Modelithics®
Accelerating Your Design Success!

Modelithics® COMPLETE Library
for Keysight RF Synthesis (Genesys)

KEYSIGHT Solution Partner

Overview

The **Modelithics COMPLETE Library** for Keysight RF Synthesis (Genesys) brings incredible flexibility and accuracy to electronic designs. Modelithics models are scalable, allowing design details, such as substrate and pad characteristics, to be specified and simulated. Modelithics COMPLETE Library for Keysight Genesys now represents over **31,000** components, from more than **65** leading commercial component manufacturers for popular passive and active devices for modeling accuracy to deliver first-pass design success. View the **Overview Video** to learn more about the Modelithics COMPLETE Library.

Library Features

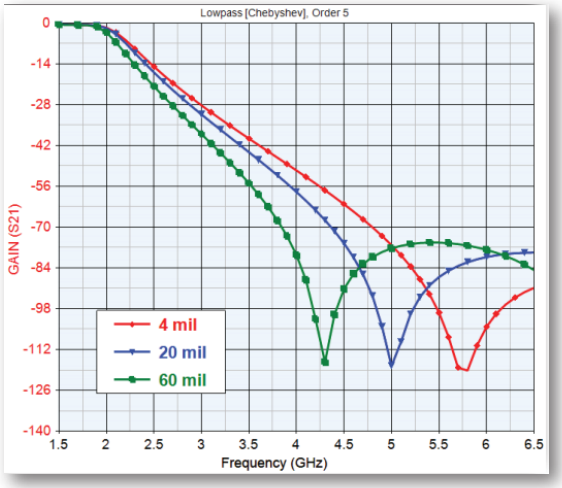
The Modelithics COMPLETE Library for Keysight Genesys offers an extensive selection of **Microwave Global Models™**, representing thousands of components. The installed models are fully integrated with Keysight Genesys electronic design automation (EDA) software. The Modelithics COMPLETE Library also features a substrate library containing measurement-based substrate parameters for many of the most commonly used substrates. See the full list of Modelithics **Advanced Model Features**.

- **Measurement-Based** — Each model is developed using specialized measurements under device-specific test conditions.
- **Scalability** — Part-value, substrate, pad-size and temperature scalability are incorporated into many models.
- **Model Documentation** — Each model contains a model datasheet that lists recommended model validity parameters, measurement and test fixture details, and model-to-measurement data comparisons.
- **X-Parameter* Models** — An alternative to compact non-linear equivalent circuit models for transistors that can speed up non-linear simulations and facilitate model portability between simulation platforms. They provide accurate non-linear model representations of complex integrated circuits for which equivalent circuit modeling is not practical.

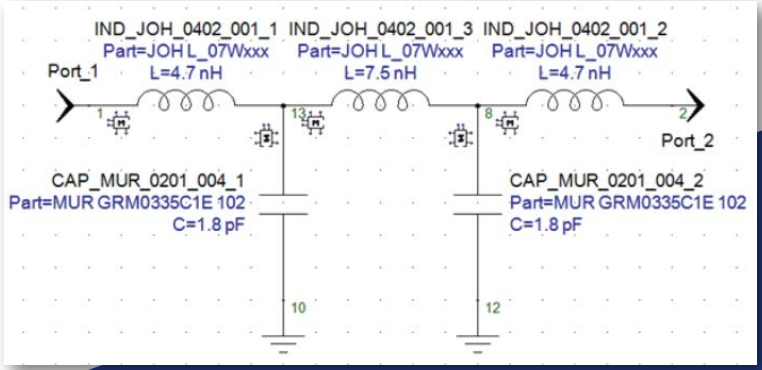
Sub-Libraries of the Modelithics COMPLETE Library

- **Modelithics CLR Library** — Contains all passive components from the Modelithics COMPLETE Library. It includes simulation models for various component body-sizes and part values for capacitor, inductor, and resistor families (RLC) from many popular vendors.
- **mmWave Library** — A collection of models focused on supporting the next generation of cellular communication standards. All models in the mmWave Library are validated to a minimum of 30 GHz, with some validated up to 125 GHz!
- **System Components Library** — Models for discrete die, surface mount and packaged devices.
- **Single-Vendor Sub-Library** — Includes all models for one selected vendor. Choose from the over 65 vendors within the Modelithics COMPLETE Library.

