Document description:
This document presents instance data illustrative of a functional specification as typically found in a data sheet for a component.

Page 2 provides the base product definition instance (#7) which includes two specification properties as examples { power and resistance}
as well as the definition of terminals in the functional view. The names associated with e.g., #227 and #228 are signal names according to data sheet (e.g., in, out, gnd...) rather than pin numbers.
Reference other documents such as catalog data recommended practice for how to deal with tolerances, etc.
This page stands alone but there is no data provided to specify measurement setup.

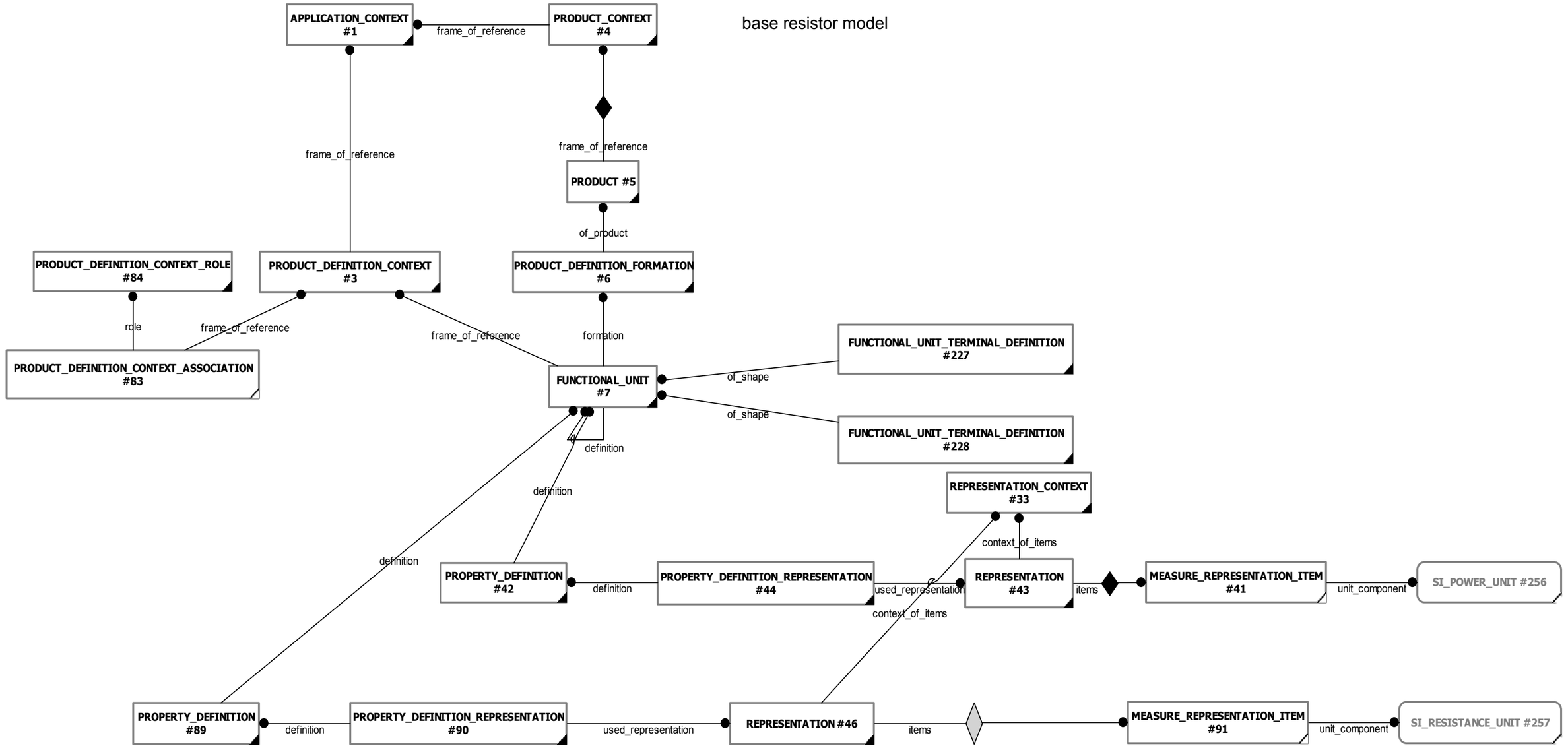
Page 3 provides a testbench model (#117 and #115). #115 is a dummy set of data and IS NOT the base resistor model. It has to be populated to satisfy the standard. In some future edition we could relax the standard and get rid of it. #133 is the resistor function under test.
#134 is an occurrence of some other function in the testbench. Not illustrated are voltage, current sources, etc....

