



cmos028fdsoi Technology

metal resistor models

DK1.2_RF_mmW

Comparison with DK1.1_RF_mmW model(s)

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Sep 21, 2018

Technology R&D Crolles Site – TDP/TDS/SPICE Modeling

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General information on metal resistor models

- Maximum supply voltage is - V.
- Validity domain is defined as follows:
 - ✓ Device temperature varies from -40 °C to 125 °C.

Output parameters definitions

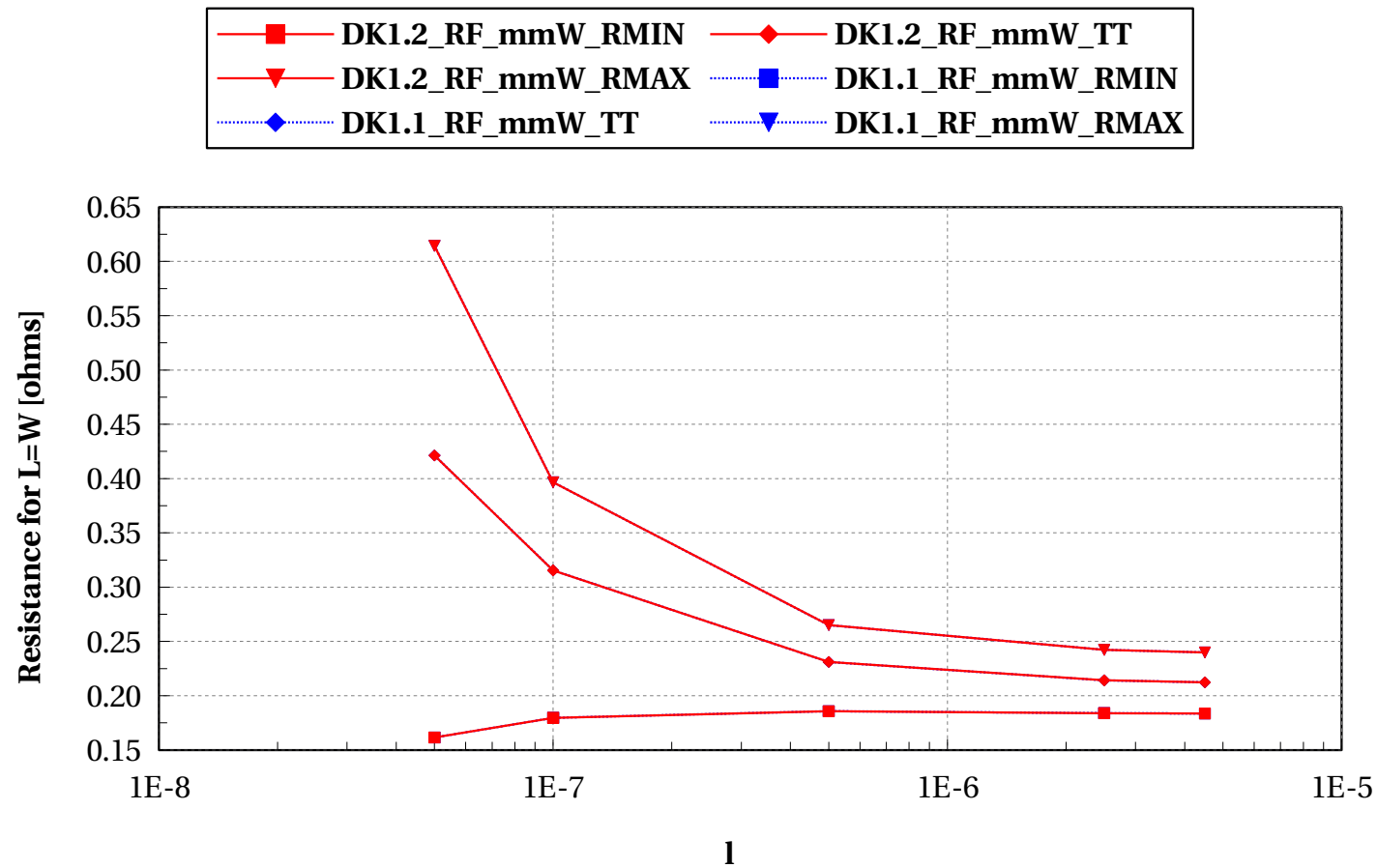
- Model(s): rm1x, rm2x, rm8x, rmlb
 - ✓ Rval : Resistance at $V_{res} = 50e-3V$

