

Modelithics Passive Component CLR LIBRARY

The Modelithics CLR Library contains models for a variety of body-sizes and part values for capacitors, inductors, and resistors from most major vendors, including ATC, Barry, Coilcraft, DLI, Epcos, Johanson, KOA Speer, Murata, Panasonic, Presidio, Rohm, TDK and Toko. The model input parameters include substrate thickness, relative dielectric constant, loss tangent, and interconnect conductor thickness. Part value tolerance can also be specified to enable Monte Carlo-type simulations. Our models use a physically motivated circuit topology.

Modelithics Global Models are engineered to help you accelerate your design process. Surface mount parts simply do not behave the same on all substrates, regardless of the technology. The versatility and accuracy of substrate- and part value-scalable models help to ensure proper component selection at the simulation stage. Bench turning and prototype builds decrease. You can concentrate on designing your next product!

Part Value Scalability

Each Global Model pertains to a given component vendor and body style (e.g., 0201) and typically covers values over 2 to 3 decades (e.g., 1-1800 pF).

Global Models automate parts-value substitution & improve the efficiency of circuit design optimization.

Substrate Scalability

The models are valid over a continuous range of substrate thickness and dielectric constant bounded by the fixtures used for model development.

Substrate scalability is critical in achieving accurate simulation results; this distinguishes our models from all others.

Pad Scalable & Removable

Many models include pad geometry scaling. All the models allow pad effects to be de-embedded with a simple simulation mode setting. This enables maximum flexibility and accuracy, while allowing user-specified pad effects to be applied.

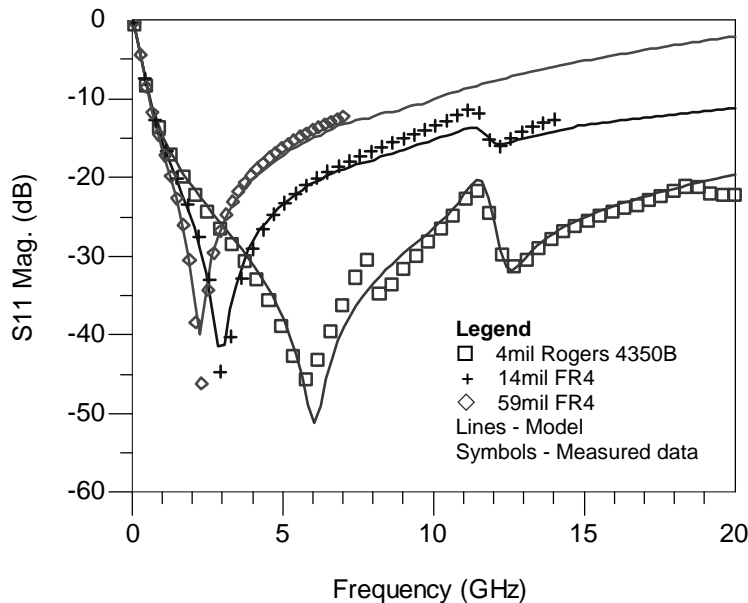
This feature is particularly useful in combining electromagnetic analyses with the use of Modelithics models.

ESR

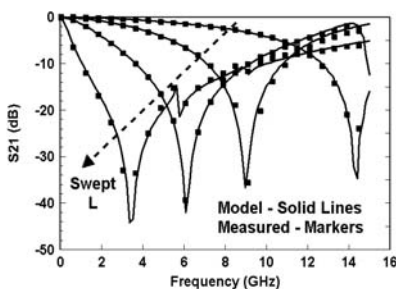
Each model is based on precise Effective Series Resistance (ESR) measurements. The empirical data is used to generate a frequency-dependent expression that is incorporated into the models.

Accurate ESR, combined with the substrate scaling feature of the models, enables prediction of Q-factors in your PCB environment.

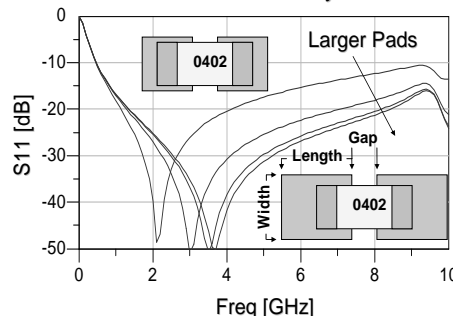
SUBSTRATE SCALABILITY



PART VALUE SCALABILITY



PAD SCALABILITY



For ordering information, visit www.modelithics.com. Custom model development services are also available.