Modelithics Aeroflex Library v23.0
Modelithics Amotech Library v23.0
Modelithics Amplifiers Library v23.0
Modelithics ATC Library v23.0
Modelithics Attenuators Library v23.0
Modelithics Avago Library v23.0
Modelithics AVX Library v23.0
Modelithics Barry Library v23.0
Modelithics Capacitors Library v23.0
Modelithics CEL Library v23.0
Modelithics Chilisin Library v23.0
Modelithics Coilcraft Library v23.0
Modelithics Couplers Library v23.0
Modelithics Cree Library v23.0
Modelithics Darfon Library v23.0
Modelithics Diodes Library v23.0
Modelithics Diplexers Library v23.0
Modelithics DLI Library v23.0
Modelithics Exxelia Library v23.0
Modelithics Ferrite Beads Library v23.0
Modelithics Filters Library v23.0
Modelithics Freescale Library v23.0
Modelithics Gowanda Library v23.0
Modelithics GuerrillaRF Library v23.0
Modelithics IMS Library v23.0
Modelithics Inductors Library v23.0
Modelithics Infineon Library v23.0
Modelithics JDI Library v23.0
Modelithics Johanson Library v23.0
Modelithics Kemet Library v23.0
Modelithics KOA Library v23.0
Modelithics MACOM Library v23.0
Modelithics MDT Library v23.0
Modelithics Microsemi Library v23.0
Modelithics Mini-Circuits Library v23.0
Modelithics Mitsubishi Library v23.0
Modelithics Motorola Library v23.0
Modelithics Murata Library v23.0
Modelithics MWT Library v23.0
Modelithics NXP Library v23.0
Modelithics ONSemi Library v23.0
Modelithics Packages Library v23.0
Modelithics Panasonic Library v23.0
Modelithics PassivePlus Library v23.0
Modelithics Piconics Library v23.0
Modelithics Presidio Library v23.0
Modelithics Qorvo Library v23.0
Modelithics Resistors Library v23.0
Modelithics Resonators Library v23.0
Modelithics RJRPolymers Library v23.0
Modelithics Rohm Library v23.0
Modelithics Samsung Library v23.0
Modelithics SEDI Library v23.0
Modelithics SELECT(+) Library
Modelithics Semicoa Library v23.0
Modelithics SiliconSupplies Library v23.0
Modelithics Skyworks Library v23.0
Modelithics SmithsInterconnect Library v23.0
Modelithics Splitters Library v23.0
Modelithics StateOfTheArt Library v23.0
Modelithics STMicroelectronics Library v23.0
Modelithics Syfer Library v23.0
Modelithics TaiyoYuden Library v23.0
Modelithics TDK Library v23.0
Modelithics Toko Library v23.0
Modelithics Toshiba Library v23.0
Modelithics Transformers Library v23.0
Modelithics Transistors Library v23.0
Modelithics UBE Library v23.0
Modelithics Vanguard Library v23.0
Modelithics VirginiaDiodes Library v23.0
Modelithics Vishay Library v23.0
Modelithics WurthElektronik Library v23.0
Modelithics Yageo Library v23.0



(Left) Simulated S21 of a simple low-pass filter on three substrates. Modelithics models account for substrate parasitics.



* "X-parameters" is a trademark of Keysight Technologies, Inc. The X-parameters format and underlying equations are open and documented. For more information, refer to X-parameters Open Documentation, Trademark Usage & Partnerships.

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List of Components in the Modelithics COMPLETE Library for Keysight Genesys

Modelithics Vendor Partners (MVPs)

Amotech

CAPACITORS
A60F, A60L, A60S, A60Z, A80B, ABCUC1010XX223MNDG, ABCUC1010XX473, ABCUC1610XX103, ABCUC0610XX104, ABCUC16S01x103, ABCUC16S01X223MNDG, ABCUC25201X103, ABCUC10S01X224, ABCUA50S02x104

Analog Devices

AMPLIFIERS
ADL8142

API-Inmet

RESISTORS
ANC50-100W, ANC50-50W, NPC20-40S, NPC50-100W, NPC50-50W, PPC100-200AW

ATTENUATORS
PCA, PCAA, PCAAF, PCAF, TCAF

Avago

NPNBJT PACKAGES
AT-41511, AT-41533, AT-64023

Vishay-Barry

ATTENUATORS
AK0405CB, AT0904CB

RESISTORS
RE0805CT, RE1005CT, REC1206CT, RK0603ZZ, RY0805CT, RY1005CT, RYC1206CT (1-port, 2-port)