Page 4 provides instantiation data between terminals on the function definition (#227) and terminals on the occurrence (#234).
Also shown are two network nodes that also help to compose the testbench. Note that the two terminals on the occurrence are assigned to different nodes.

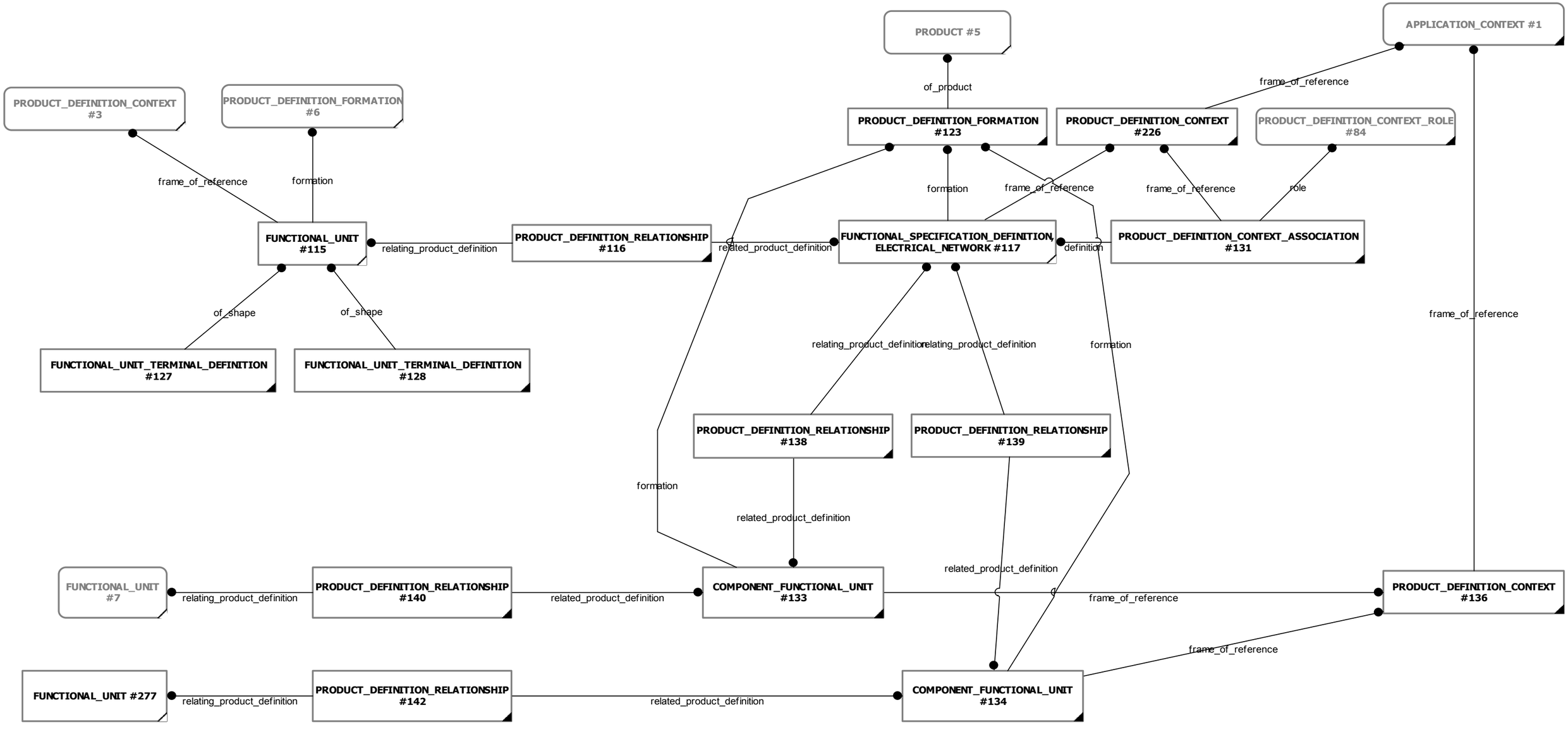
Page 5 provides an illustration of a functional specification (many may be associated with a testbench). In this case a signal #110 is to be defined between two terminals in the testbench (signal access mechanism in #100) and (signal reference mechanism in #104). The paths resolve to #235 and #245, respectively. (It is permissible to define signal access either to a node or to a terminal). Usually it is to a node as that is simpler, but there are cases where resolution is required to a terminal so the standard provides that support.

