# cmos028fdsoi Technology

# CMOM models

# DK1.2_RF_mmW

## Comparison with DK1.1_RF_mmW model(s)

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# General information on CMOM models

● Maximum supply voltage is - V.

● Validity domain is defined as follows:

    ✔ Device temperature varies from -40 °C to 125 °C.

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# Output parameters definitions

● Model(s): cmom_rf_10f_80n

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# cmom_rf_10f_80n
# Electrical characteristics per geometry

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# cmom_rf_10f_80n @ cmom_rf_custom=cmom_rf_10f_80n, ctarget=10e-15, nf_dirx=15, nf_diry=15, spacefinger_mx=80e-9, wfinger_mx=80e-9, mtlfrbot=3, mtlfrtop=6, mtlconbot=3, mtlcontop=6, temp=25

DK1.2_RF_mmW wrt DK1.1_RF_mmW

| | CMIN | TT | CMAX |
|---|---|---|---|
| **nf_dirx []** | 15  0.0% | 15  0.0% | 15  0.0% |
| **nf_diry []** | 15  0.0% | 15  0.0% | 15  0.0% |
| **Cval [fF]** | 7.78  0.0% | 9.51  0.0% | 11.19  0.0% |
| **Rs [Ω]** | 1  0.0% | 1  0.0% | 1  0.0% |

# cmom_rf_10f_80n @ cmom_rf_custom=cmom_rf_10f_100n, ctarget=10e-15, nf_dirx=14, nf_diry=14, spacefinger_mx=100e-9, wfinger_mx=100e-9, mtlfrbot=3, mtlfrtop=6, mtlconbot=3, mtlcontop=6, temp=25

DK1.2_RF_mmW wrt DK1.1_RF_mmW

|  | CMIN | TT | CMAX |
|---|---|---|---|
| **nf_dirx []** | 14  0.0% | 14  0.0% | 14  0.0% |
| **nf_diry []** | 14  0.0% | 14  0.0% | 14  0.0% |
| **Cval [fF]** | 7.78  0.0% | 9.51  0.0% | 11.19  0.0% |
| **Rs [Ω]** | 1  0.0% | 1  0.0% | 1  0.0% |

# cmom_rf_10f_80n @ cmom_rf_custom=cmom_rf_50f_80n, ctarget=50e-15, nf_dirx=33, nf_diry=33, spacefinger_mx=80e-9, wfinger_mx=80e-9, mtlfrbot=3, mtlfrtop=6, mtlconbot=3, mtlcontop=6, temp=25

DK1.2_RF_mmW wrt DK1.1_RF_mmW

|  | CMIN | TT | CMAX |
|---|---|---|---|
| **nf_dirx []** | 33  0.0% | 33  0.0% | 33  0.0% |
| **nf_diry []** | 33  0.0% | 33  0.0% | 33  0.0% |
| **Cval [fF]** | 7.78  0.0% | 9.51  0.0% | 11.19  0.0% |
| **Rs [Ω]** | 1  0.0% | 1  0.0% | 1  0.0% |

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# cmom_rf_10f_80n @ cmom_rf_custom=cmom_rf_50f_100n, ctarget=50e-15, nf_dirx=31, nf_diry=33, spacefinger_mx=100e-9, wfinger_mx=100e-9, mtlfrbot=3, mtlfrtop=6, mtlconbot=3, mtlcontop=6, temp=25

DK1.2_RF_mmW wrt DK1.1_RF_mmW

|  | CMIN | TT | CMAX |
|---|---|---|---|
| **nf_dirx []** | 31 0.0% | 31 0.0% | 31 0.0% |
| **nf_diry []** | 33 0.0% | 33 0.0% | 33 0.0% |
| **Cval [fF]** | 7.78 0.0% | 9.51 0.0% | 11.19 0.0% |
| **Rs [Ω]** | 1 0.0% | 1 0.0% | 1 0.0% |

# cmom_rf_10f_80n @ cmom_rf_custom=cmom_rf_150f_80n, ctarget=150e-15, nf_dirx=56, nf_diry=56, spacefinger_mx=80e-9, wfinger_mx=80e-9, mtlfrbot=3, mtlfrtop=6, mtlconbot=3, mtlcontop=6, temp=25

DK1.2_RF_mmW wrt DK1.1_RF_mmW

|  | CMIN | TT | CMAX |
|---|---|---|---|
| nf_dirx [] | 56  0.0% | 56  0.0% | 56  0.0% |
| nf_diry [] | 56  0.0% | 56  0.0% | 56  0.0% |
| Cval [fF] | 7.78  0.0% | 9.51  0.0% | 11.19  0.0% |
| Rs [Ω] | 1  0.0% | 1  0.0% | 1  0.0% |

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# cmom_rf_10f_80n @ cmom_rf_custom=cmom_rf_150f_100n, ctarget=150e-15, nf_dirx=53, nf_diry=56, spacefinger_mx=100e-9, wfinger_mx=100e-9, mtlfrbot=3, mtlfrtop=6, mtlconbot=3, mtlcontop=6, temp=25
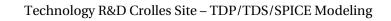
DK1.2_RF_mmW wrt DK1.1_RF_mmW

|  | CMIN | TT | CMAX |
|---|---|---|---|
| nf_dirx [] | 53  0.0% | 53  0.0% | 53  0.0% |
| nf_diry [] | 56  0.0% | 56  0.0% | 56  0.0% |
| Cval [fF] | 7.78  0.0% | 9.51  0.0% | 11.19  0.0% |
| Rs [Ω] | 1  0.0% | 1  0.0% | 1  0.0% |

# Annex

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# Conditions of simulations

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

● Model cmom_rf_10f_80n (DK1.2_RF_mmW)
- ✔ Input Parameters
  - ✘ mc_runs = 1000
  - ✘ vsub1 = 0
  - ✘ temp = 25 °C
  - ✘ vsub2 = 0
  - ✘ mc_sens = 0
  - ✘ vj = 0.05 V
  - ✘ f_ext = 1000 Hz
  - ✘ sbenchlsf_release = Alpha
  - ✘ ams_release = 2018.3
  - ✘ model_version = 1.1
  - ✘ mc_nsigma = 3
- ✔ Sweep Parameters
- ✔ Extra parameters
  - ✘ cmom_6u1x_2t8x_lb_dev = 0

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● Model cmom_rf_10f_80n (DK1.1_RF_mmW)

  ✔ Input Parameters

    ✘ mc_runs = 1000

    ✘ vsub1 = 0

    ✘ temp = 25 °C

    ✘ vsub2 = 0

    ✘ mc_sens = 0

    ✘ vj = 0.05 V

    ✘ f_ext = 1000 Hz

    ✘ sbenchlsf_release = Alpha

    ✘ ams_release = 2018.3

    ✘ model_version = 1.1

    ✘ mc_nsigma = 3

  ✔ Sweep Parameters

  ✔ Extra parameters

    ✘ cmom_6u1x_2t8x_lb_dev = 0

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