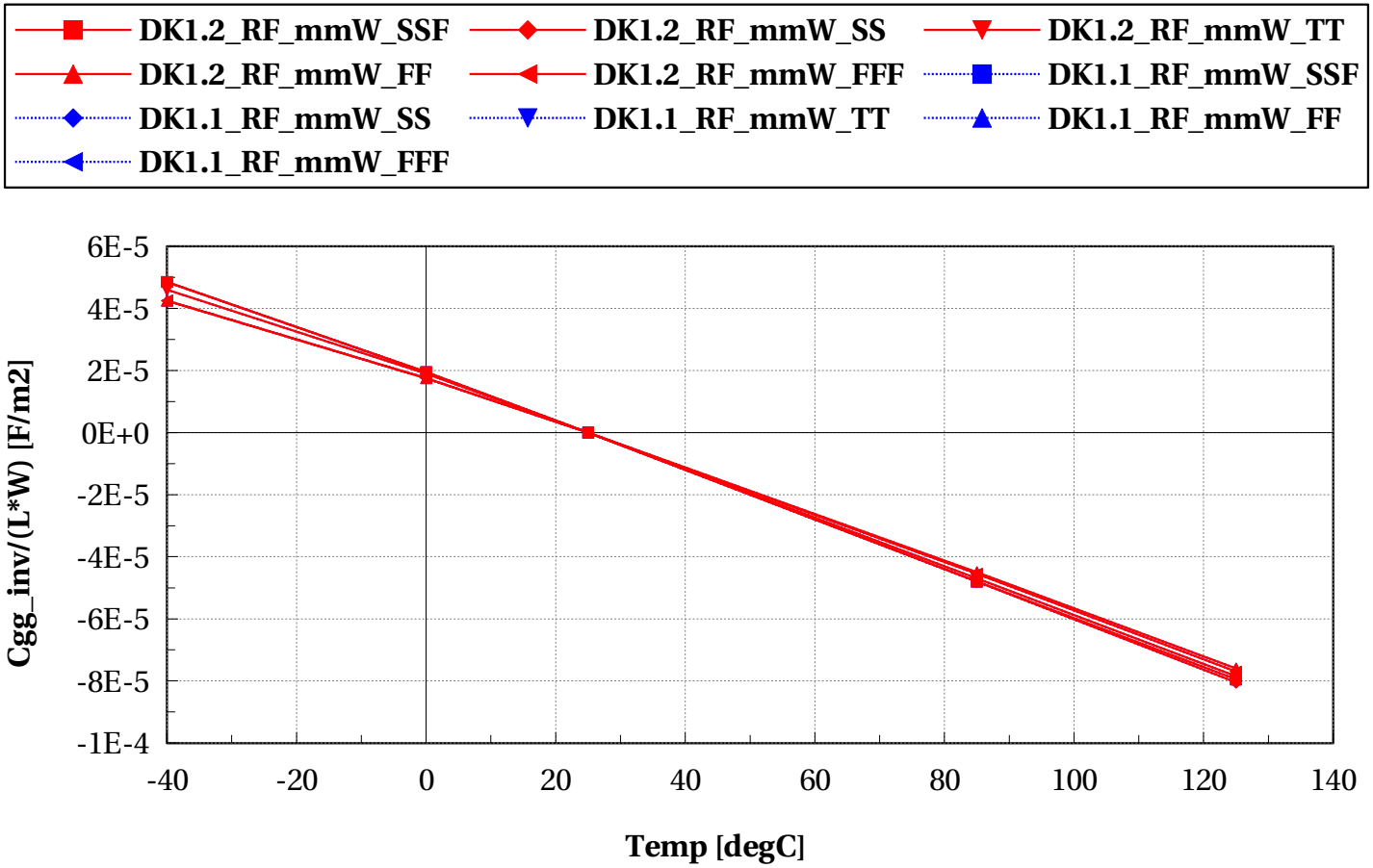
egvnfet_acc, Cgd_0v/W [F/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



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

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"

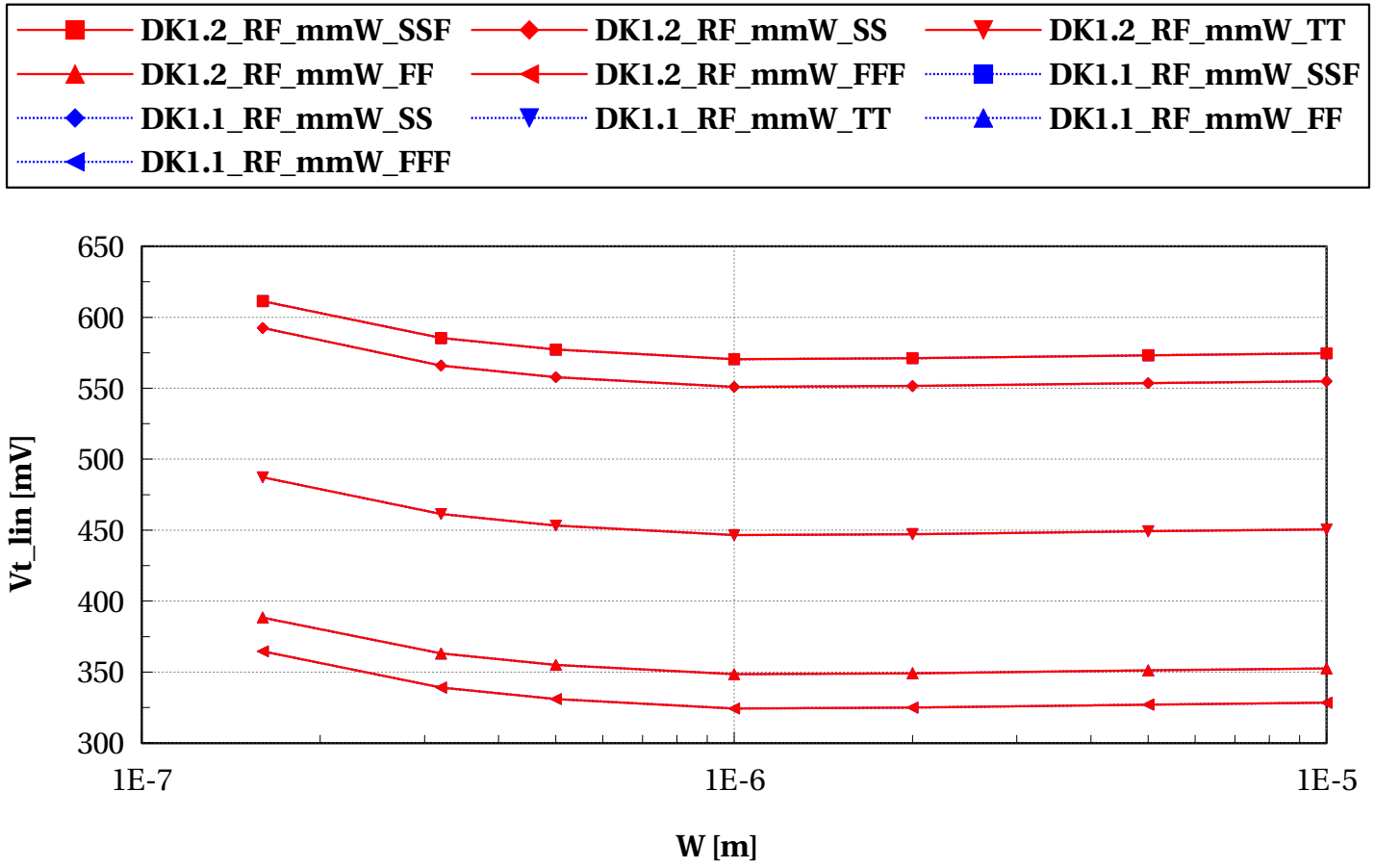


egvpfet_acc
Electrical characteristics scaling

Scaling versus Width (L=0.10u,Temp=25,Vbs=0V)

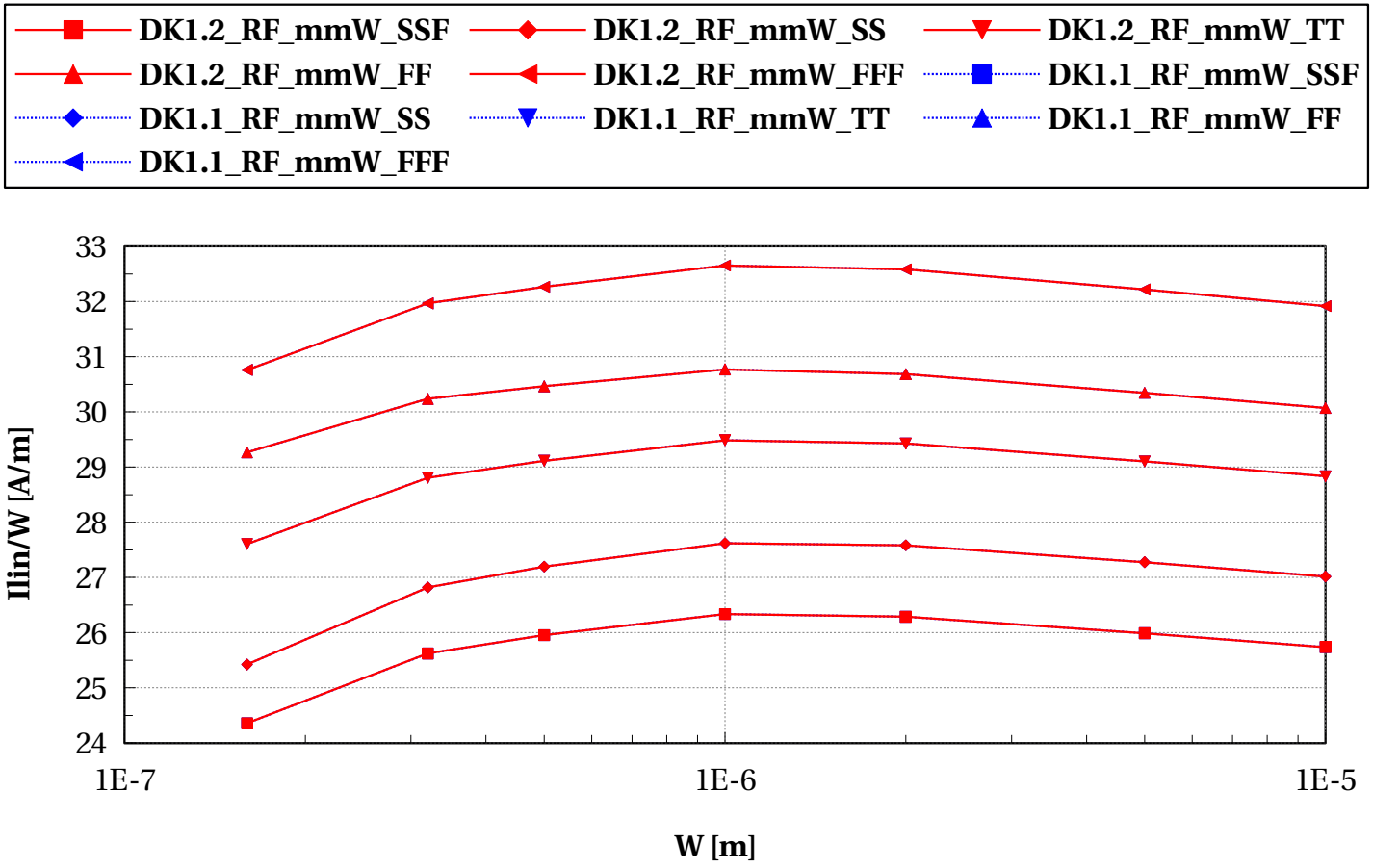
egvpfet_acc, Vt_lin [mV] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



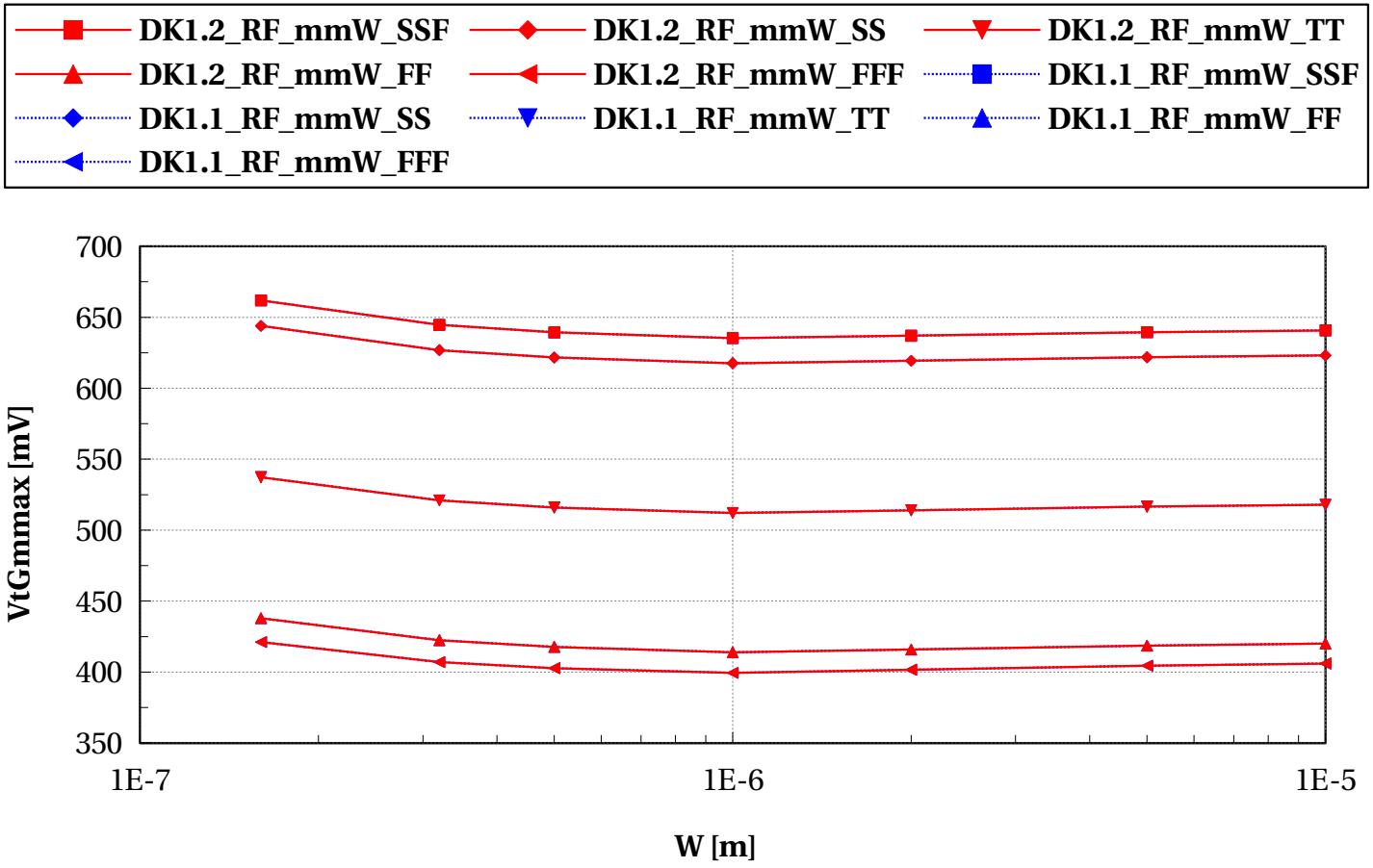
egvpfet_acc, Ilin/W [A/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



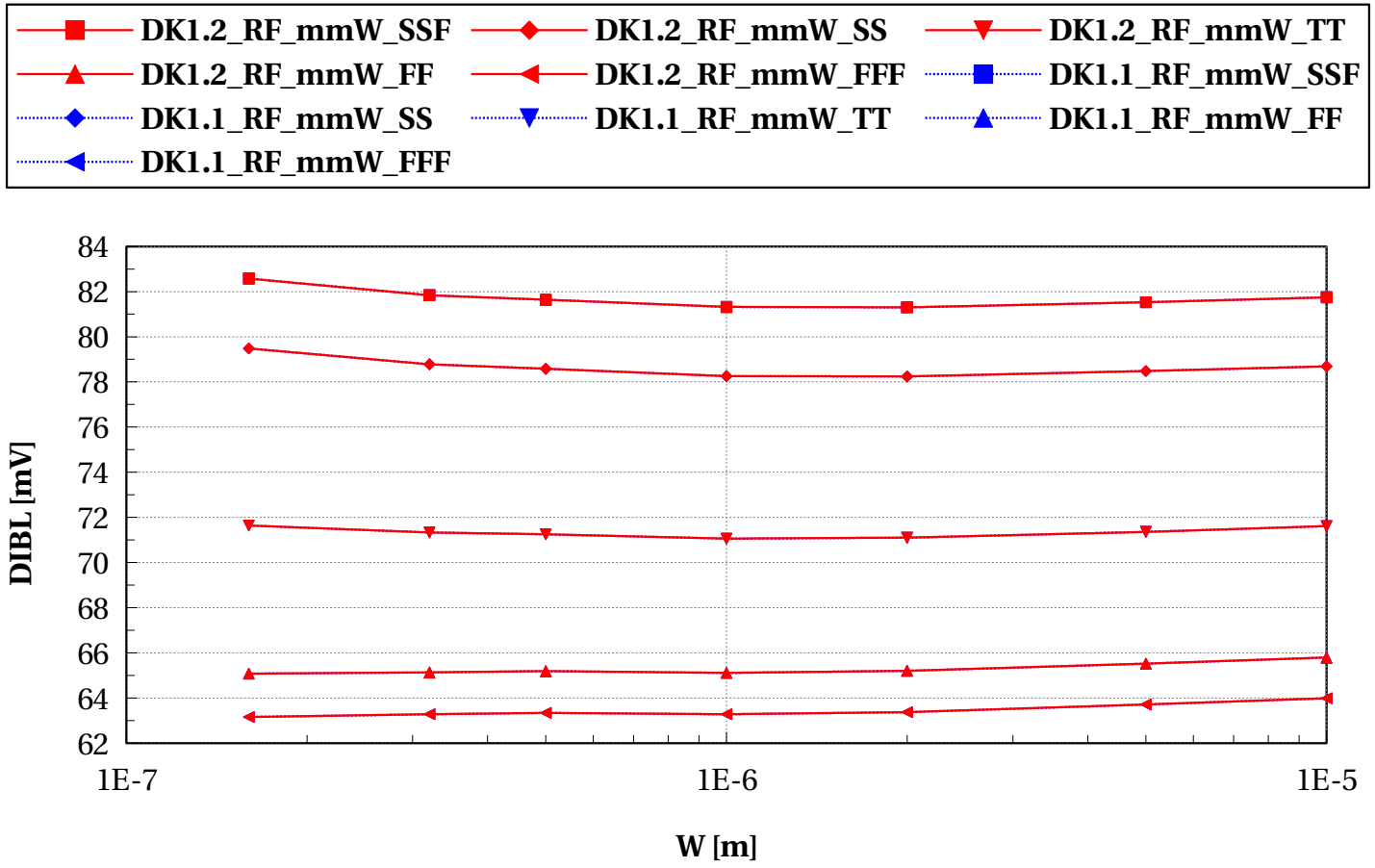
egvpfet_acc, VtGmmax [mV] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



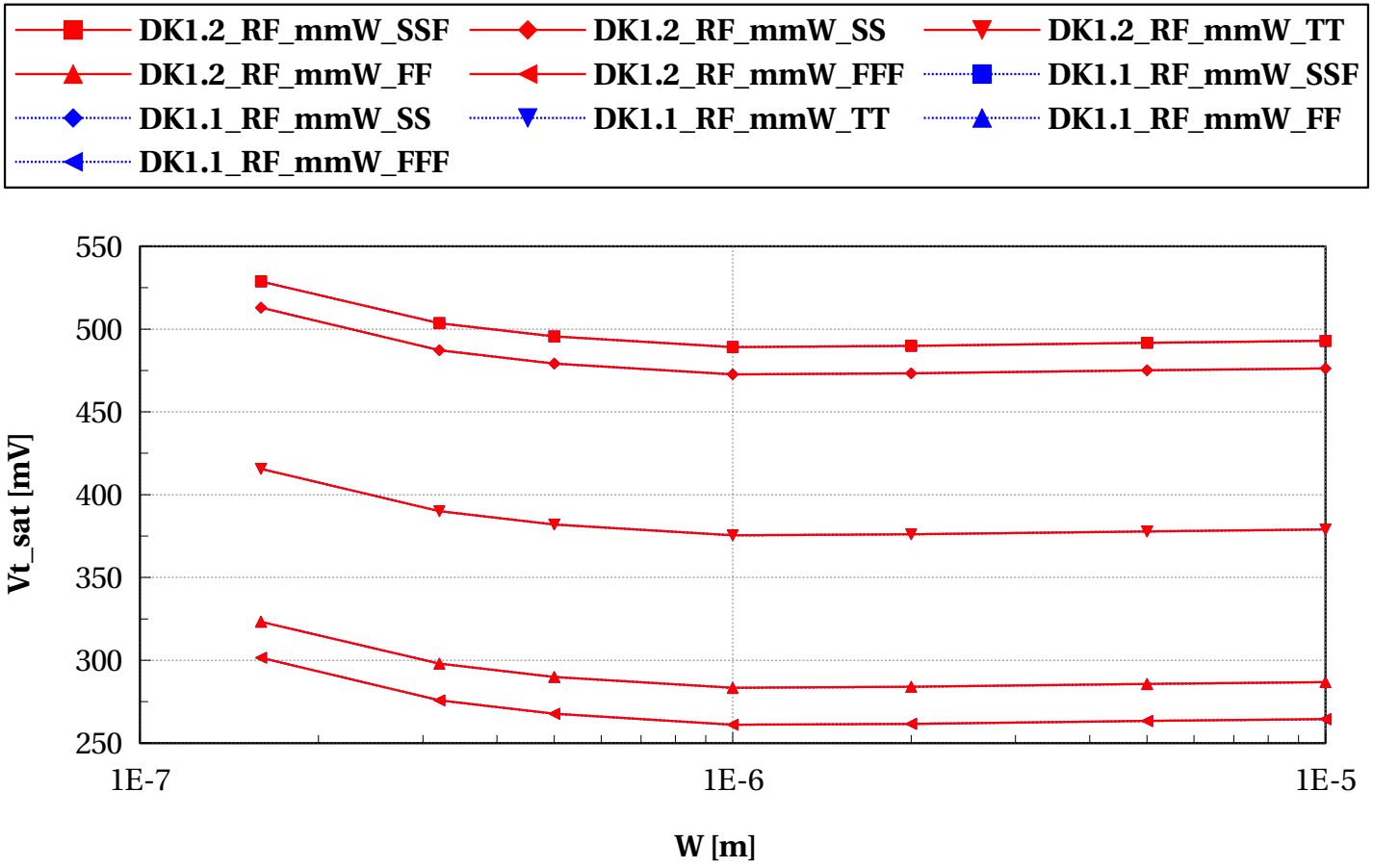
egvpfet_acc, DIBL [mV] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