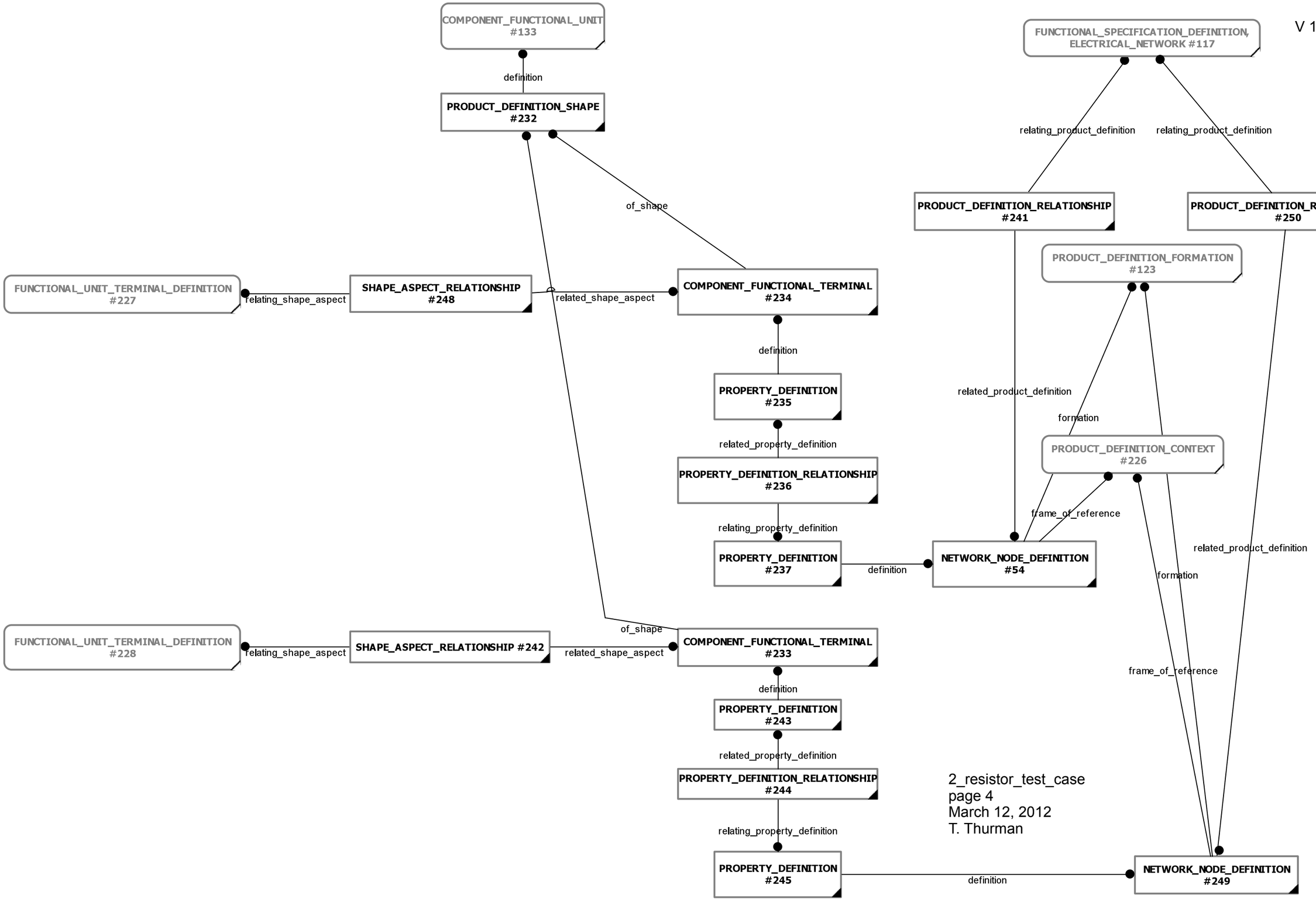
Page 6 illustrates how units should be composed. Since this recommended practice is relatively new, it is unlikely that any AP 210 files from Rockwell Collins will provide this structured data, but in the future we will see it in the MCAD data.