PACKAGE
QFN3312-0520, QFN3312-0521, QFN3312-0522, QFN4420-0520, QFN4420-0521, QFN4420-0522, QFN4424-0520, QFN4424-0521, QFN4424-0522, QFN5532-050x, QFN6636-0520, QFN6636-0521, QFN6636-0522, QFN7744-0520, QFN7744-0521, QFN7744-0522, QFN8848-0520, QFN8848-0521, QFN8848-0522

CEL

LOW NOISE FET
CE3512K2

HMT
CE3512K2

Chilisin

INDUCTORS
CL2012, CLH1608, CLH2012

FERRITE BEADS
GBY160808T, PBY160808T, SBY100505T

CML Micro

MESFET
MWT-1

Coilcraft

INDUCTORS
016008C, 0201CT, 0201DS, 0201HL, 0201HT, 0302CS, 0402AF, 0402CS, 0402CT, 0402DC, 0402DF, 0402HP, 0403HQ, 0603CS, 0603CT, 0603HC, 0603DC, 0603HL, 0603HP, 0603LS, 0604HQ, 0805CS, 0805HP, 0805HQ, 0805HT, 0805LS, 0806SQ, 0807SQ, 0906, 0908SQ, 1008CS, 1008CT, 1008HQ, 1008HS, 1010VS, 1111SQ, 1206CS, 1212VS, 132-xxSM, 1508, 1512SP, 1515SQ, 1606, 1812CS, 1812SMS, 2222SQ, 2508, 2712SP, 2929SQ, 4310LC, AxxT, BCL, BCR, BxxT, GA309X, XGL6020

Cree

PACKAGED PHEMT
CGH35030F

Dalicap

CAPACITORS
DLC85C, DLP70A, DLP75P, DLP75D, DLP70B

Darfon

CAPACITORS
C0402NP0, C0603NPO

Exxelia

CAPACITORS
CLX, CLE, SHF251

Freescale

AMPLIFIER
MWE6IC9100NR1

Gigalane

INTERCONNECTS
PSF-S00-000

Gowanda

INDUCTORS
C050FL, C050SMC, C100FL, C100SM, C100SMC, C225FL, CC0603

Guerrilla RF

AMPLIFIERS
GRF2070DS, GRF2071DS, GRF2072DS, GRF2073DS, GRF2093, GRF2100, GRF2106, GRF2501DSR, GRF4002, GRF4014

IMS

RESISTORS
NDX-1020EZW, NDX-0402WA, NDX-0505WA, ND3-0402PA, RC3-0402PW, RC4-0302PW, TFI-0201SS, TFI-0402WA, 0510SWA

ATTENUATORS
A-0402WA-C, A-0603-C, A-0805, IA3-0805WA, IA3-1206WA, IMS1141, IMS2533, IMS2652, VDR3725SG

SPLITTERS
IPS2346-C, IPS2668-C, IPT0402WA-C-U, IPT0603WA-C, IPT0805WA-C

Infineon

DIODES
BAR64-03W, BAR88-02V, BAS3010S-02LRH, BAS40, BAS40-04, BAS40-05, BAS40-06, BAS52-02V, BAS70, BAS70-04, BAS70-05, BB535, BB639, BB833, BBY51-02W, BBY52-02L

BJT
BFP420, BFR949F, BFY193C, BFY420

MOSFET
BF999

JDI

CAPACITORS
R14, R15

Johanson

CAPACITORS
QCCF, QCCP, QCCT, R05L, R07S, R14S, R15S, R15G, S42E

INDUCTORS
L-05Cxxx, L-07Wxxx, L-07Cxxx, L-14C, L-14W

KEMET

CAPACITORS
C0402(C0G), C0402(X5R), C0402(X7R), C0603, C0805(BX), C0805(C0G), C0805(NP0), C0805(X5R), C0805(X7R), CBR01, C0201, CBR02, CBR04, CBR04 Auto, CBR05, CBR06, CBR06 Auto, CBR08

