cmos028fdsoi Technology

Poly resistors models

DK1.2_RF_mmW

Comparison with DK1.1_RF_mmW model(s)

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General information on Poly resistors models

- Maximum supply voltage is - V.
- Validity domain is defined as follows:
  - ✔ Drawn gate length varies from 0.4um to 100um.
  - ✔ Drawn transistor width varies from 0.15um to 10um.
  - ✔ Device temperature varies from -40 °C to 125 °C.

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Output parameters definitions

- Model(s): opppcres, opreres
  - ✔ Rval : Resistance at Vres = 50e-3V

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opppcres
Electrical characteristics scaling

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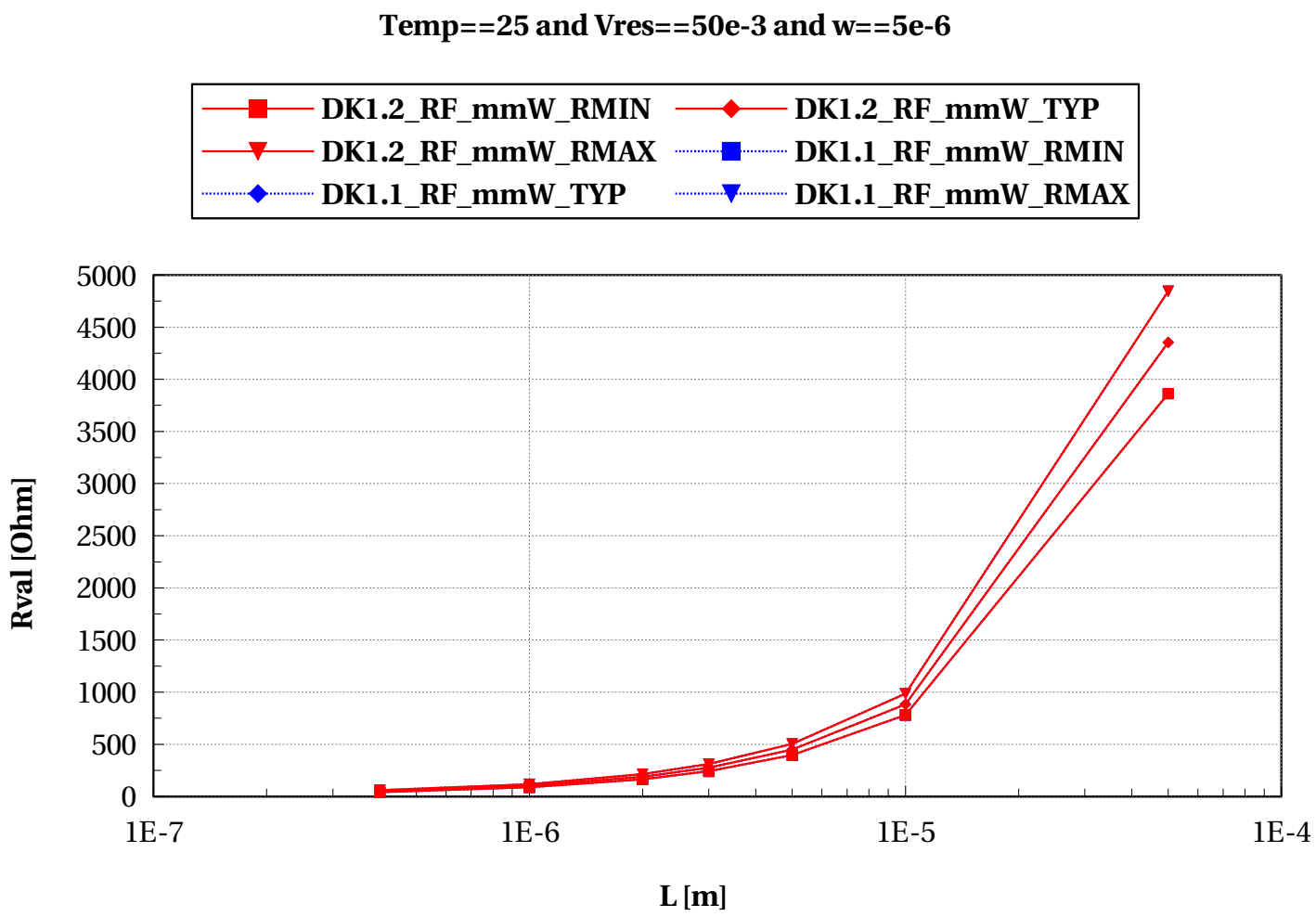
opppcres, Rval [Ohm] vs L [m]



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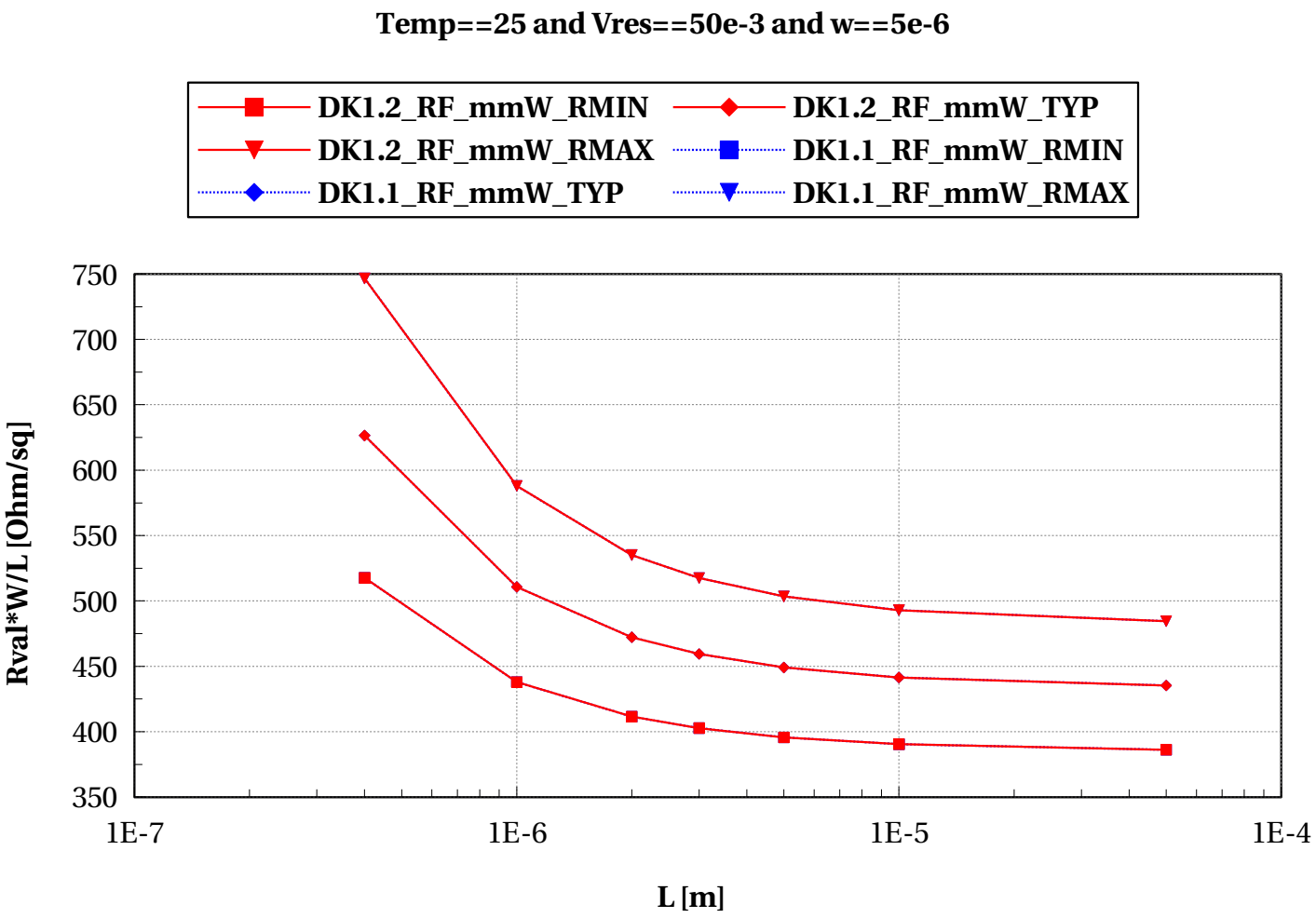
opppcres, Rval*W/L [Ohm/sq] vs L [m]



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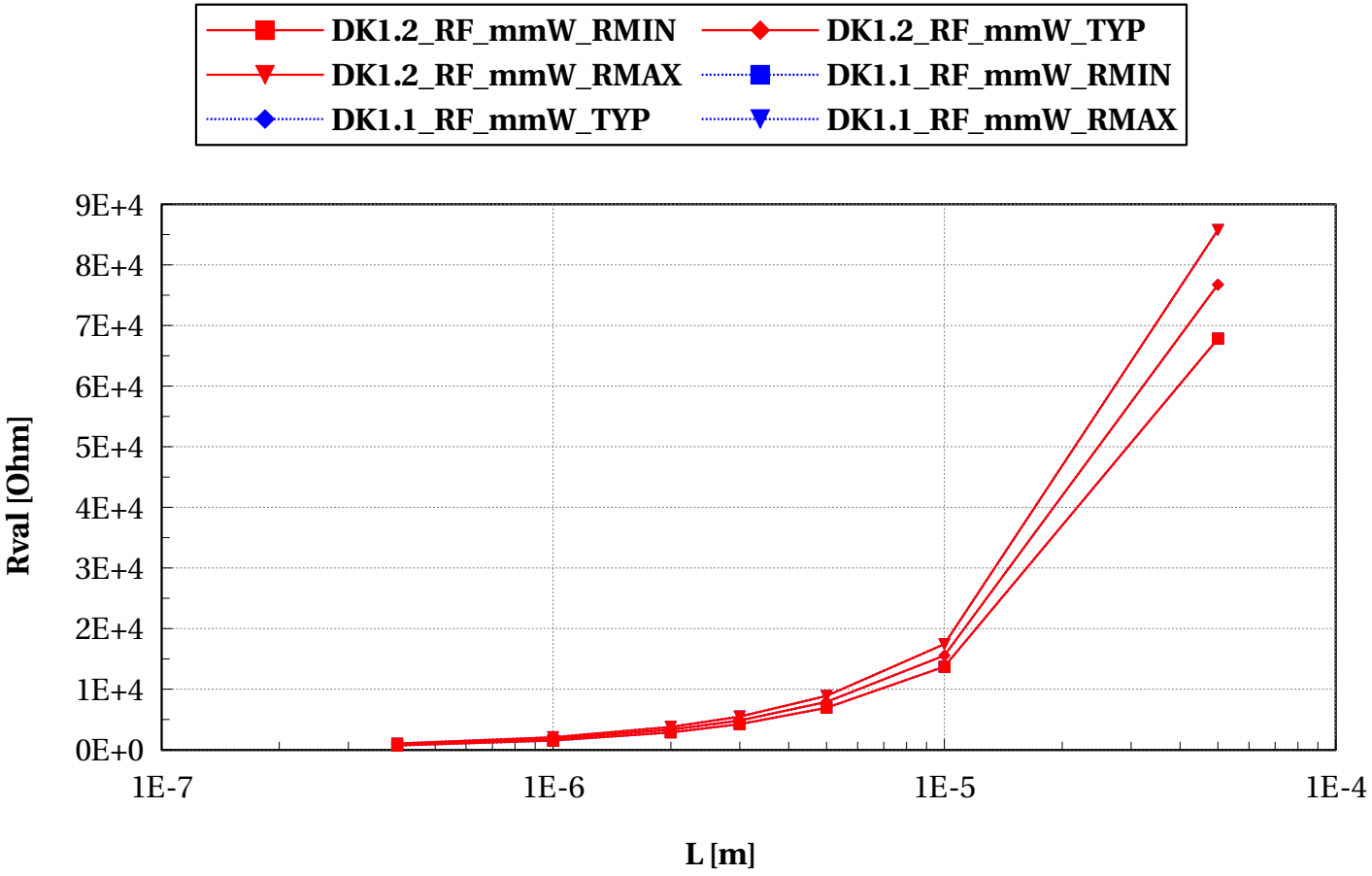
opppcres, Rval [Ohm] vs L [m]

Temp==25 and Vres==50e-3 and w==0.3e-6



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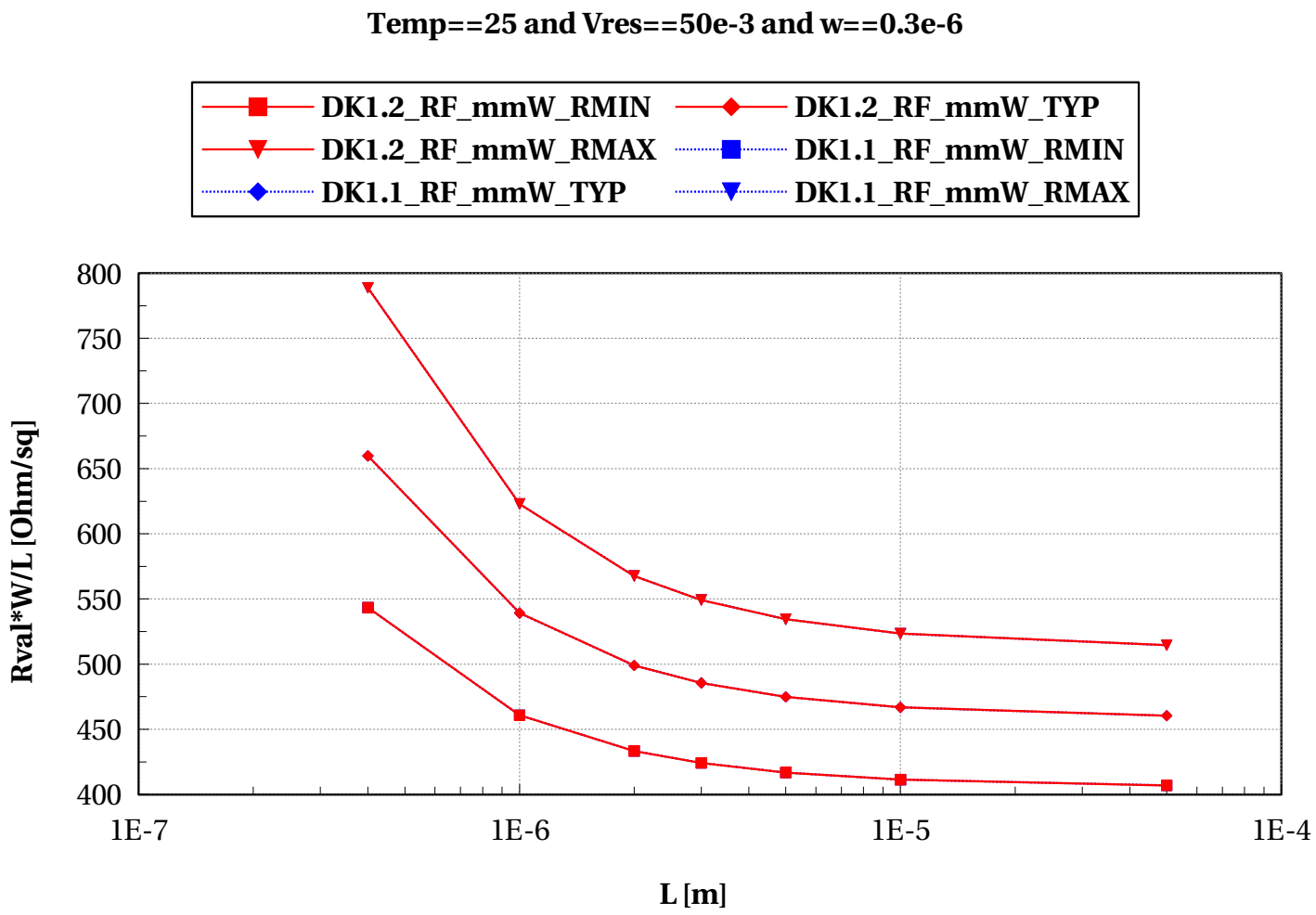
opppcres, Rval*W/L [Ohm/sq] vs L [m]



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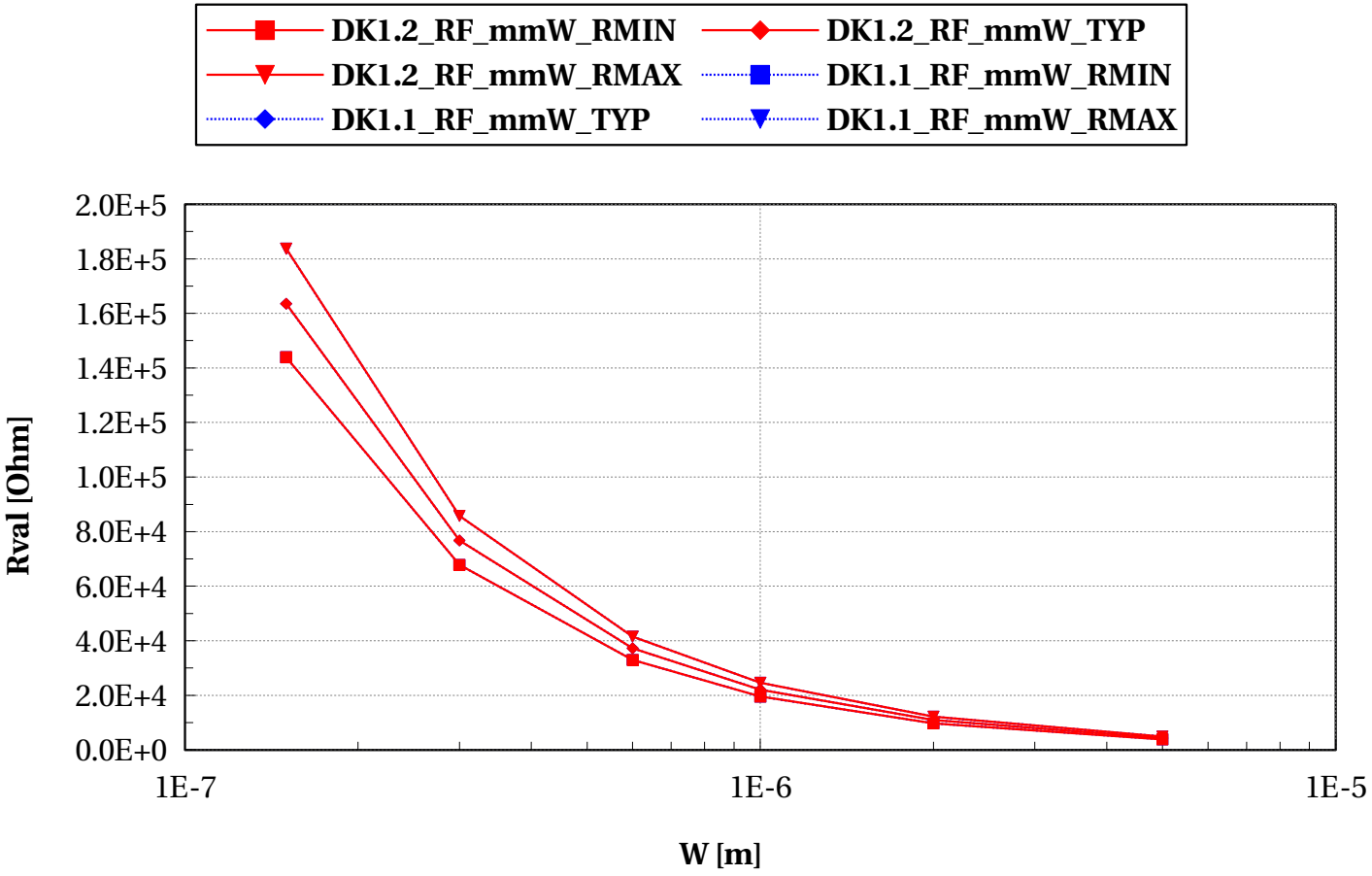
opppcres, Rval [Ohm] vs W [m]

Temp==25 and Vres==50e-3 and l==50e-6



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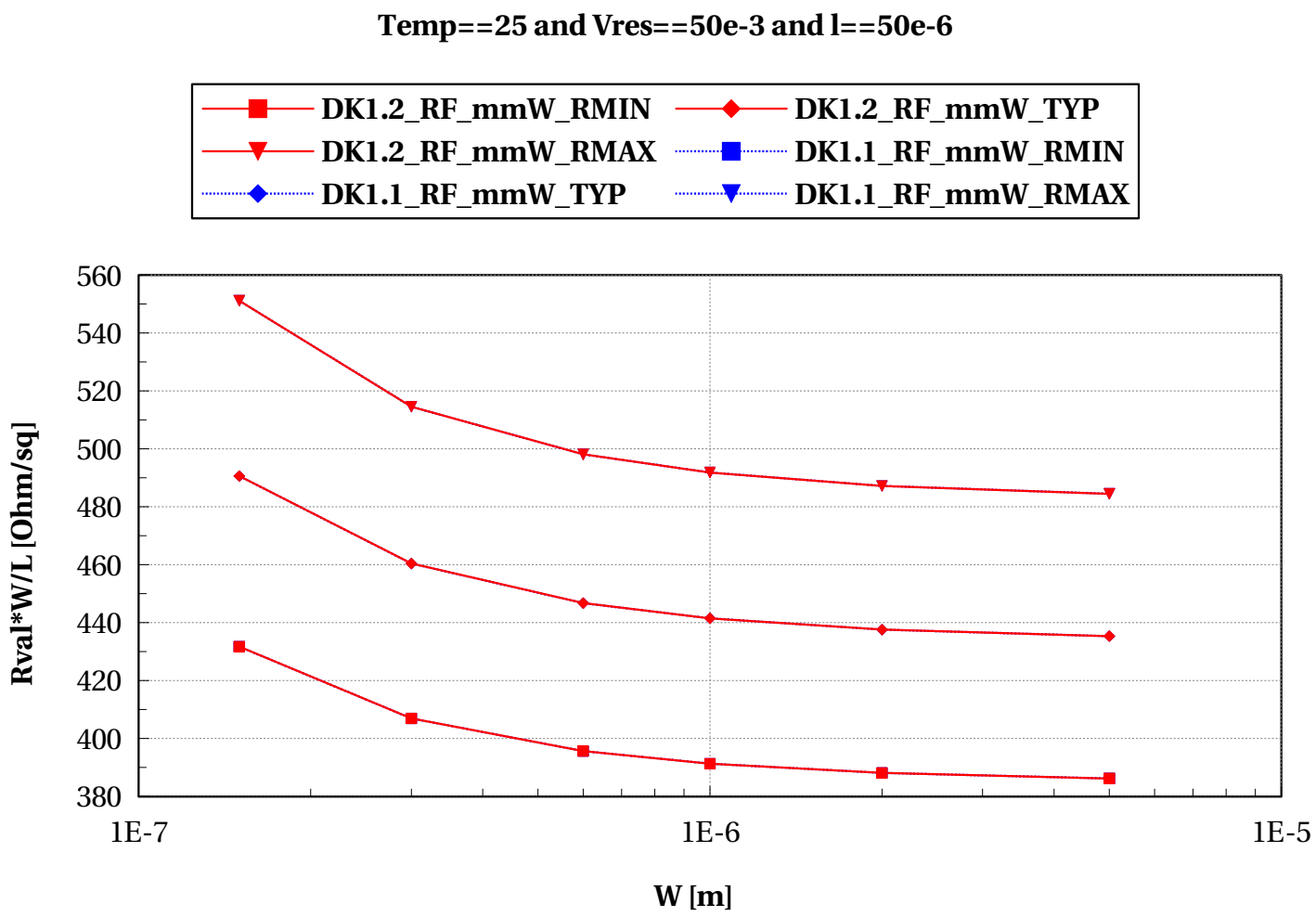
opppcres, Rval*W/L [Ohm/sq] vs W [m]