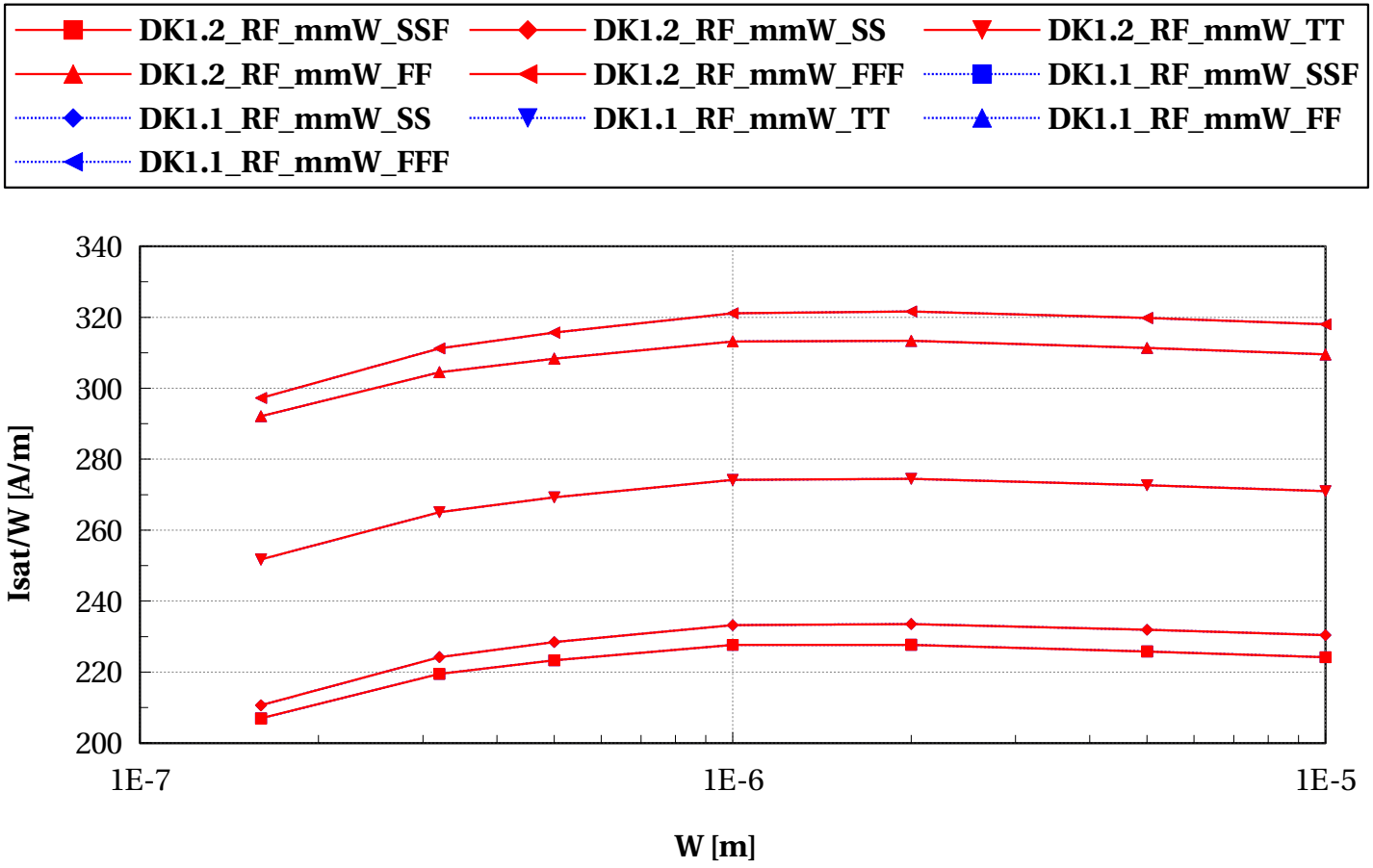
egvpfet_acc, Vt_sat [mV] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



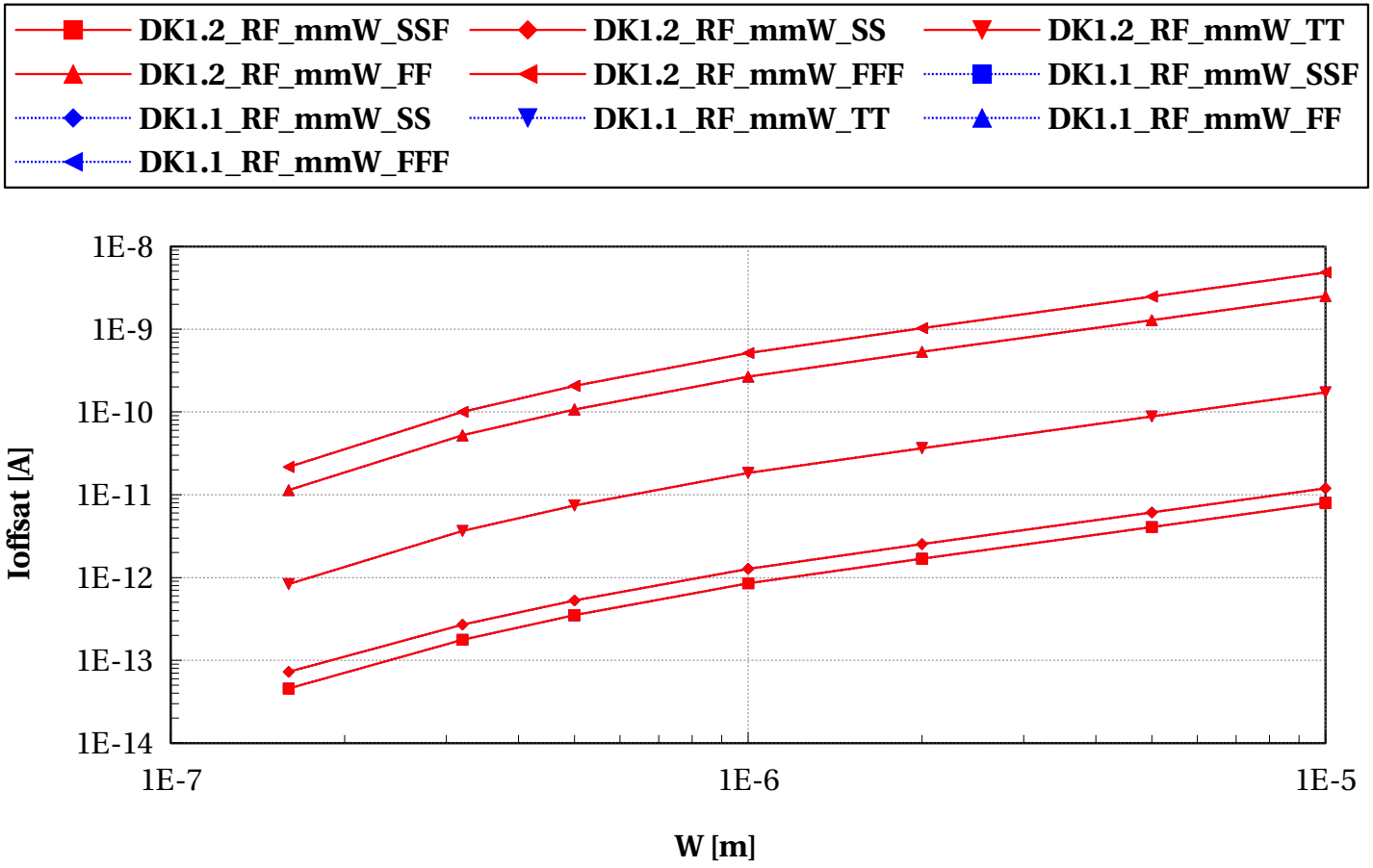
egvpfet_acc, Isat/W [A/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



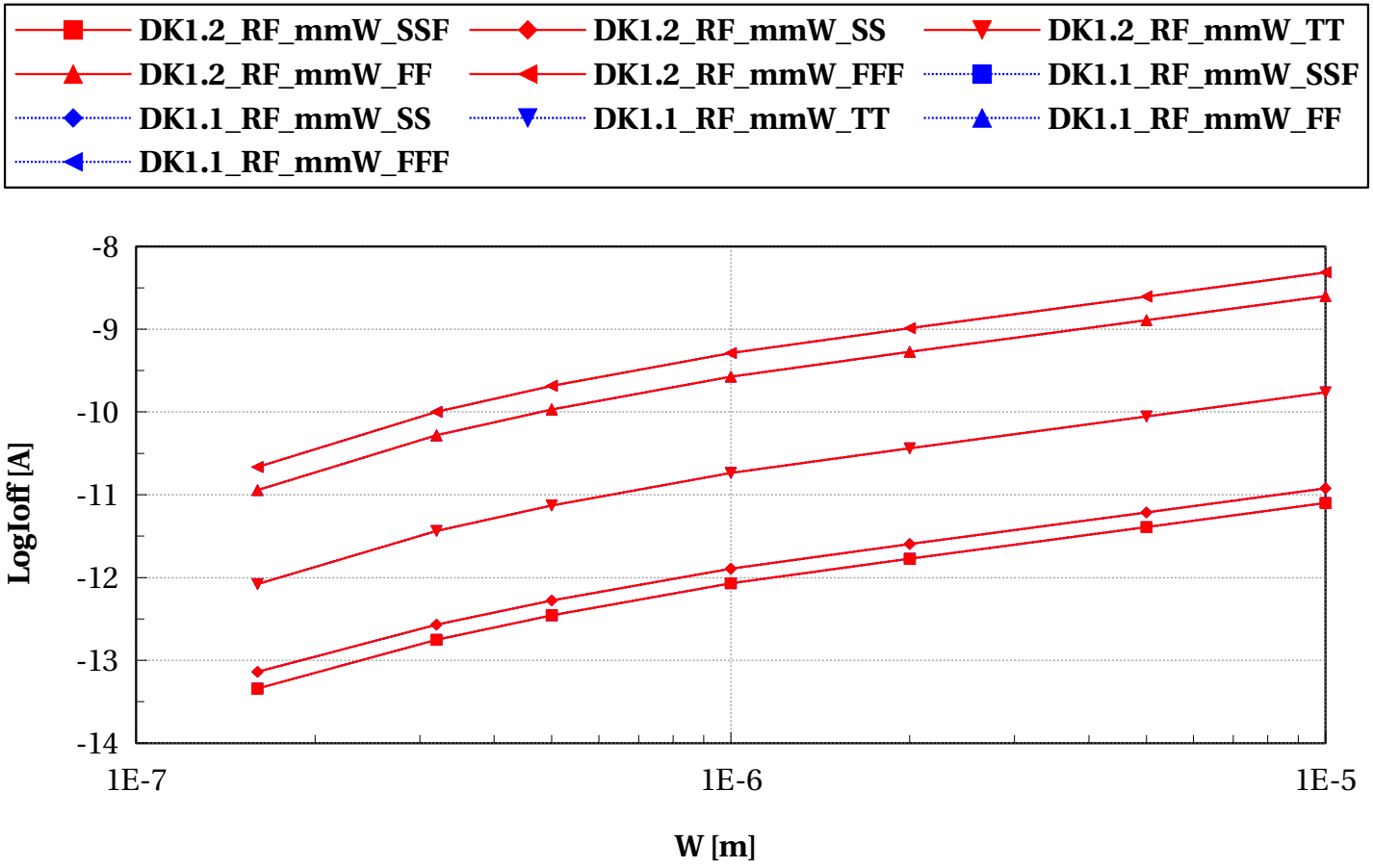
egvpfet_acc, Ioffsat [A] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



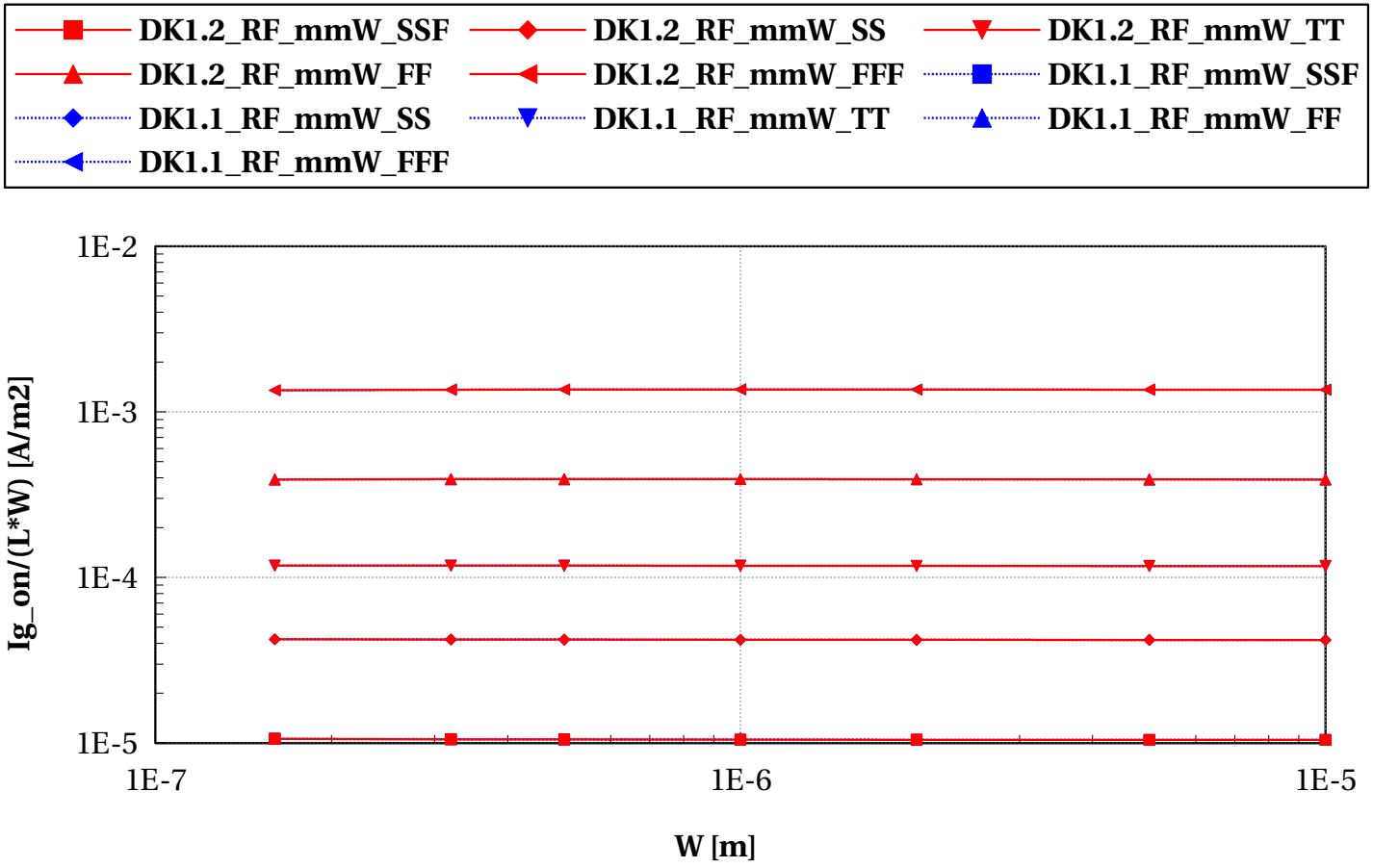
egvpfet_acc, LogIoff [A] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



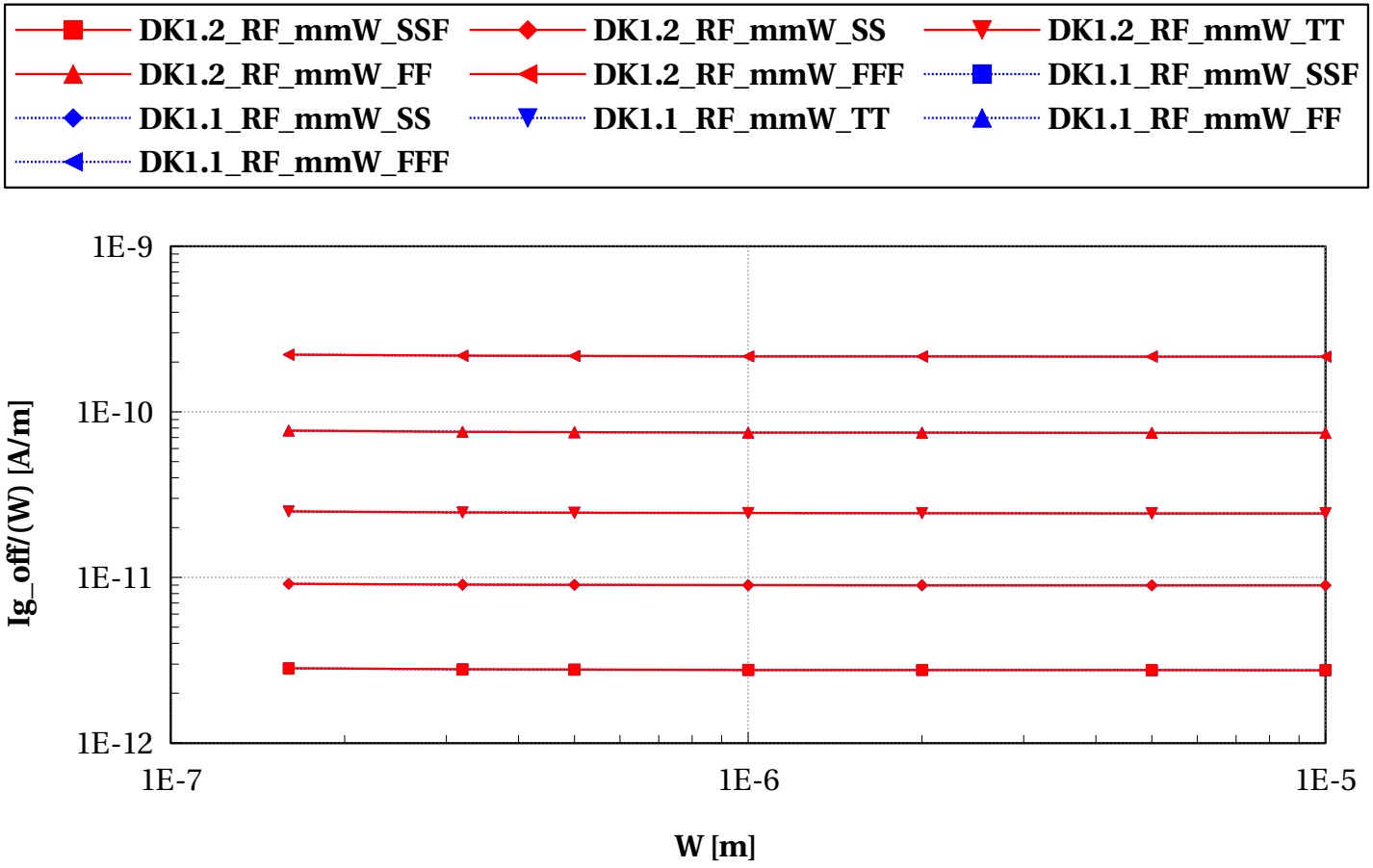
egvpfet_acc, Ig_on/(L*W) [A/m2] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



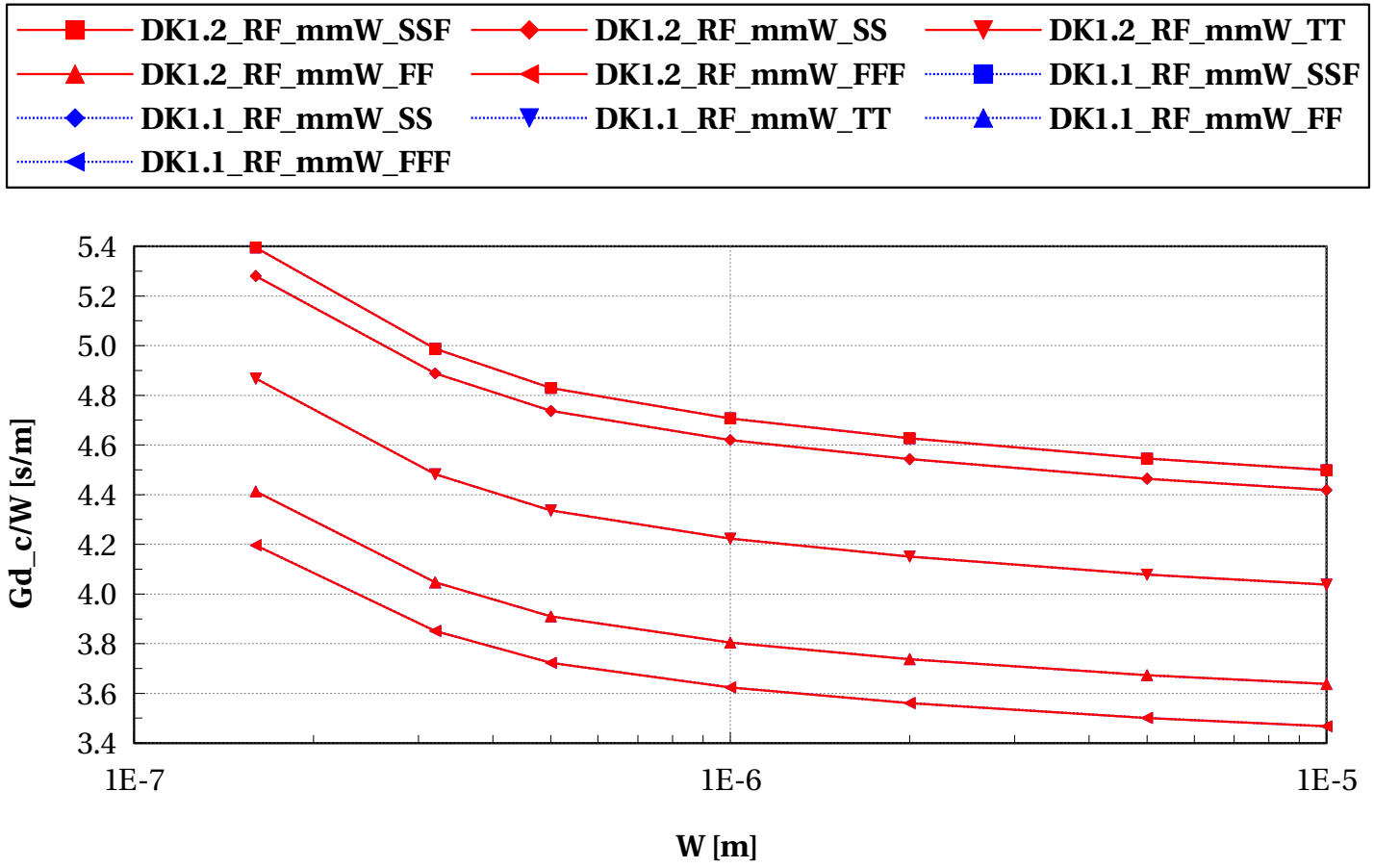
egvpfet_acc, Ig_off/(W) [A/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