Knowles

CAPACITORS *(Syfer)*
HighQUltraLowESR, H Range (0805), 4040J

CAPACITORS *(Dielectric Labs)*
C04BL, C06BL, C06CF, C06UL, C08BL, C11UL, Milli-cap, Opti-cap

INDUCTOR
CL1008

KOA

RESISTORS
RK73H, RK73B1J(RK73H), RK73B2A, RK73B2B, RK73x1E(RK73H), RK73x1H(RK73B), RK73x1J, RK73x2E, RK7x3A, WK73S3A

CAPACITOR
HFC1005

Kyocera-AVX

CAPACITORS
0101YA, 02013A, 0201YC, 0201YD, 0402xU, 0603xA(C0G), 0603xC(X7R), 0603xU, 08051A, 08051C, 0805xU, 100A, 100B, 1206xC, 12101U, 200A, 200B, 400L, 400S, 400Z, 504L, 520L, 530L, 550W103, 550Z, 550Z104, 550Z224, 550U, 560W104, 550W104, 560Z104, 560Z224, 600L, 600S, 700A, 700B, 800A, 800B, 800R, Accu-P, AQ12, CU01, CU10, DLA09024, DLA09025, KGM02xCG, KGM03xR7, KGM15xCG, KGM`5xR7, KGM21xR7, GM31xR7, KGQ05xCG, KGQ32xCG, ML03, MP01, MP02, MP03, U_Series_0603, UBR0402

Kyocera-AVX (Cont'd)

ATTENUATORS
FA10975PxxDB, RP10975AxxDB

SINGLE-LAYER CAPACITORS
GH01 Maxi, GH04 Maxi, GH06 Maxi

RESISTORS
CS12010T0050GTR, CS12010T0100GTR, CS13737, CT11020T0050, CW12010T0050GTR, CW12010T0100GTR, CW137250T0050GTR, CW137250T0100GTR, CZ12010T0050GTR, CZ13725T0050GTR, CZ13737T0050GTR

INDUCTORS
Accu-L (L0201), Accu-L (L0402), Accu-L (L0603), Accu-L (L0805), DLA11017, DLA11018, DLA11019, HL02, HLC02, HLQ02, L0201, MOL

COUPLERS
CP0402AxxxxAN, CP0402AxxxxBN, CP0402AxxxxCN, CP0402AxxxxDN, CP0402AxxxxEN, CP0402AxxxxFN, CP0402W2700FN, CP0603, DB0603N2140AN, DB0603N2400AN, DB0603N3000AN, DB0603N3500AN, PC2025A2100, PC2025A2700

DIPLEXERS
DP03A5425, DP03B5425, DP03C1580, DP05A1920, DP05A1940, DP05A5250, DP05B5425, DP06A1945, DP06A2180, DP06B2180

MACOM

LIMITER
2690-1011

AMPLIFIER
MAAL010704

GaN HEMT
NPT1012B, NPTB00004A

DIODES
MA4P504-132, MA4PH235-1072, MAVR-000230-1141, MAVR-001330-1279, MLP7100 MLP7101, MLP7110, MLP7120, MMP7065-11, MSD710, SMV20413

COUPLER
MACP-011088

SPLITTER
MAPD-0011062

TRANSFORMER
MABA-011125

MDT

DIODE
MP6250-P2715

Microchip

DIODE
GC1500879, UPP9401

Mini-Circuits

PHEMT
SAV-331+, SAV-541+, SAV-581+

SPLITTERS
EP2C+, EP2K+, EP2K1+, EP2KADG+, EP2W+, EP2W1+, EPQ133+

COUPLER
JR1BD+

ATTENUATORS
RCAT, YAT-A

TRANSFORMERS
NCS1-422+, NCS1-63+, NCS2-392+, NCS2-83+

LOW-PASS FILTERS
LFCN-1000+, LFCN-120+, LFCN-1200+, LFCN-1200D+, LFCN-1700+, LFCN-1800+, LFCN-1800D+, LFCN-2250+, LFCN-3000+, LFCN-3800+, LFCN-400+, LFCN-4400+, LFCN-490+, LFCN-630+, LFCN-80+, XLF Series