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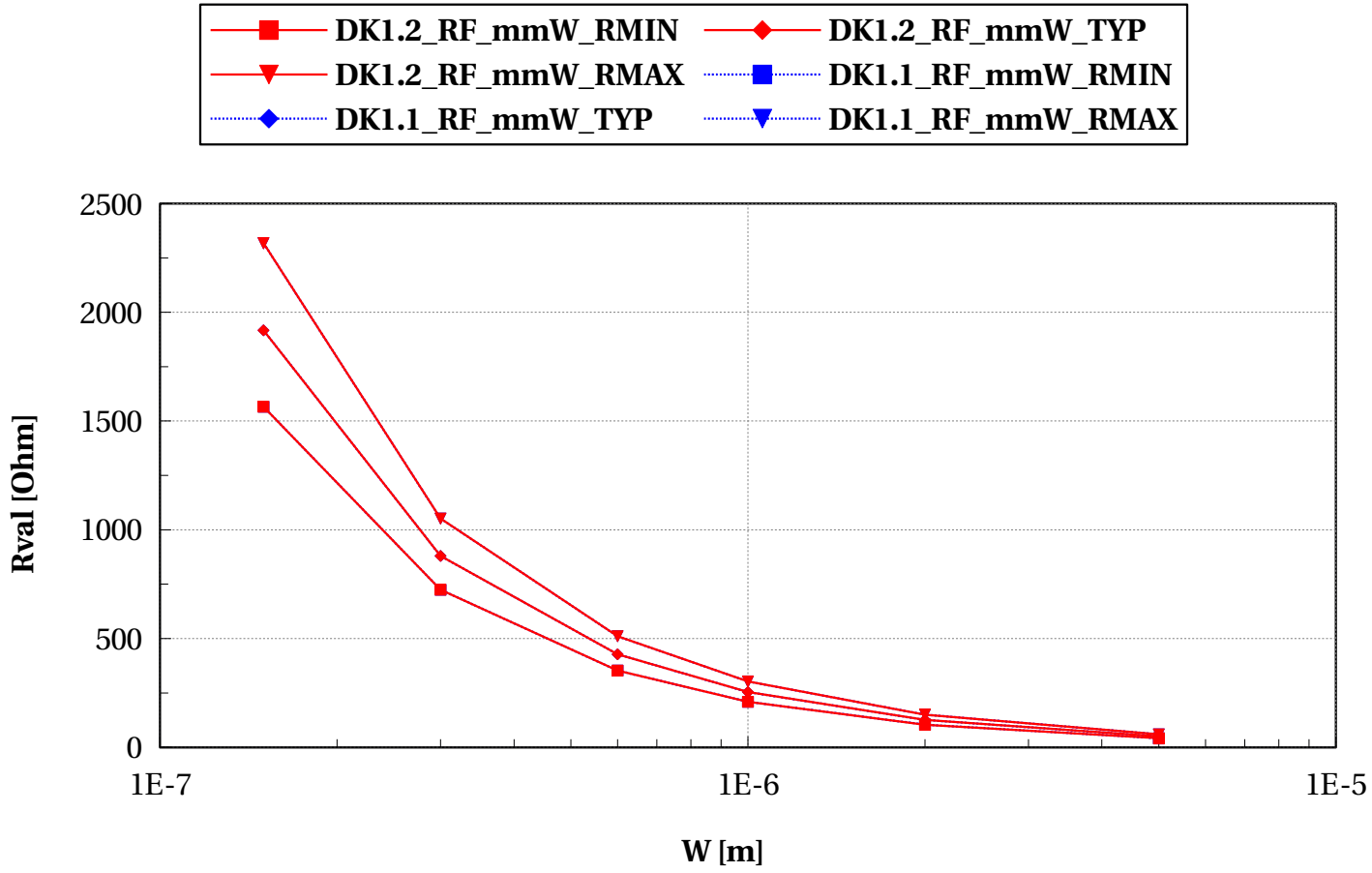
opppcres, Rval [Ohm] vs W [m]

Temp==25 and Vres==50e-3 and l==0.4e-6



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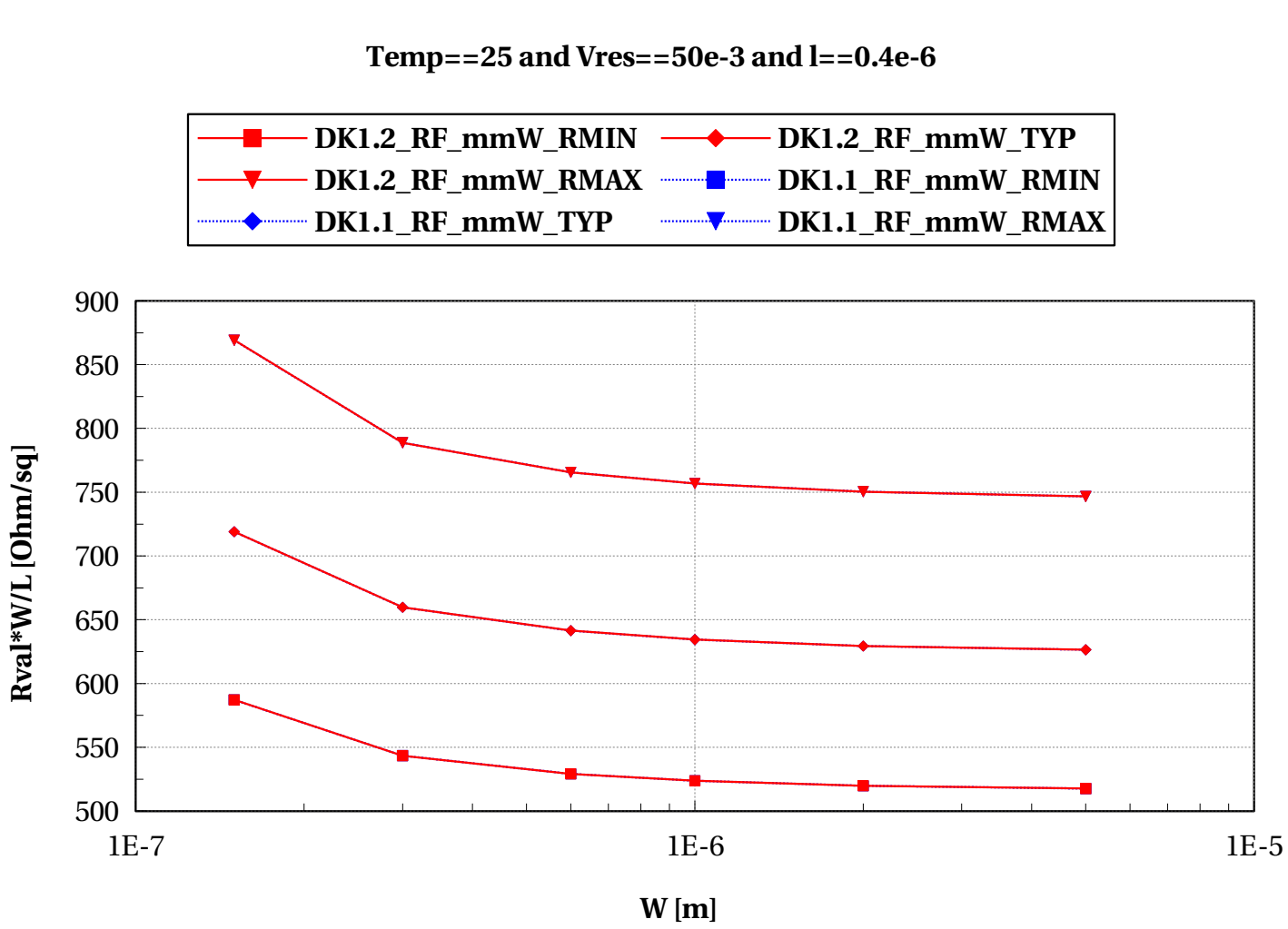
opppcres, Rval*W/L [Ohm/sq] vs W [m]



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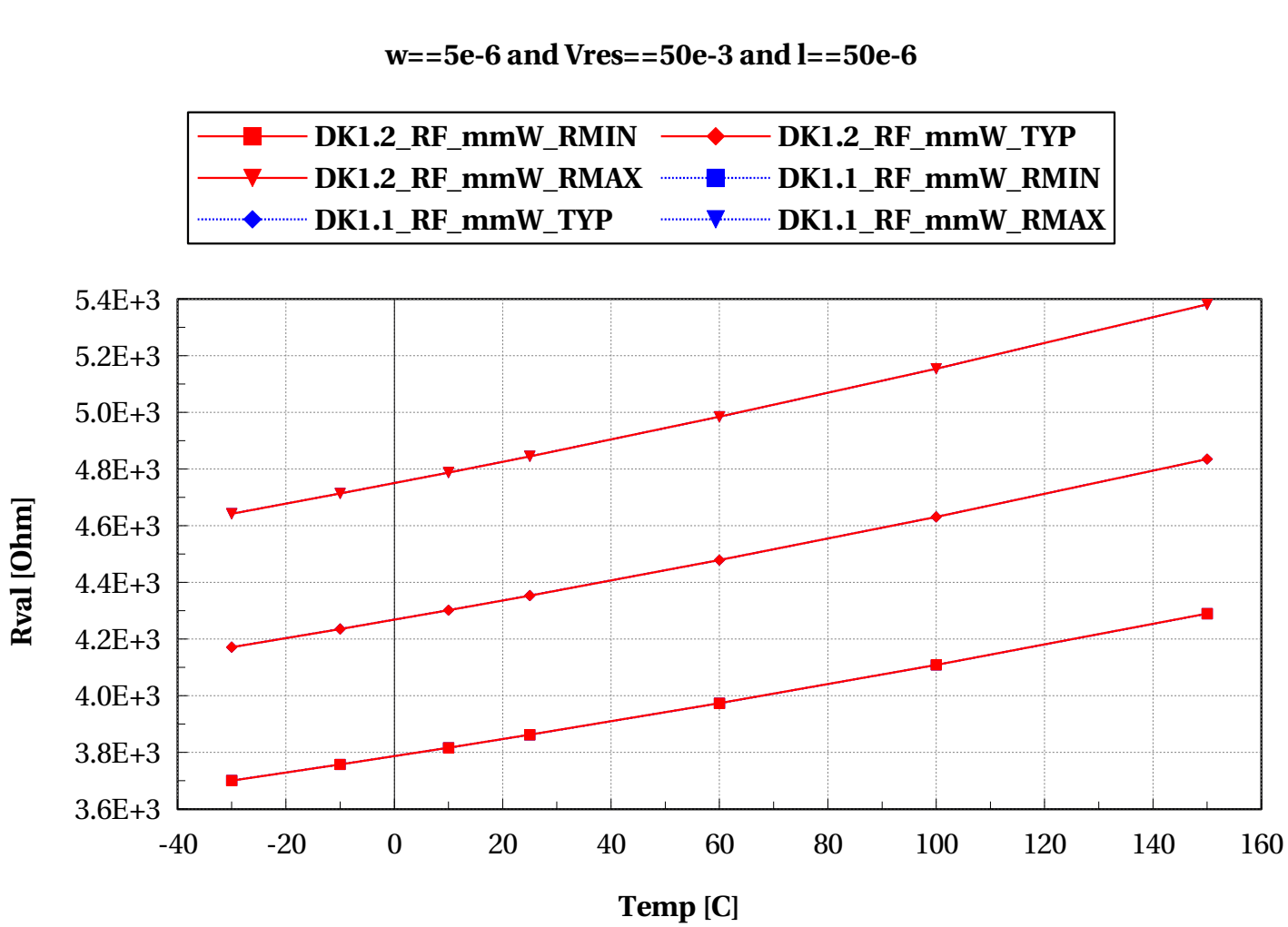
opppcres, Rval [Ohm] vs Temp [C]



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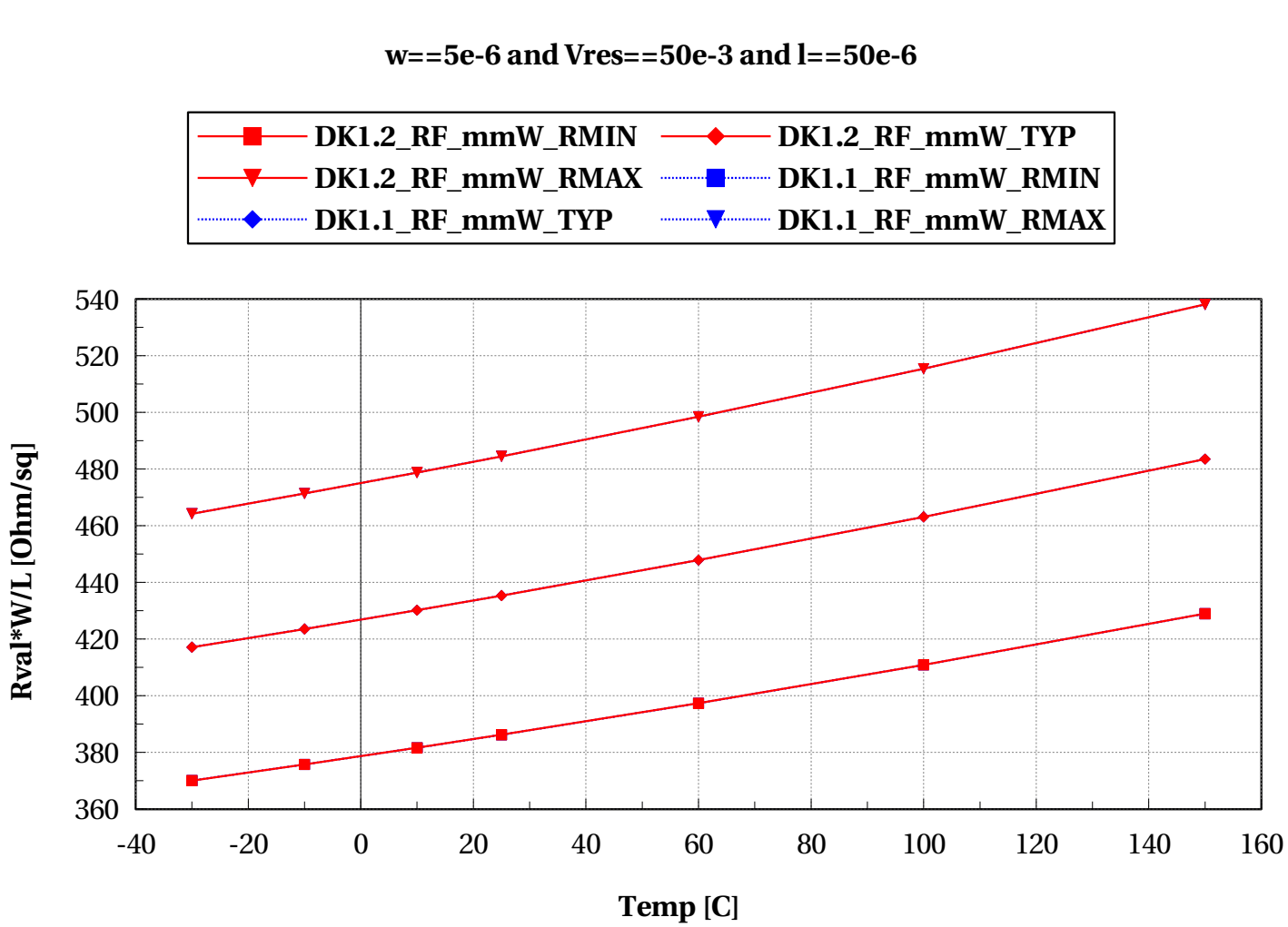
opppcres, Rval*W/L [Ohm/sq] vs Temp [C]



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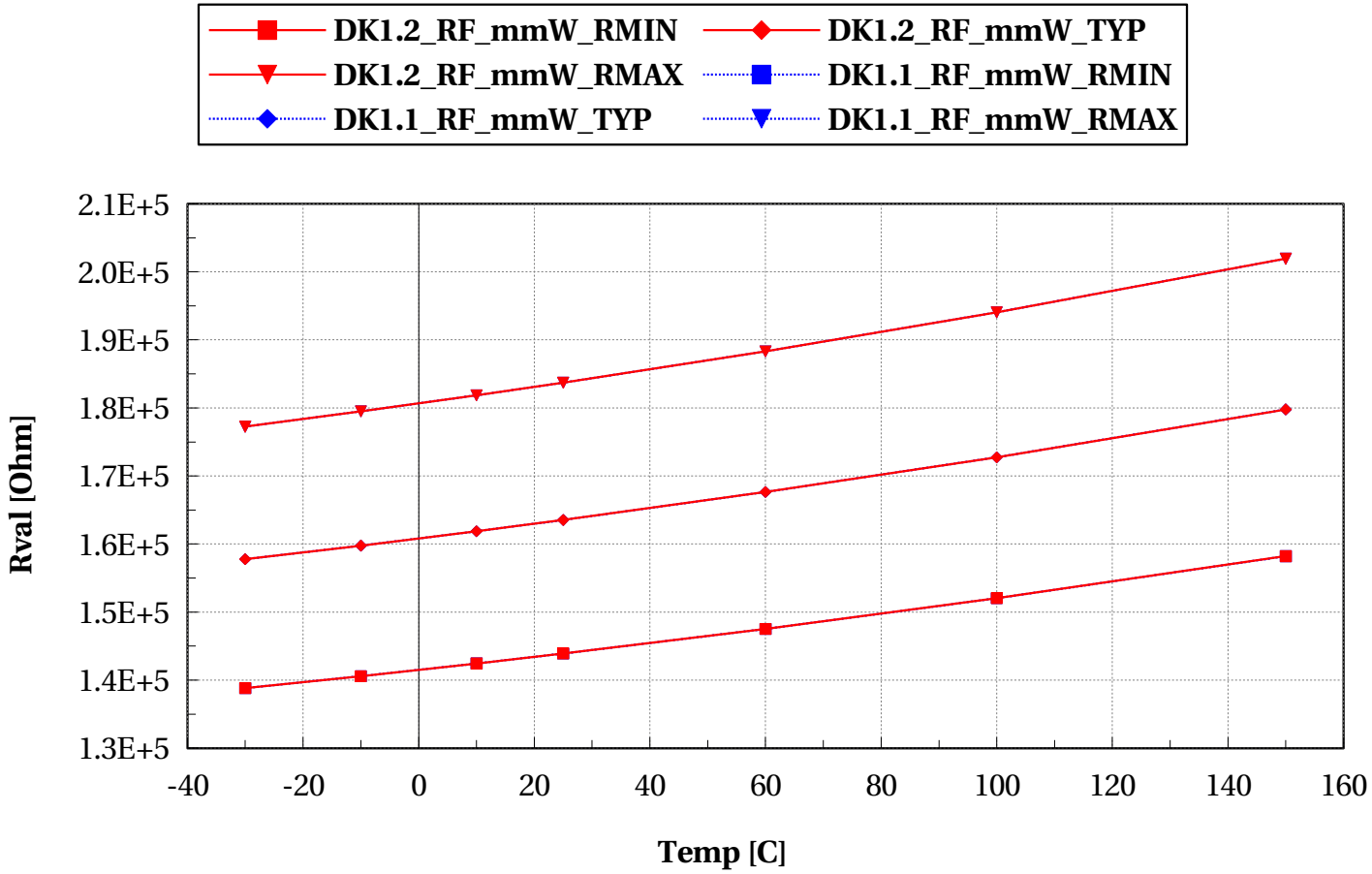
opppcres, Rval [Ohm] vs Temp [C]

w==0.15e-6 and Vres==50e-3 and l==50e-6



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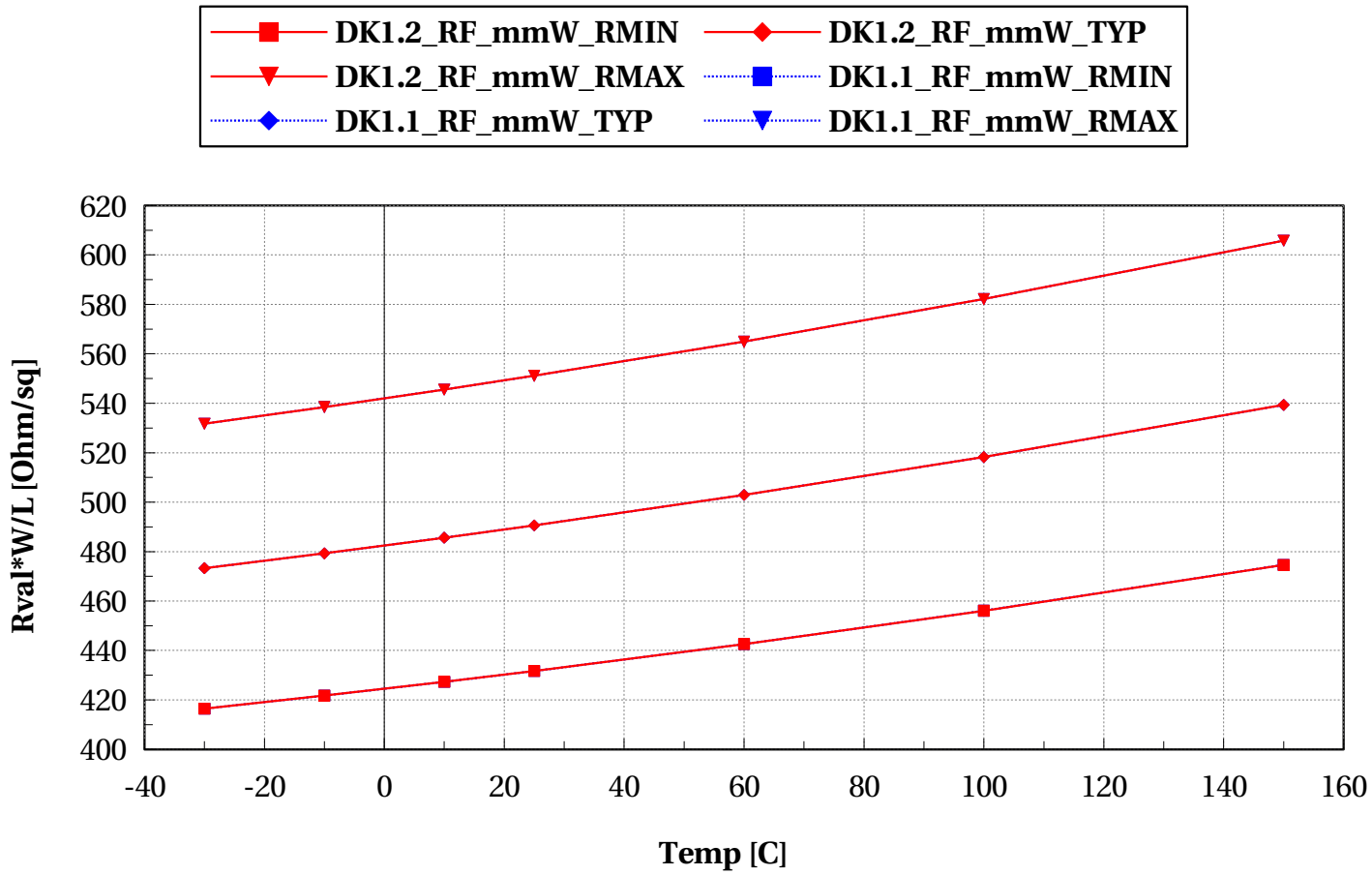
opppcres, Rval*W/L [Ohm/sq] vs Temp [C]