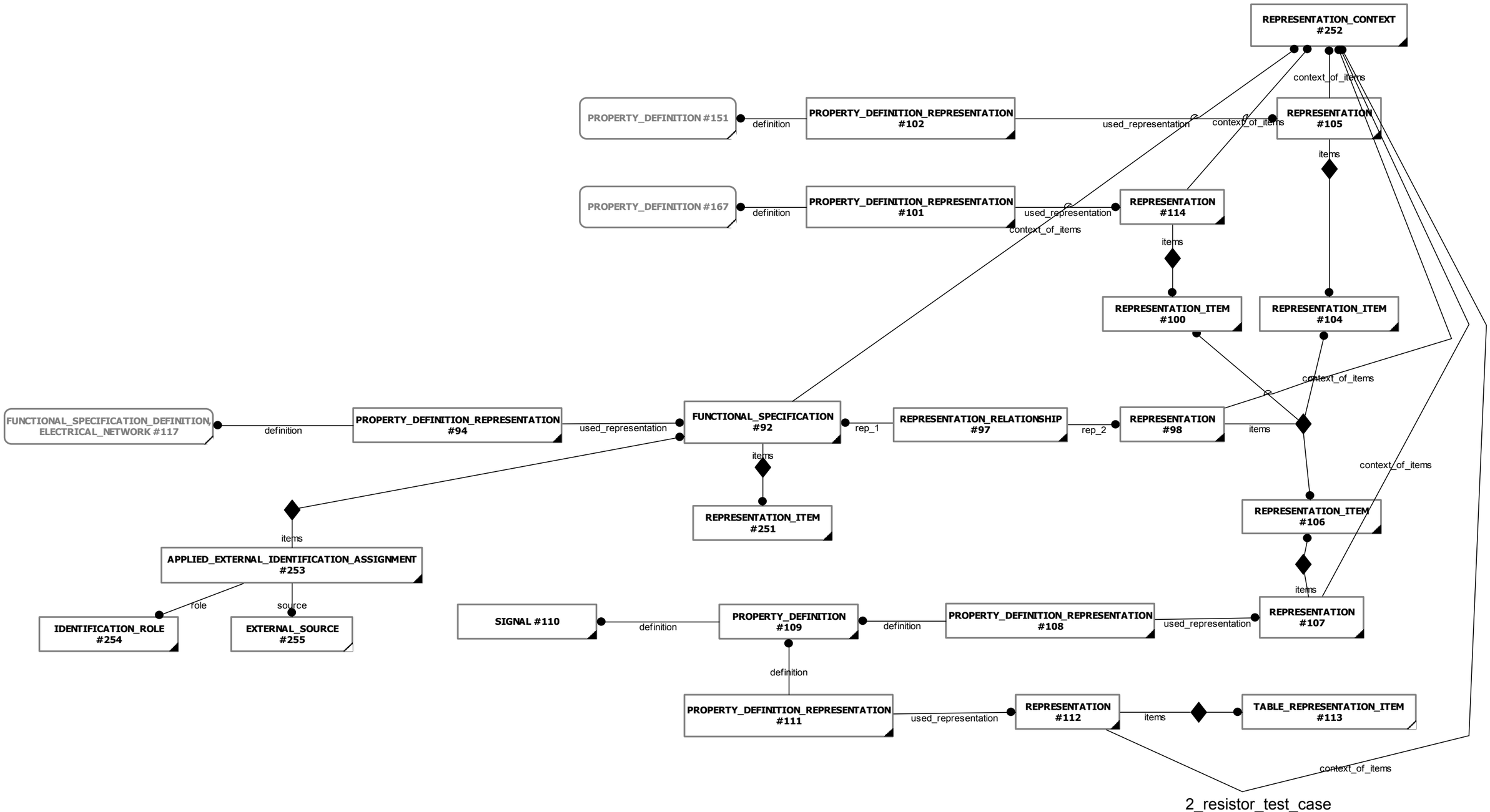
base resistor model

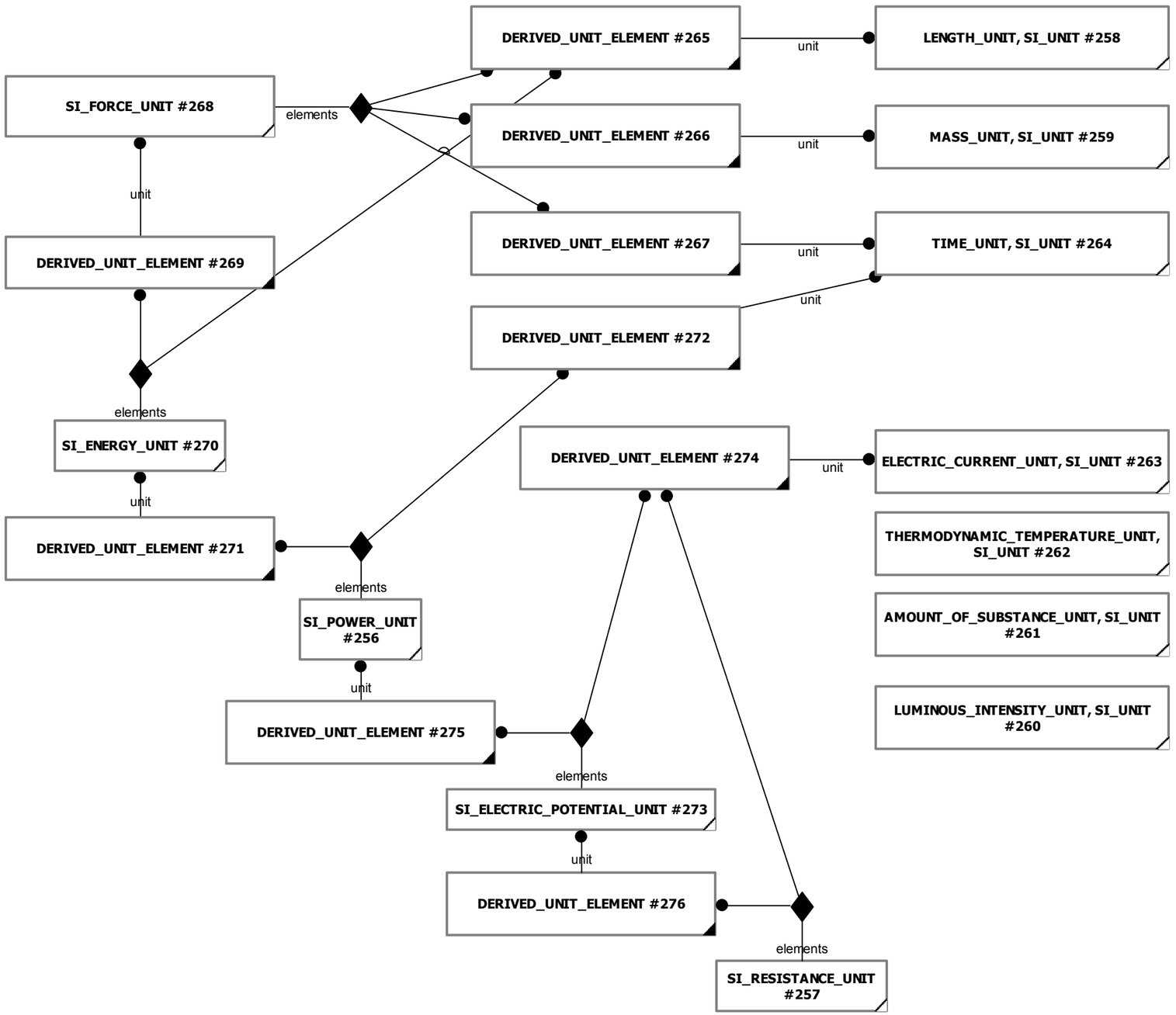


testbench network model




COMPONENT_FUNCTIONAL_UNIT #133
definition
PRODUCT_DEFINITION_SHAPE #232
of_shape
FUNCTIONAL_UNIT_TERMINAL_DEFINITION #227
relating_shape_aspect
SHAPE_ASPECT_RELATIONSHIP #248
related_shape_aspect
COMPONENT_FUNCTIONAL_TERMINAL #234
definition
PROPERTY_DEFINITION #235
related_property_definition
PROPERTY_DEFINITION_RELATIONSHIP #236
relating_property_definition
PROPERTY_DEFINITION #237
definition
NETWORK_NODE_DEFINITION #54
FUNCTIONAL_UNIT_TERMINAL_DEFINITION #228
relating_shape_aspect
SHAPE_ASPECT_RELATIONSHIP #242
related_shape_aspect
of_shape
COMPONENT_FUNCTIONAL_TERMINAL #233
definition
PROPERTY_DEFINITION #243
related_property_definition
PROPERTY_DEFINITION_RELATIONSHIP #244
relating_property_definition
PROPERTY_DEFINITION #245
definition
NETWORK_NODE_DEFINITION #249
FUNCTIONAL_SPECIFICATION_DEFINITION, ELECTRICAL_NETWORK #117
relating_product_definition
relating_product_definition