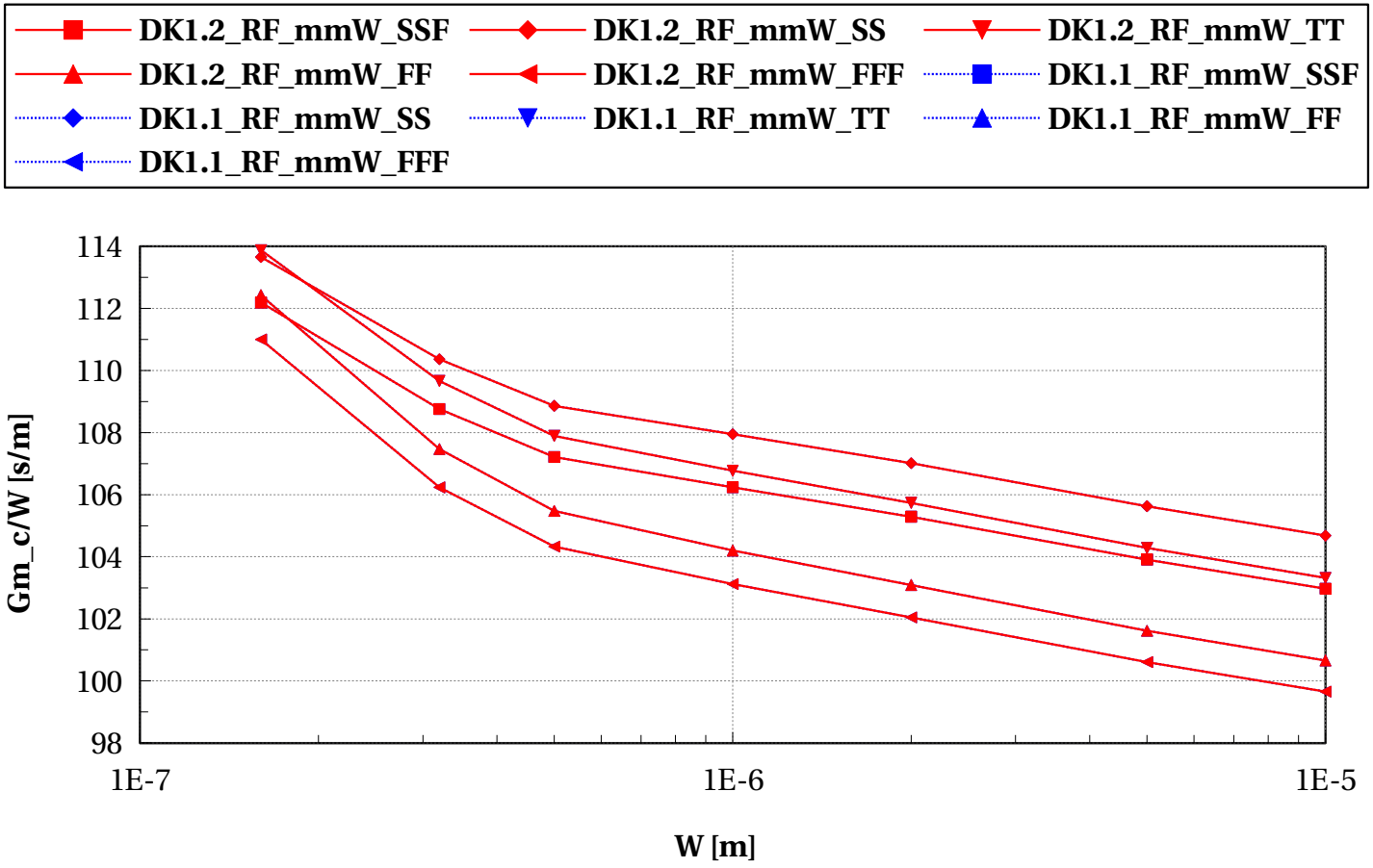
egvpfet_acc, Gd_c/W [s/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



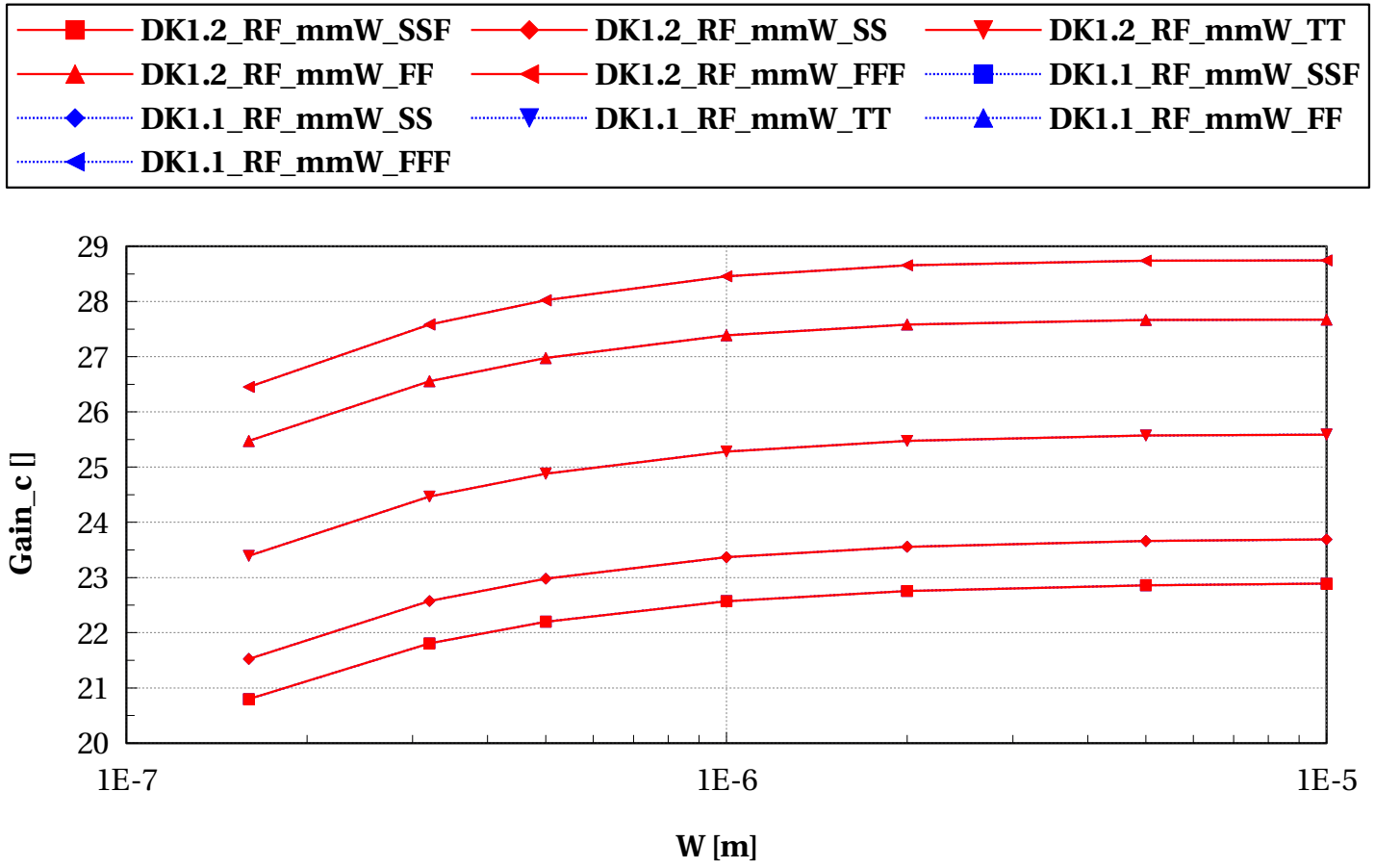
egvpfet_acc, Gm_c/W [s/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



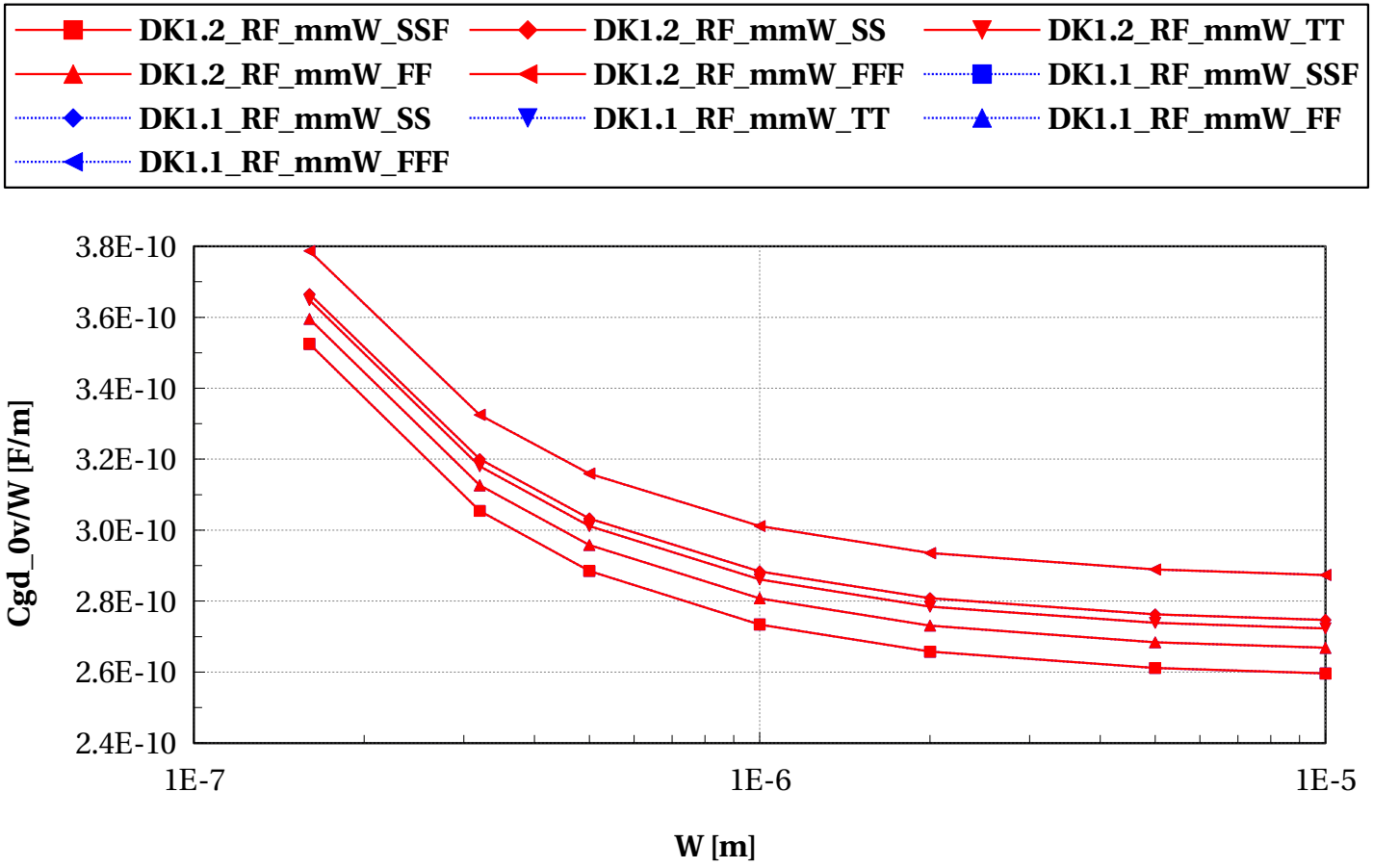
egvpfet_acc, Gain_c [] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



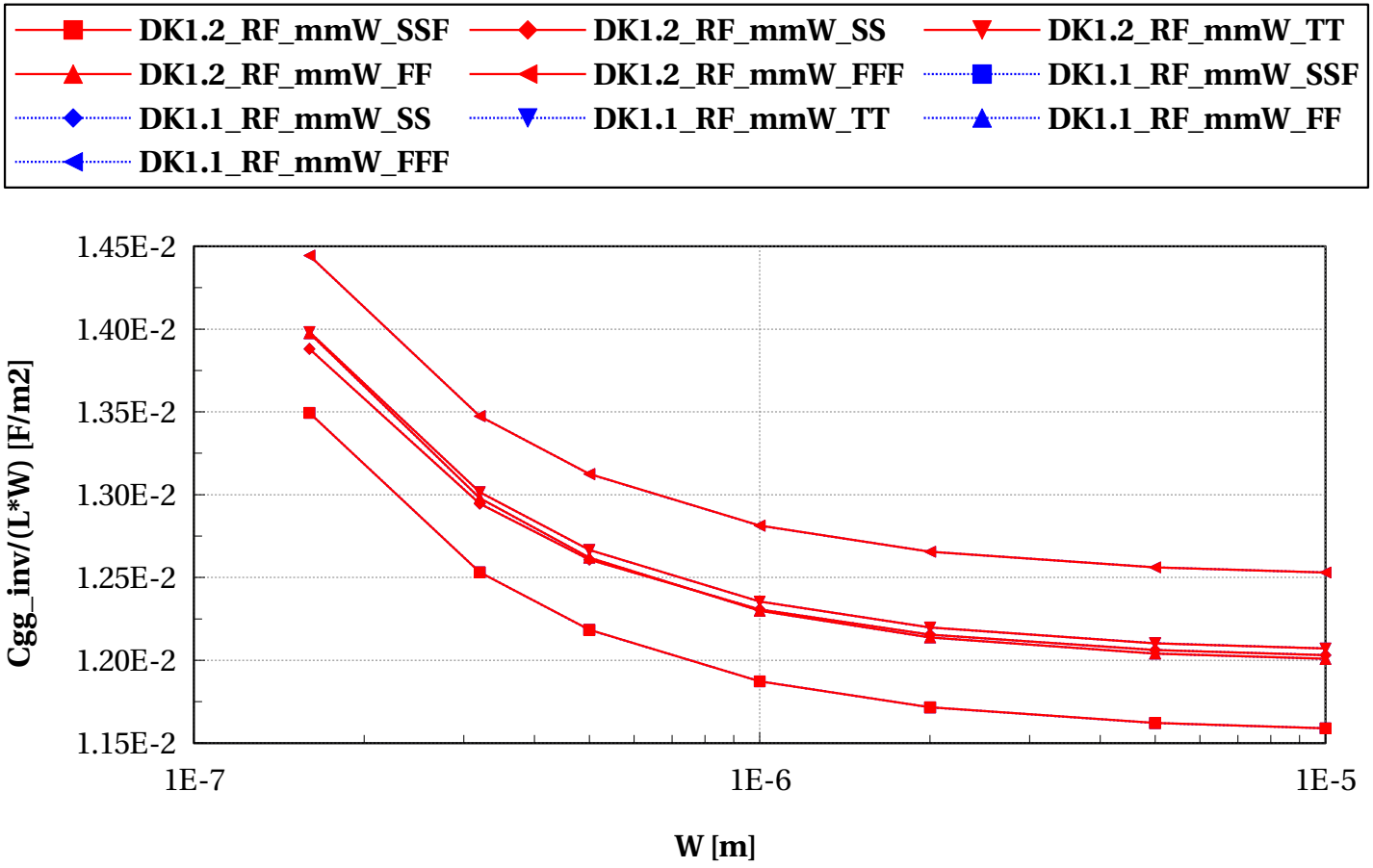
egvpfet_acc, Cgd_0v/W [F/m] vs W [m]

l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



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

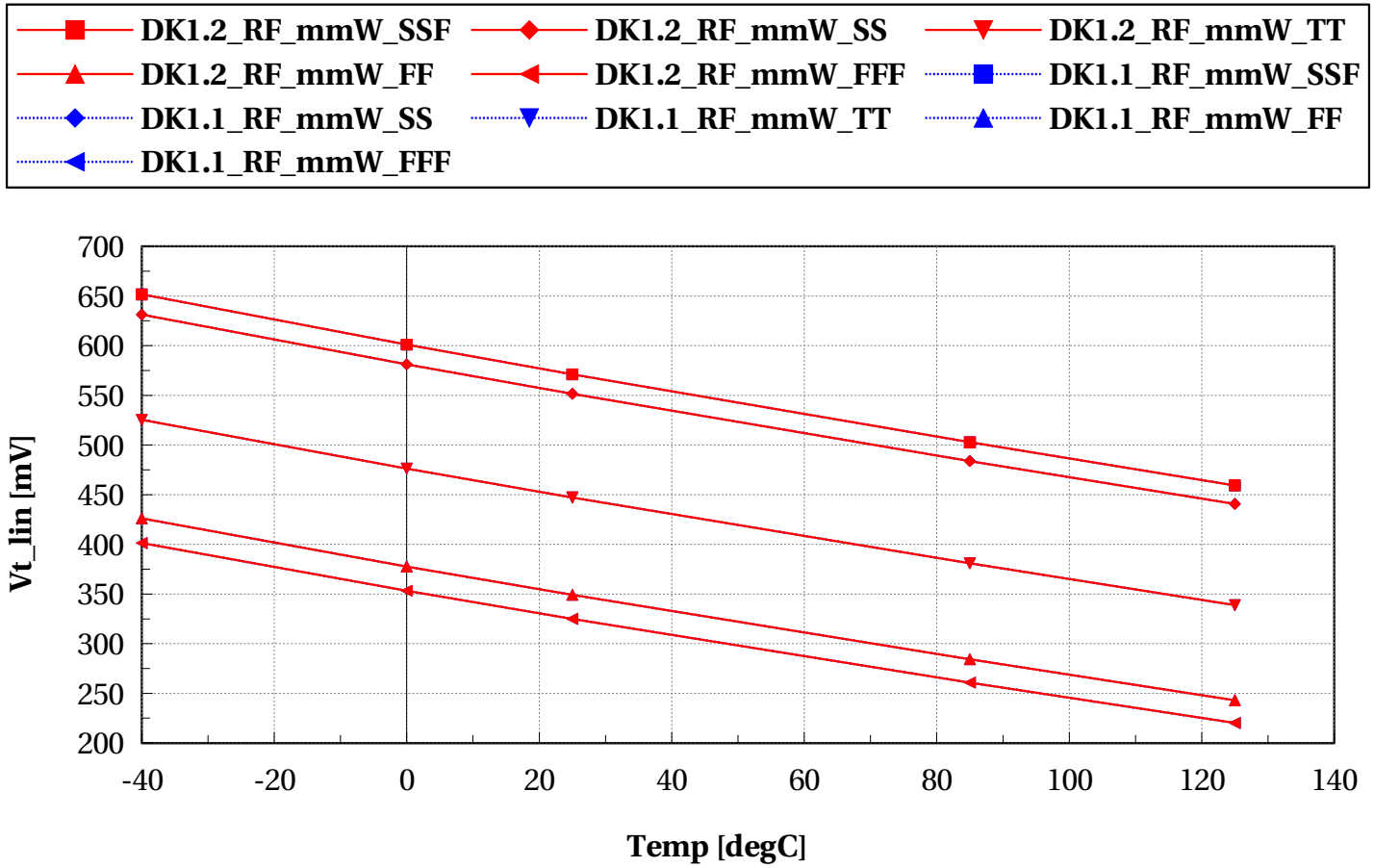
l==0.10e-6 and Temp==25 and w>0.135e-6 and devType=="PCELLwoWPE"