w==0.15e-6 and Vres==50e-3 and l==50e-6



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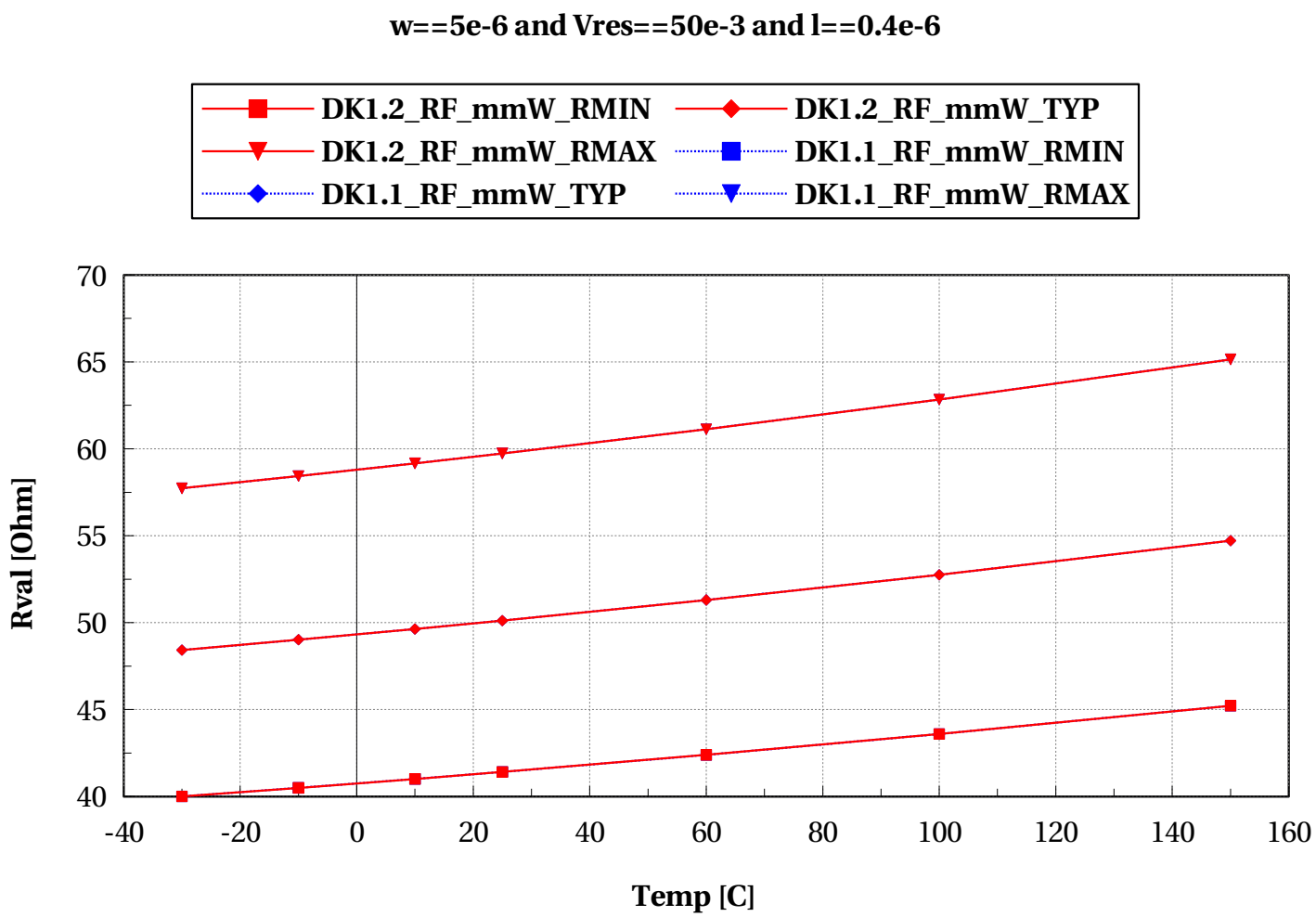
opppcres, Rval [Ohm] vs Temp [C]



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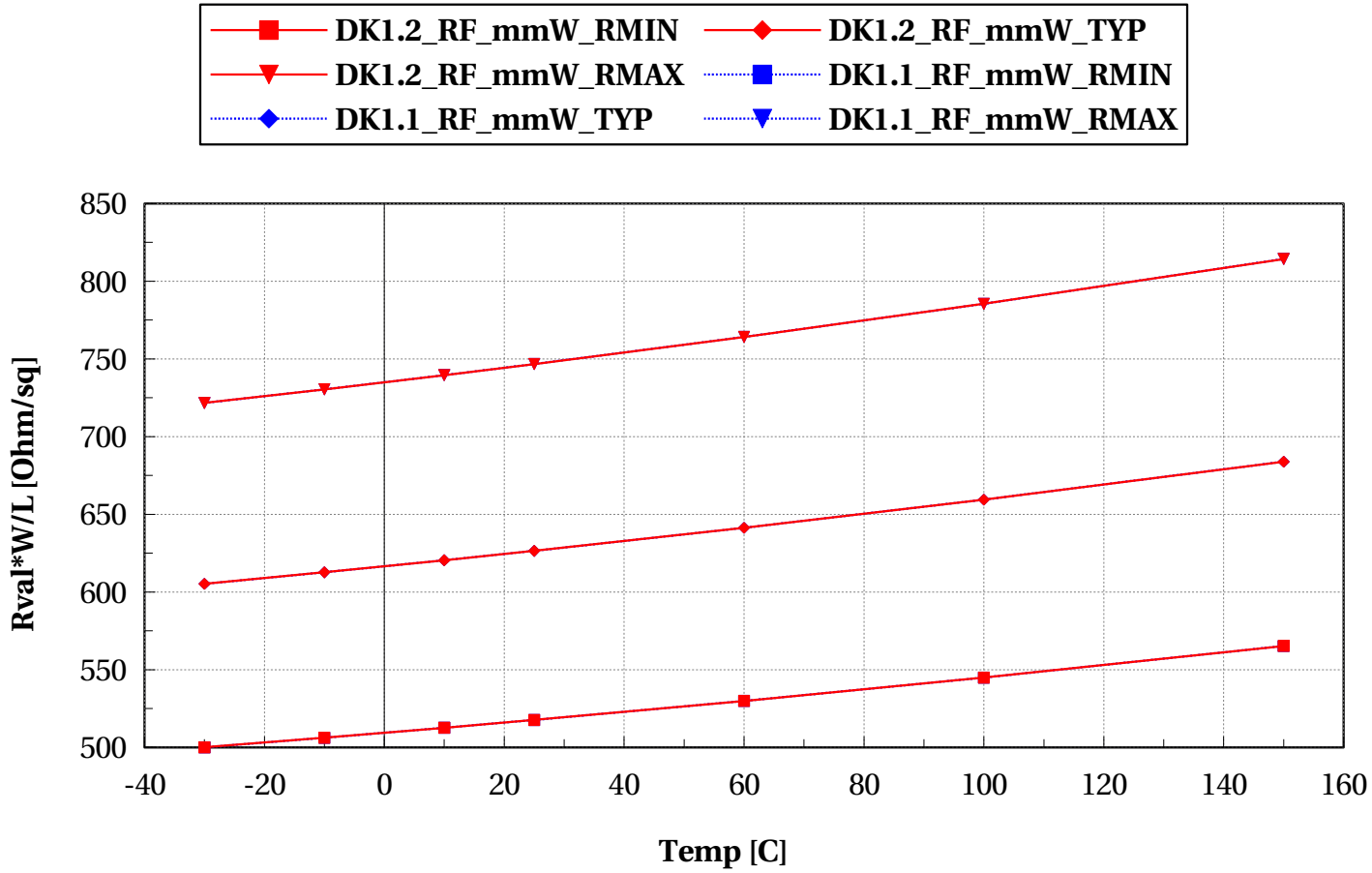
opppcres, Rval*W/L [Ohm/sq] vs Temp [C]

w==5e-6 and Vres==50e-3 and l==0.4e-6



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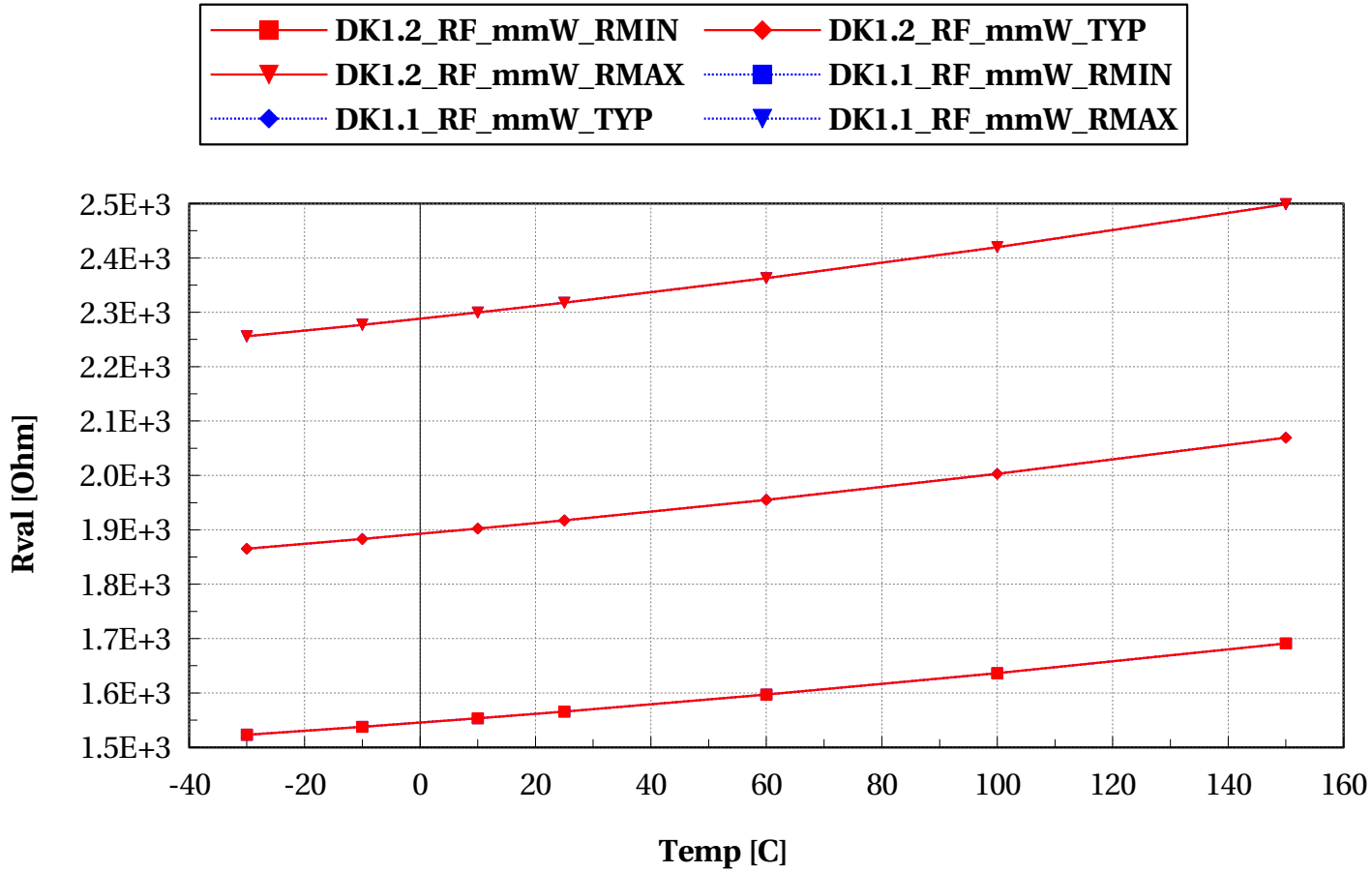
opppcres, Rval [Ohm] vs Temp [C]

w==0.15e-6 and Vres==50e-3 and l==0.4e-6



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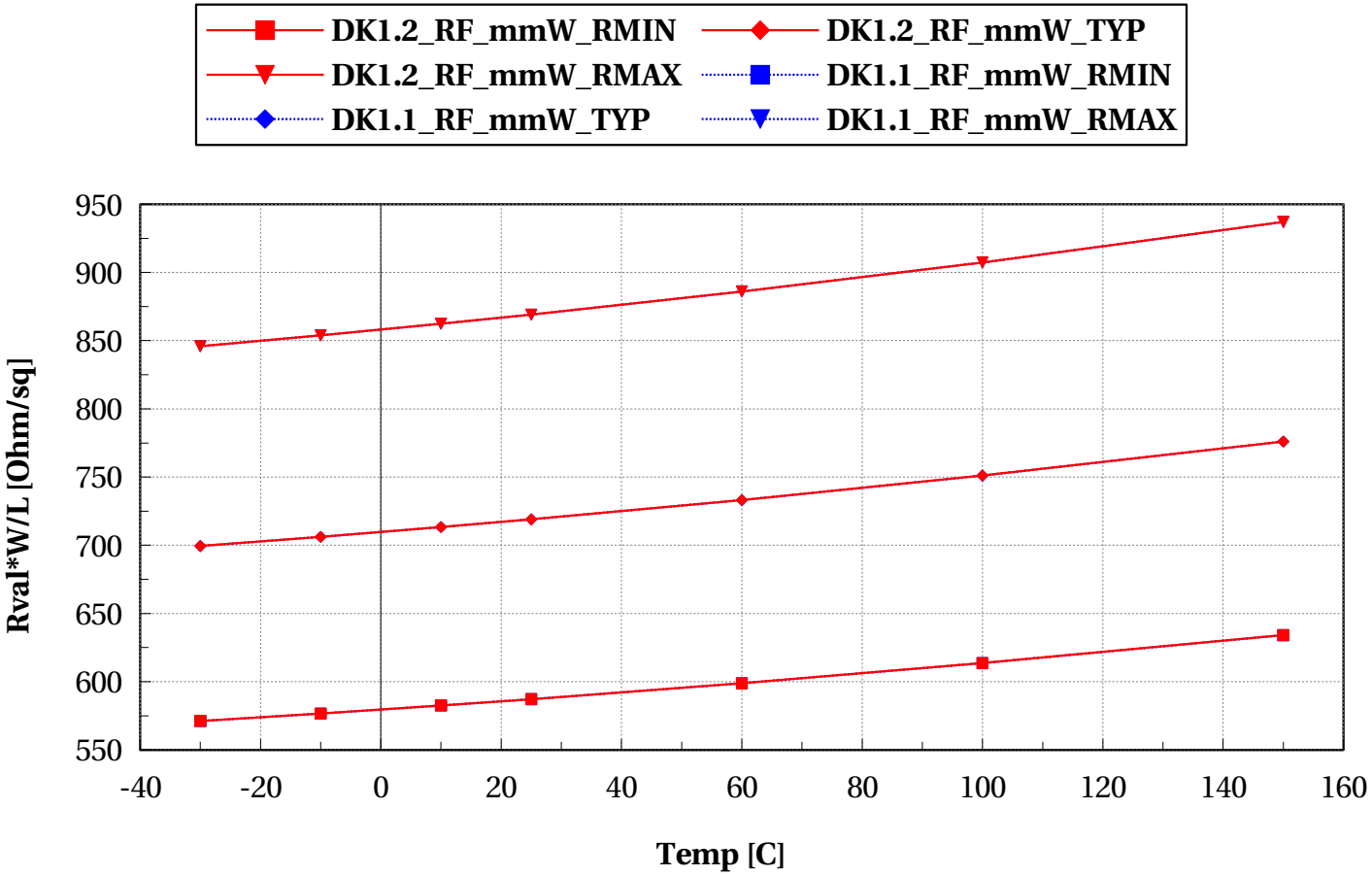

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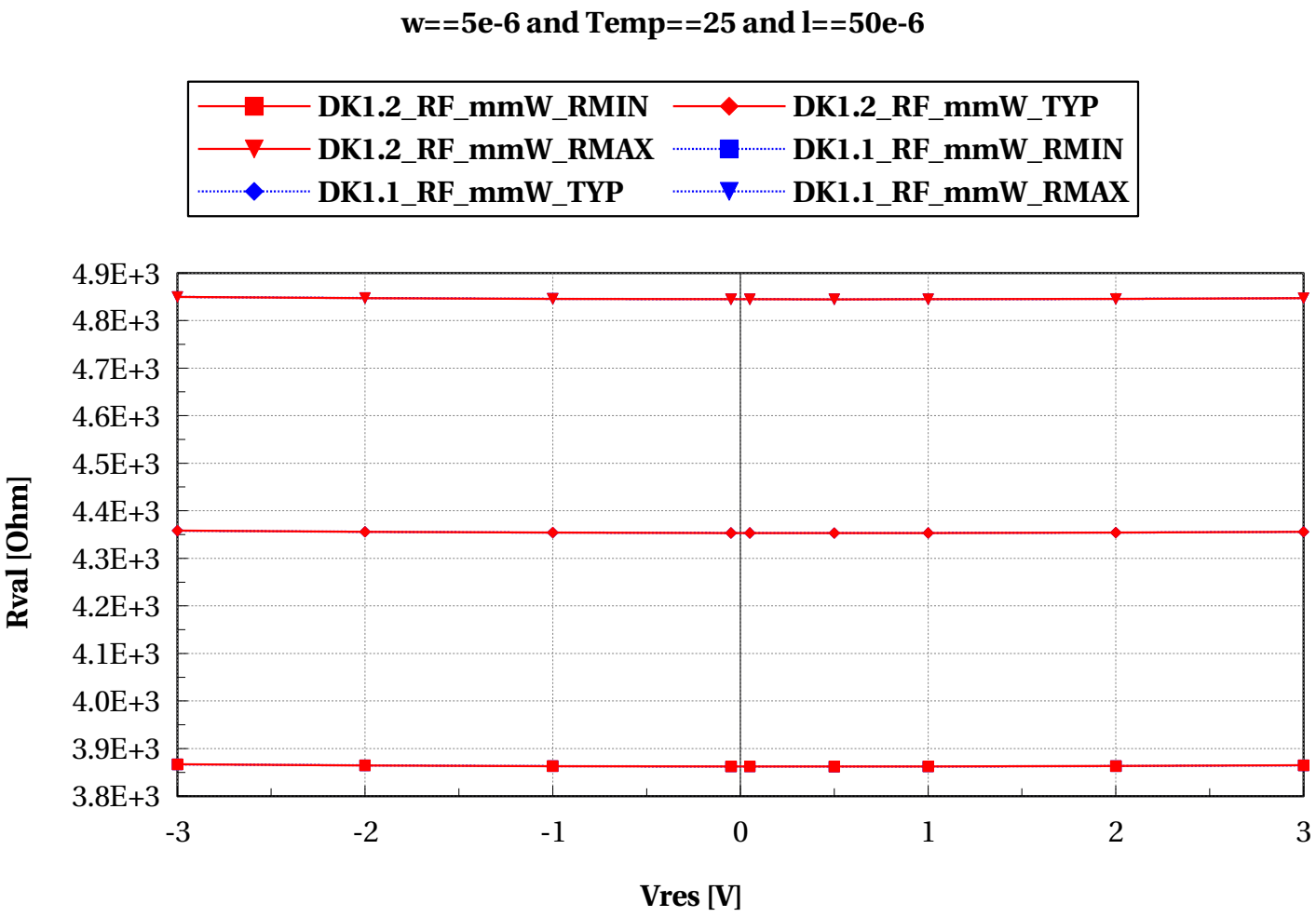
opppcres, Rval [Ohm] vs Vres [V]



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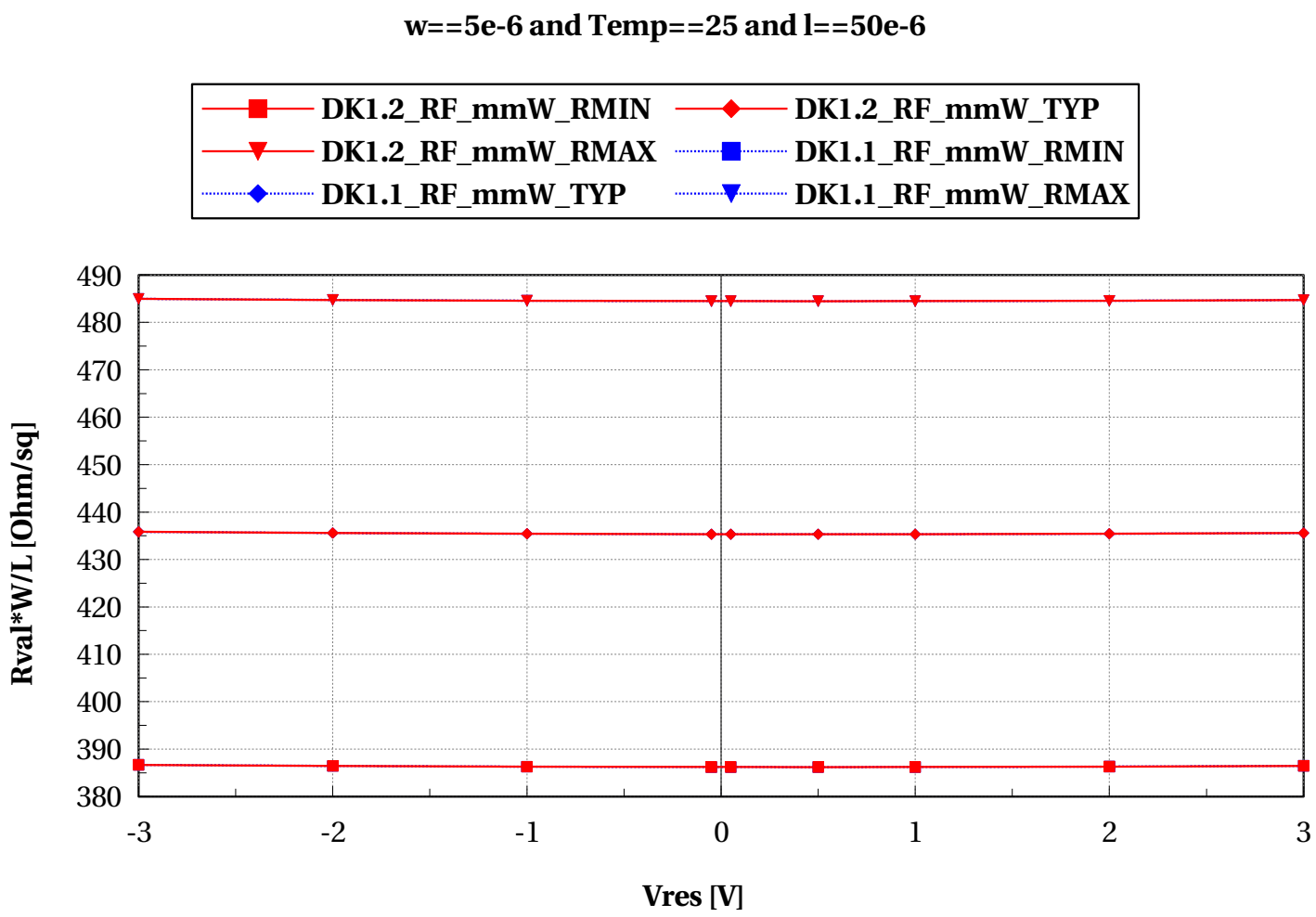
opppcres, Rval*W/L [Ohm/sq] vs Vres [V]