rm1x

Electrical characteristics scaling

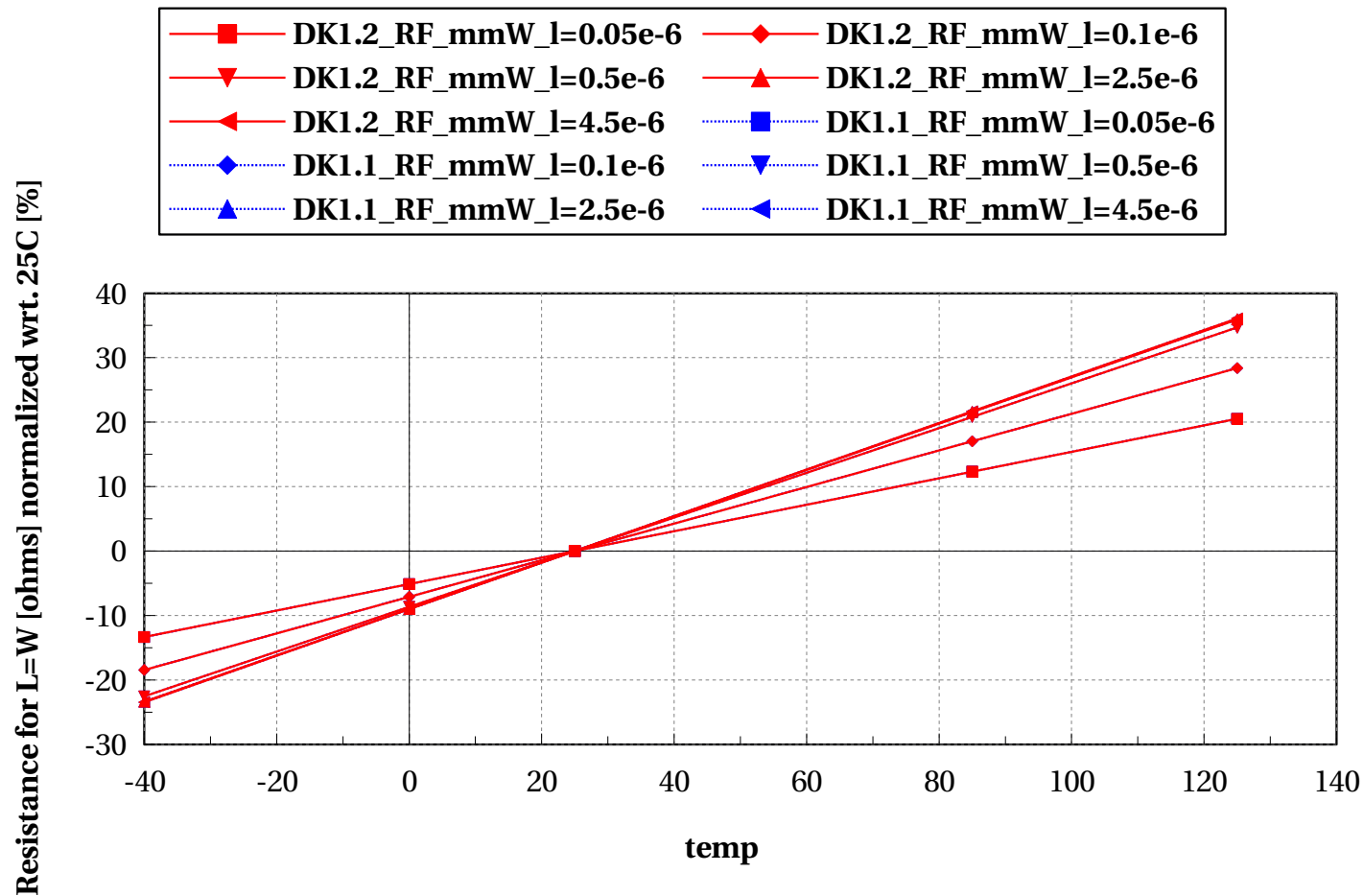
rm1x, Resistance for L=W [ohms] vs l

used_for=="rm1x" and temp==25



rm1x, Resistance for L=W [ohms] normalized wrt. 25C [%] vs temp

used_for=="rm1x" and strat=="RMETAL_TT"