Scaling versus Temp @ L=0.1u, W=2u

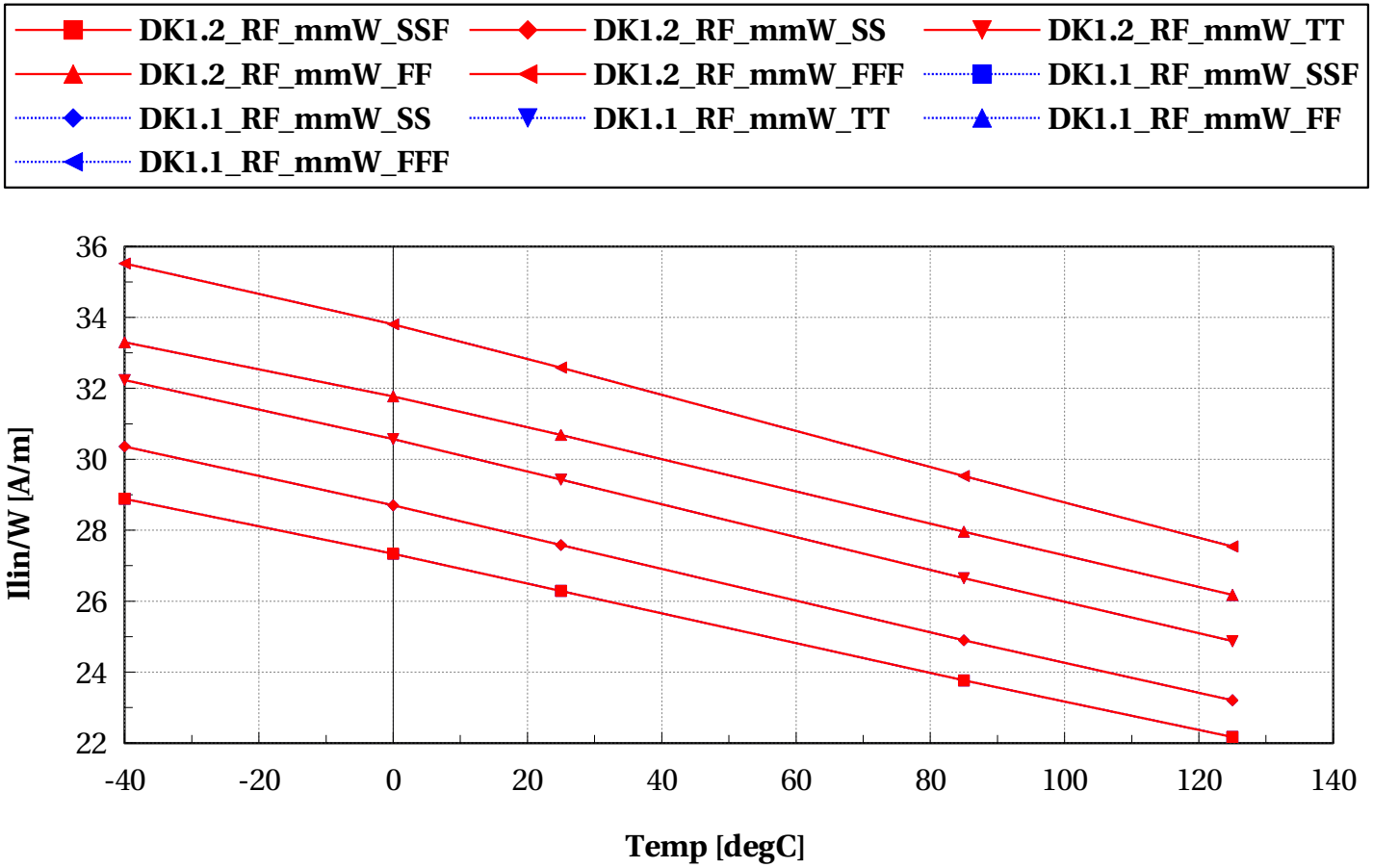
egvpfet_acc, Vt_lin [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



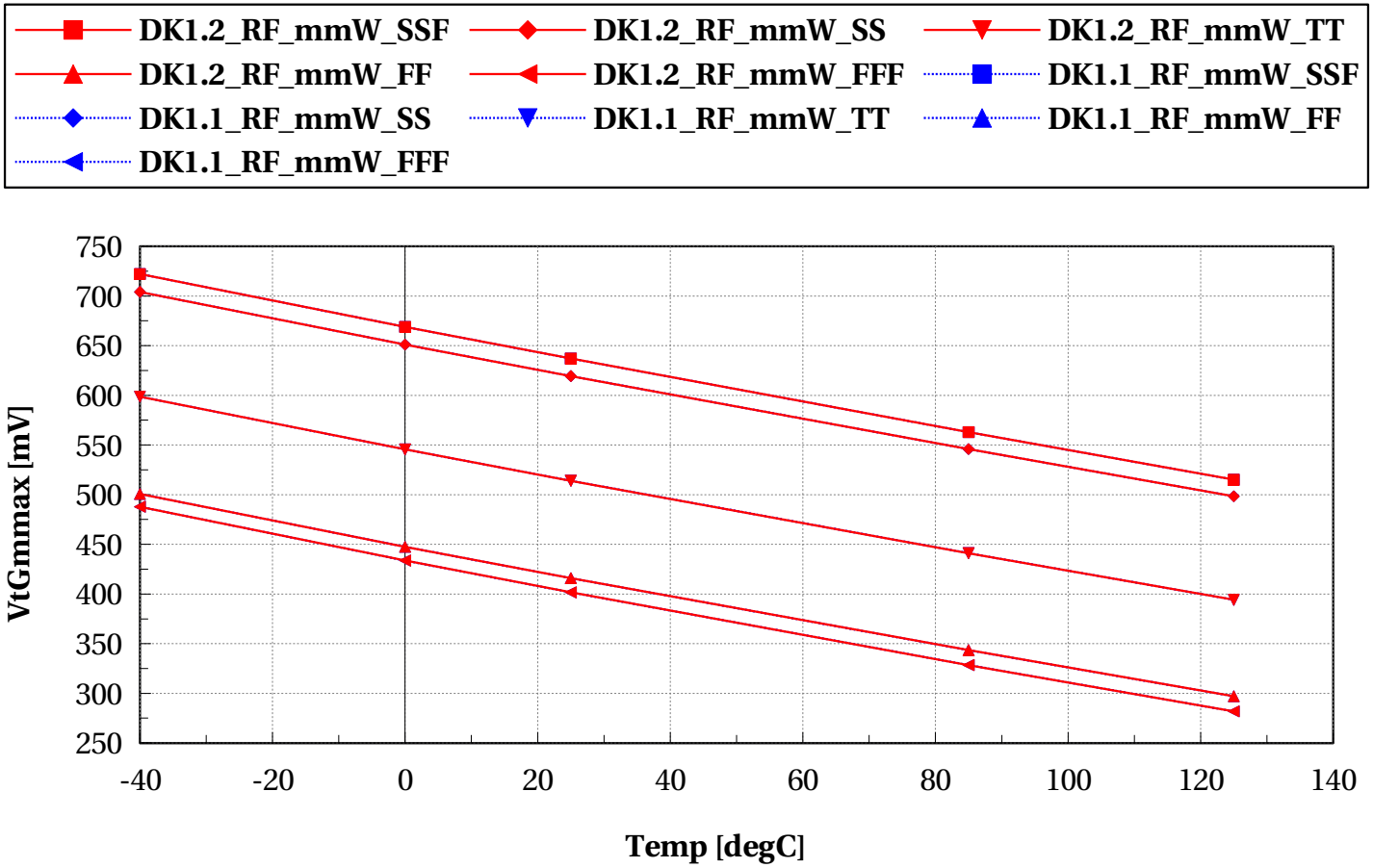
egvpfet_acc, Ilin/W [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



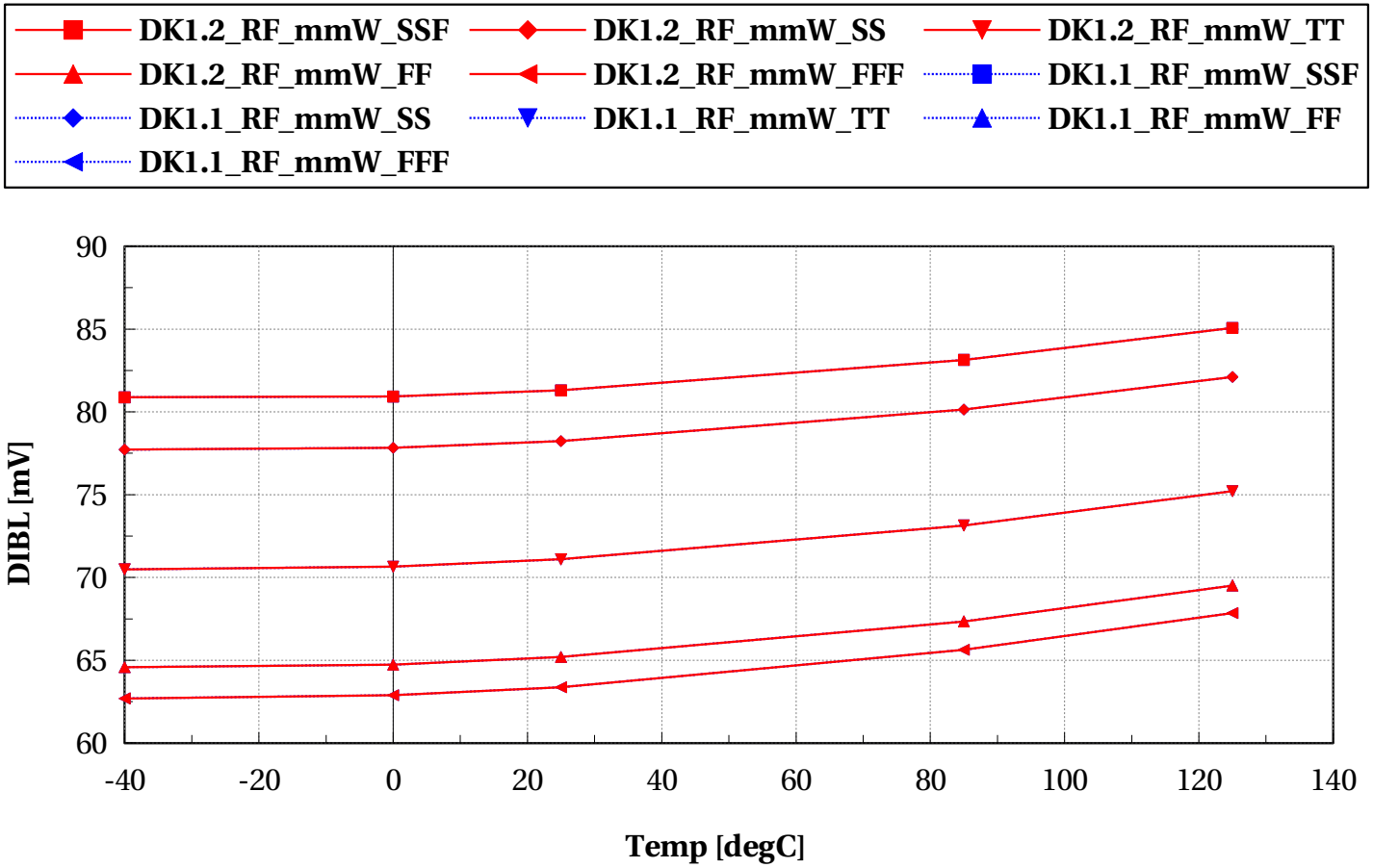
egvpfet_acc, VtGmmax [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



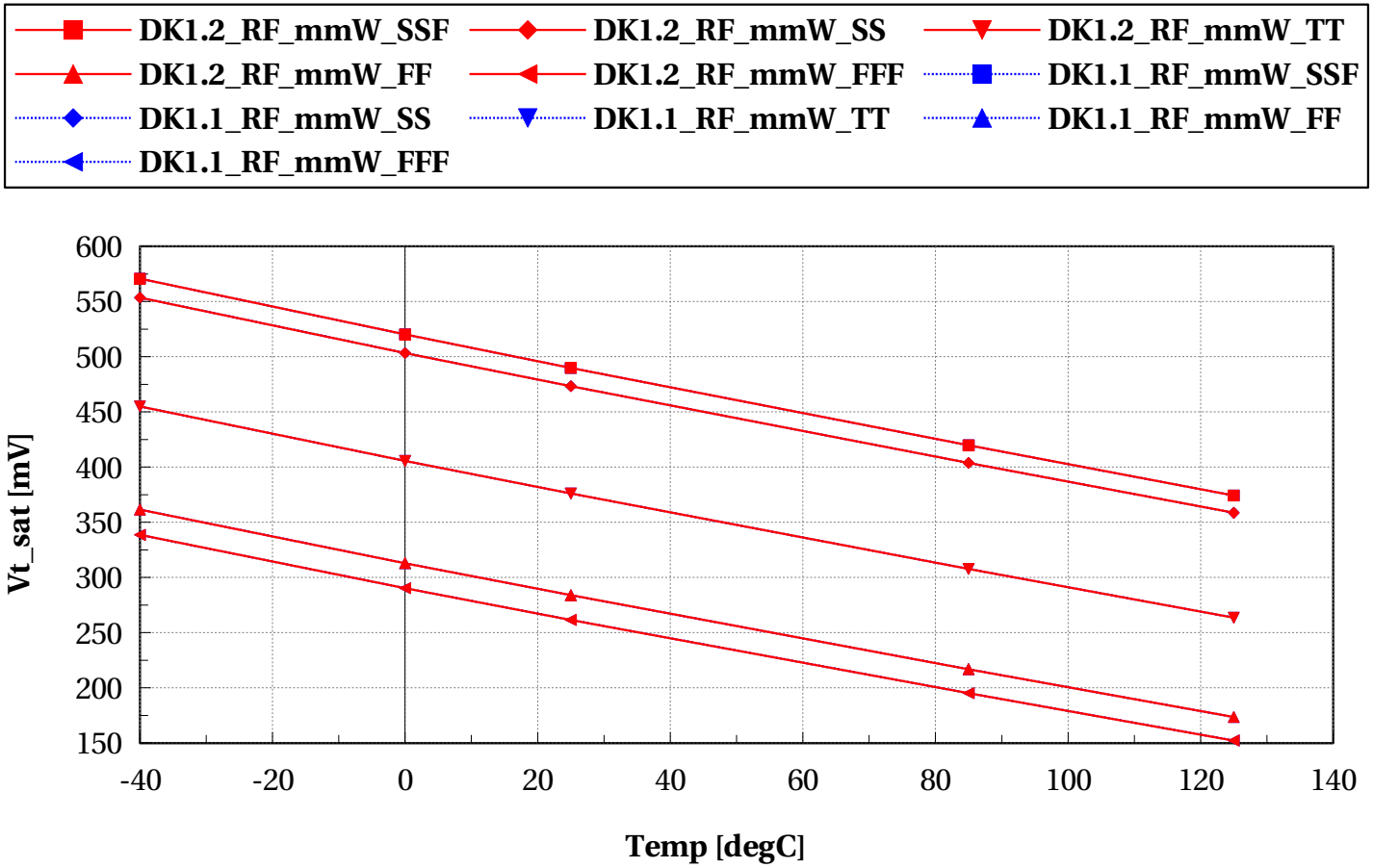
egvpfet_acc, DIBL [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



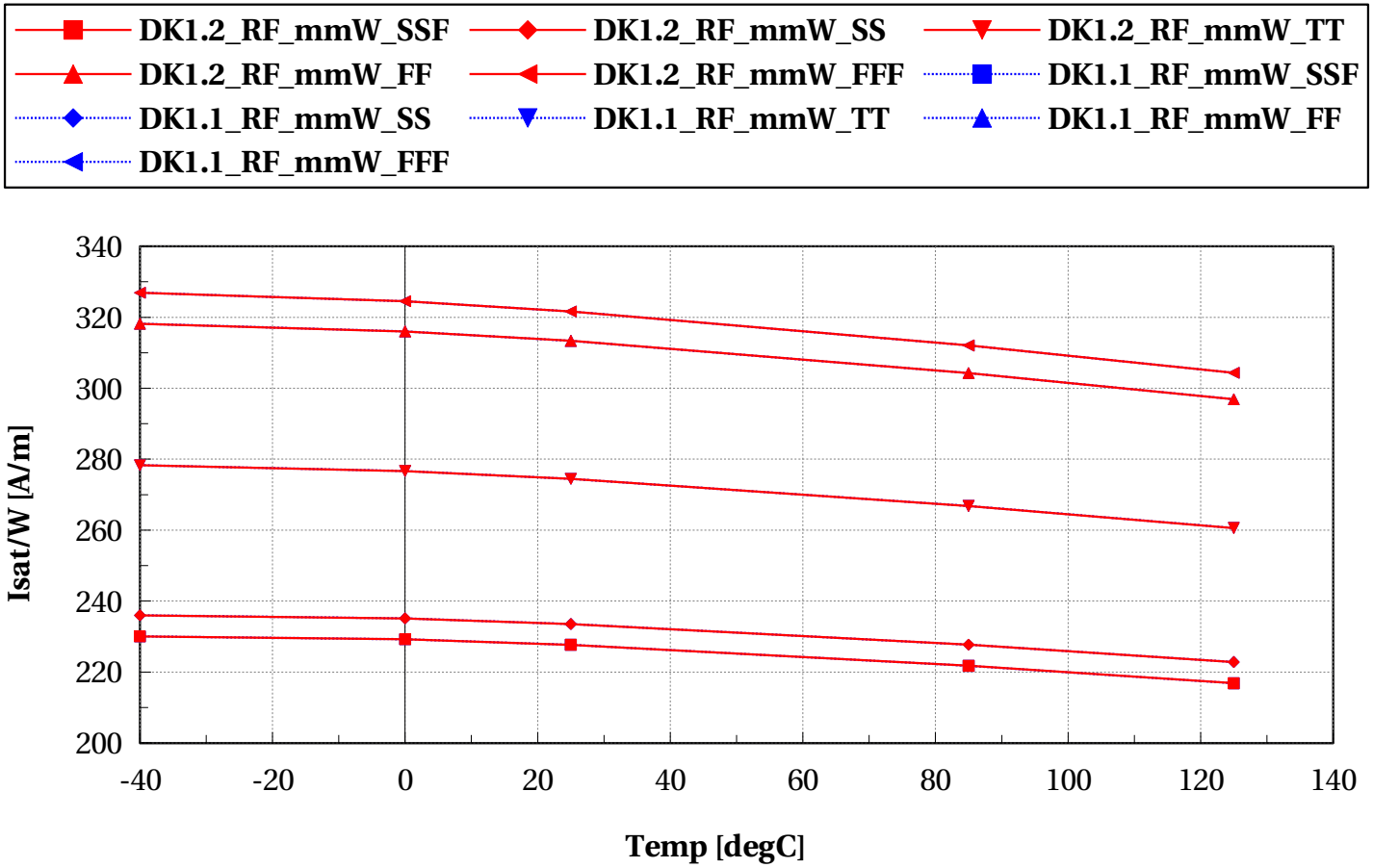
egvpfet_acc, Vt_sat [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



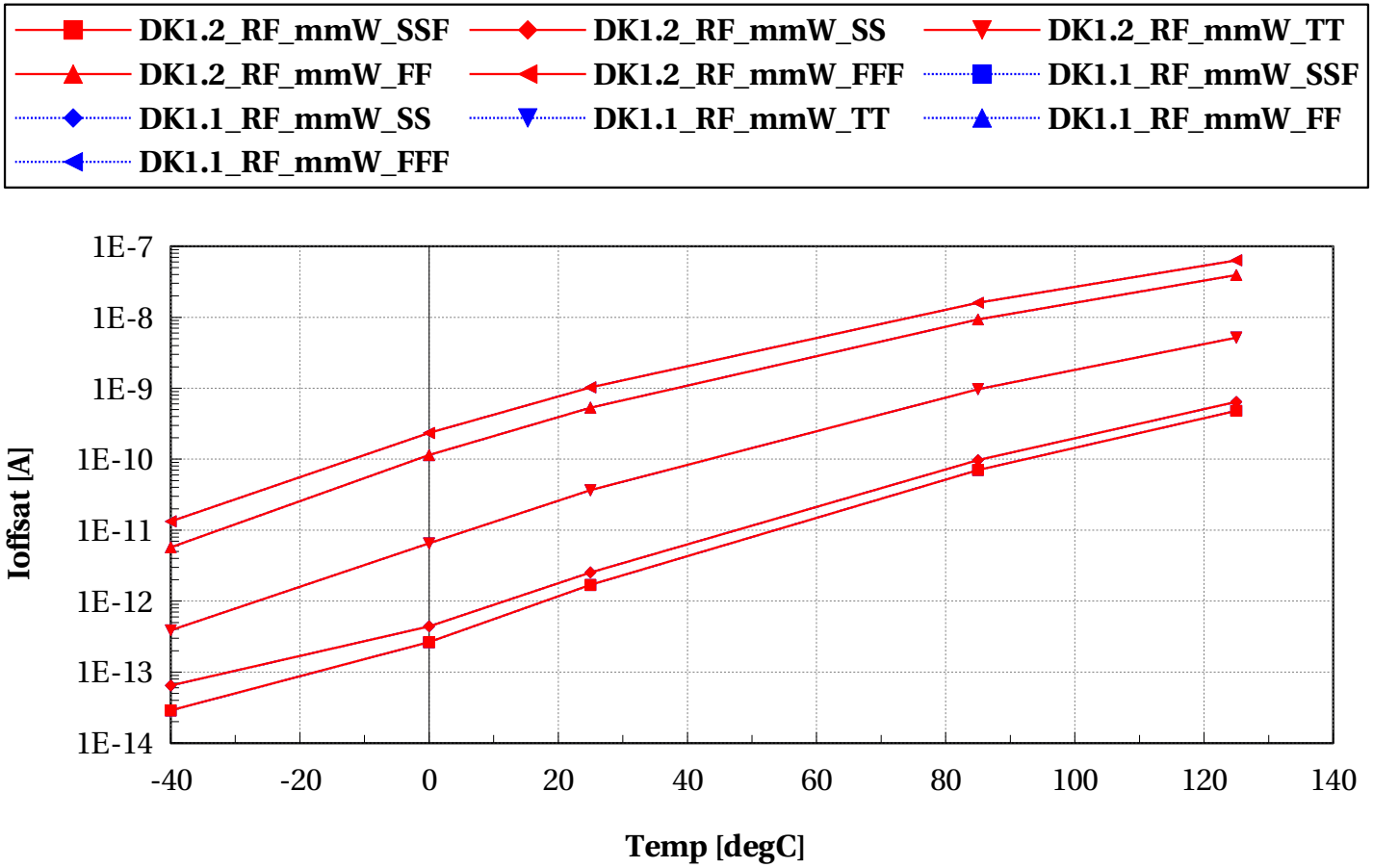
egvpfet_acc, Isat/W [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