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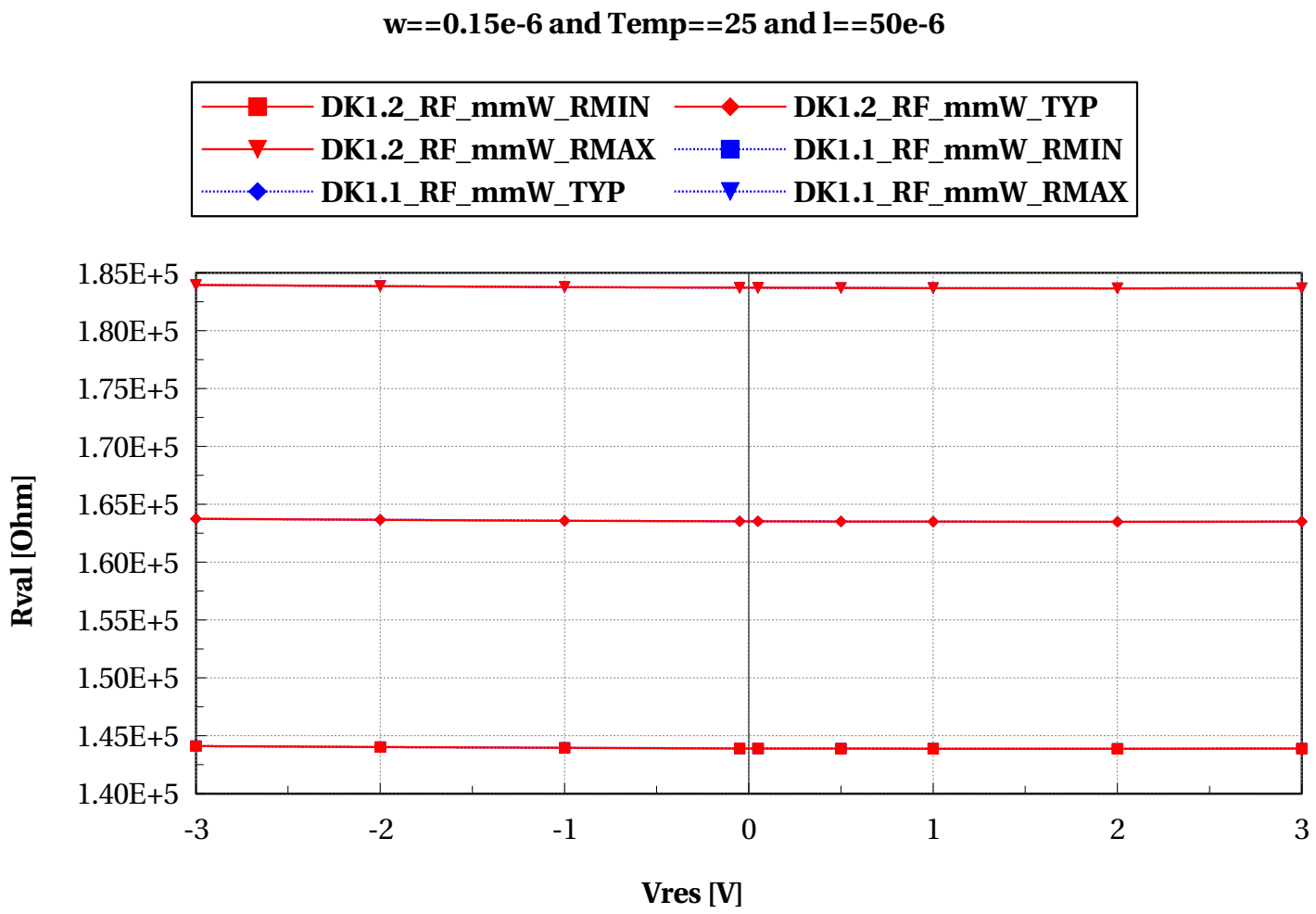
opppcres, Rval [Ohm] vs Vres [V]



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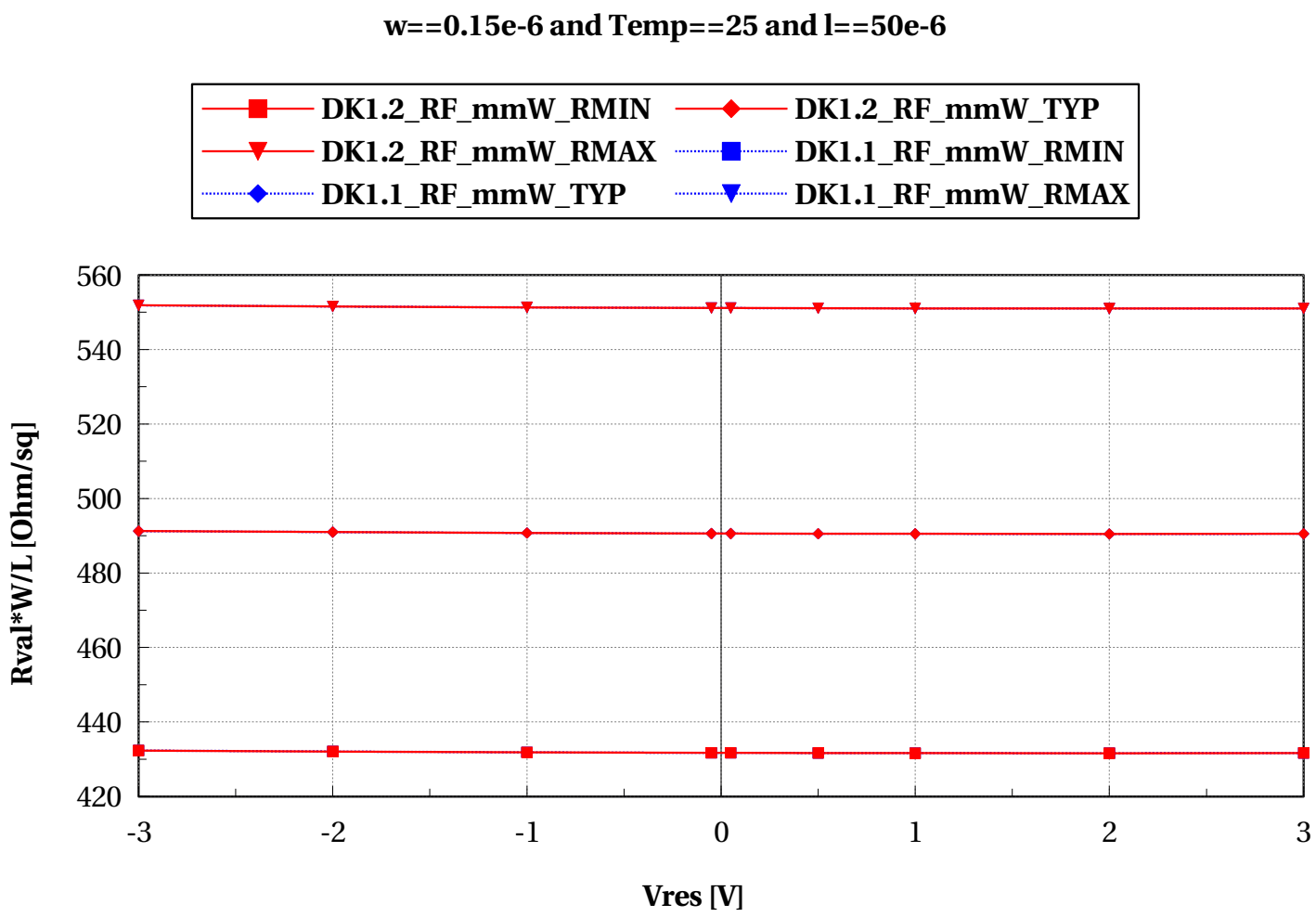
opppcres, Rval*W/L [Ohm/sq] vs Vres [V]



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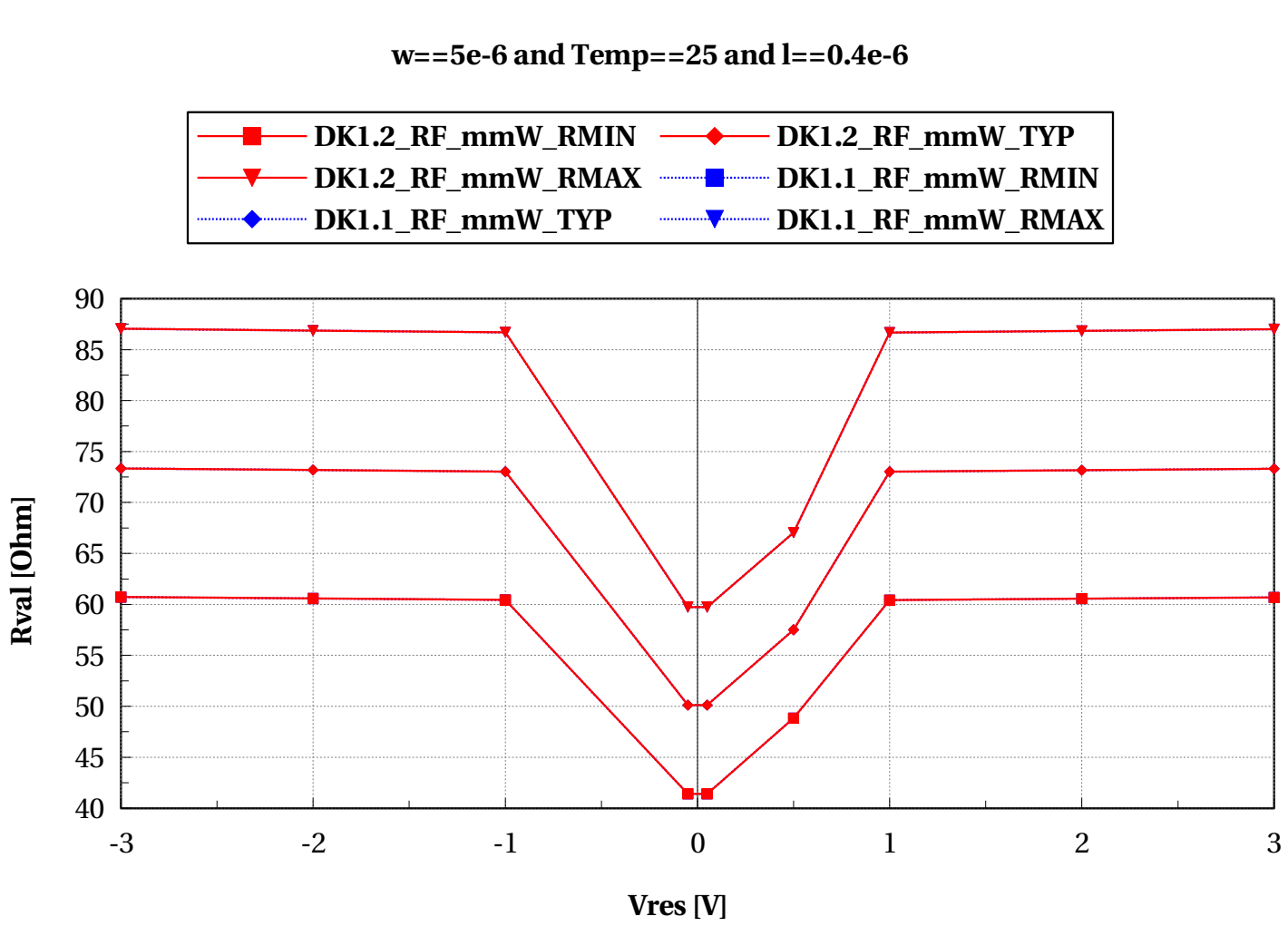
opppcres, Rval [Ohm] vs Vres [V]



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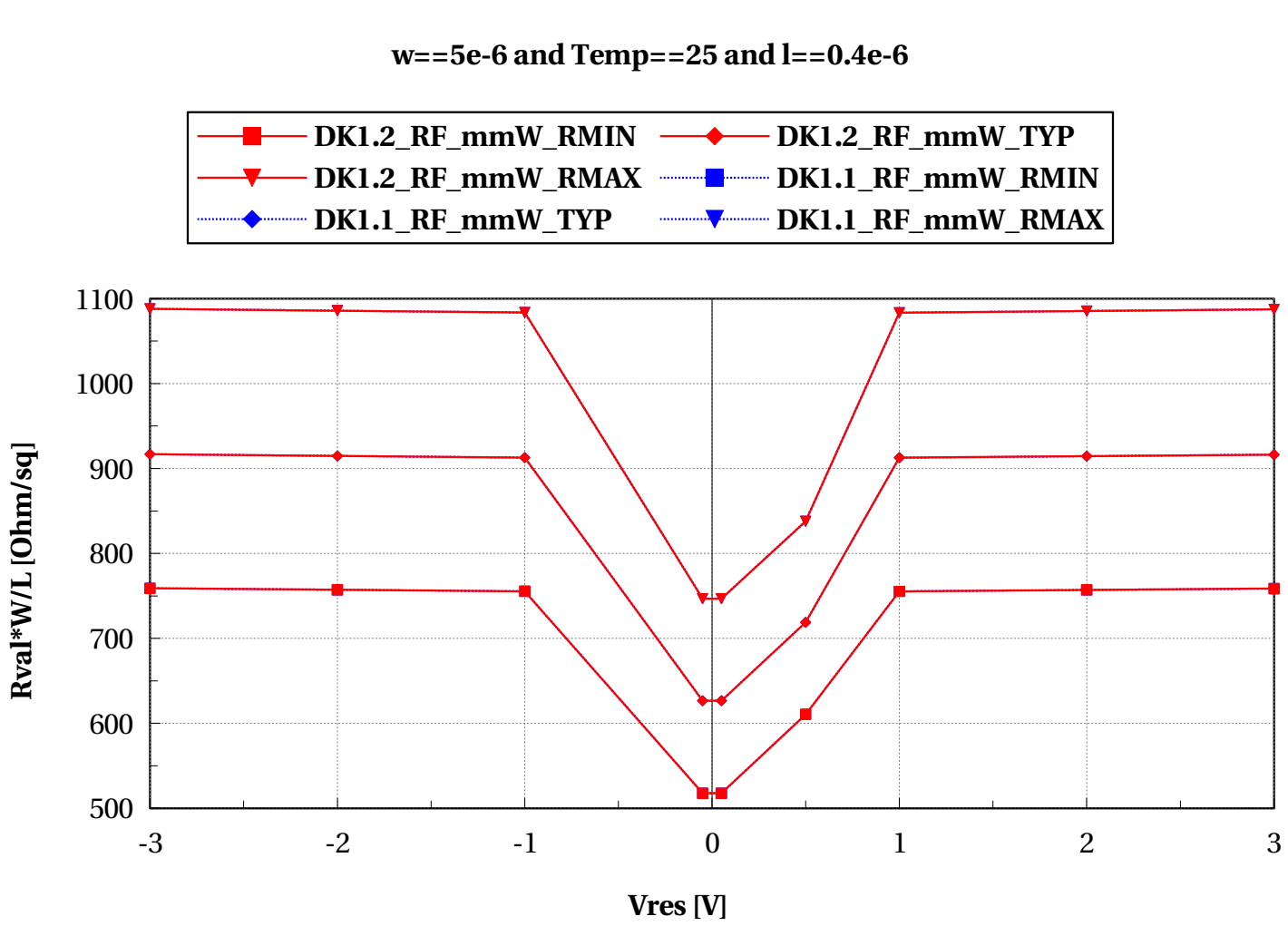
opppcres, Rval*W/L [Ohm/sq] vs Vres [V]



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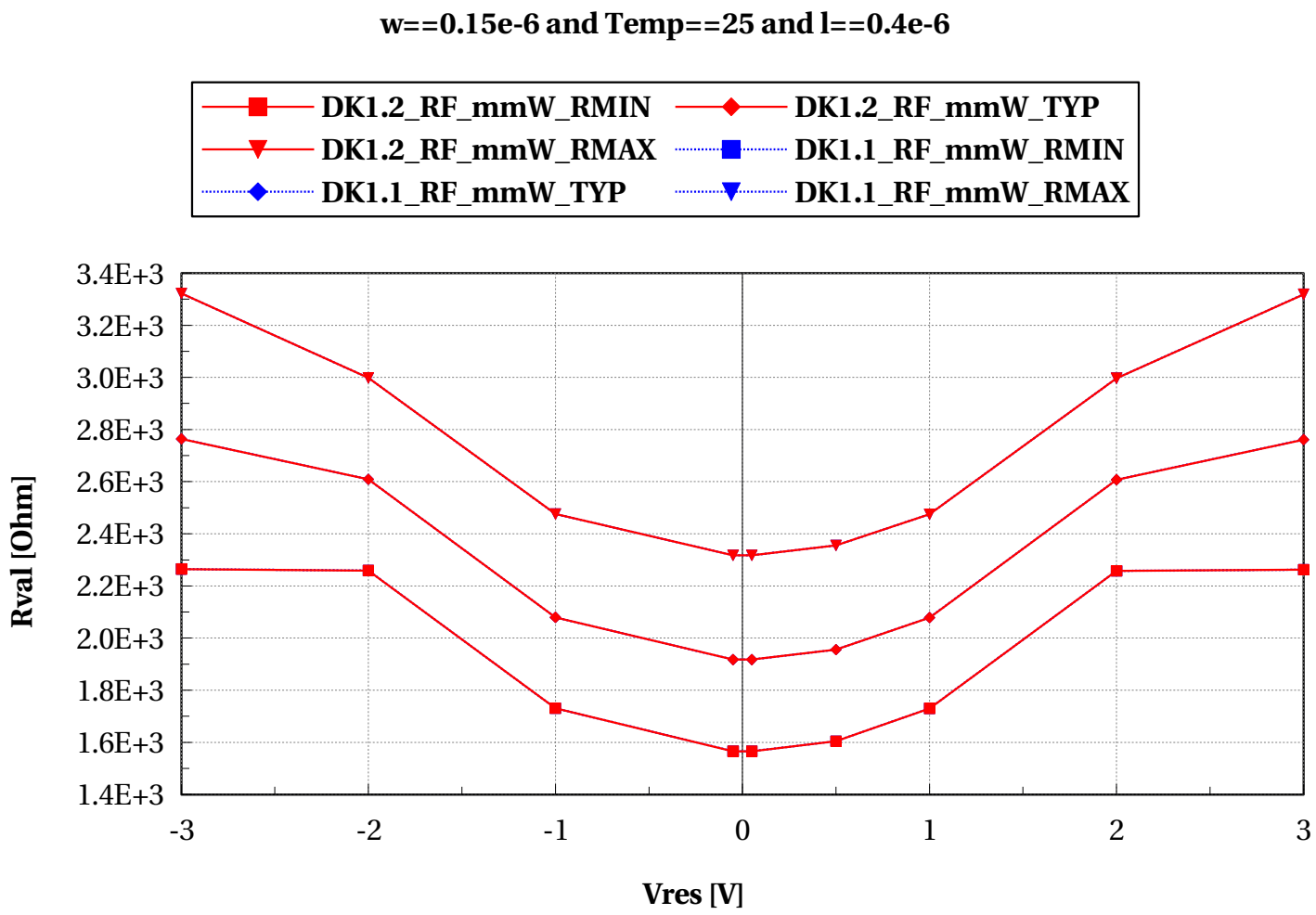
opppcres, Rval [Ohm] vs Vres [V]



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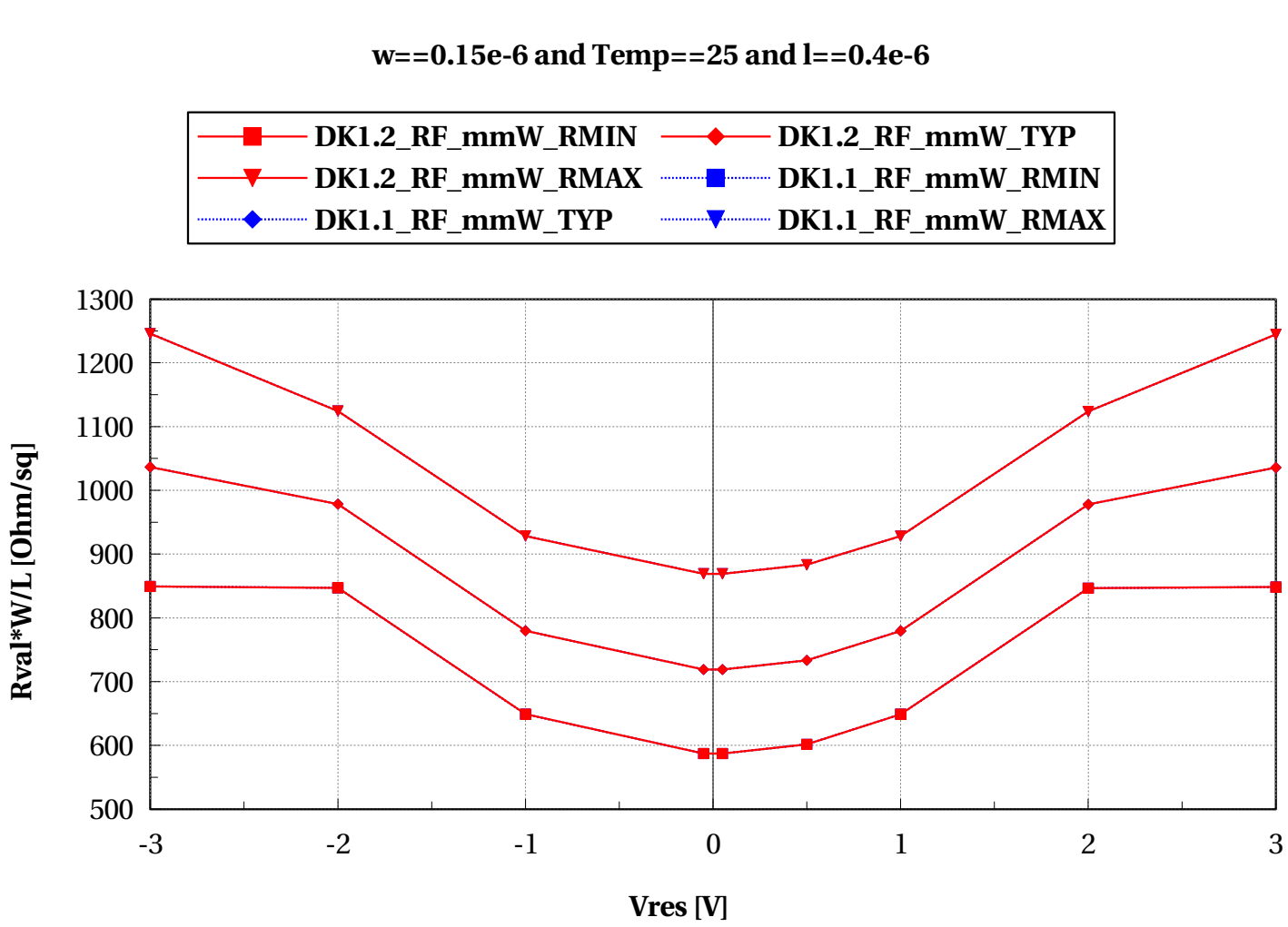
opppcres, Rval*W/L [Ohm/sq] vs Vres [V]



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Electrical characteristics scaling