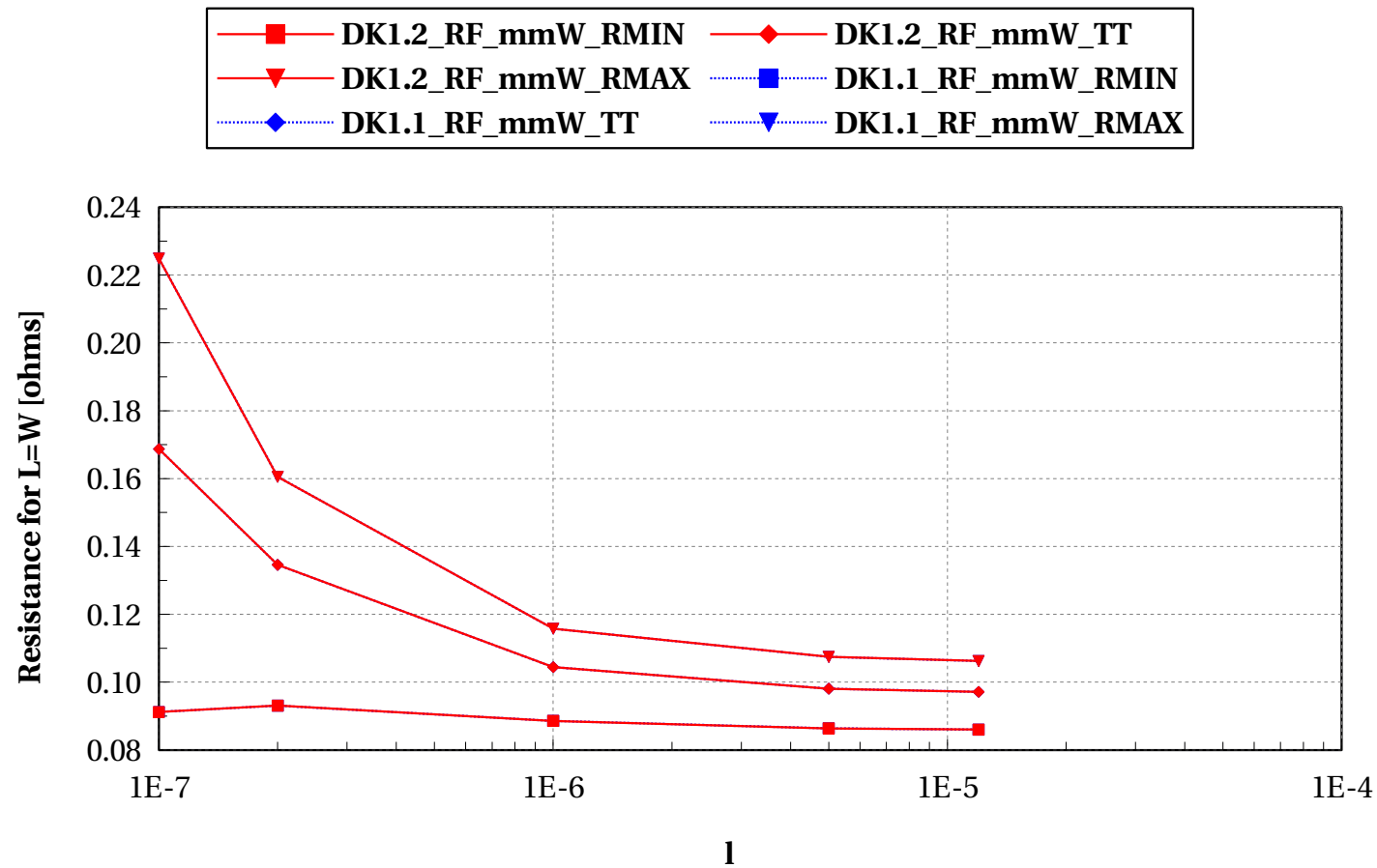


rm2x

Electrical characteristics scaling

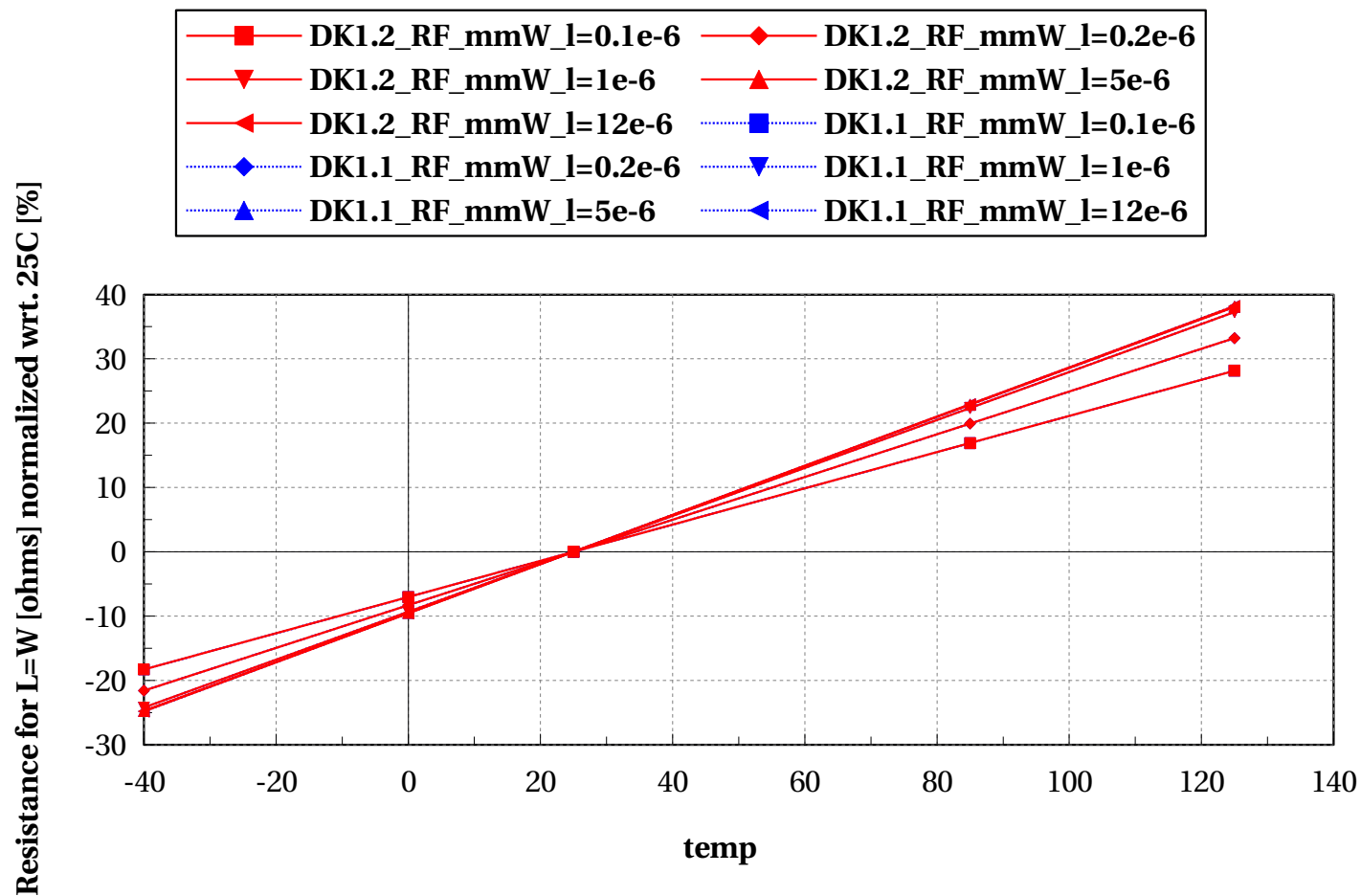
rm2x, Resistance for L=W [ohms] vs l

used_for=="rm2x" and temp==25



rm2x, Resistance for L=W [ohms] normalized wrt. 25C [%] vs temp

used_for=="rm2x" and strat=="RMETAL_TT"