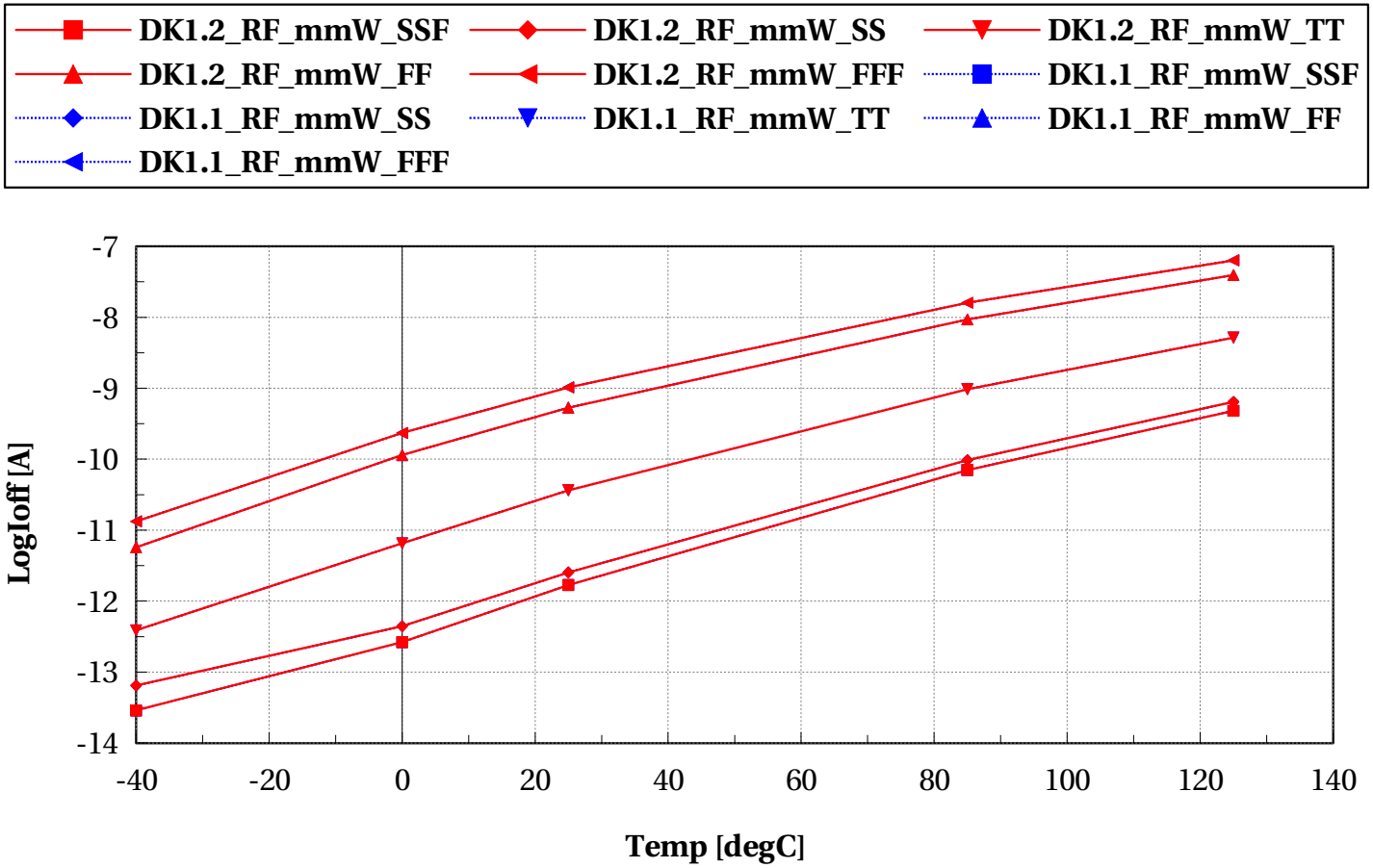
egvpfet_acc, Ioffsat [A] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



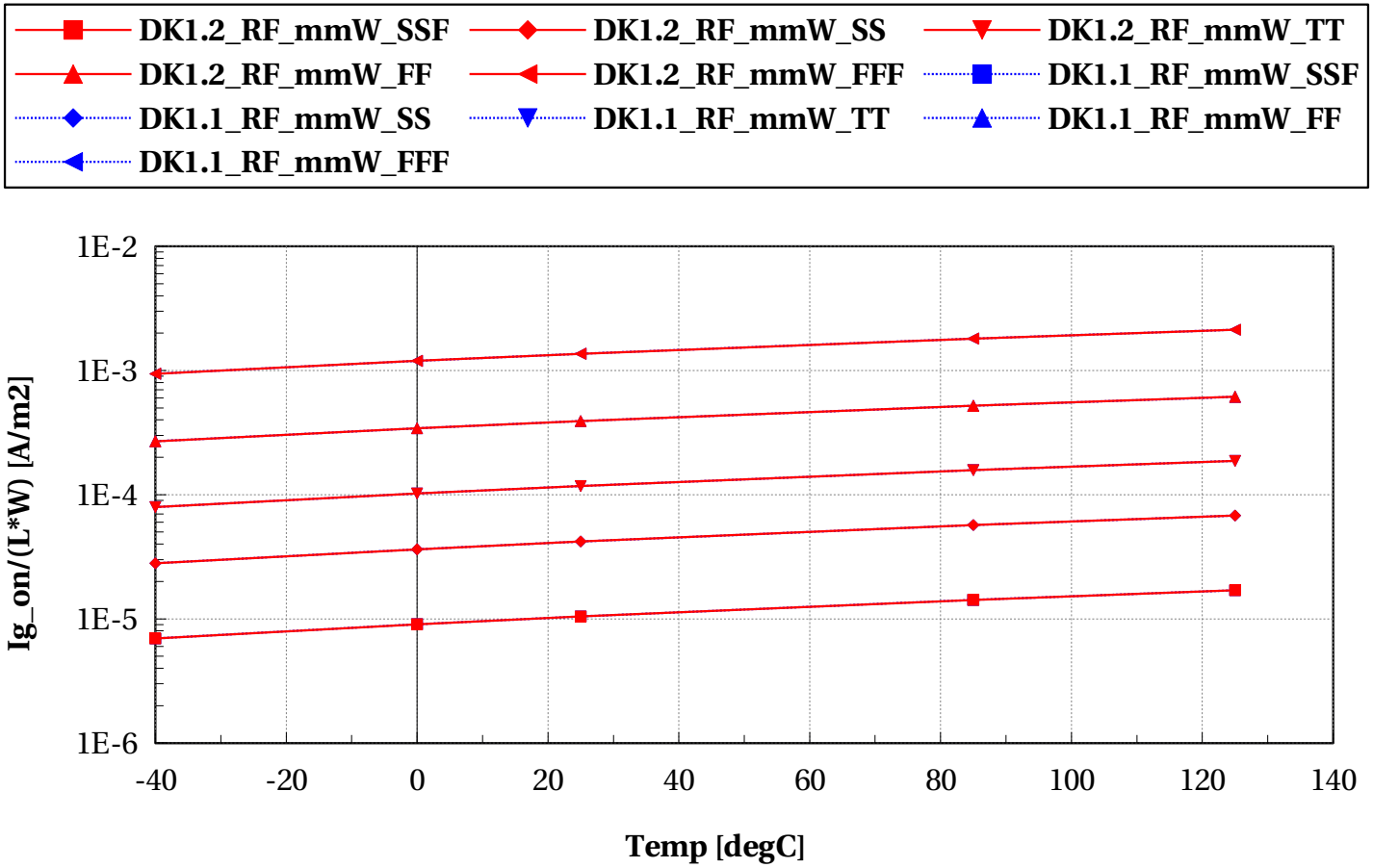
egvpfet_acc, LogIoff [A] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



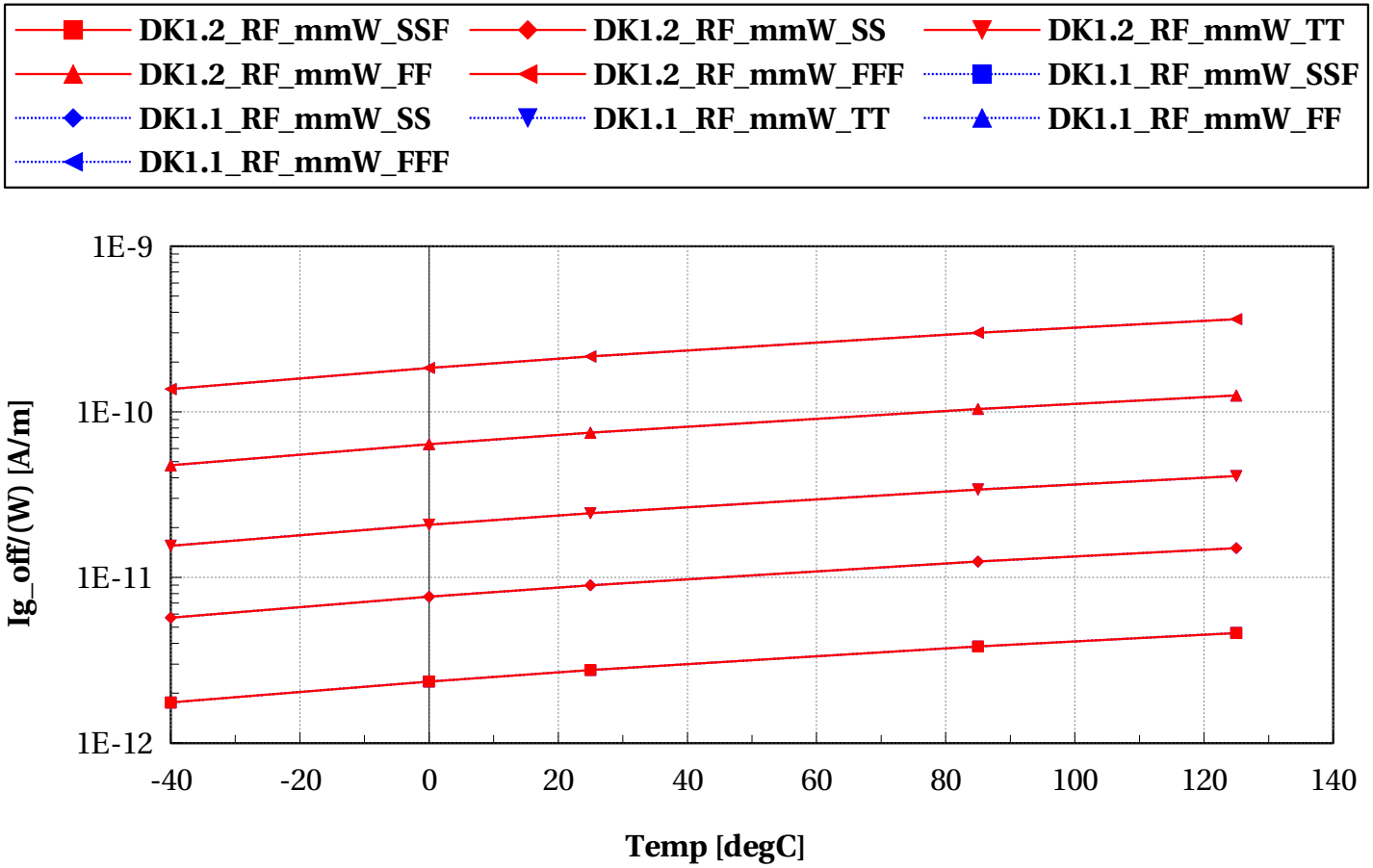
egvpfet_acc, Ig_on/(L*W) [A/m2] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



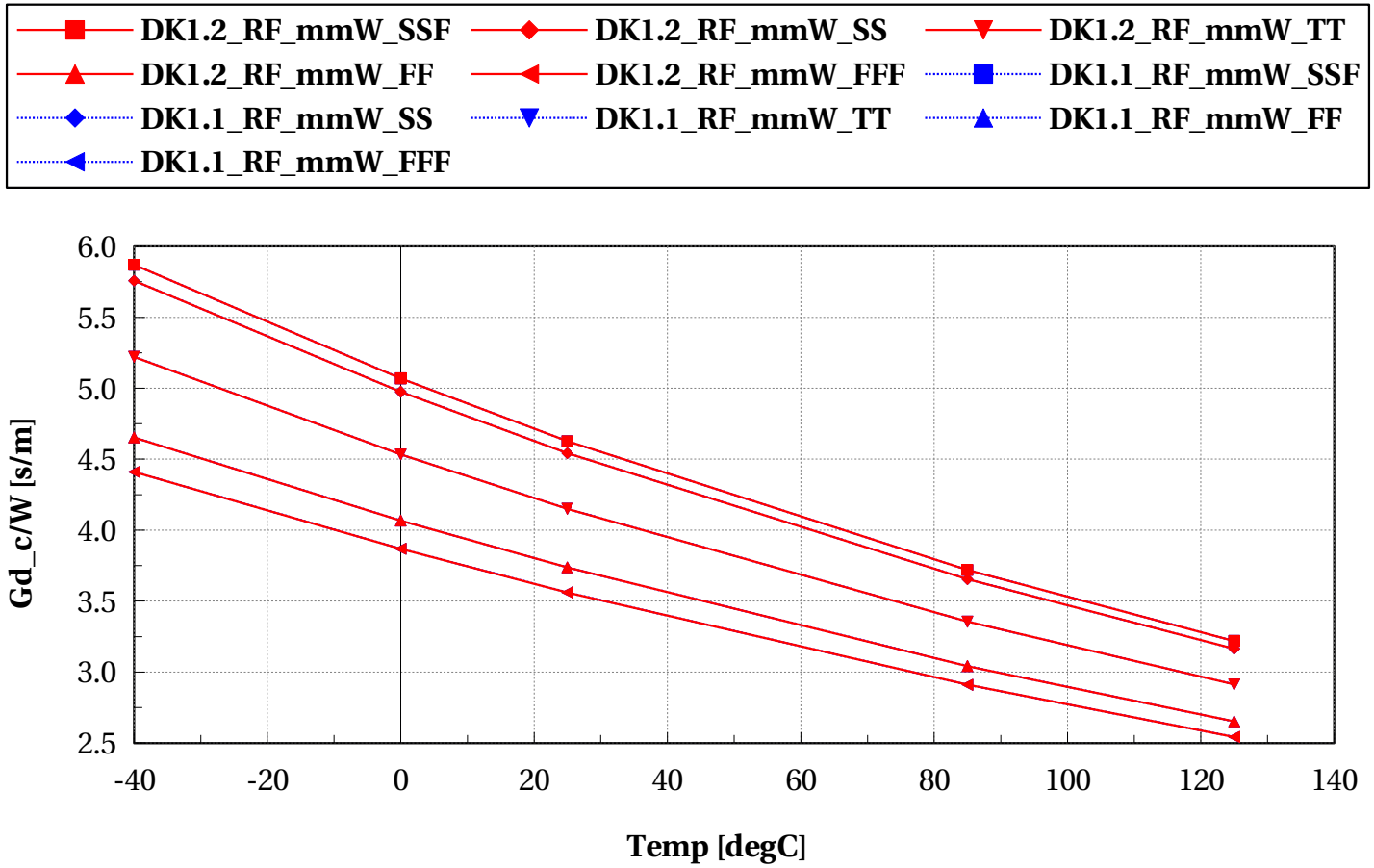
egvpfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



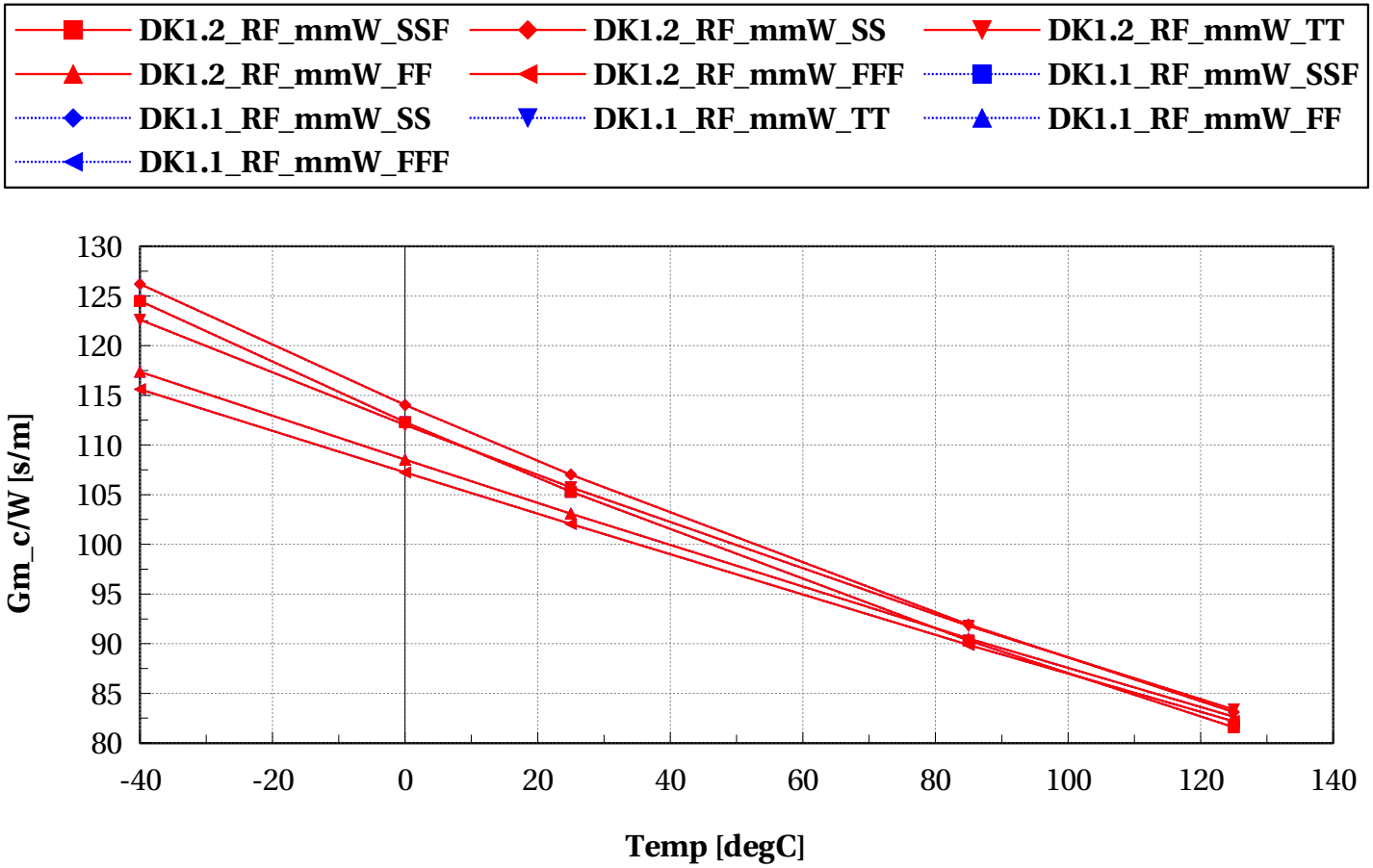
egvpfet_acc, Gd_c/W [s/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



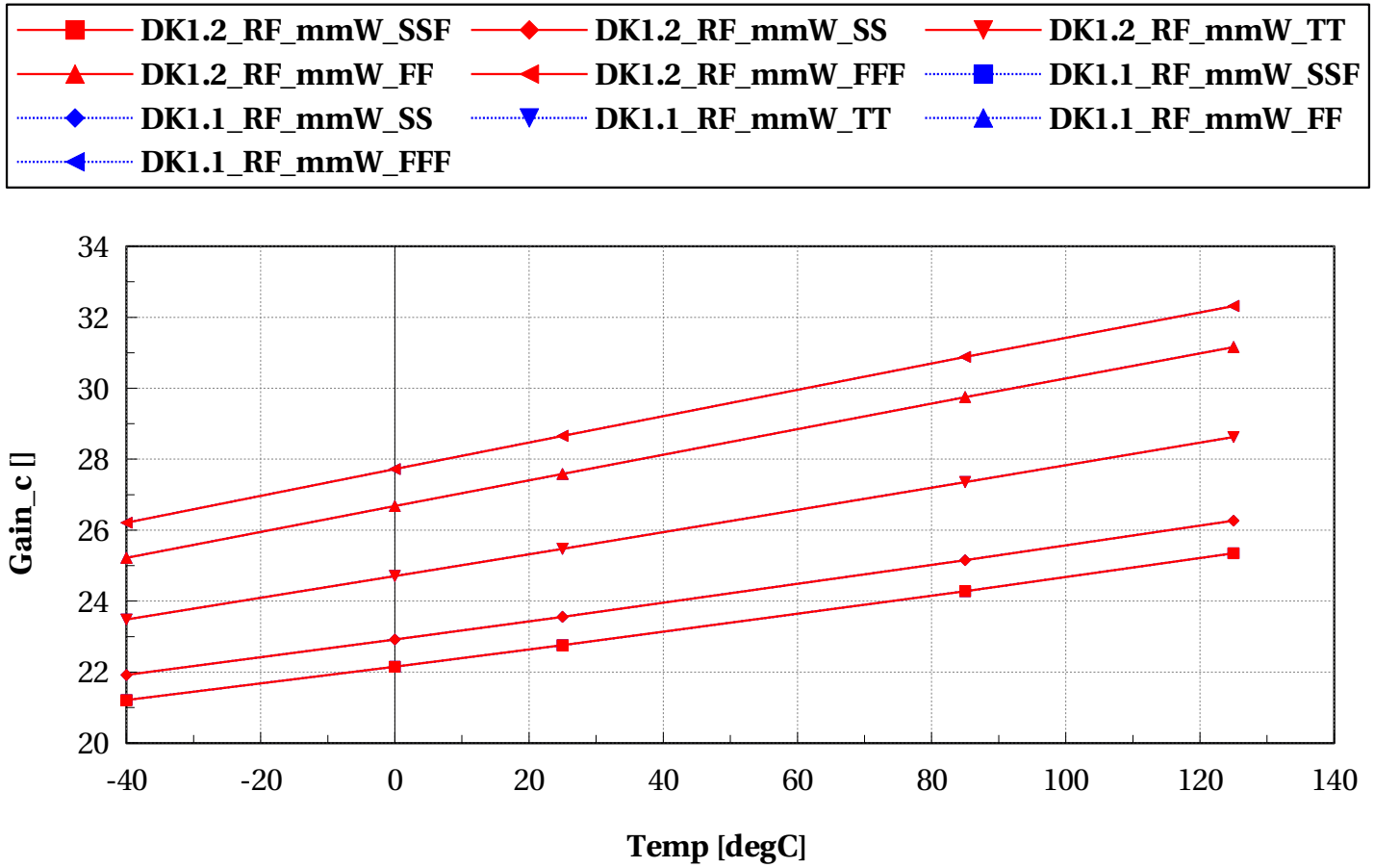
egvpfet_acc, Gm_c/W [s/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