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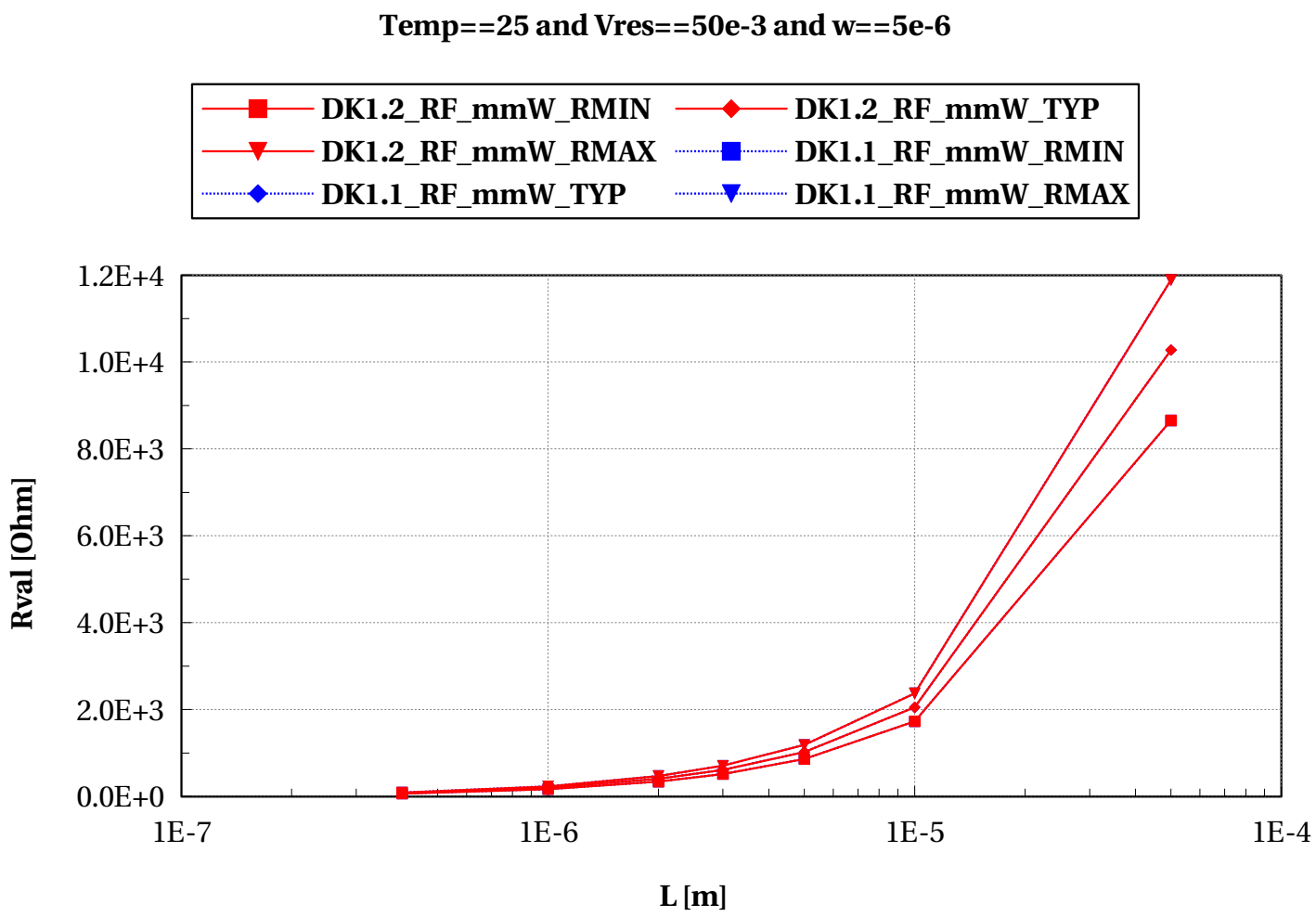
opreres, Rval [Ohm] vs L [m]



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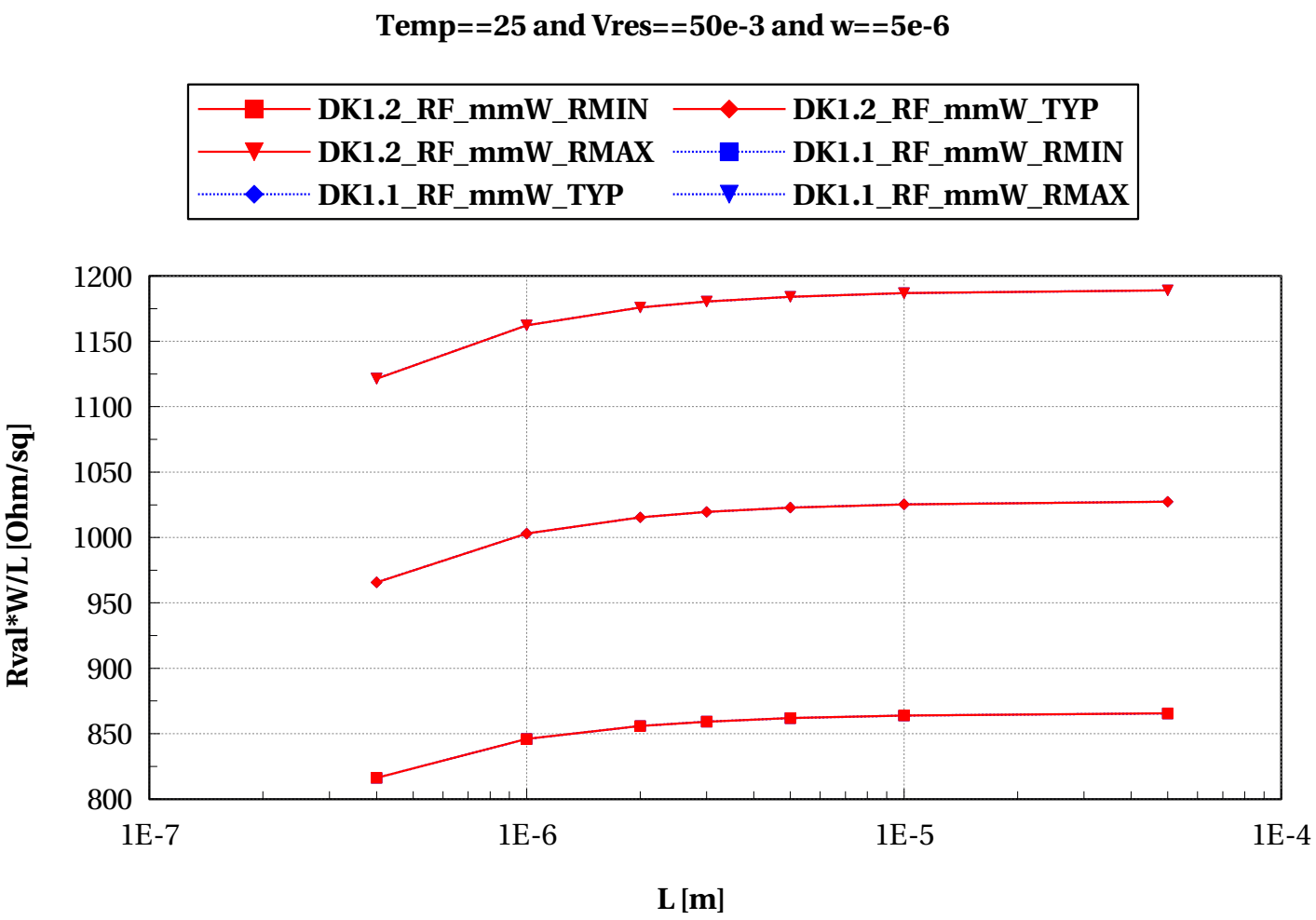
opreres, Rval*W/L [Ohm/sq] vs L [m]



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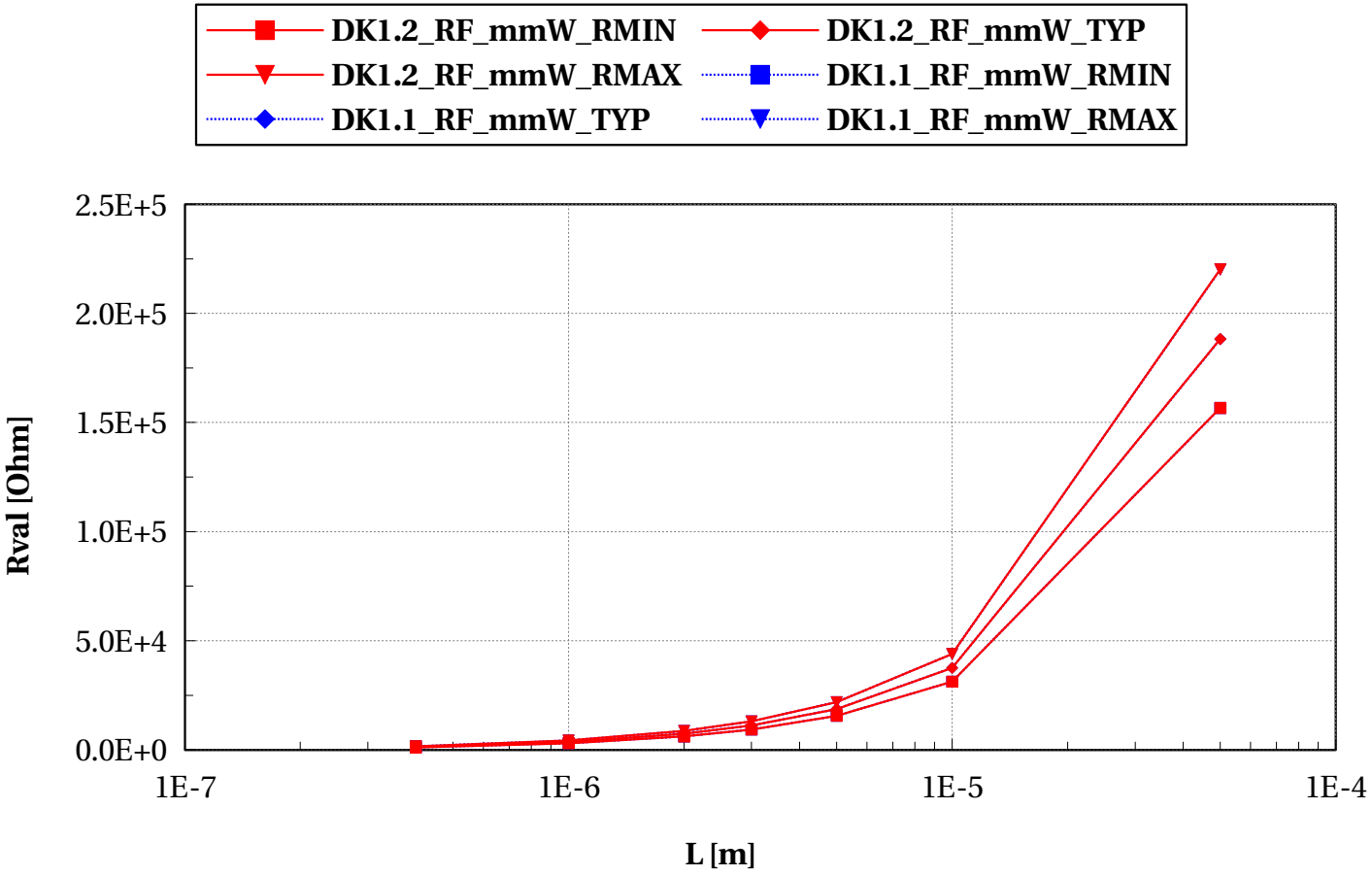
opreres, Rval [Ohm] vs L [m]

Temp==25 and Vres==50e-3 and w==0.3e-6



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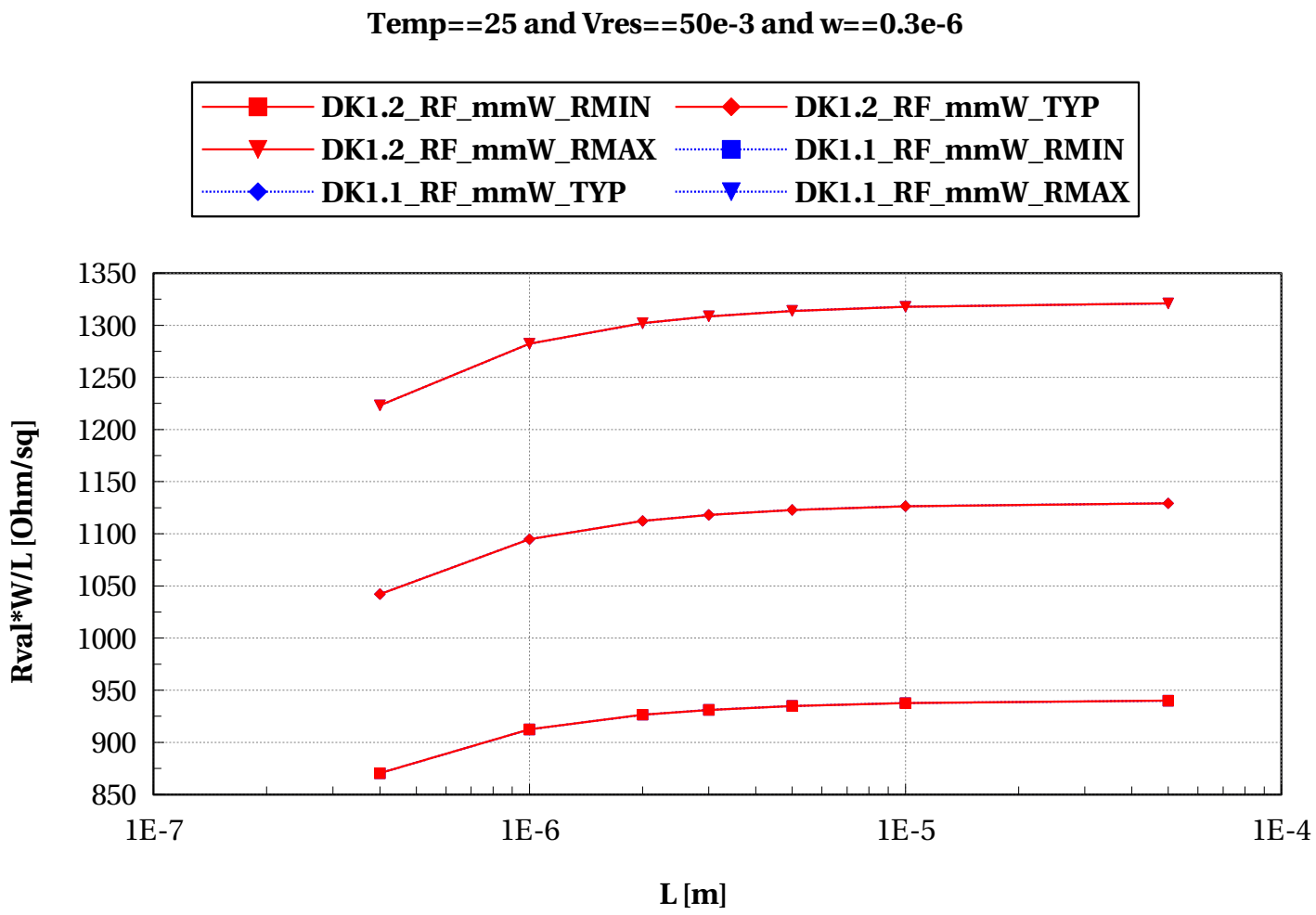
opreres, Rval*W/L [Ohm/sq] vs L [m]



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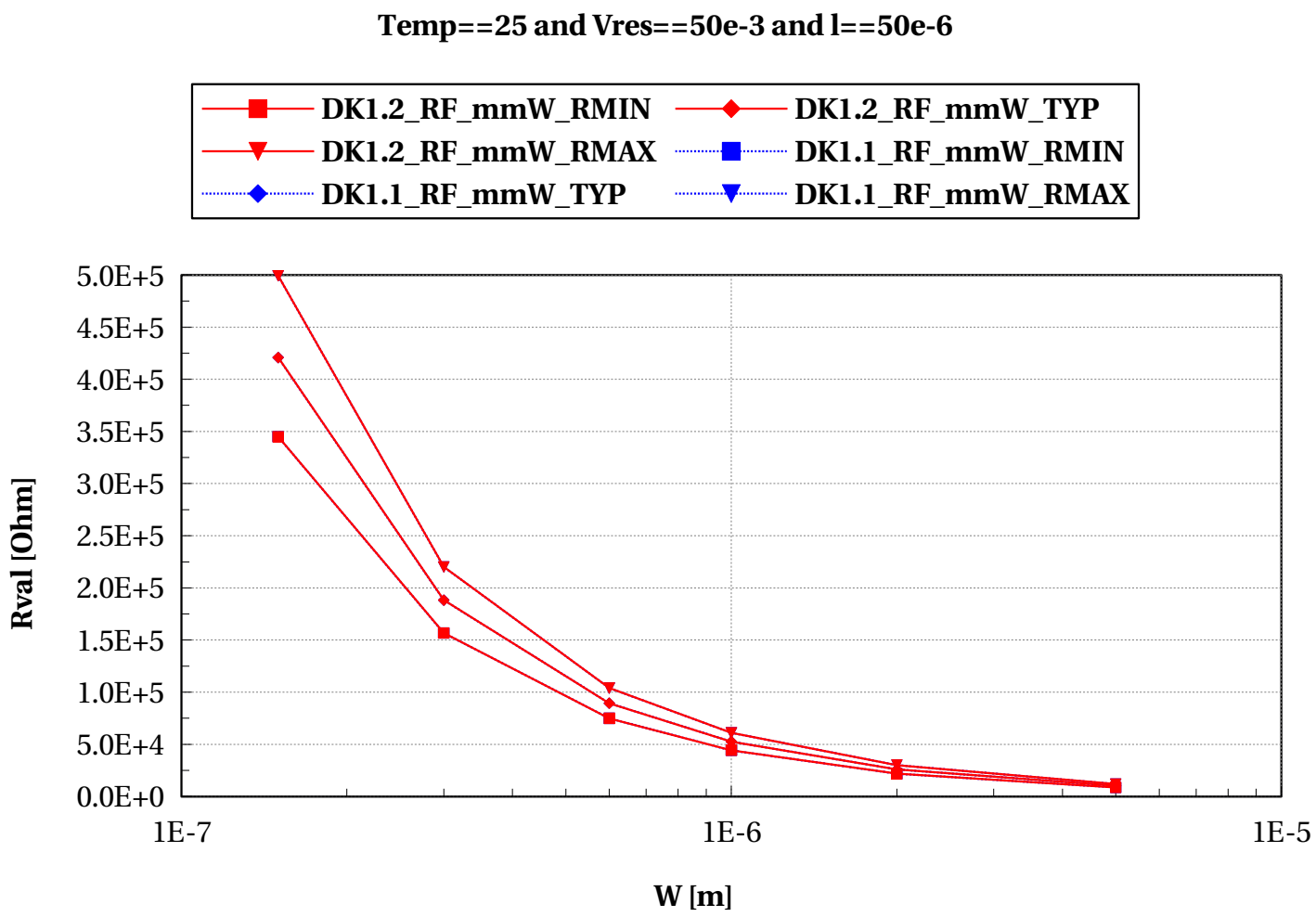
opreres, Rval [Ohm] vs W [m]



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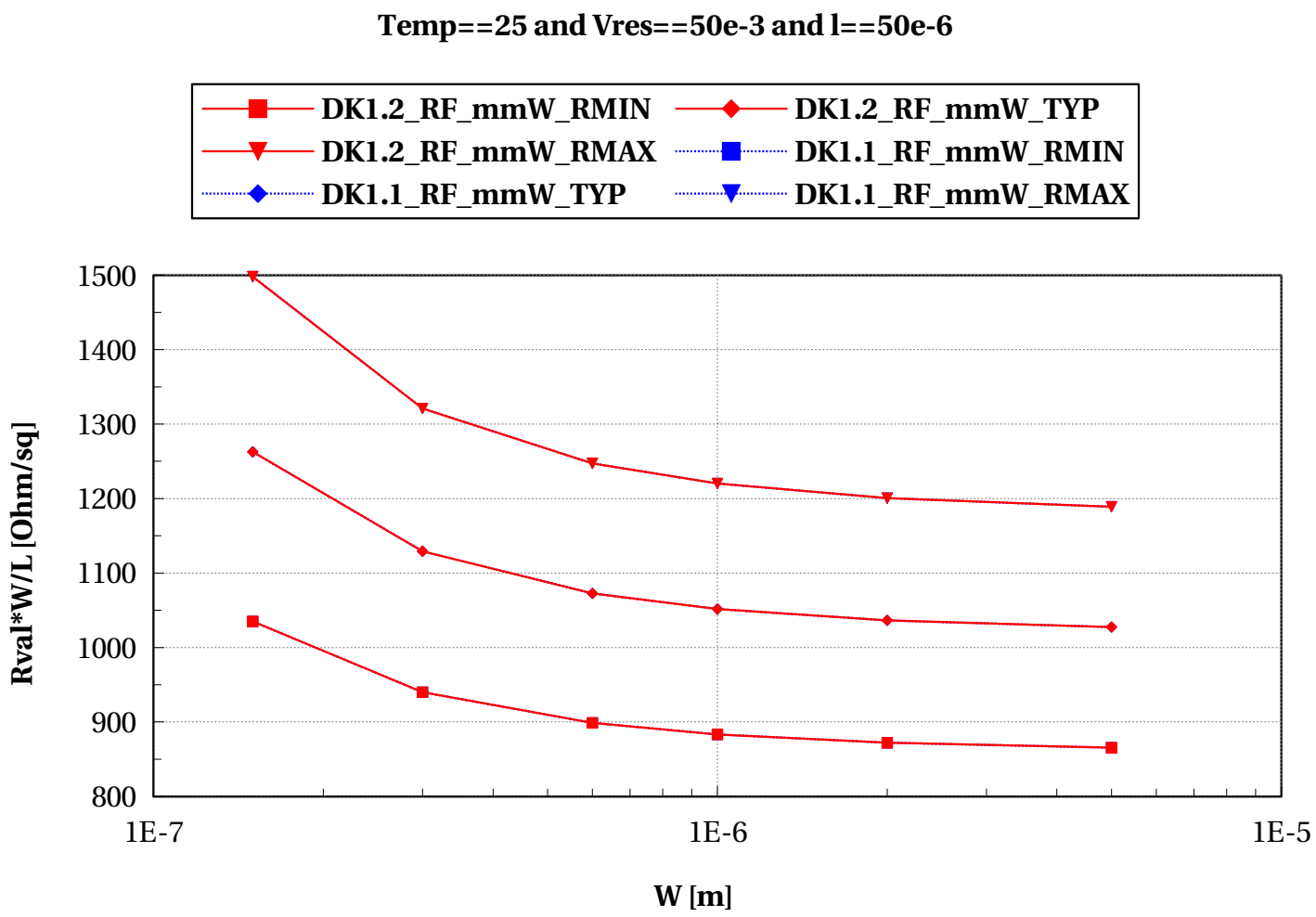
opreres, Rval*W/L [Ohm/sq] vs W [m]