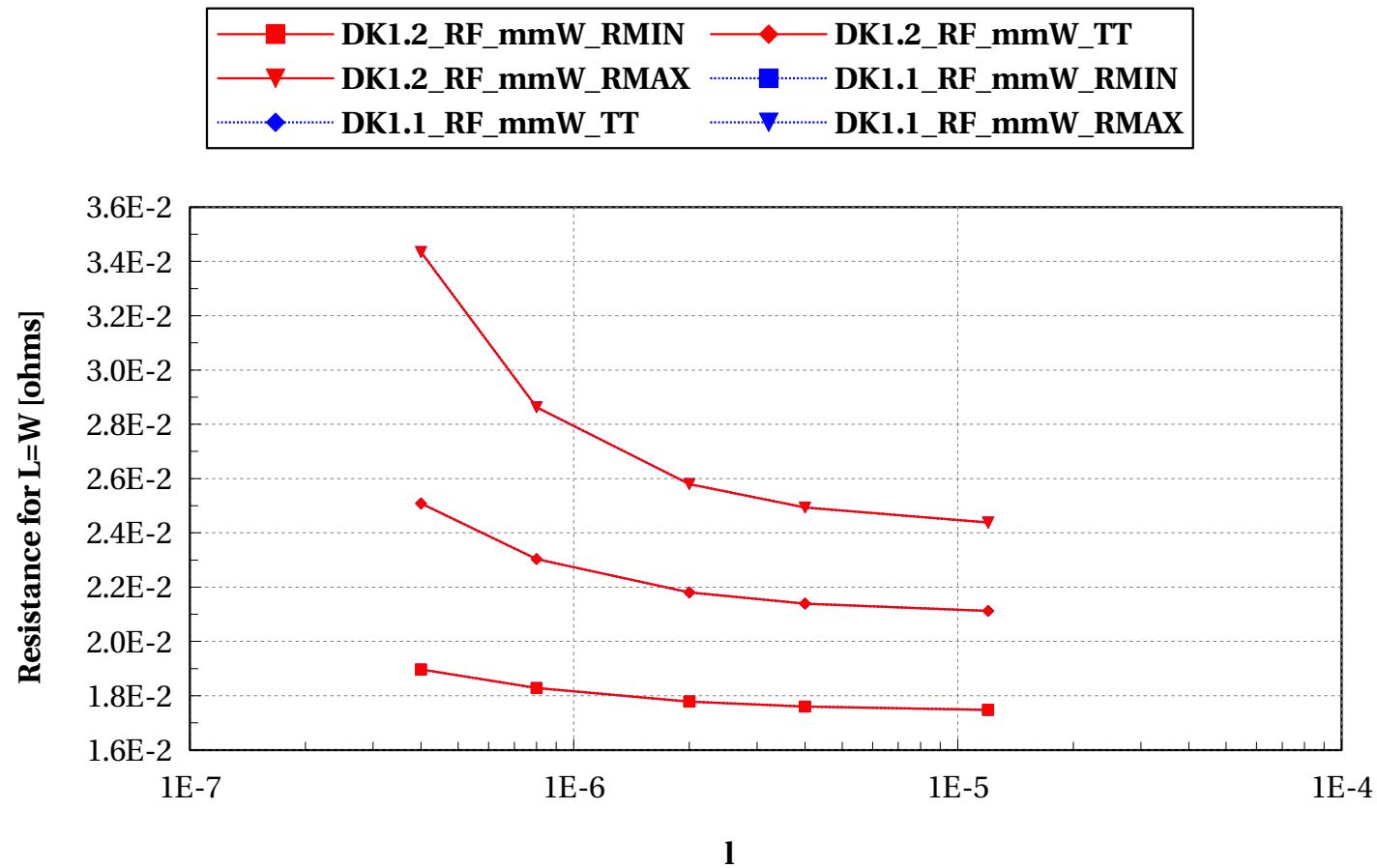


rm8x

Electrical characteristics scaling

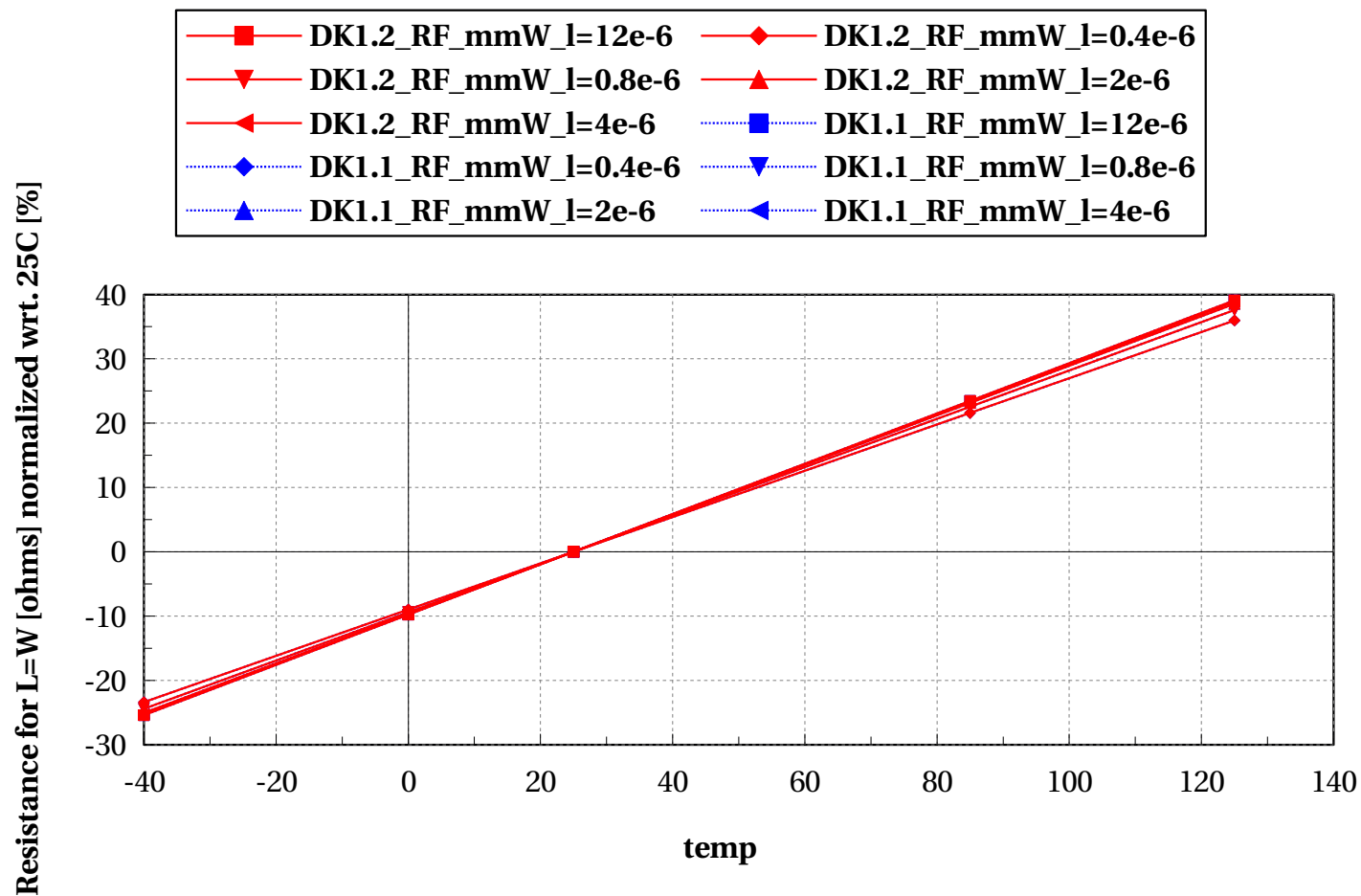
rm8x, Resistance for L=W [ohms] vs l

used_for=="rm8x" and temp==25



rm8x, Resistance for L=W [ohms] normalized wrt. 25C [%] vs temp

used_for=="rm8x" and strat=="RMETAL_TT"