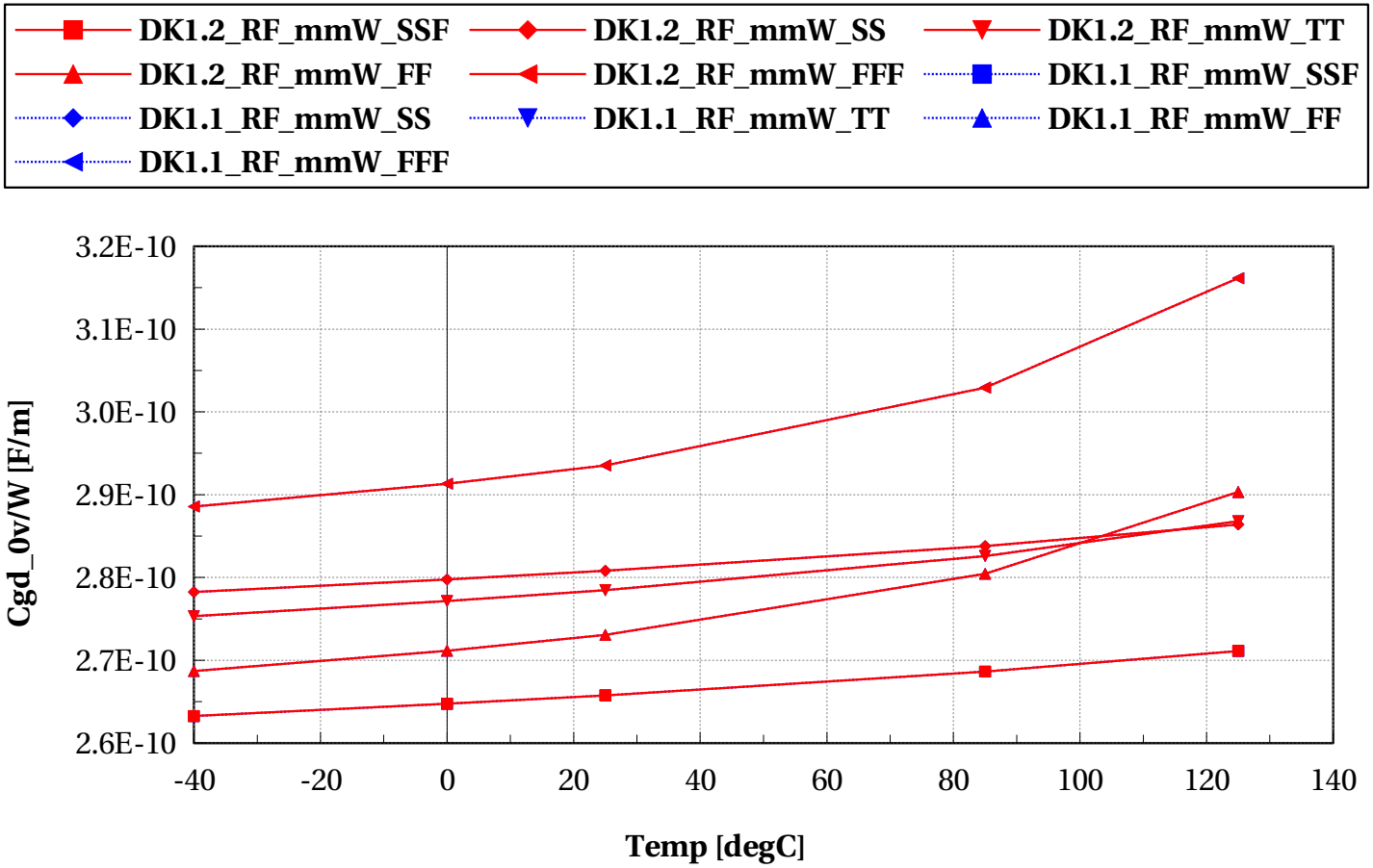
egvpfet_acc, Gain_c [] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



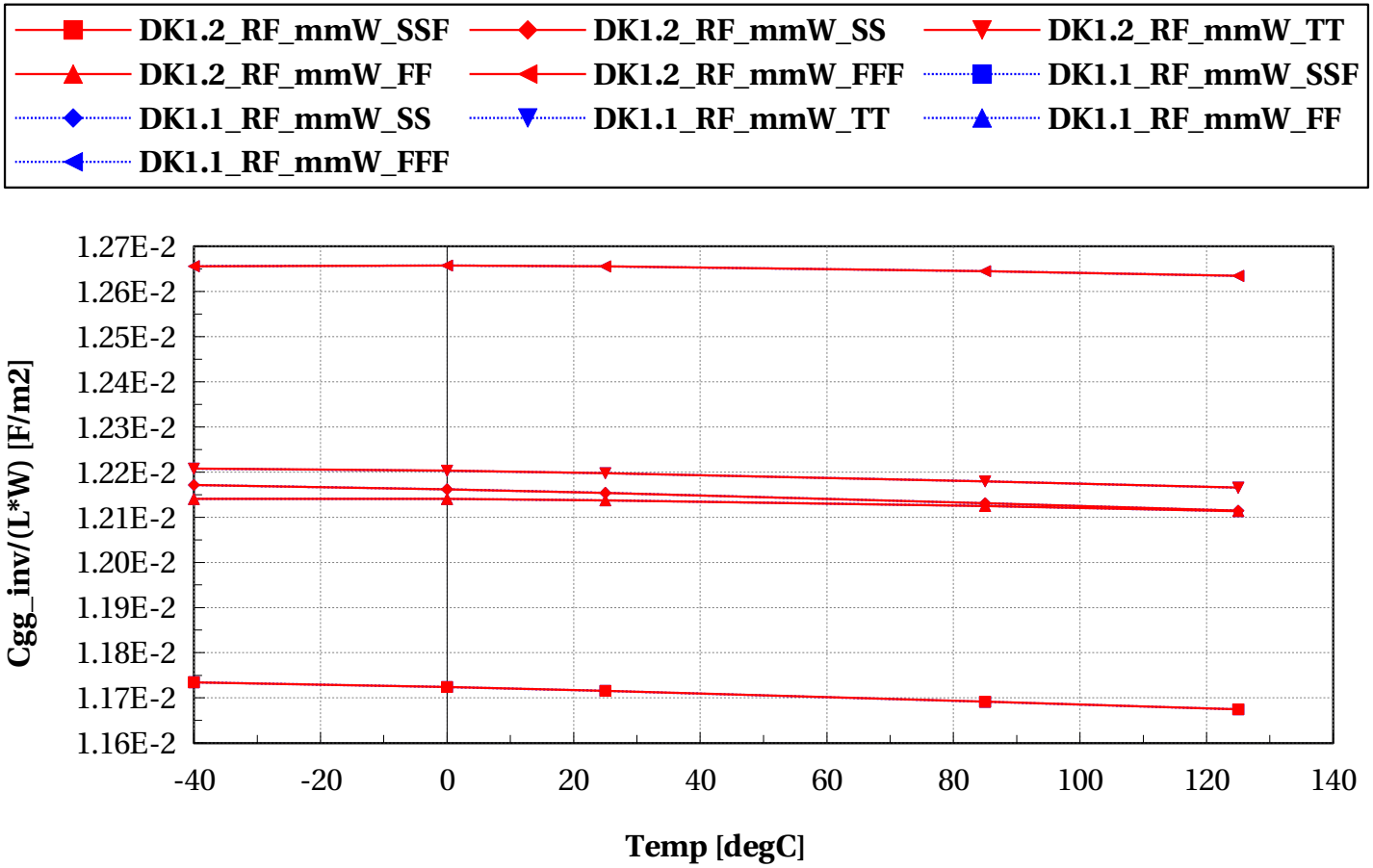
egvpfet_acc, Cgd_0v/W [F/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



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

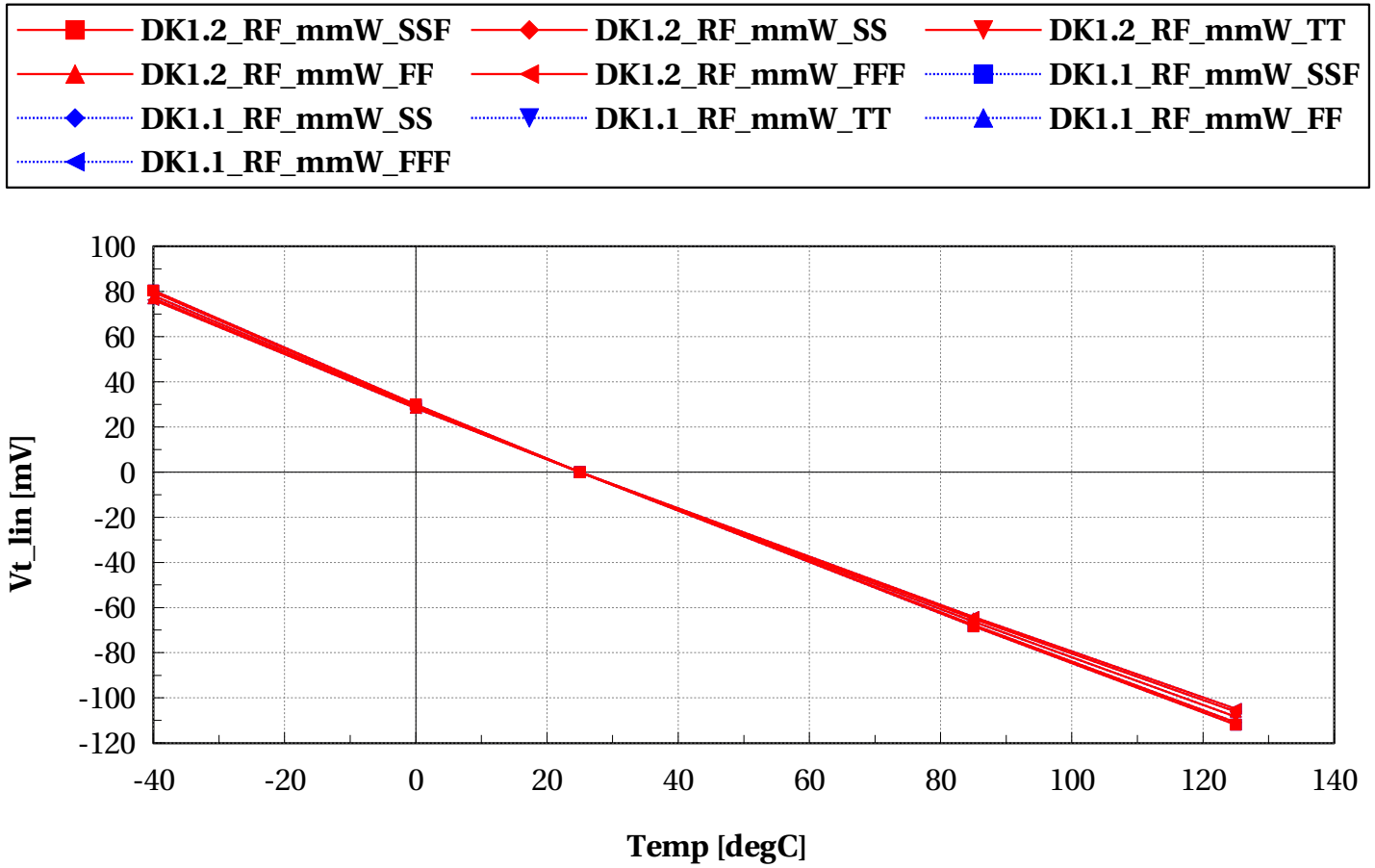
l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



Normalized scaling versus Temp @ L=0.1u, W=2u

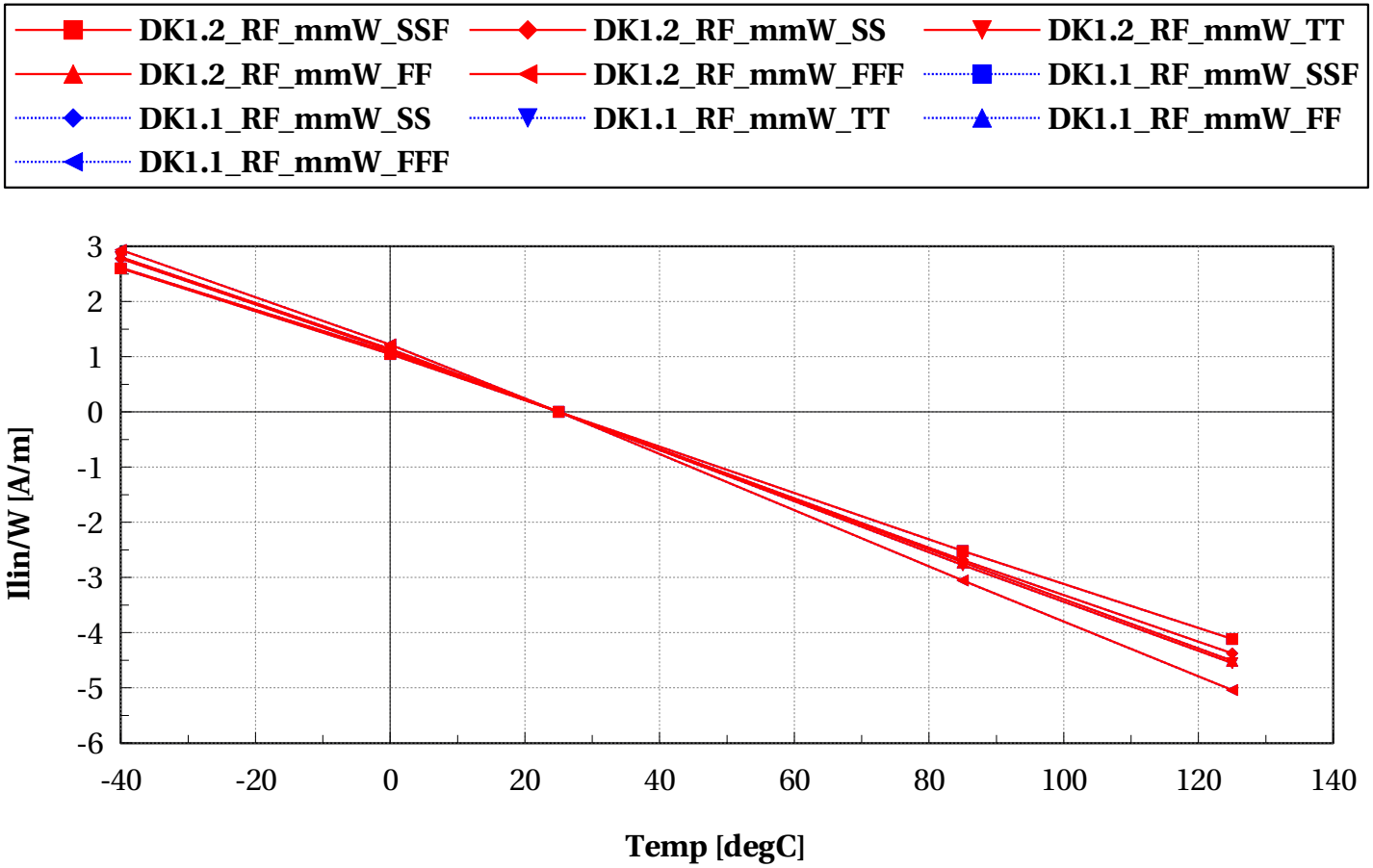
egvpfet_acc, Vt_lin [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



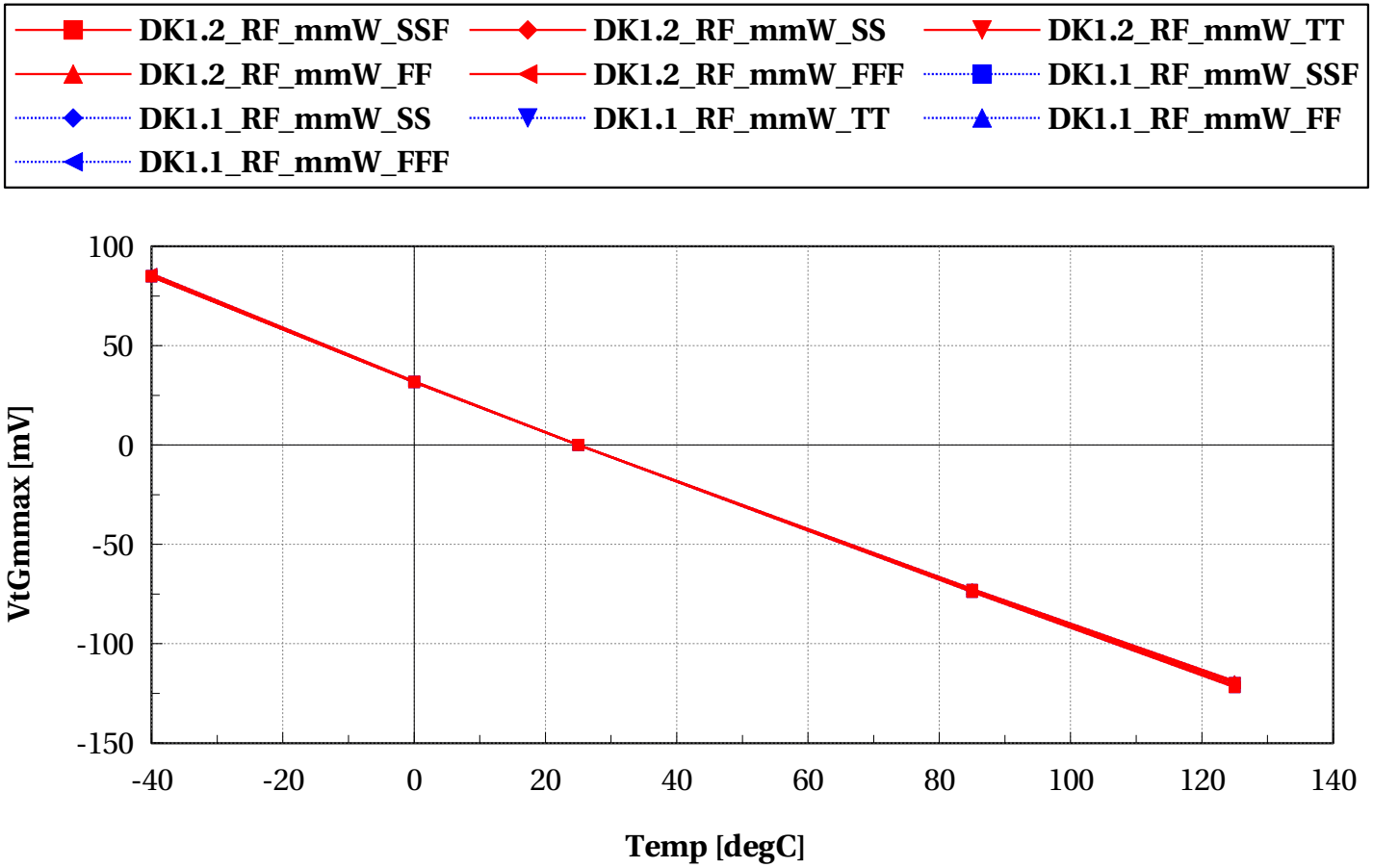
egvpfet_acc, Ilin/W [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



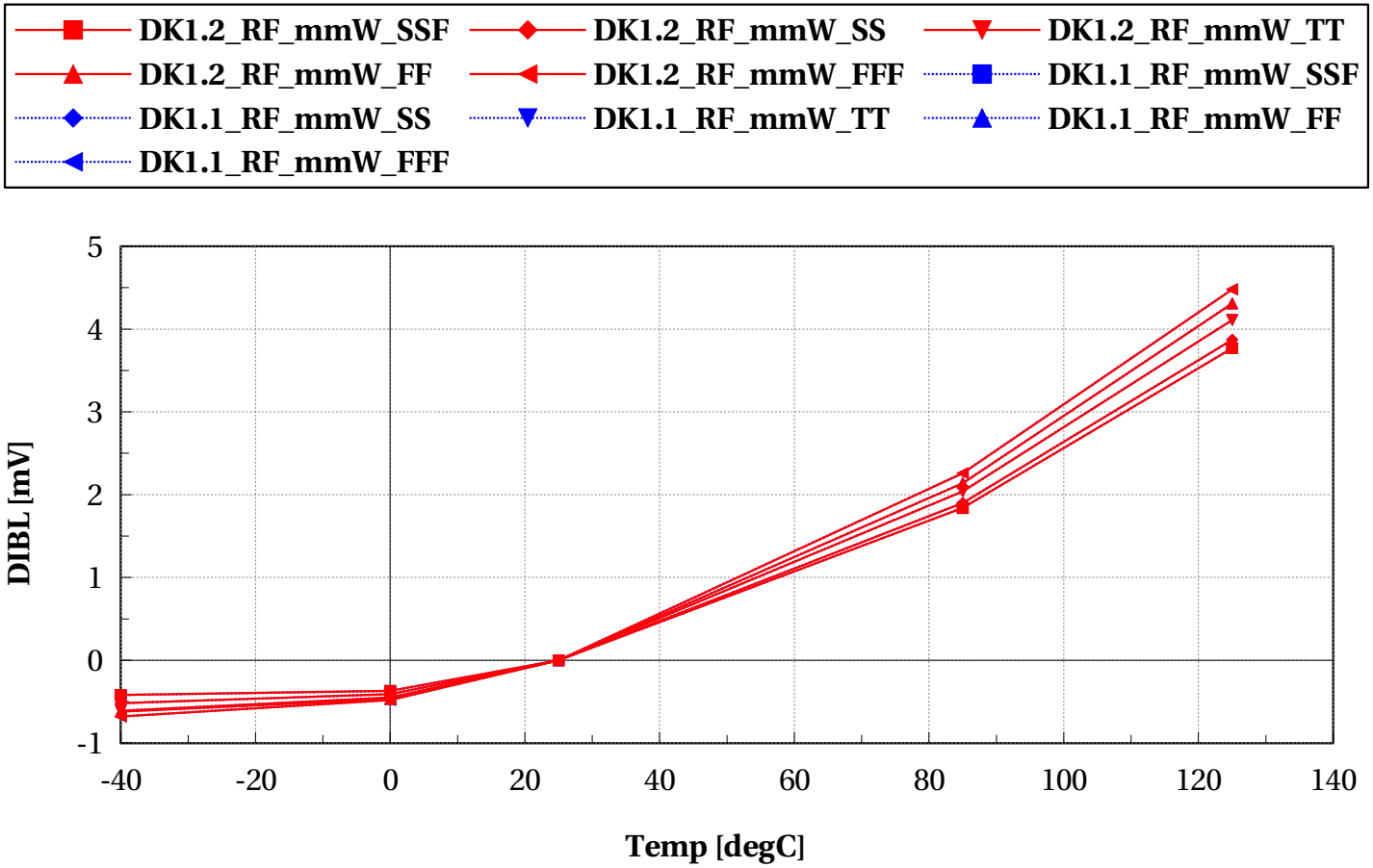
egvpfet_acc, VtGmmax [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