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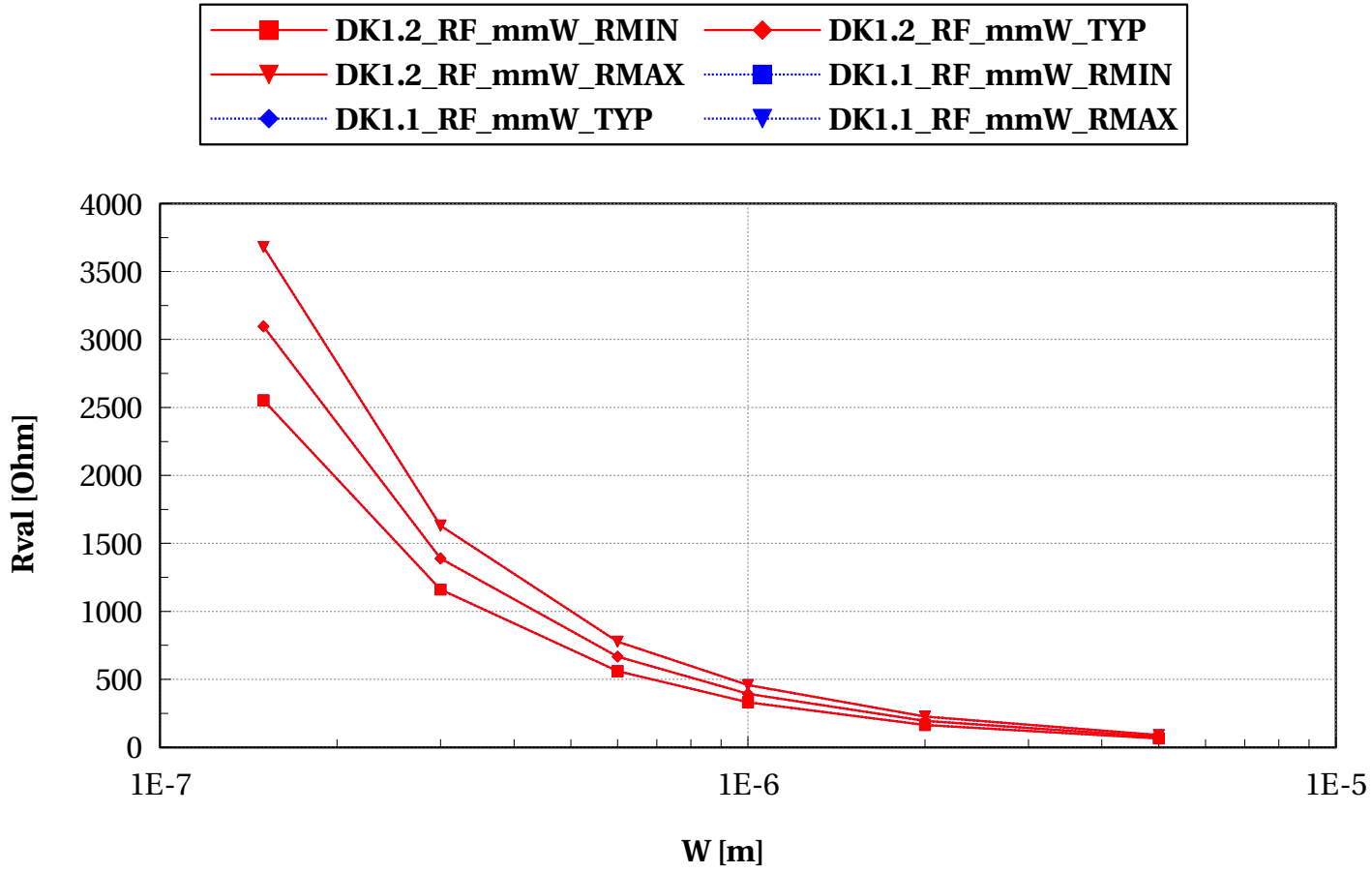
opreres, Rval [Ohm] vs W [m]

Temp==25 and Vres==50e-3 and l==0.4e-6



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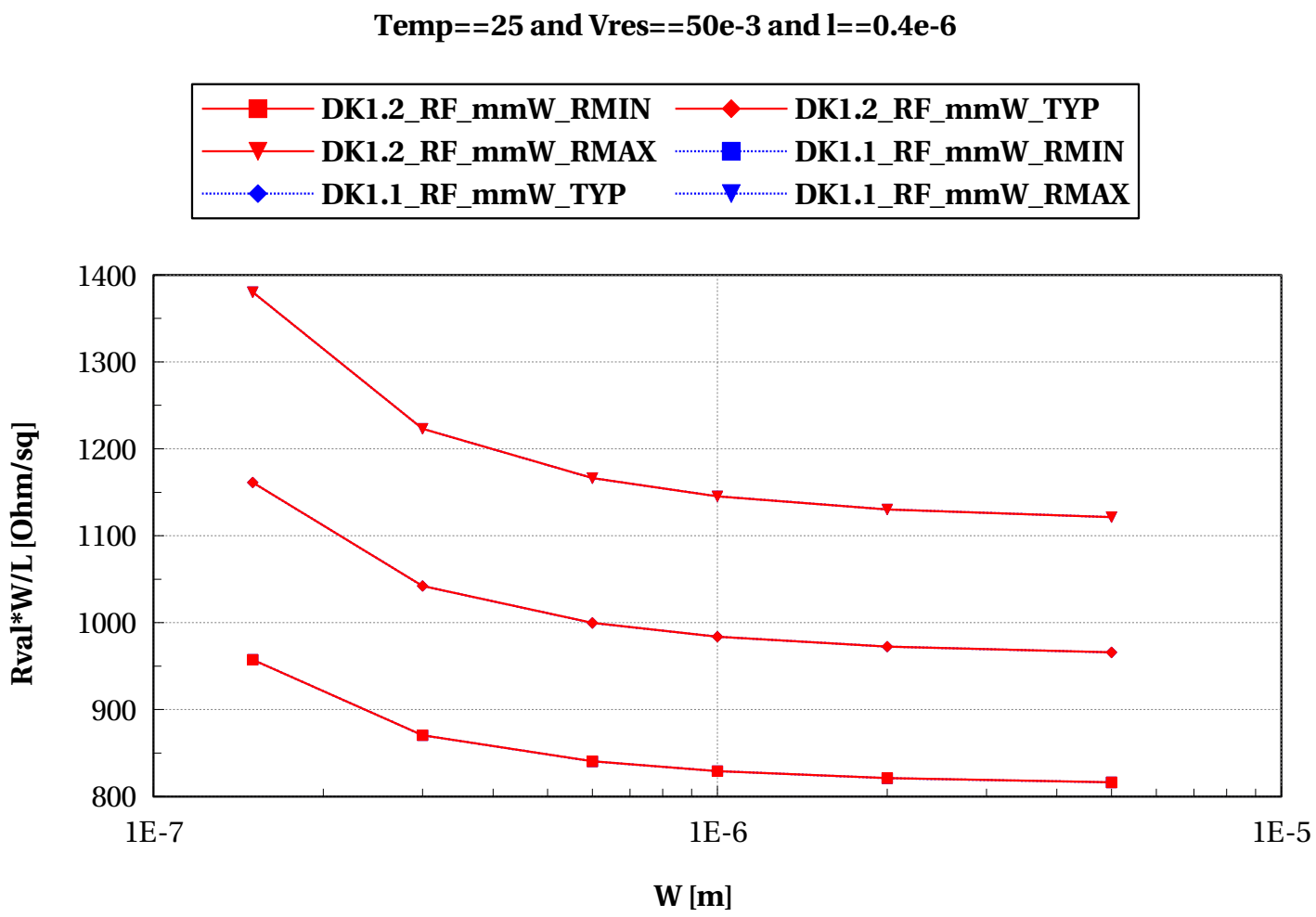
opreres, Rval*W/L [Ohm/sq] vs W [m]



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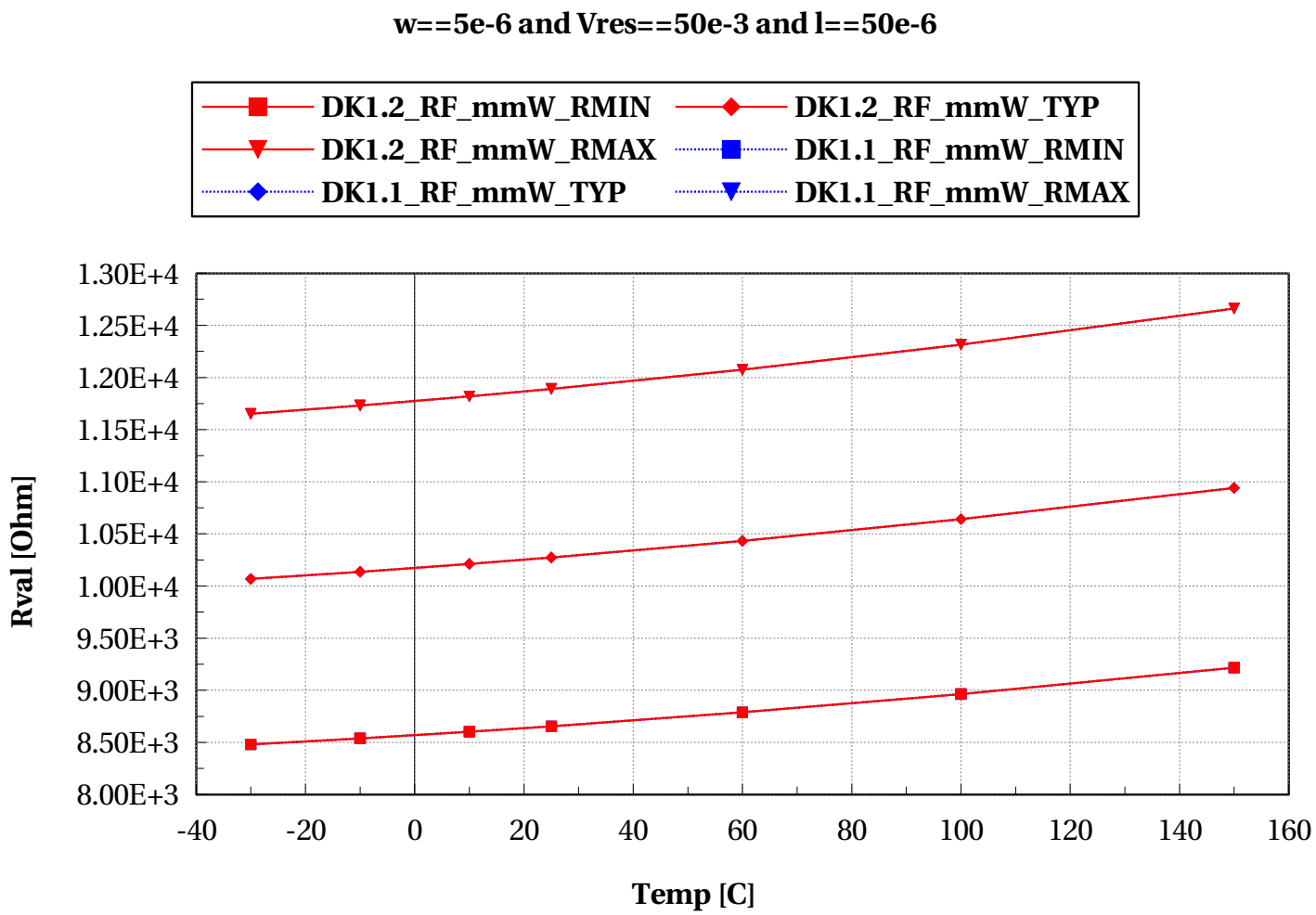
opreres, Rval [Ohm] vs Temp [C]



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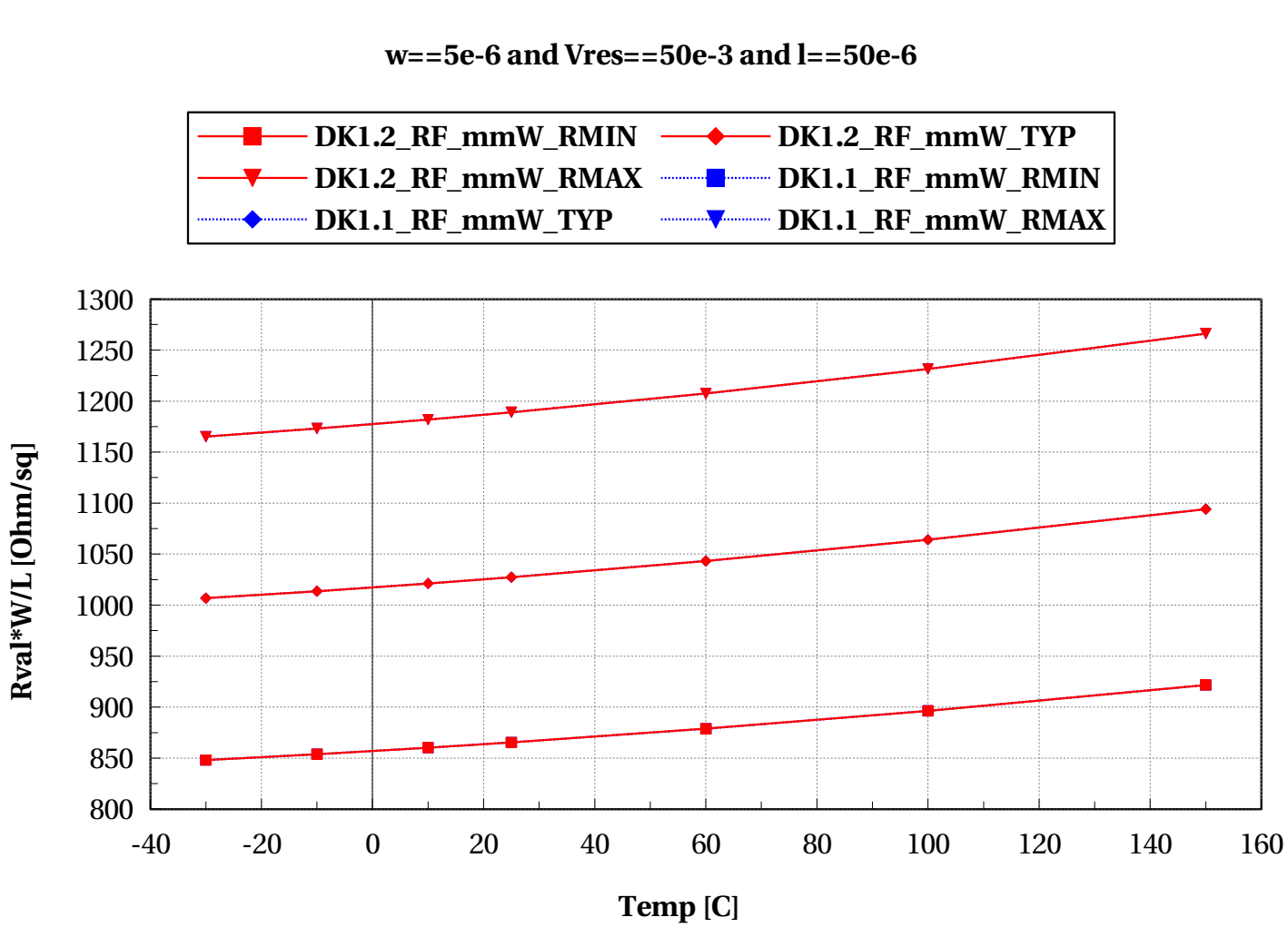
opreres, Rval*W/L [Ohm/sq] vs Temp [C]



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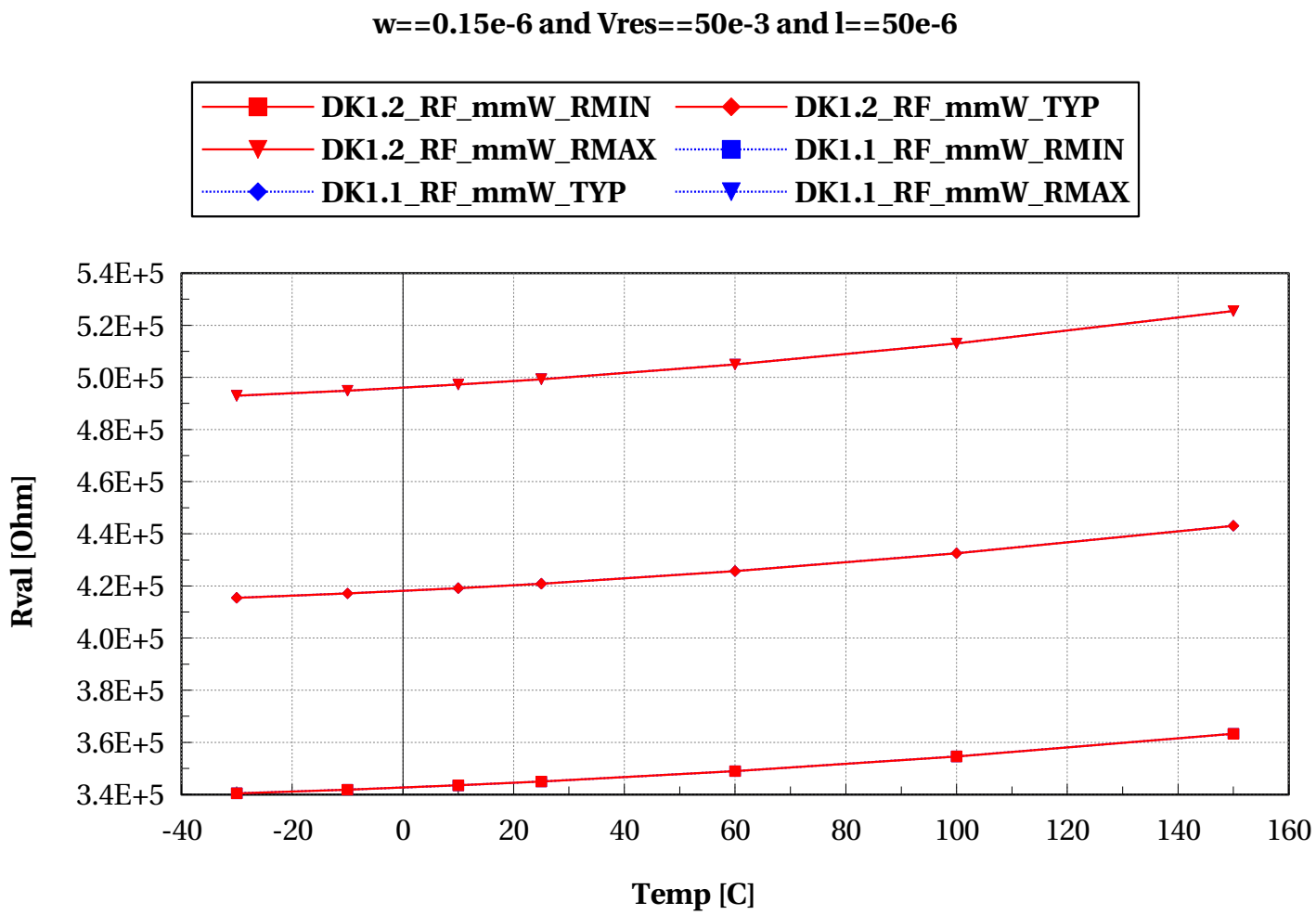
opreres, Rval [Ohm] vs Temp [C]



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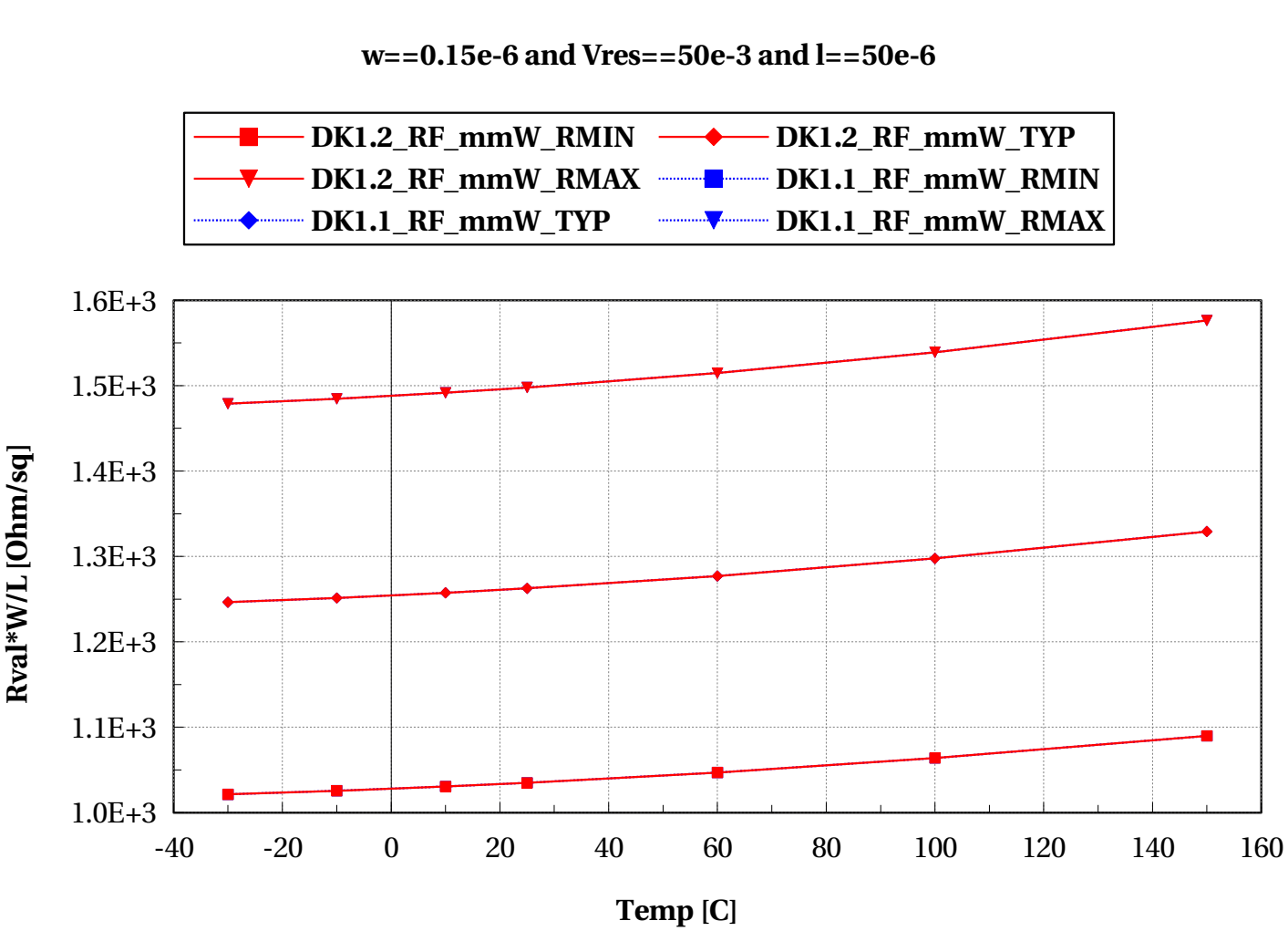
opreres, Rval*W/L [Ohm/sq] vs Temp [C]