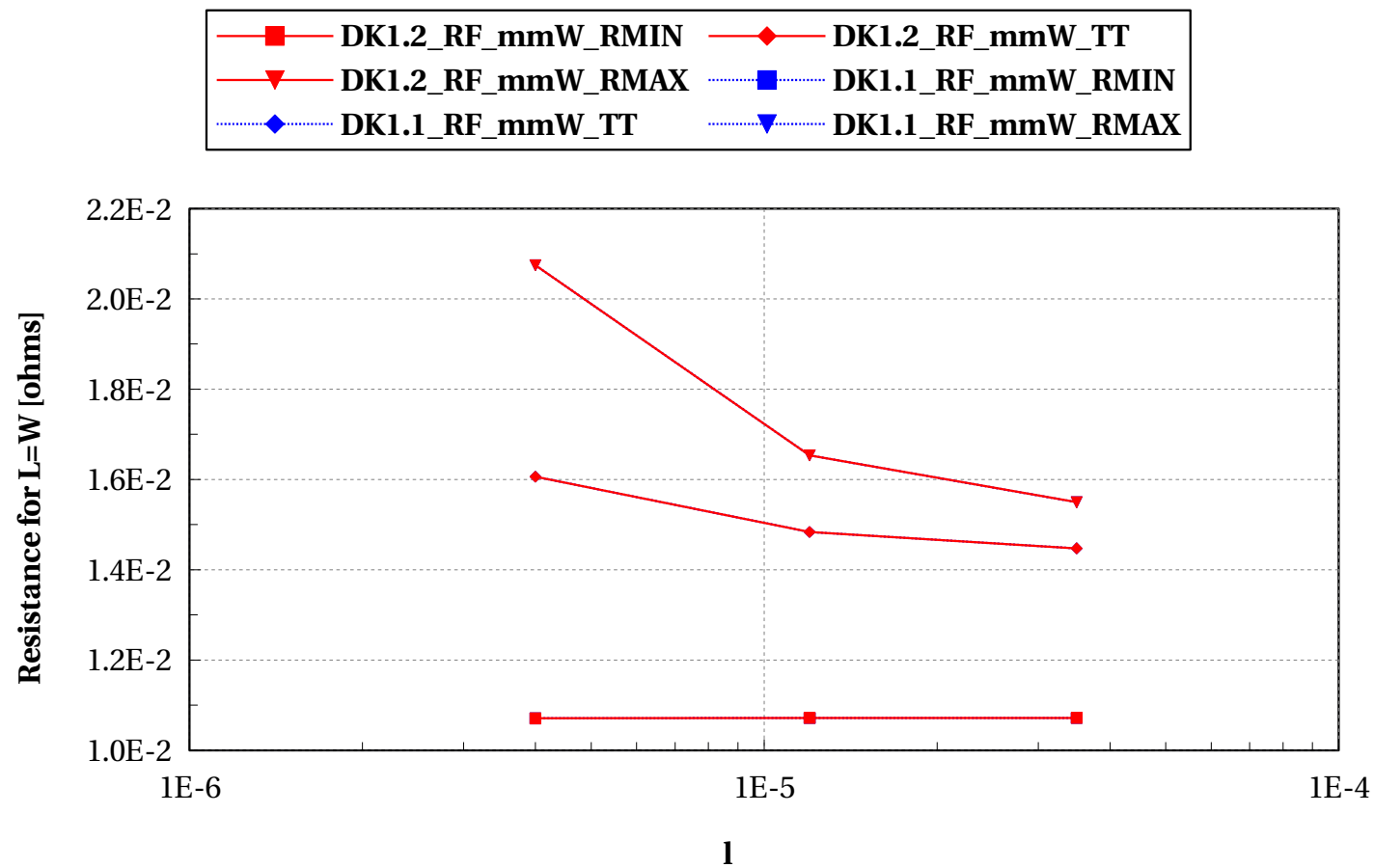


rmlb

Electrical characteristics scaling

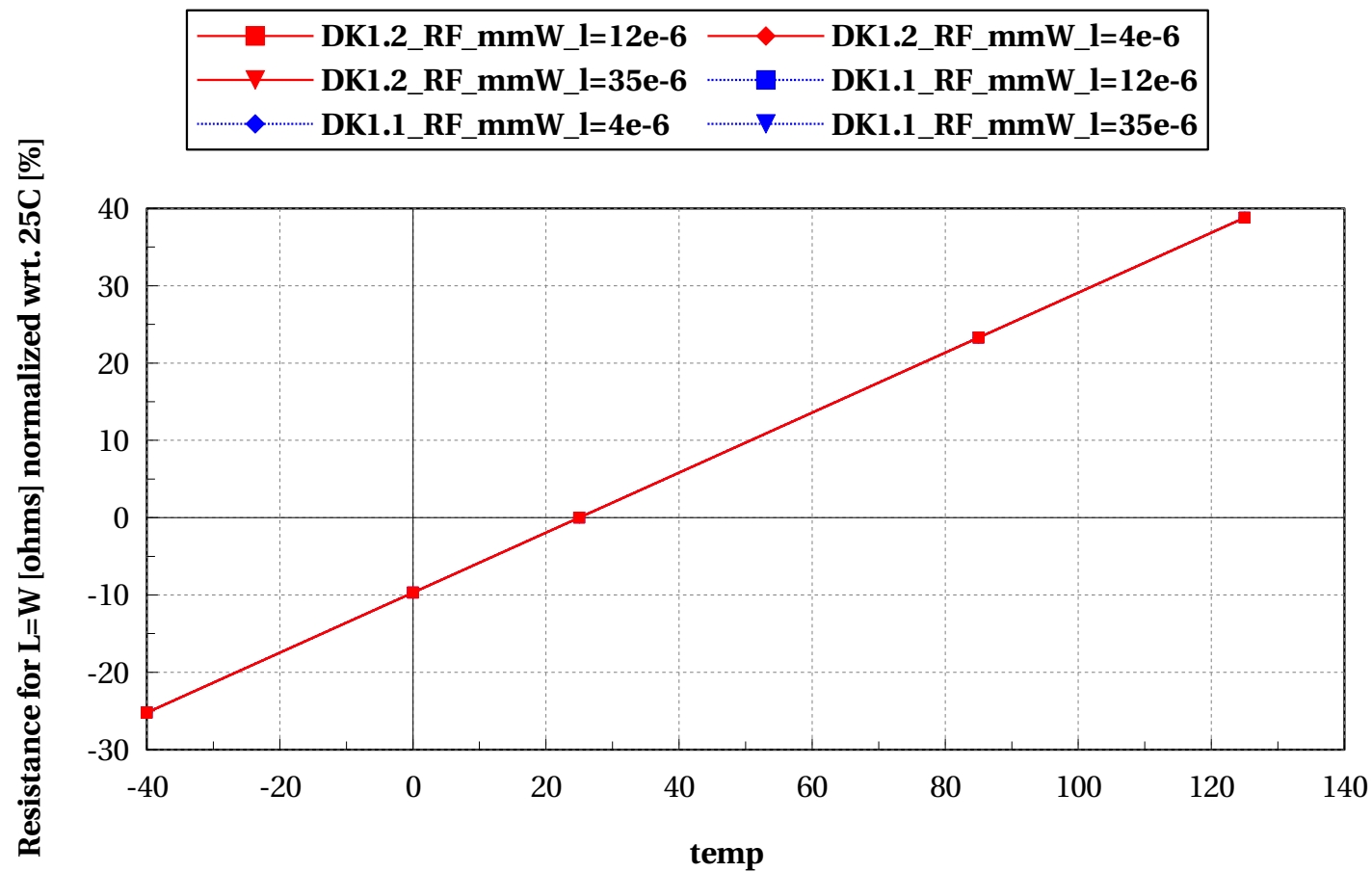
rmlb, Resistance for L=W [ohms] vs l

used_for=="rmlb" and temp==25



rmlb, Resistance for L=W [ohms] normalized wrt. 25C [%] vs temp

used_for=="rmlb" and strat=="RMETAL_TT"



Annex

Conditions of simulations

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

- Model rm1x (DK1.2_RF_mmW)
 - ✓ Input Parameters
 - ✗ mc_runs = 1000
 - ✗ temp = 25 °C
 - ✗ vres = 50e-3 V
 - ✗ mc_sens = 0
 - ✗ sbenchlsf_release = Alpha
 - ✗ ams_release = 2018.3
 - ✗ model_version = 0.01
 - ✗ mc_nsigma = 3
 - ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
 - ✓ Extra parameters
- Model rm2x (DK1.2_RF_mmW)
 - ✓ Input Parameters
 - ✗ mc_runs = 1000

- ✗ temp = 25 °C
- ✗ vres = 50e-3 V
- ✗ mc_sens = 0
- ✗ sbenchlsf_release = Alpha
- ✗ ams_release = 2018.3
- ✗ model_version = 0.01
- ✗ mc_nsigma = 3
- ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
- ✓ Extra parameters
- Model rm8x (DK1.2_RF_mmW)
 - ✓ Input Parameters
 - ✗ mc_runs = 1000
 - ✗ temp = 25 °C
 - ✗ vres = 50e-3 V
 - ✗ mc_sens = 0
 - ✗ sbenchlsf_release = Alpha
 - ✗ ams_release = 2018.3
 - ✗ model_version = 0.01
 - ✗ mc_nsigma = 3
 - ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
 - ✓ Extra parameters
- Model rmlb (DK1.2_RF_mmW)
 - ✓ Input Parameters

- ✗ mc_runs = 1000
- ✗ temp = 25 °C
- ✗ vres = 50e-3 V