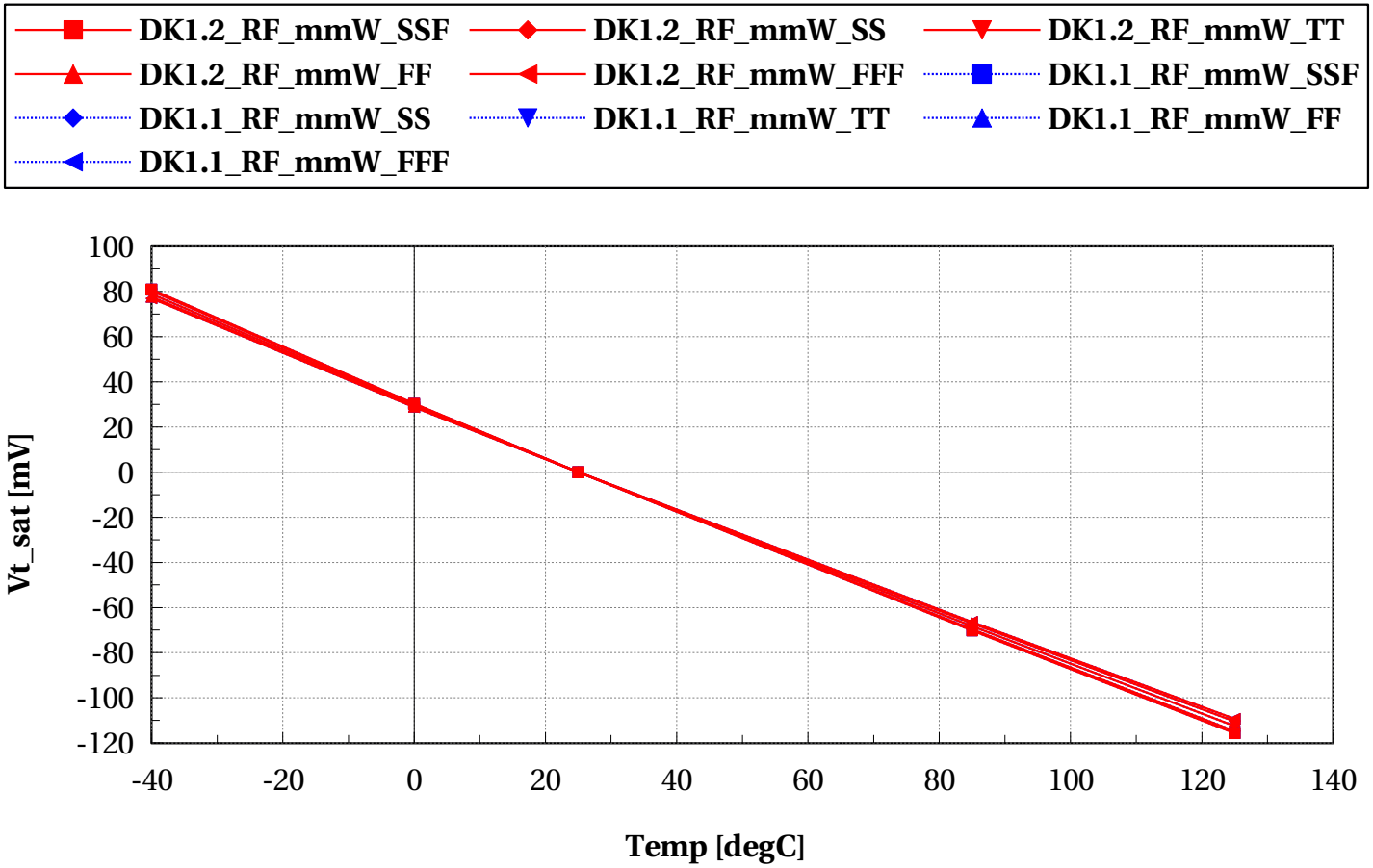
egvpfet_acc, DIBL [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



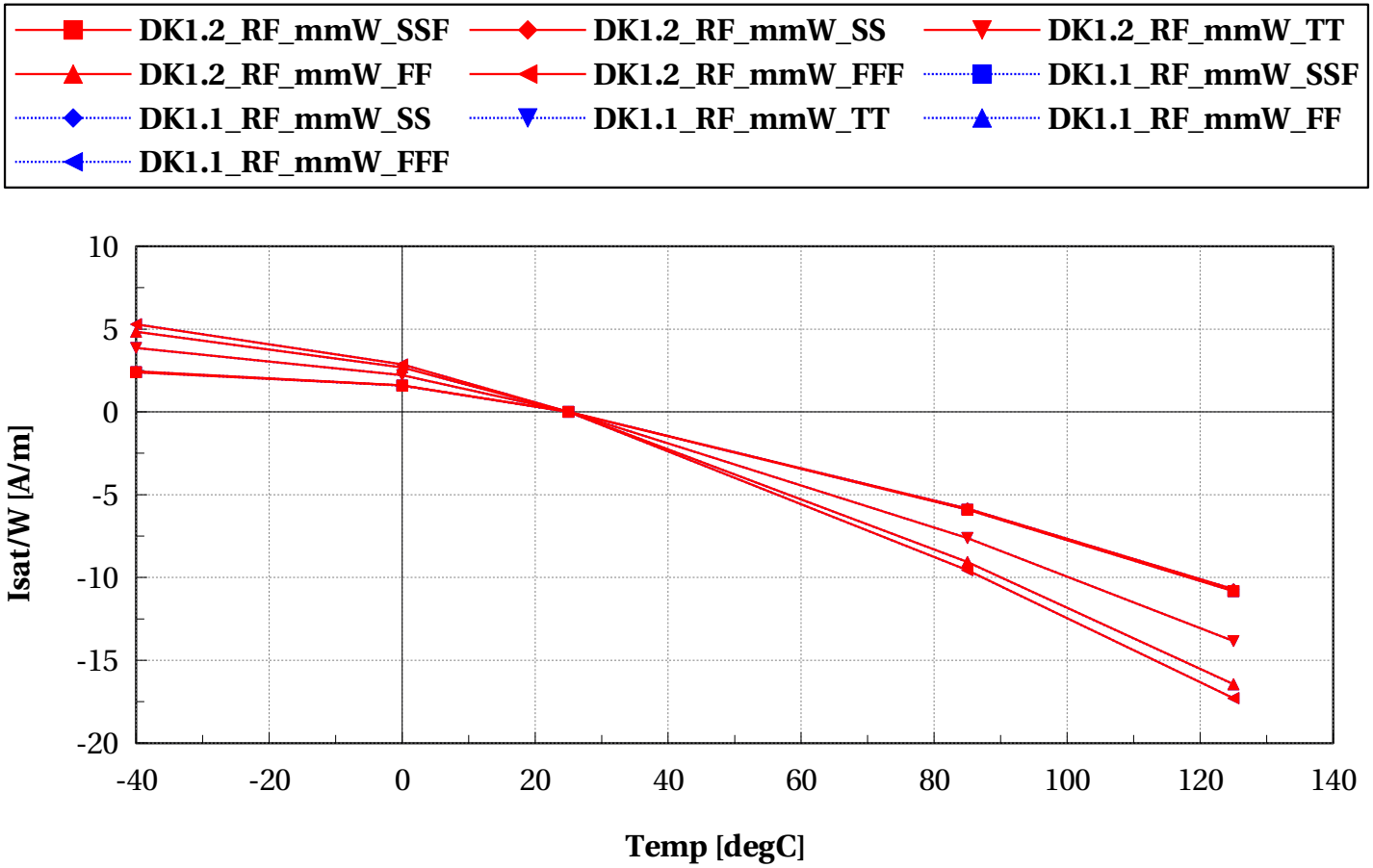
egvpfet_acc, Vt_sat [mV] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



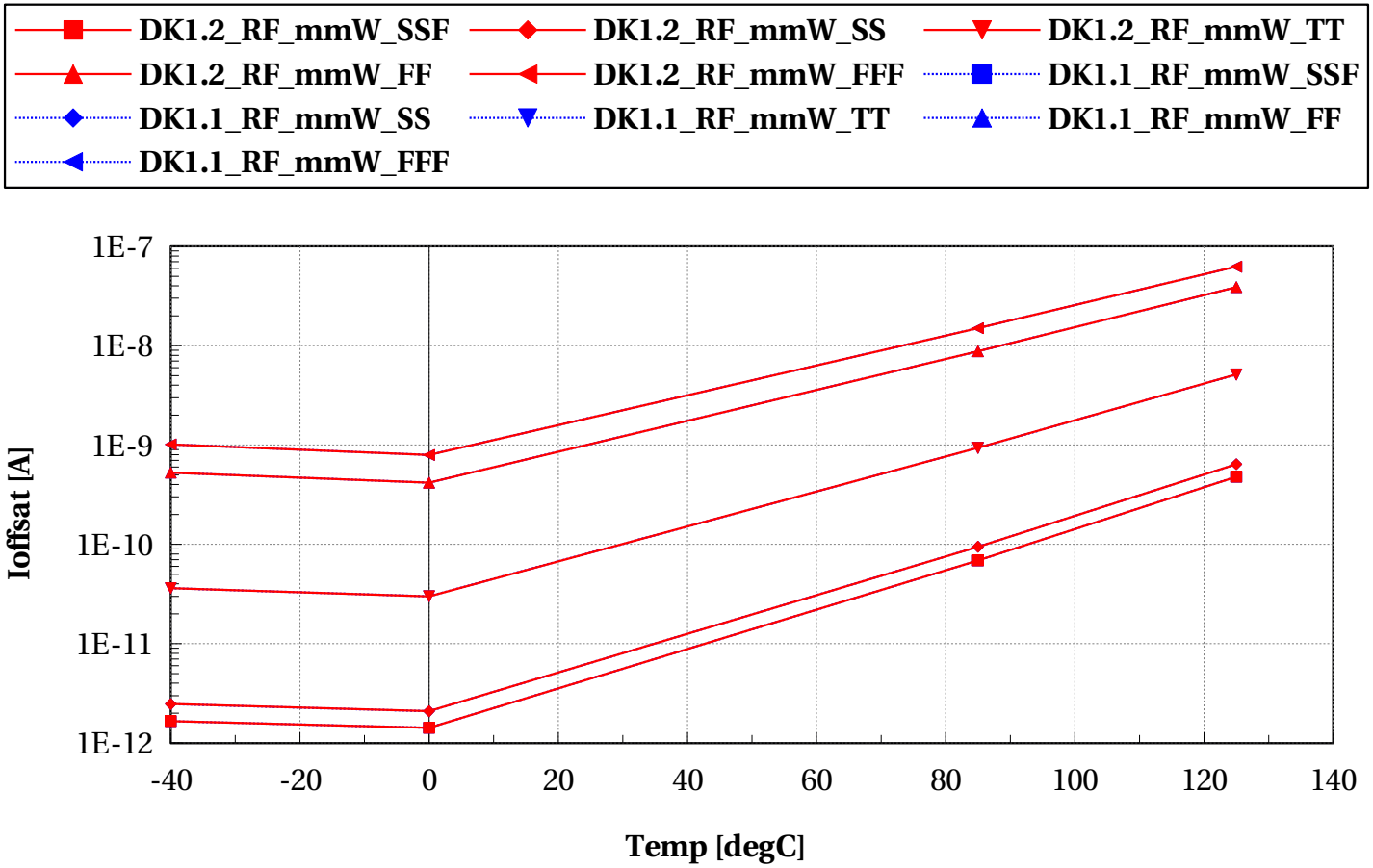
egvpfet_acc, Isat/W [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



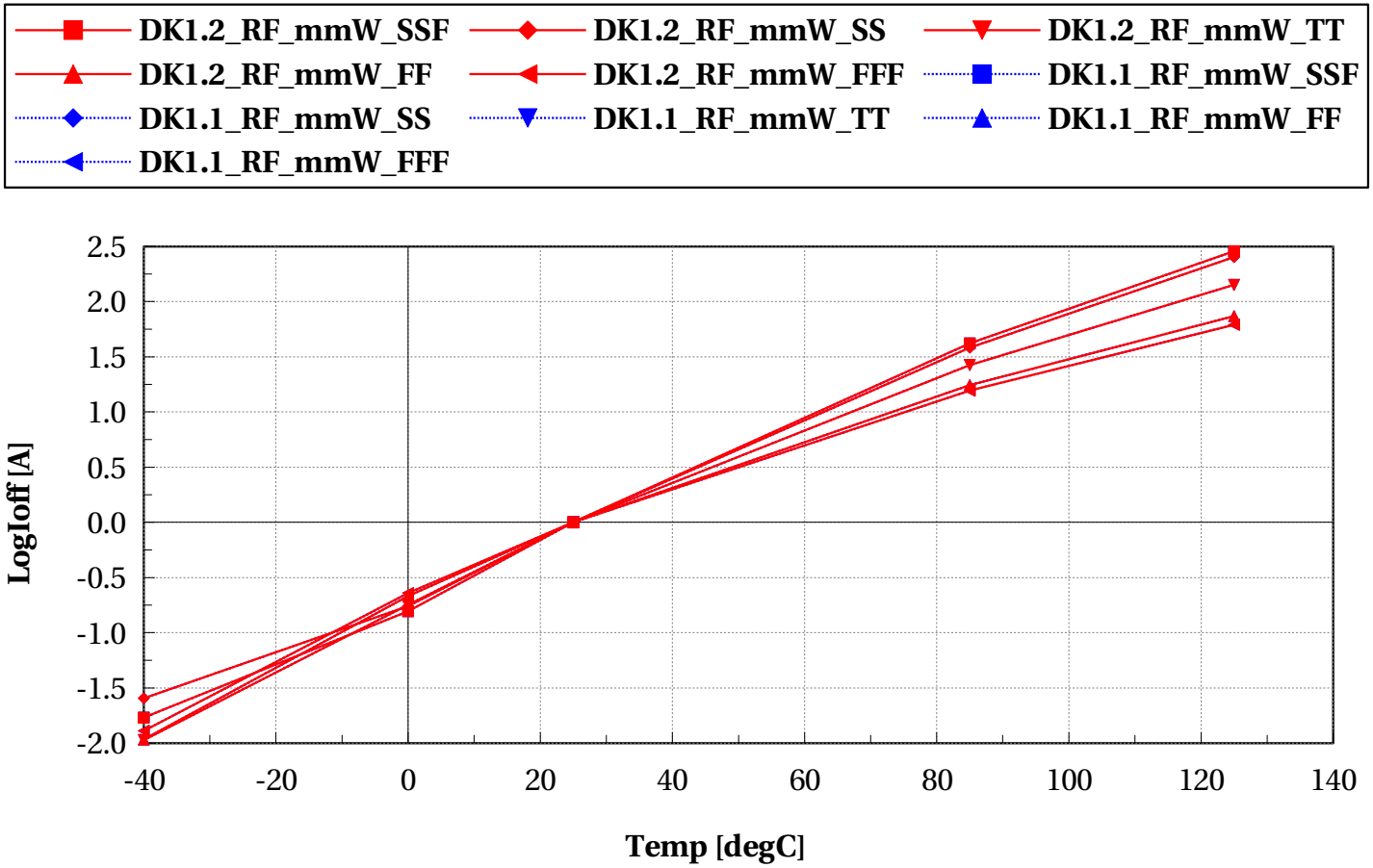
egvpfet_acc, Ioffsat [A] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



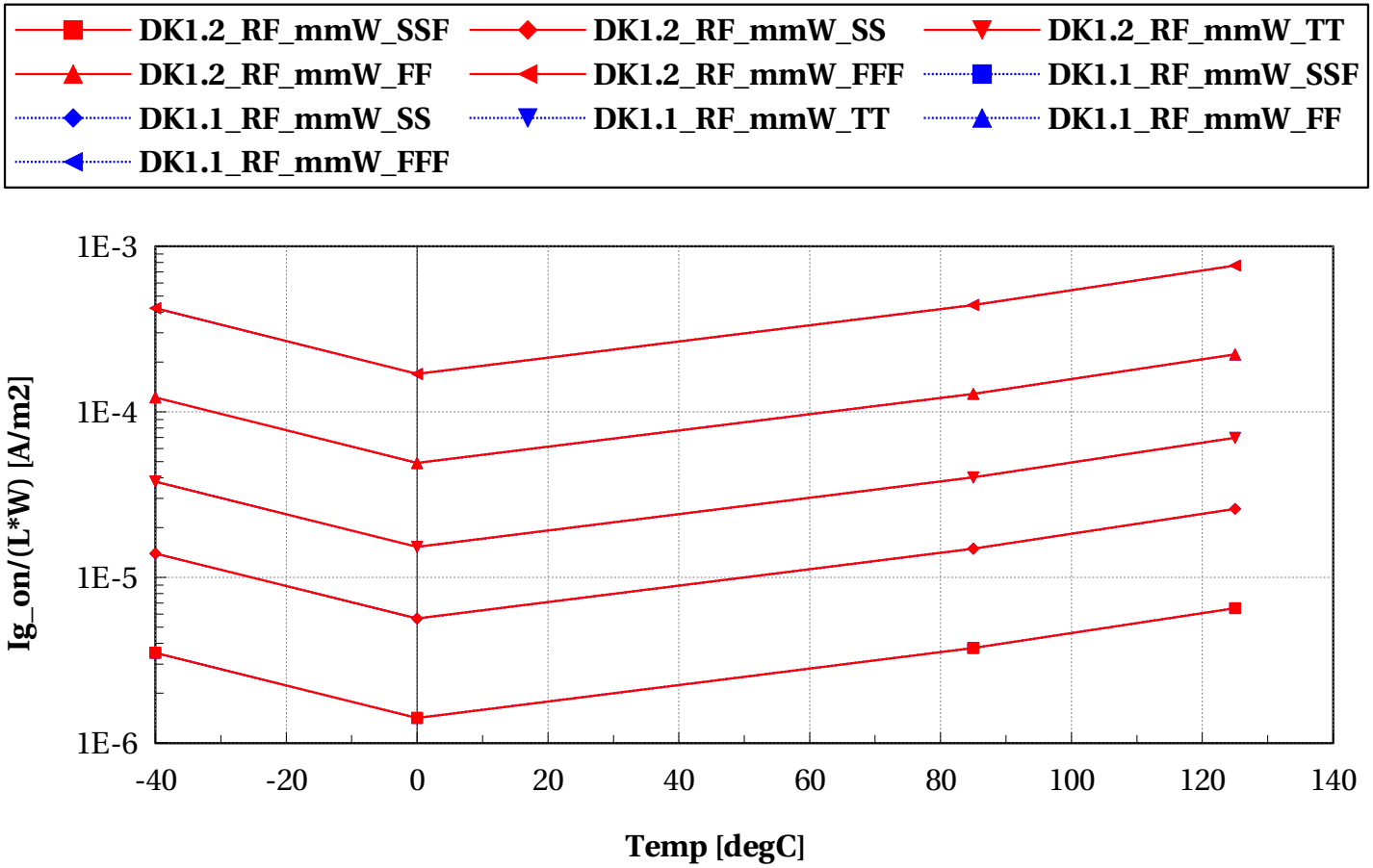
egvpfet_acc, LogIoff [A] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



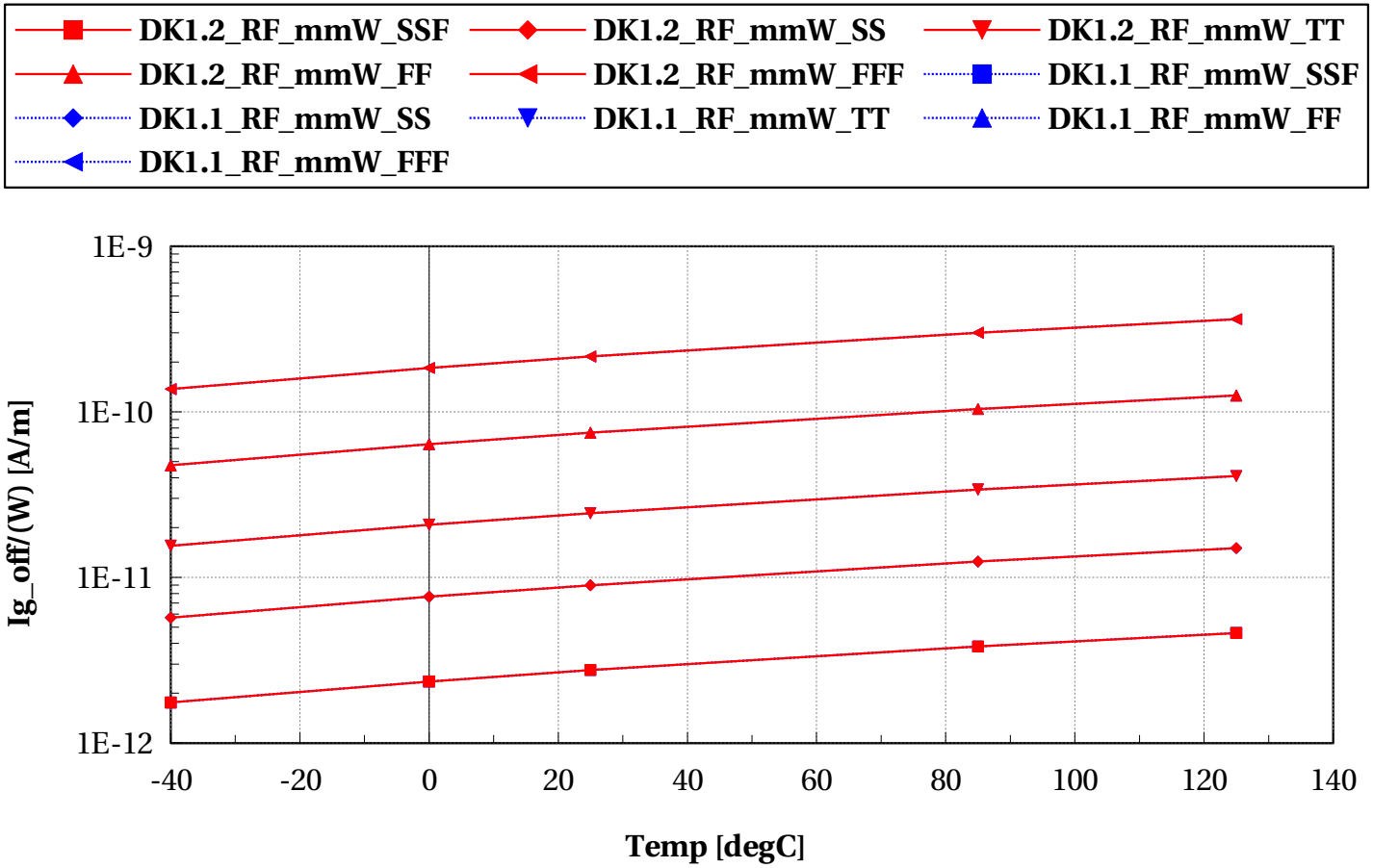
egvpfet_acc, Ig_on/(L*W) [A/m2] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