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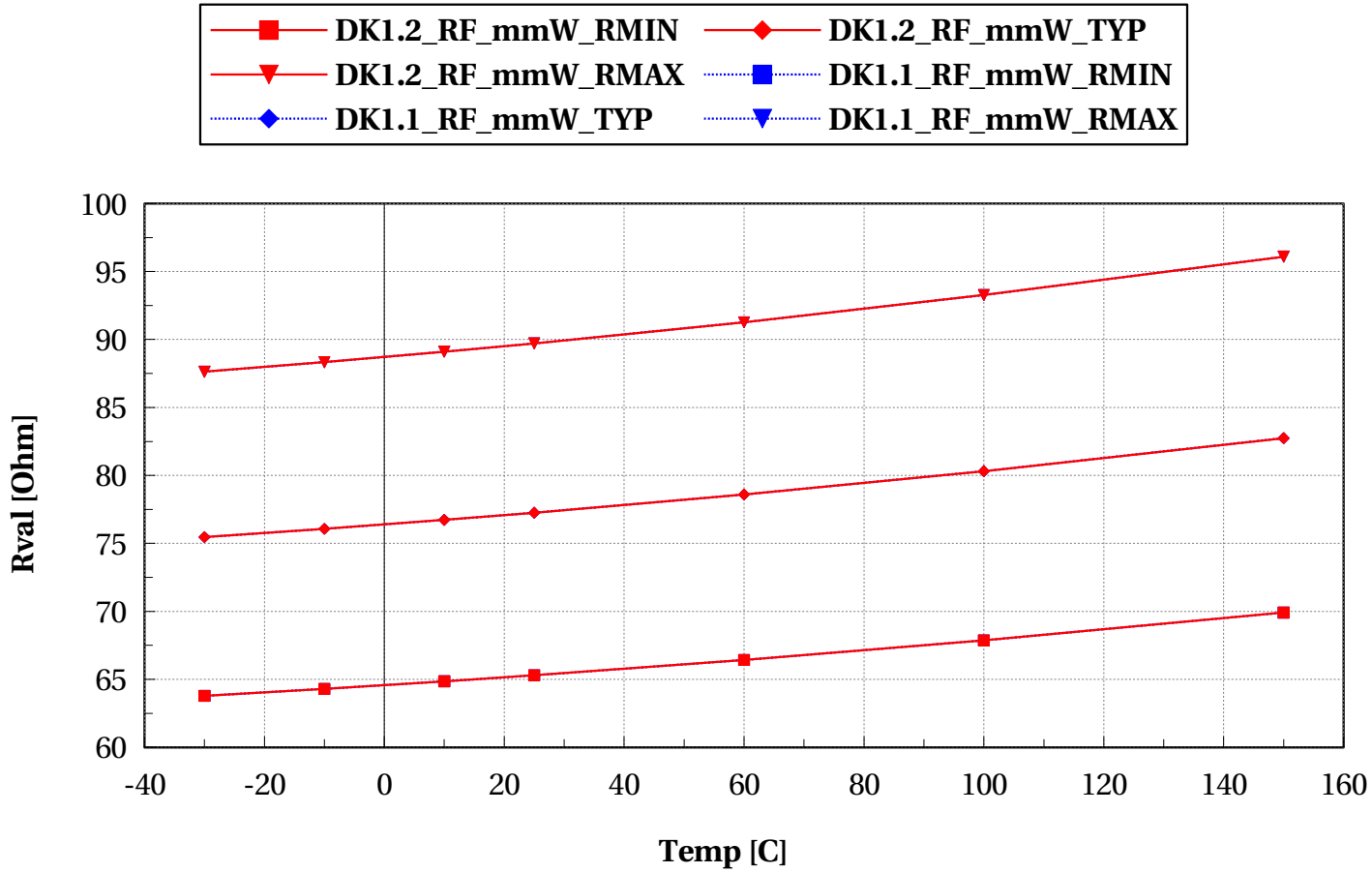
opreres, Rval [Ohm] vs Temp [C]

w==5e-6 and Vres==50e-3 and l==0.4e-6



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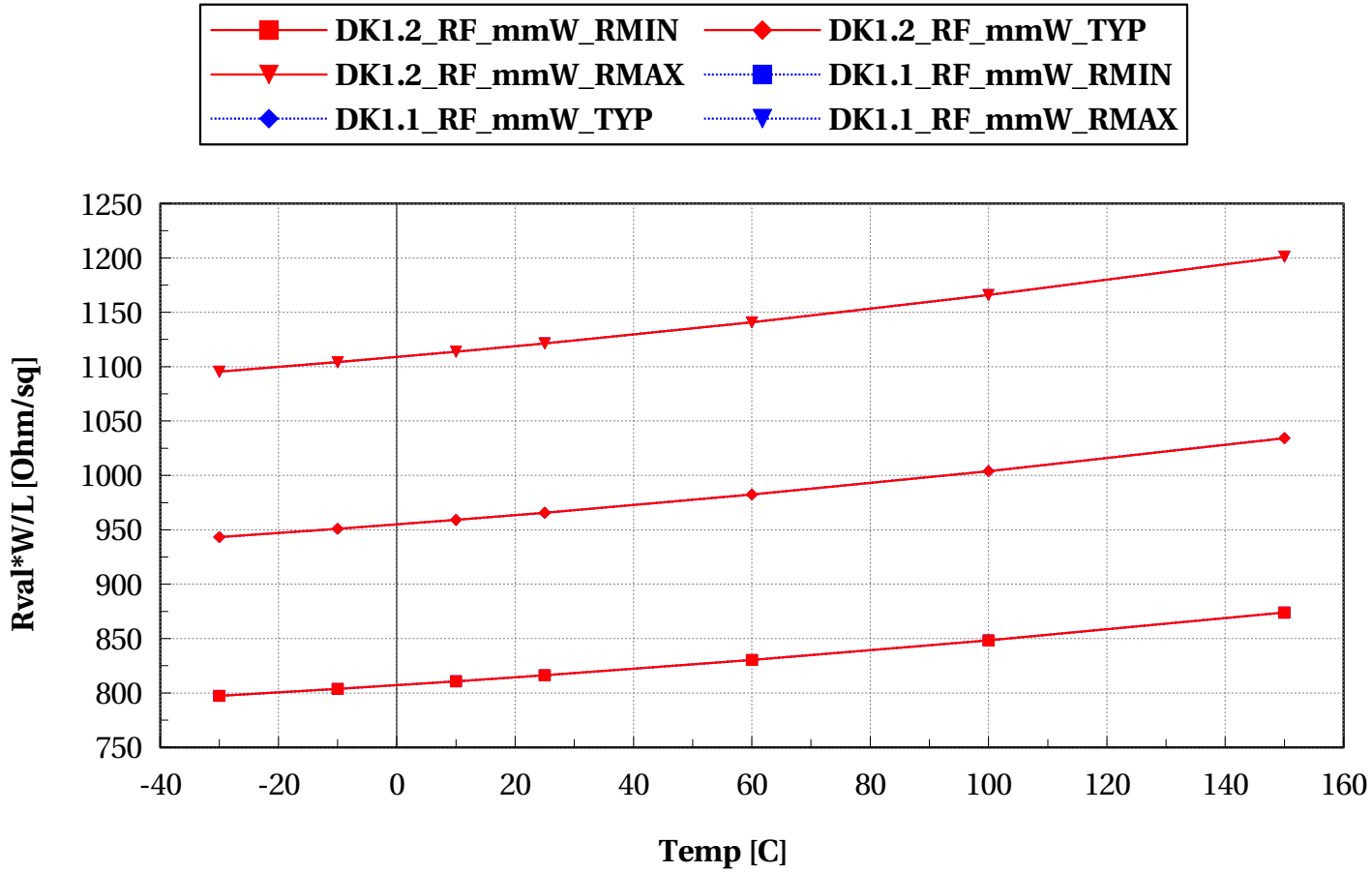
opreres, Rval*W/L [Ohm/sq] vs Temp [C]

w==5e-6 and Vres==50e-3 and l==0.4e-6



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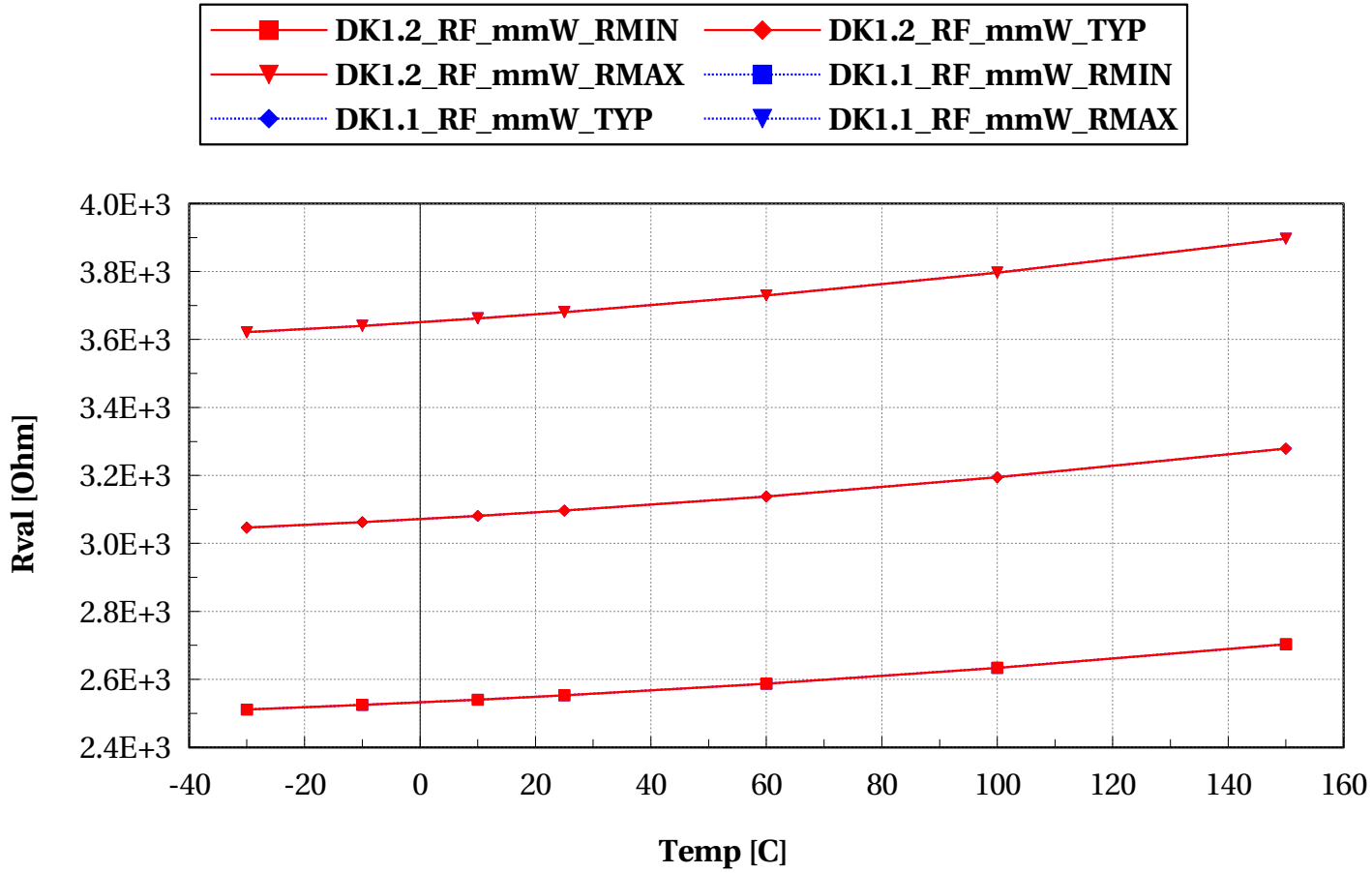
opreres, Rval [Ohm] vs Temp [C]

w==0.15e-6 and Vres==50e-3 and l==0.4e-6



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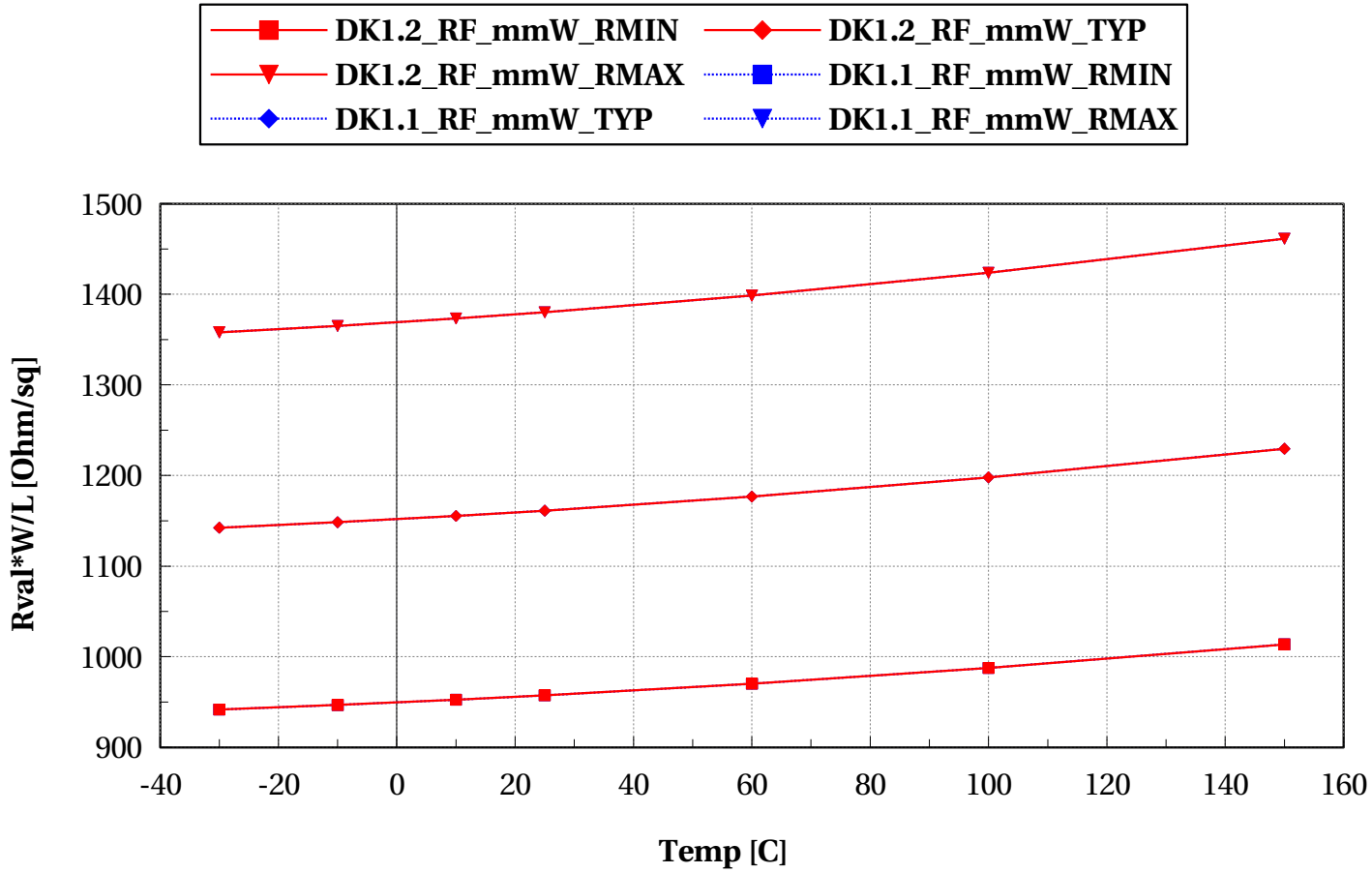

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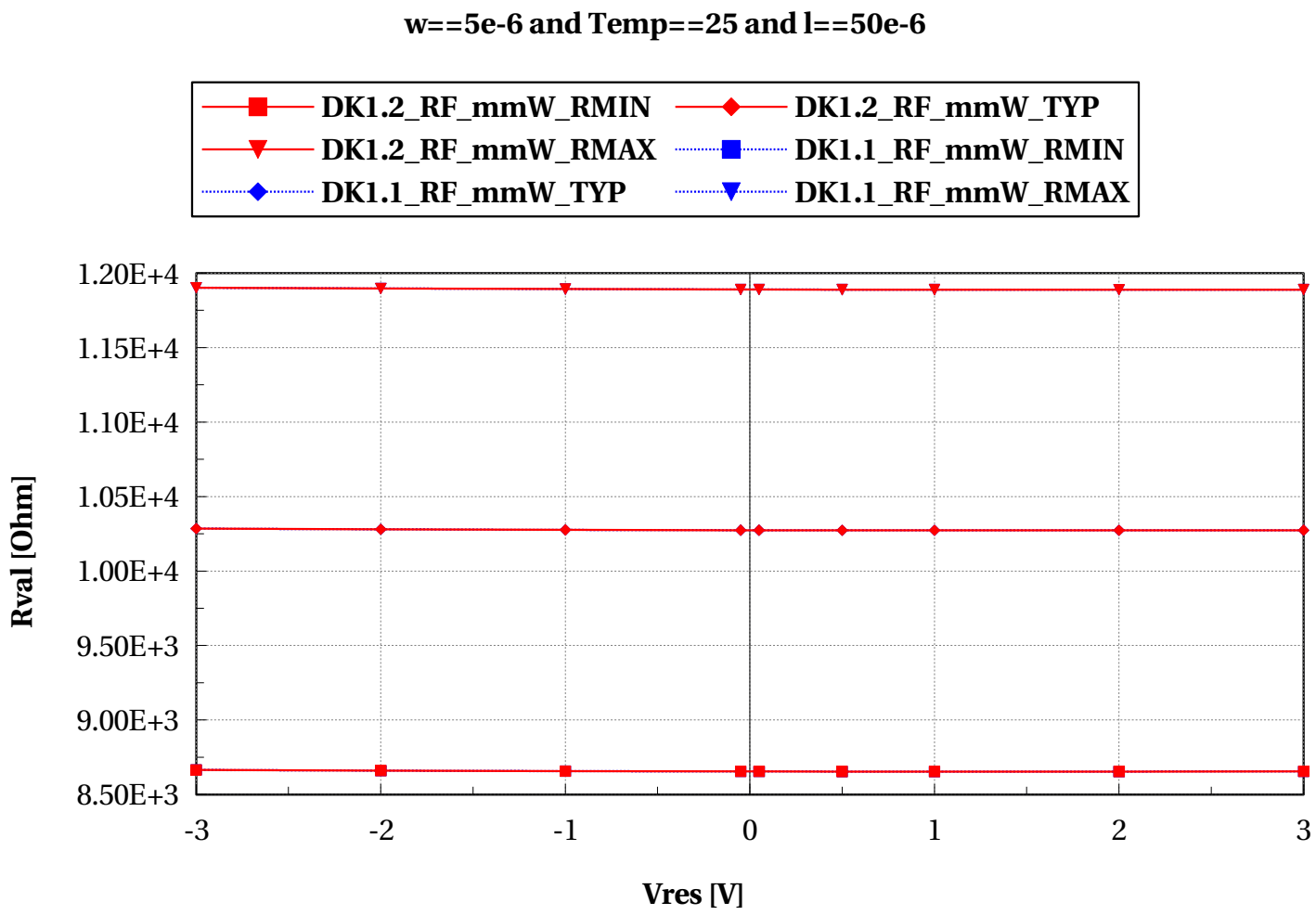
opreres, Rval [Ohm] vs Vres [V]



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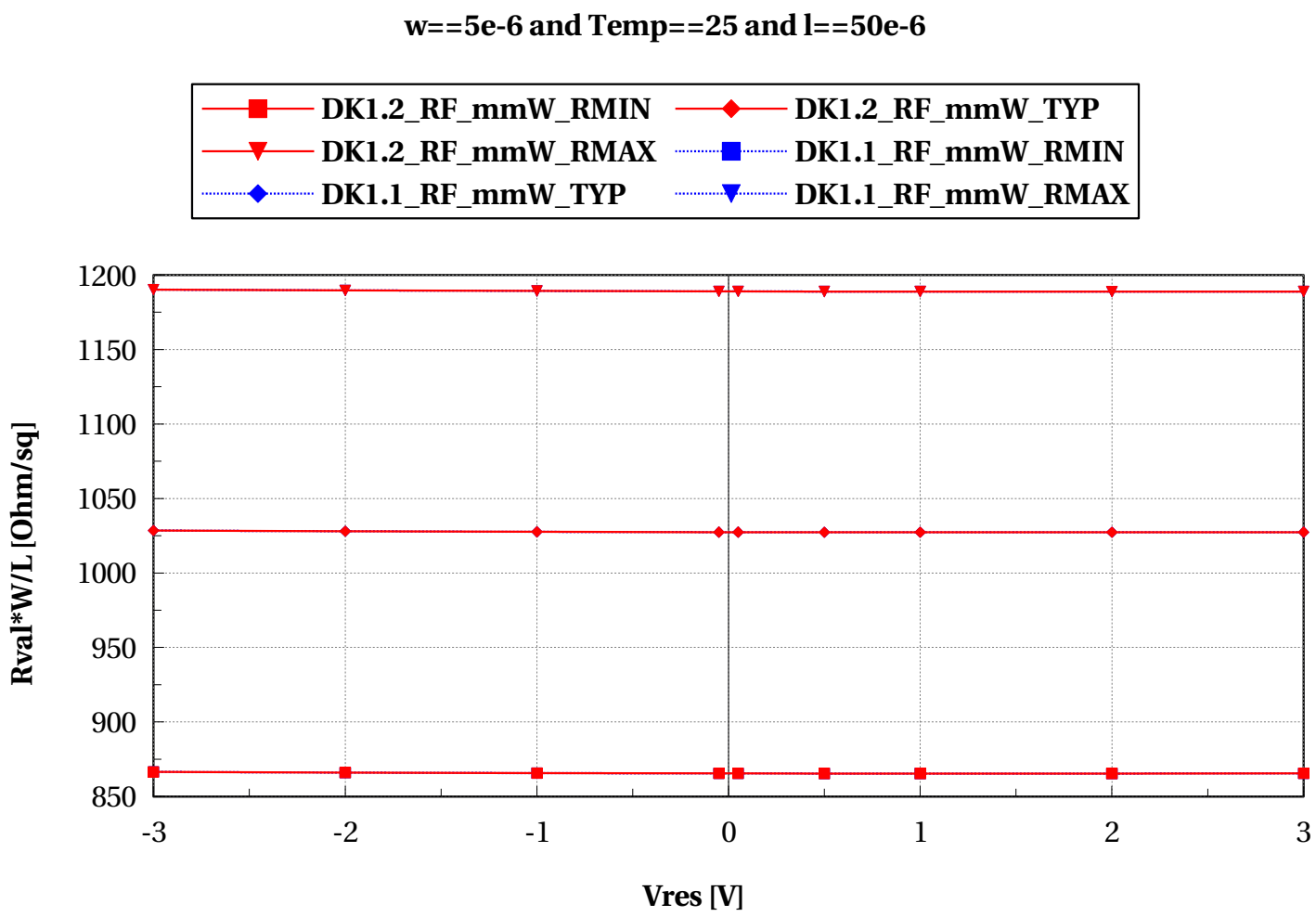
opreres, Rval*W/L [Ohm/sq] vs Vres [V]



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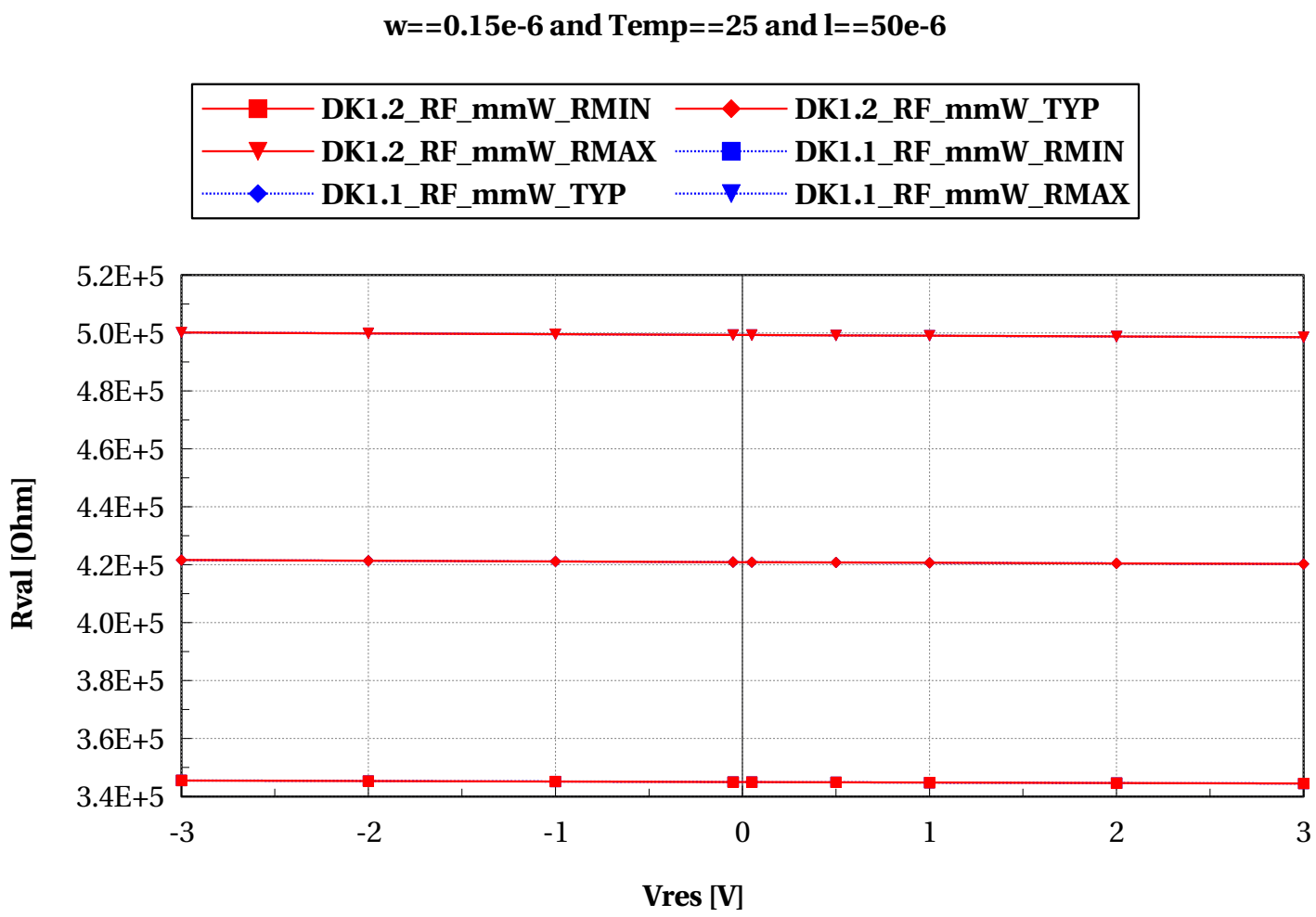
opreres, Rval [Ohm] vs Vres [V]