- ✗ mc_sens = 0
- ✗ sbenchlsf_release = Alpha
- ✗ ams_release = 2018.3
- ✗ model_version = 0.01
- ✗ mc_nsigma = 3
- ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
- ✓ Extra parameters
- Model rm1x (DK1.1_RF_mmW)
 - ✓ Input Parameters
 - ✗ mc_runs = 1000
 - ✗ temp = 25 °C
 - ✗ vres = 50e-3 V
 - ✗ mc_sens = 0
 - ✗ sbenchlsf_release = Alpha
 - ✗ ams_release = 2018.3
 - ✗ model_version = 0.01
 - ✗ mc_nsigma = 3
 - ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
 - ✓ Extra parameters
- Model rm2x (DK1.1_RF_mmW)

- ✓ Input Parameters
 - ✗ mc_runs = 1000
 - ✗ temp = 25 °C
 - ✗ vres = 50e-3 V
 - ✗ mc_sens = 0
 - ✗ sbenchlsf_release = Alpha
 - ✗ ams_release = 2018.3
 - ✗ model_version = 0.01
 - ✗ mc_nsigma = 3
- ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
- ✓ Extra parameters
- Model rm8x (DK1.1_RF_mmW)
 - ✓ Input Parameters
 - ✗ mc_runs = 1000
 - ✗ temp = 25 °C
 - ✗ vres = 50e-3 V
 - ✗ mc_sens = 0
 - ✗ sbenchlsf_release = Alpha
 - ✗ ams_release = 2018.3
 - ✗ model_version = 0.01
 - ✗ mc_nsigma = 3
 - ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
 - ✓ Extra parameters

- Model rmlb (DK1.1_RF_mmW)
 - ✓ Input Parameters
 - ✗ mc_runs = 1000
 - ✗ temp = 25 °C
 - ✗ vres = 50e-3 V
 - ✗ mc_sens = 0
 - ✗ sbenchlsf_release = Alpha
 - ✗ ams_release = 2018.3
 - ✗ model_version = 0.01
 - ✗ mc_nsigma = 3
 - ✓ Sweep Parameters
 - ✗ temp = -40.0, 0.0, 25.0, 85.0, 125.0
 - ✓ Extra parameters