PRODUCT_DEFINITION_RELATIONSHIP #241
PRODUCT_DEFINITION_RELATIONSHIP #250
PRODUCT_DEFINITION_FORMATION #123
related_product_definition
formation
PRODUCT_DEFINITION_CONTEXT #226
frame_of_reference
related_product_definition
formation
frame_of_reference
V 1.0
2_resistor_test_case
page 4
March 12, 2012
T. Thurman


REPRESENTATION_CONTEXT #252
context_of_items
PROPERTY_DEFINITION #151
definition
PROPERTY_DEFINITION_REPRESENTATION #102
used_representation
context_of_items
REPRESENTATION #105
items
PROPERTY_DEFINITION #167
definition
PROPERTY_DEFINITION_REPRESENTATION #101
used_representation
REPRESENTATION #114
context_of_items
items
REPRESENTATION_ITEM #100
REPRESENTATION_ITEM #104
context_of_items
FUNCTIONAL_SPECIFICATION_DEFINITION, ELECTRICAL_NETWORK #117
definition
PROPERTY_DEFINITION_REPRESENTATION #94
used_representation
FUNCTIONAL_SPECIFICATION #92
rep_1
REPRESENTATION_RELATIONSHIP #97
rep_2
REPRESENTATION #98
items
context_of_items
items
REPRESENTATION_ITEM #251
items
REPRESENTATION_ITEM #106
items
APPLIED_EXTERNAL_IDENTIFICATION_ASSIGNMENT #253