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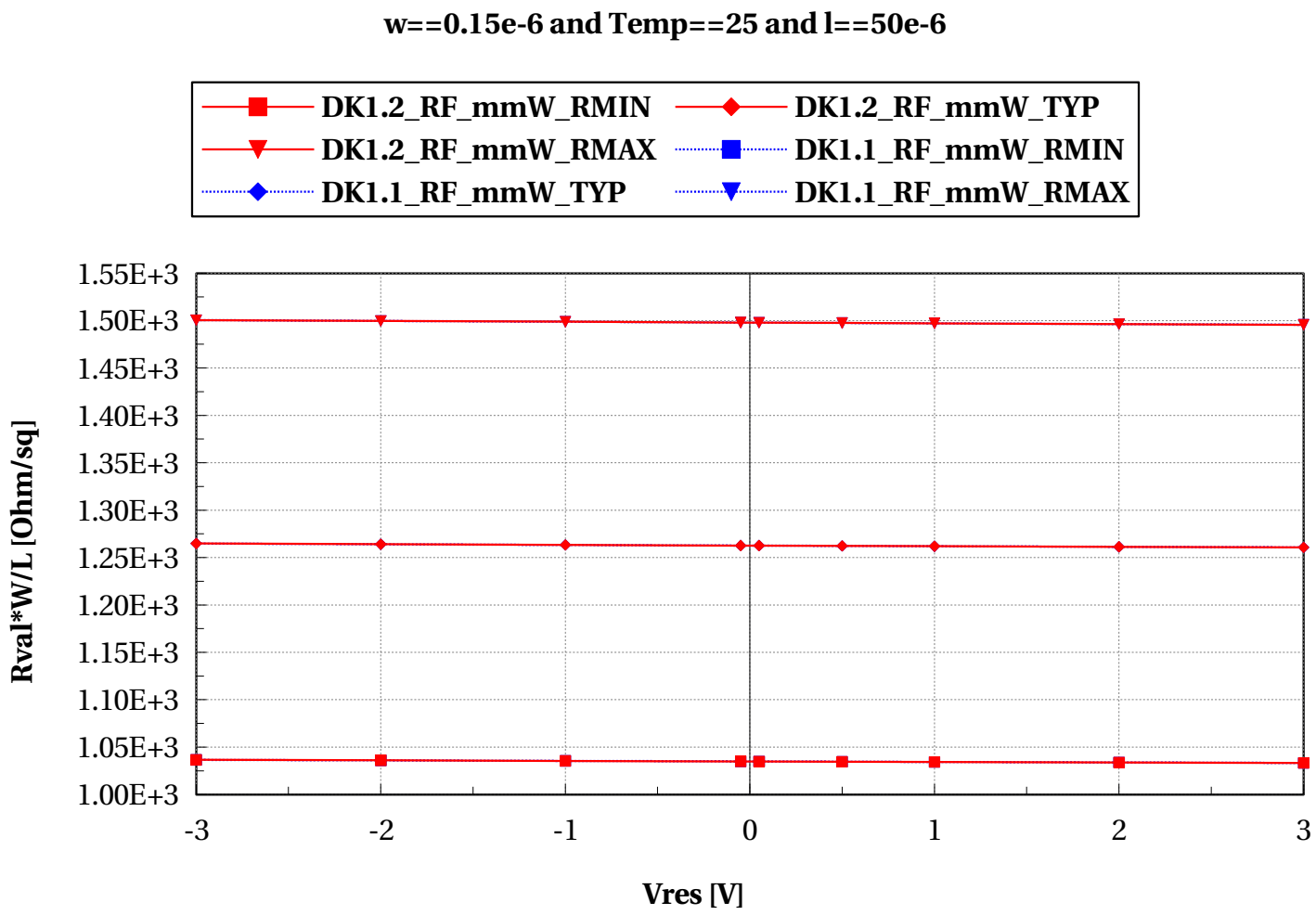
opreres, Rval*W/L [Ohm/sq] vs Vres [V]



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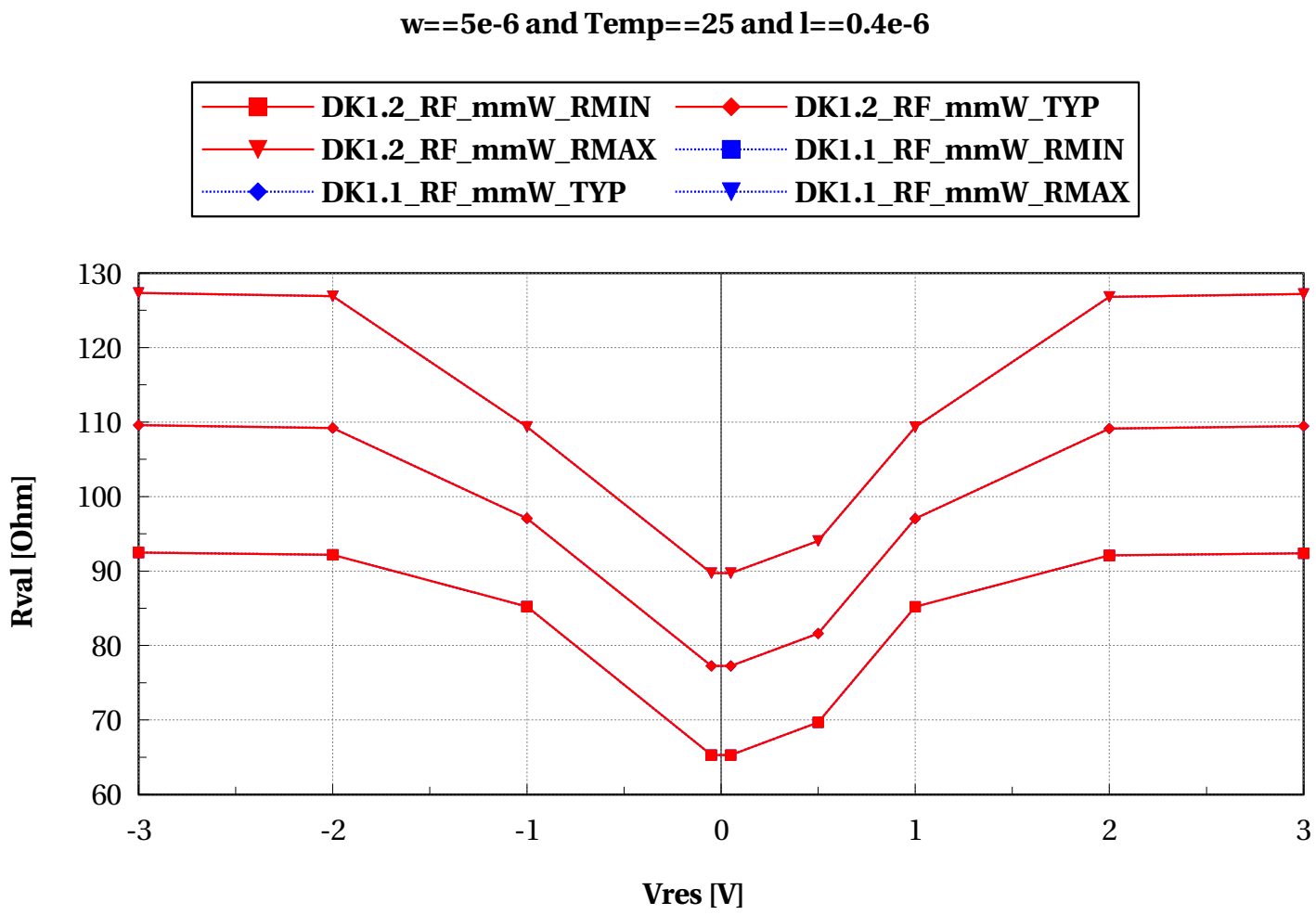
opreres, Rval [Ohm] vs Vres [V]



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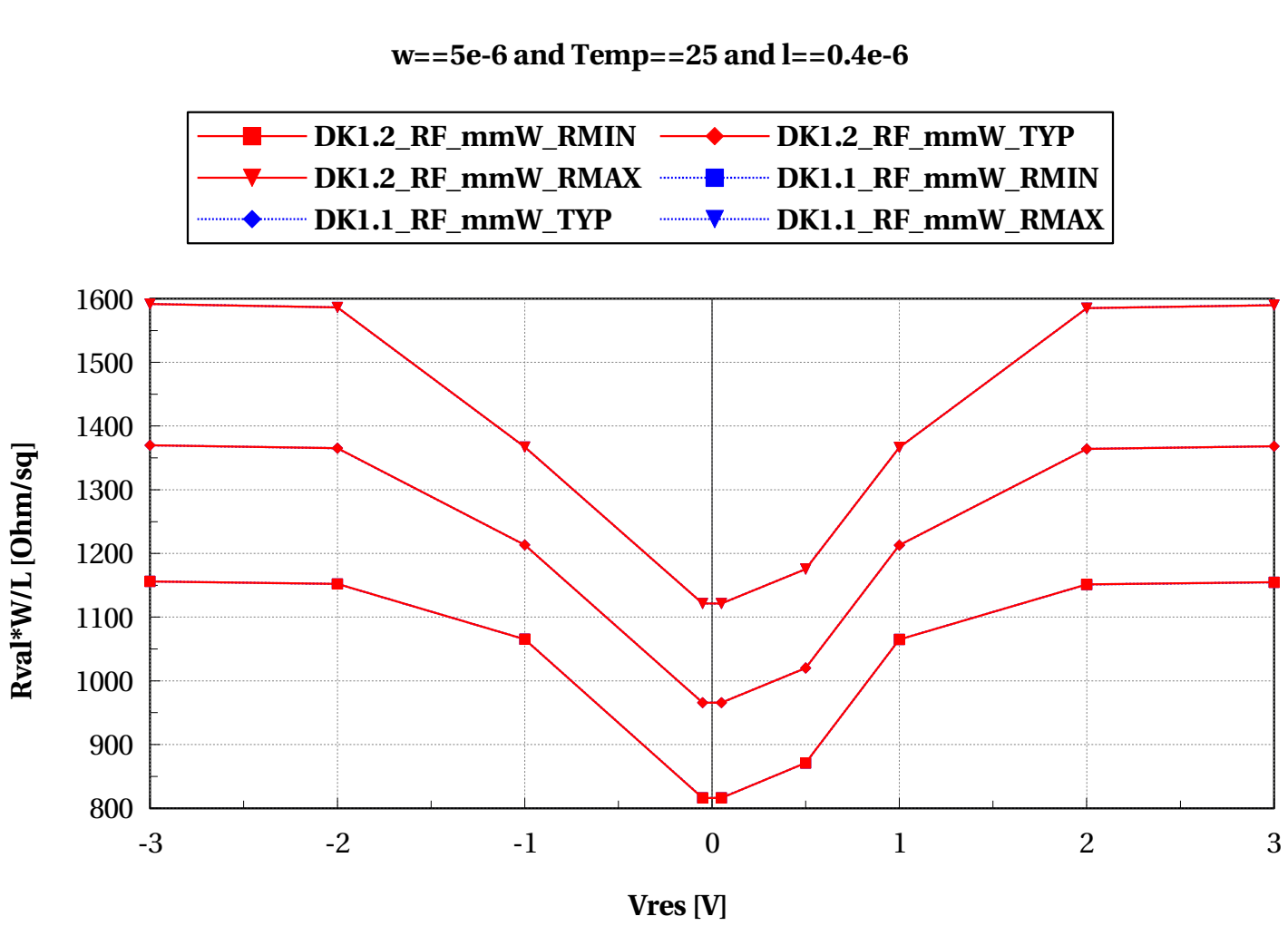
opreres, Rval*W/L [Ohm/sq] vs Vres [V]



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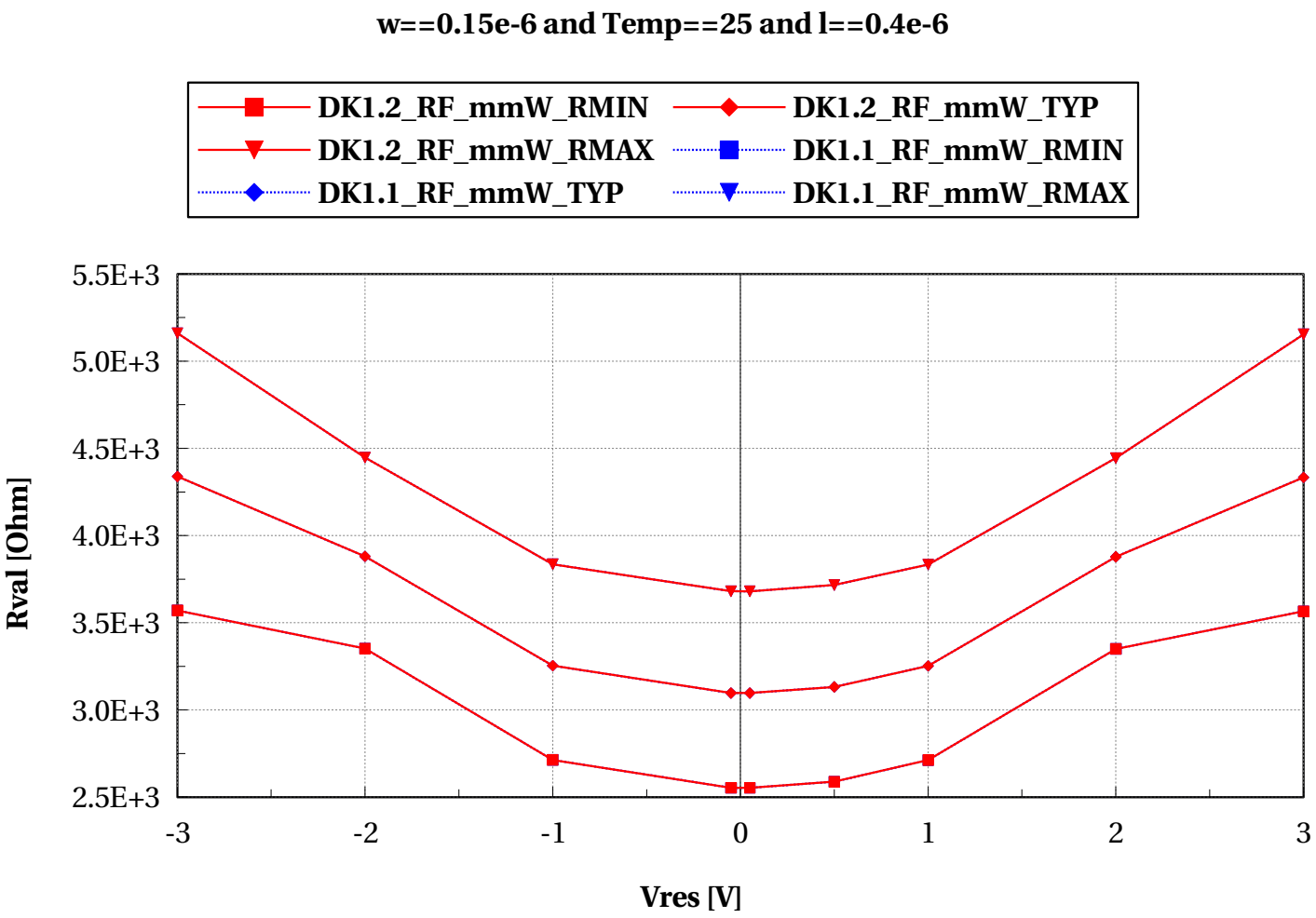
opreres, Rval [Ohm] vs Vres [V]



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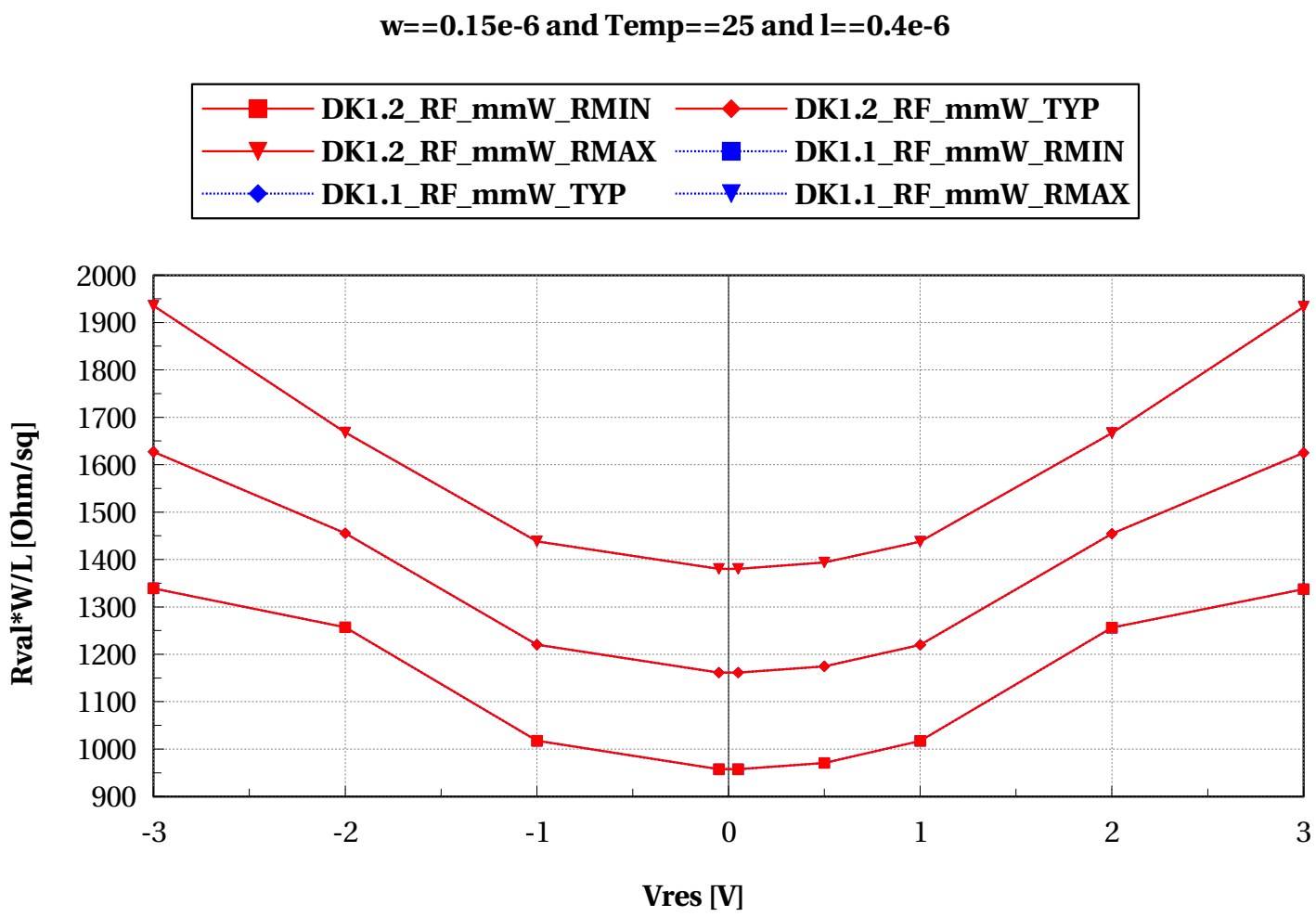
opreres, Rval*W/L [Ohm/sq] vs Vres [V]



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Annex

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Conditions of simulations

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

- Model opppcres (DK1.2_RF_mmW)
  - ✔ Input Parameters
    - ✘ mc_runs = 1000
    - ✘ vsub1 = 0
    - ✘ temp = 25 °C
    - ✘ vres = 50e-3 V
    - ✘ mc_sens = 0
    - ✘ sbenchlsf_release = Alpha
    - ✘ ams_release = 2018.3
    - ✘ model_version = 1.3
    - ✘ mc_nsigma = 3
  - ✔ Sweep Parameters
    - ✘ vres = -3.0, -2.0, -1.0, -0.05, 0.05, 0.5, 1.0, 2.0, 3.0
    - ✘ temp = 25.0, -30.0, -10.0, 10.0, 60.0, 100.0, 150.0
  - ✔ Extra parameters
    - ✘ rpolyp_dev = 0

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- ✘ rpolyh_dev = 0

- Model opreres (DK1.2_RF_mmW)
  - ✔ Input Parameters
    - ✘ mc_runs = 1000
    - ✘ vsub1 = 0
    - ✘ temp = 25 °C
    - ✘ vres = 50e-3 V
    - ✘ mc_sens = 0
    - ✘ sbenchlsf_release = Alpha
    - ✘ ams_release = 2018.3
    - ✘ model_version = 1.3
    - ✘ mc_nsigma = 3
  - ✔ Sweep Parameters
    - ✘ vres = -3.0, -2.0, -1.0, -0.05, 0.05, 0.5, 1.0, 2.0, 3.0
    - ✘ temp = 25.0, -30.0, -10.0, 10.0, 60.0, 100.0, 150.0
  - ✔ Extra parameters
    - ✘ rpolyp_dev = 0
    - ✘ rpolyh_dev = 0
- Model opppcres (DK1.1_RF_mmW)
  - ✔ Input Parameters
    - ✘ mc_runs = 1000
    - ✘ vsub1 = 0
    - ✘ temp = 25 °C
    - ✘ vres = 50e-3 V
    - ✘ mc_sens = 0

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- ✘ sbenchlsf_release = Alpha
- ✘ ams_release = 2018.3
- ✘ model_version = 1.3
- ✘ mc_nsigma = 3

✔ Sweep Parameters

- ✘ vres = -3.0, -2.0, -1.0, -0.05, 0.05, 0.5, 1.0, 2.0, 3.0
- ✘ temp = 25.0, -30.0, -10.0, 10.0, 60.0, 100.0, 150.0

✔ Extra parameters

- ✘ rpolyp_dev = 0
- ✘ rpolyh_dev = 0

● Model opreres (DK1.1_RF_mmW)

✔ Input Parameters

- ✘ mc_runs = 1000
- ✘ vsub1 = 0
- ✘ temp = 25 °C
- ✘ vres = 50e-3 V
- ✘ mc_sens = 0
- ✘ sbenchlsf_release = Alpha
- ✘ ams_release = 2018.3
- ✘ model_version = 1.3
- ✘ mc_nsigma = 3

✔ Sweep Parameters

- ✘ vres = -3.0, -2.0, -1.0, -0.05, 0.05, 0.5, 1.0, 2.0, 3.0
- ✘ temp = 25.0, -30.0, -10.0, 10.0, 60.0, 100.0, 150.0

✔ Extra parameters

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- ✘ rpolyp_dev = 0
- ✘ rpolyh_dev = 0

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life.augmented