BAND-PASS FILTERS
XBF Series

HIGH-PASS FILTERS
HFCN-2700+, HFCN-3800+, HFCN-5500+, HFCN-740+, HFCN-880+, XHF Series, XHF2 Series

AMPLIFIERS
AVA-183+, GVA-62+, GVA-63+, GVA-84+, PGA-102+, PGA-103+, PGA-105+, PHA-1+, PHA-22+, PMA-545+, PMA-5451+, PMA-5452+, PMA-5453+, PMA-5454+, PMA-5455+, PMA-5456+, PMA2-133LN+, PMA2-33LN+, PMA2-43LN+, PMA3-83LN+, PSA4-5043+

Mitsubishi

HEMT
MGF4953A, MGF4953B

MOSFET
RD01MUS1, RD07MMUS2B

Motorola

MOSFET
MRF1513

Murata

INDUCTORS
LQG15HS, LQGF15HS, LQG18, LQP02HQ, LQP02HV, LQP02TN, LQP02TQ, LQP03HQ, LQP03TG, LQP03TN, LQP15M, LQP18M, LQW04A, LQW15AN_00, LQW15AN-80D, LQW15AN-10D, LQW18AN_00, LQW18AN-80D, LQW18AN-10D

BAND-PASS FILTER
SFELA10M7GAA0_B0

RESONATORS
DRM020KER93, DRR02011G45, DRR0201G350, DRR0204G100, DRR030KE1R2

CAPACITORS
BBSC_939_113_424_610, BBSC_939_113_733_510, GJM022, GJM033, GJM15, GQM155S, GQM1555C, GQM187, GQM188, GQM219, GQM22M, GQM033, GRJ32DC7, GRM011, GRM022, GRM022 (X5R, X7R), GRM0335, GRM1555C1H, GRM155R71E, GRM155R71H, GRM1885C1H, GRM188R71H, GRM188R72A, GRM2165C2A, GRM219, GRM32EC7, GRM32ER71J, GRP033, UBSC_935_151_423_510, XBSC_939_118_492_510-xxS

TRIPLEXER
LMTP33AA148

FERRITE BEADS
BLM15AG, BLM15EG, BLM18A, BLM18HG102SN1, BLM21P, BLM31P, BLM41P

NIC Components

RESISTOR
NRC06

NXP

NPNBJT
BFQ540, BFS505, BFS520, BFS540, PBR941

On Semiconductor

DIODES
MBD330DWT1, MMBD301LT1

NPNBJT
MMBT3904LT1

Panasonic

INDUCTORS
ELJRG, ELJRF, ELJRE

RESISTOR
ERJ2GE0R00X

Piconics

INDUCTORS
CCxxxTxxK240G5-C, CCxxTxxK240G5-004, MK Series

Passive Plus

RESISTORS
R35-1209BB, R35-2010BB

CAPACITORS
01005BB104, 0201BB104, 0201N, 0201N-ultra-low-ESR, 0402N-ultra-low-ESR, 0505C, 0603N-ultra-low-ESR, 0708N, 0805N-ultra-low-ESR, 1111C, 1111N-ultra-low-ESR

Presidio

CAPACITORS
0402UP, 0505UP, 0603UP, BB0201X7R103M, BB0402X7R104M2, BB0502X75104M, SR0402(NP0)

Qorvo

AMPLIFIER
RF2878

RJR

PACKAGE
QFN01

Rohm

DIODE
RB715F

PNPBJT
EMT1, UMT1NR

NPNBJT
EMX1

Samsung

CAPACITORS
CL02CxxxxxxA, CL02CxxxxxxG, CL03C, CL31A106K, CL32B475K

RESISTORS
RC1005, RC0402

SEDI

MESFET
FLL120MK, FSX017X

Semicoa

NPNBJT
2C2857

Silicon Supplies

NPNBJT
2SCC3356

Skyworks

DIODES
SMP1324-087LF, SMS3927-023, SMS3940-029LF, SMS7621-005, SMS7621-015, SMS7621-079, SMS7630-005LF, SMS7630-006LF, SMV1147, SMV1253-079, SMV1763-040LF, SMV2201-040LF, SMV2202-040LF, SMV2203-040LF, SMV2204-040LF, SMV2205-040LF