role
source
IDENTIFICATION_ROLE #254
EXTERNAL_SOURCE #255
SIGNAL #110
definition
PROPERTY_DEFINITION #109
definition
PROPERTY_DEFINITION_REPRESENTATION #108
used_representation
REPRESENTATION #107
definition
PROPERTY_DEFINITION_REPRESENTATION #111
used_representation
REPRESENTATION #112
items
TABLE_REPRESENTATION_ITEM #113
context_of_items


DERIVED_UNIT_ELEMENT #265
unit
LENGTH_UNIT, SI_UNIT #258
SI_FORCE_UNIT #268
elements
DERIVED_UNIT_ELEMENT #266
unit
MASS_UNIT, SI_UNIT #259
unit
DERIVED_UNIT_ELEMENT #267
unit
TIME_UNIT, SI_UNIT #264
DERIVED_UNIT_ELEMENT #269
unit
DERIVED_UNIT_ELEMENT #272
elements
SI_ENERGY_UNIT #270
DERIVED_UNIT_ELEMENT #274
unit
ELECTRIC_CURRENT_UNIT, SI_UNIT #263
unit
THERMODYNAMIC_TEMPERATURE_UNIT, SI_UNIT #262
DERIVED_UNIT_ELEMENT #271
elements
AMOUNT_OF_SUBSTANCE_UNIT, SI_UNIT #261
SI_POWER_UNIT #256
unit
LUMINOUS_INTENSITY_UNIT, SI_UNIT #260
DERIVED_UNIT_ELEMENT #275
elements
SI_ELECTRIC_POTENTIAL_UNIT #273
unit
DERIVED_UNIT_ELEMENT #276
elements
SI_RESISTANCE_UNIT #257