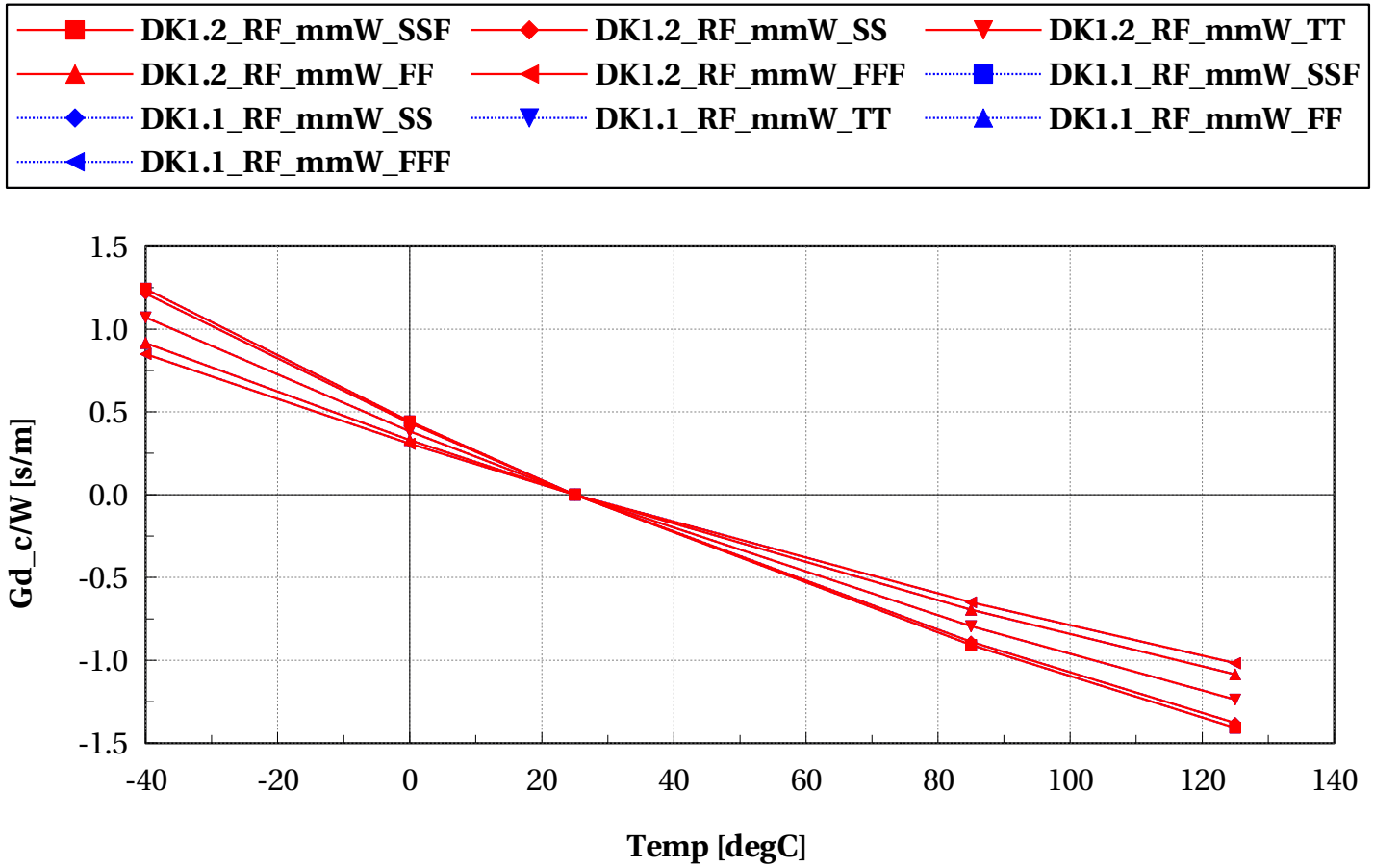
egvpfet_acc, Ig_off/(W) [A/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



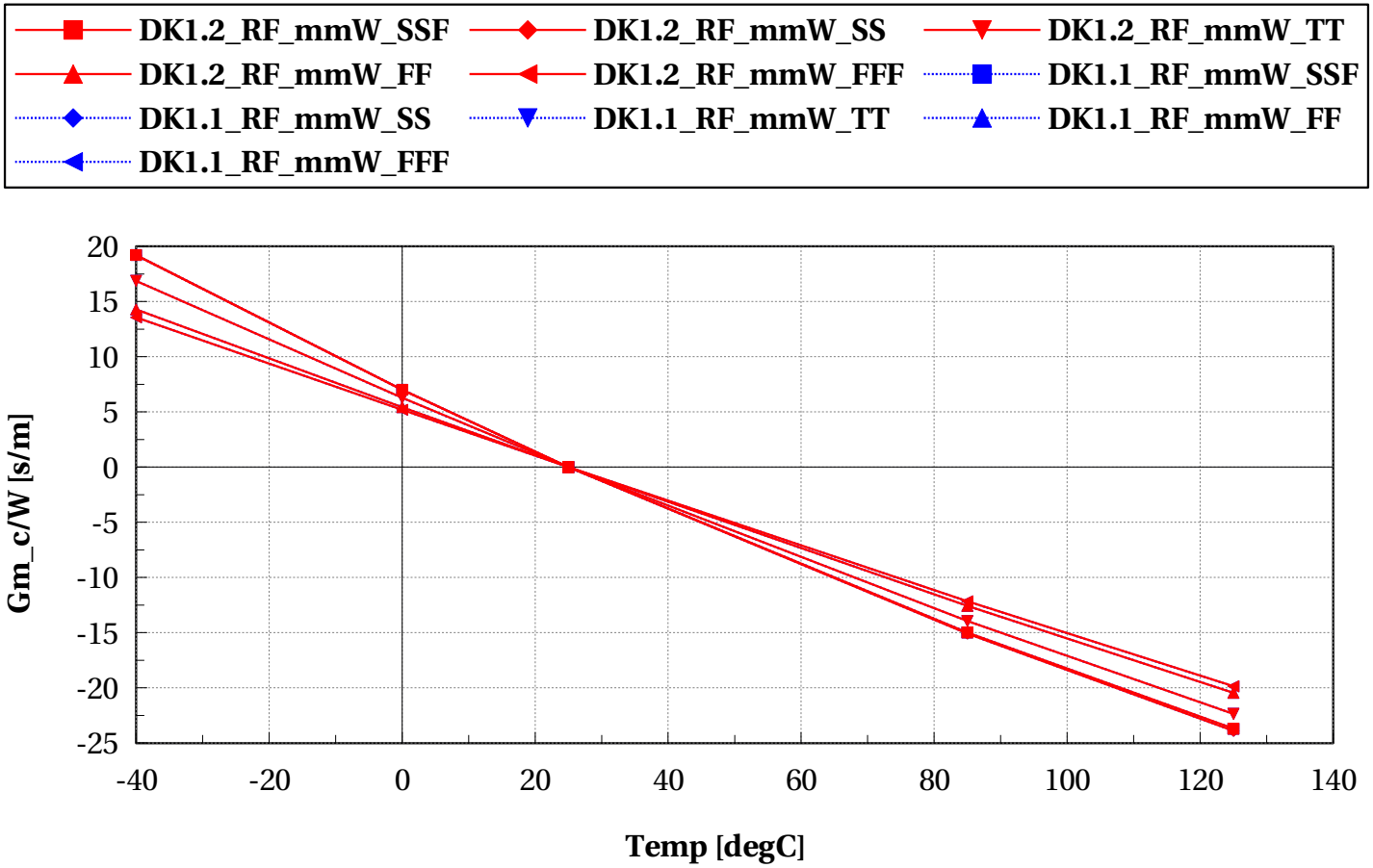
egvpfet_acc, Gd_c/W [s/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



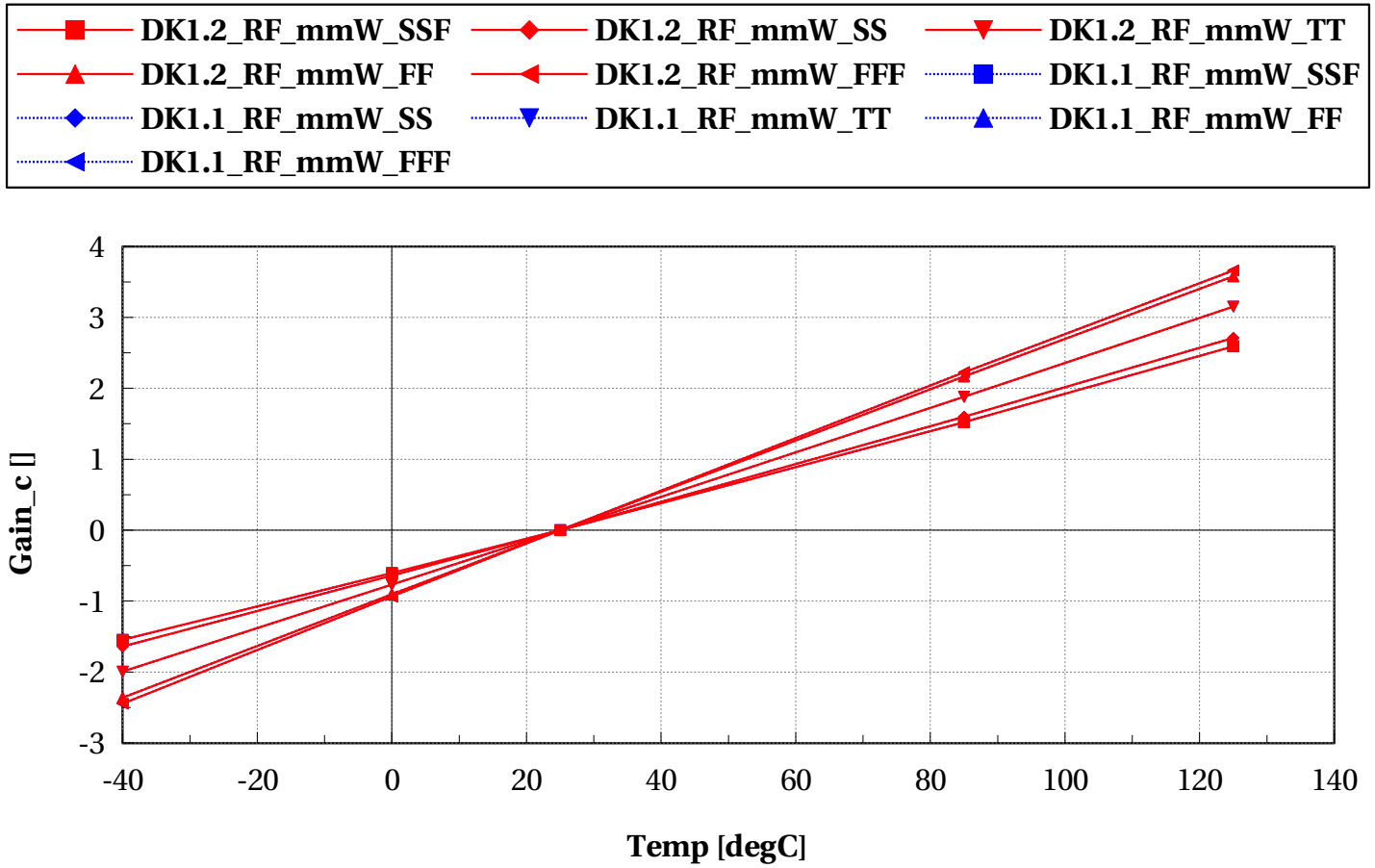
egvpfet_acc, Gm_c/W [s/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



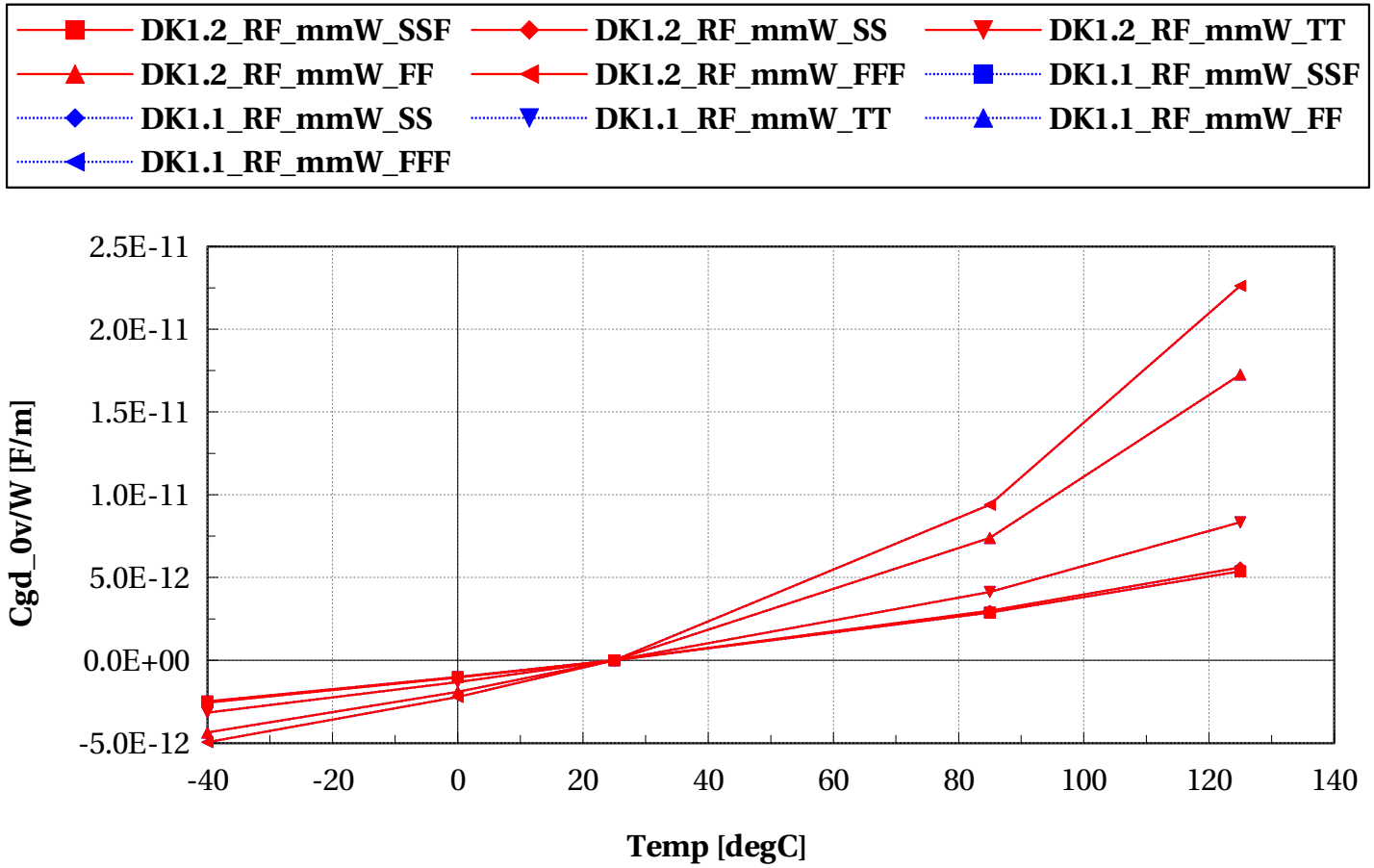
egvpfet_acc, Gain_c [] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



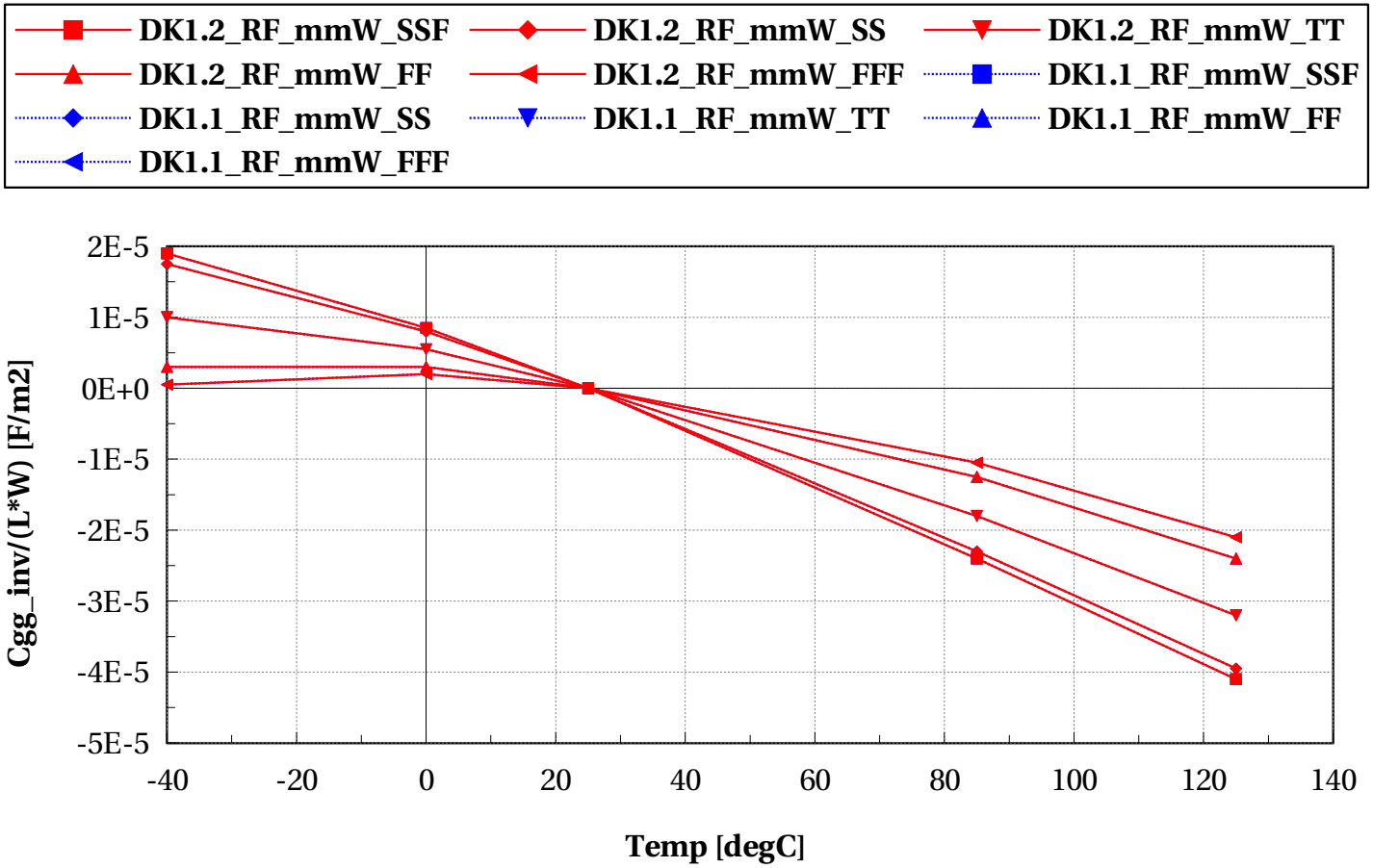
egvpfet_acc, Cgd_0v/W [F/m] vs Temp [degC]

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



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

l==0.10e-6 and w==2e-6 and devType=="PCELLwoWPE"



Annex

Conditions of simulations

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

- Model egvnfet_acc (DK1.2_RF_mmW)
  - ✔ 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
- ✘ 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 = 1.5 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

- ✘ eg_dev = 0
- ✘ eglvt_dev = 0
- ✘ gflag__noisedev__eg__cmos028fdsoi = 0
- ✘ gflag__noisedev__eglvt__cmos028fdsoi = 0

● Model egvpfet_acc (DK1.2_RF_mmW)

✔ Input Parameters

- ✘ vds_off = vds_sat V
- ✘ vds_cgd = 0 V
- ✘ vds_cgg = 0 V
- ✘ mc_sens = 0
- ✘ vds_lin = 0.05 V
- ✘ ivt = 70e-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
- ✘ 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 = 1.5 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

- ✘ eg_dev = 0
- ✘ eglvt_dev = 0
- ✘ gflag__noisedev__eg__cmos028fdsoi = 0
- ✘ gflag__noisedev__eglvt__cmos028fdsoi = 0

● Model egvnfet_acc (DK1.1_RF_mmW)

✔ 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.b
- ✘ 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
- ✘ 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 = 1.5 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

- ✘ eg_dev = 0
- ✘ eglvt_dev = 0
- ✘ gflag__noisedev__eg__cmos028fdsoi = 0

- ✘ gflag__noisedev__eglvt__cmos028fdsoi = 0

● Model egvpfet_acc (DK1.1_RF_mmW)

- ✔ Input Parameters
  - ✘ vds_off = vds_sat V
  - ✘ vds_cgd = 0 V
  - ✘ vds_cgg = 0 V
  - ✘ mc_sens = 0
  - ✘ vds_lin = 0.05 V
  - ✘ ivt = 70e-9 A
  - ✘ model_version = 1.2.b
  - ✘ 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
  - ✘ 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 = 1.5 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

- ✘ eg_dev = 0
- ✘ eglvt_dev = 0
- ✘ gflag__noisedev__eg__cmos028fdsoi = 0
- ✘ gflag__noisedev__eglvt__cmos028fdsoi = 0