Smiths Interconnect

RESISTORS
CRxxxxD, CR0404ALN1WB1, CT0404ALN2WB1, CTH0603ALN1SMTF, CTxxxxD

ATTENUATOR
AT5xxF, AT7xxF, CA0505D, K2TVA, TSX, TSXWB, TS06xxF, TT9, WTVA, WTVAxx00N05, WTVAxx00N07

SPLITTERS
RPD02-50-EAF, RPD04-50EHF, WPD02-1525EBF, WPD02-1525UDF, WPD02-2535ECF, WPD03-1525EEF, WPD04-1525EFF, WPD04-2535EGF

SOTA

RESISTORS
S0202AF50R0FEB, S0303AF50R0FWB, S0505AF50R0FEB, S0505CF50R0FHB, S0505DF50R0FEW, S0505EF50R0FEW, S0603CF50R0FHB

ST Micro

CAPACITOR
PTIC

Susumu

RESISTORS
RFD0603P, RG0603, RG1005, RG1608, RG2012, RG3216

ATTENUATORS
ATS1005-FD, ATS2012-FD

Taiyo Yuden

CAPACITORS
EMK042, EMK063, JMK063, LMK042_and_JMK042, TMK063, TVS042, UMK105

INDUCTORS
HK0603, HK1005, HK1608, HK2125, HKQ0603S, HKQ0603U, HKQ0603W

TDK

CAPACITORS
C0402C0G, C0603C0G, C1005CH, C1005X5R, C3225, CGA1A2C0G, CGA1A2X7R, CGB1T3X5R0J04M

INDUCTORS
MHQ0402PSA, MHQ1005P, MLF2012, MLG0402Q, MLG0603P, MLG0603S, MLG1005S, MLG1608B, MLK1005S, NLV25T

Toko

INDUCTORS
LL1005-FHL, LL1608-FSL, LL2012-FHL, LLV0603-F

Toshiba

DIODES
1SV229, 1SV279, 1SV280, 1SV282, 1SV305, 1SV325, 1SV329, JDV2S09FS, JDV2S41FS

TTM Tech

RESISTOR
C05N50Z4

UBE

RESONATORS
AO-K016-08, K020-03

Vanguard

TRANSFORMERS
100205, K Series, M Series, R Series, S Series

INDUCTORS
Series26000, Series26200, Series27000, Series30000, Series33000, Series 34000, Series50000

Virginia Diodes

DIODES
W Band Single Anode, W Band ZBD

Vishay

CAPACITORS
HPC0402A, VJ0402, VJ0603D

RESISTORS
CH02016, CH0402, CH0603, CHTA02016, CRCW0201, CRCW01005, CRCW0402, CRCW1206, D10, D11, FC0402, FCHP, FCHP 0402, FCHP0402xxxBGT, FCHP0402xxxBTT, MCS0402, MCT0603, MMA0204, TNPW0201

Voltronics

CAPACITORS
JR030, JR060, JR100, JR150, JR200, JR300, JR400, JR500

Würth Elektronik

INDUCTORS
WE-ACHC, WE-CAIR, WE-KI, WE-KIHC, WE-MK, WE-TCI, WE-MK (0402), WE-KI (0402), WE-KI HC (0402), WE-MK (0603)

FERRITE BEADS
74279223560, WE-CBA0402 High Current, WE-CBA0402 Wide Band, WE-CBA0603 High Current, WE-CBA0603 High Speed, WE-CBA0603 Wide Band, WECBA-0805 High Current, WECBA-0805 High Speed, WECBA-1206 High Current, WECBA-1206 Wide Band, WECBA-1806 High Current

CAPACITORS
WCAP-CSMH (NP0), WCAP-CSMH (X7R), WCAP-CSMH (X7R) 0.8mm, WCAP-CSMH (X7R) 1.25mm, WCAP-CSRF (NP0)

Yageo

RESISTORS
RC0100, RC0201

CAPACITORS
AQ0402, AQ0603, CC0201, CQ0100, CQ0201, CQ0402, CQ0603, CQ0805

Video: Modelithics COMPLETE Library Overview

Learn More About Modelithics' Library & Licensing Options

More to come! New models are added continually. Be sure to check out the models on the Modelithics Pre-Release List:
www.Modelithics.com/Model/PreRelease

Connect with Us!

Email sales@Modelithics.com or visit www.Modelithics.com to request a FREE trial!

What's in YOUR DREAM LIBRARY?

Help us build ***YOUR*** dream library! Pre-Release models are added based on customer demand. Share your desired models with **sales@modelithics.com**!

Excellence in Modeling Since 2001

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