DipTrace XML. Pattern Editor.

File format specification

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With the default value, some parameters are not written to the file.

1. File title

<?xml version="1.0" encoding="UTF-8"?>

Description of the XML file version and encoding.

2. Information about library file, <Library>

<Library Type="DipTrace-PatternLibrary" Name="BGA Pitch 0.35mm" Hint="Ball Grid Array - Pitch 0.35mm" Version="4.3.0.1" Units="inch">

Type="DipTrace-PatternLibrary" – file created in DipTrace Pattern Editor.

Name="BGA Pitch 0.35mm" – library name displayed on the Library panel.

Hint="Ball Grid Array - Pitch 0.35mm" – hint text on the Library panel.

Version="4.3.0.1" – version of the library file format.

Units="inch" – Measurement units of dimensions in the file:
mm – millimetres;
inch – inches;
mil – mils.

3. Pad Style description section, <PadStyles>

<PadStyles> – start of the pad style description section.
{...} – pad style description (PadStyle).
</PadStyles> – end of the pad style description section.

3.1. Pad Style description, <PadStyle>

<PadStyle Name="PadT3" Type="Through" HoleType="Round" Hole="0.0354" Side="Top">
<MainStack Shape="Obround" Width="0.0591" Height="0.0591" XOff="0" Yoff="0" />
</PadStylee>

Name	Text	Pad style name.
Type	Text	Pad type: "Surface" – surface pad; "Through" – through pad.
HoleType	Text	Hole shape: "Round" – round; "Obround" – obround.
Hole	Real	Diameter for Round Hole, width for Obround Hole. Keepout diameter for Fiducial.
HoleH	Real	Obround hole height.

Side	Text	Pad location side: "Top" – pad on the Top side; "Bottom" – pad on the Bottom side.

3.1.1. Main pad shape parameters, <MainStack>

<MainStack Shape="Polygon" Width="1" Height="0.6" XOff="0" YOff="0">

Shape	Text	Pad shape: "Ellipse"; "Obround"; "Rectangle"; "Polygon"; "D-shape"; "Fiducial".
Width	Real	Pad width. Copper diameter for Fiducial.
Height	Real	Pad height.
XOff	Real	X offset of the shape of a through pad relative to its center (hole).
YOff	Real	Y offset of the shape of a through pad relative to its center (hole).
Corner	Real	Rounding of the corners of a rectangular pad as a percentage of the shorter side: 0 - for Rectangle, 0..50 - for Roundrect.

3.1.1.1. List of polygonal pad points, <Points>

<Points> – start of the list of polygonal pad points;
{...} – list of coordinates of the points (Item);
</Points> – end of the list of polygonal pad points.

3.1.1.1.1 Coordinates of points of polygonal pad relative to its center, <Item>

<Item X="0.5" Y="0.2"/>

X	Real	X coordinate.
Y	Real	Y coordinate.

3.1.2. List of the shapes of Terminals, <Terminals>

<Terminals> – start of the list of Terminals;
{...} – list of the shapes of Terminals (Terminal, max. 4 shapes);
</Terminals> – end of the list of Terminals.

3.1.2.1. Terminal shape description, <Terminal>

<Terminal Shape="Rectangle" X="0" Y="0" Angle="0" Width="0.8" Height="0.4" Corner="0"/>

Shape	Text	Shape Type: "Obround"; "Rectangle"; "Polygon"; "D-shape".
X	Real	X offset – terminal shape position on the pad (center of the shape)
Y	Real	Y offset – terminal shape position on the pad (center of the shape).
Angle	Real	Angle of the terminal shape in radians, counterclockwise.
Width	Real	Shape Width.
Height	Real	Shape Height.
Corner	Real	Shape Corner radius as percentage of the shorter side: 0 - for Rectangle, 0..50 – for Roundrect.

3.1.2.1.1. List of points of polygonal Terminal, <Points>

<Points> – start of the list of polygonal terminal points;
{...} – list of coordinates of points (Item);
</Points> – end of the list of polygonal terminal points.

3.1.2.1.1.1. Coordinates of points of polygonal terminal relative to its center, <Item>

X	Real	X coordinate.
Y	Real	Y coordinate.

3.1.3. Pad Mask and Paste settings <MaskPaste>

<MaskPaste TopMask="Tented" BotMask="Open" TopPaste="Solder" BotPaste="Segments" Segment_Percent="50" Segment_EdgeGap="0.3" Segment_Gap="0.2" Segment_Side="1" CustomSwell="0.12" CustomShrink="0.11">
<BotSegments>
<Item X1="-1.43" Y1="0.707" X2="-0.37" Y2="-0.707"/>
<Item X1="0.37" Y1="0.707" X2="1.43" Y2="-0.707"/>
</BotSegments>

TopMask	Text	Mask in Top layer: "Common”; "Open"; "Tented"; "By Paste".
BotMask	Text	Mask in Bottom layer: "Common”; "Open"; "Tented";

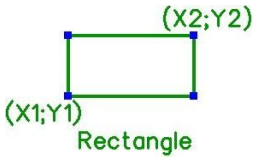
		"By Paste".
TopPaste	Text	Paste in Top layer: "Common"; "Solder"; "No Solder"; "Segments".
BotPaste	Text	Paste in Bottom layer: "Common"; "Solder"; "No Solder"; "Segments".
Segment_Percent	Real	Fill percent for segmented paste mask.
Segment_EdgeGap	Real	Minimum edge clearance for segmented paste mask.
Segment_Gap	Real	Minimum clearance between segments for segmented paste mask.
Segment_Side	Real	Minimum segment side for segmented paste mask.
CustomSwell	Real	Solder Mask Swell.
CustomShrink	Real	Paste Mask Shrink.

3.1.3.1. List of paste segments in Top layer for segmented paste, <TopSegments>

<TopSegments> – start of the list of segments;
{...} – list of segments (Item);
</TopSegments> – end of the list of segments.

3.1.3.1.1. Diagonal coordinates of the paste segments in the Top layer for segmented paste, <Item>

X1	Real	X coordinate of the first diagonal point.
Y1	Real	Y coordinate of the first diagonal point.
X2	Real	X coordinate of the second diagonal point.
Y2	Real	Y coordinate of the second diagonal point.



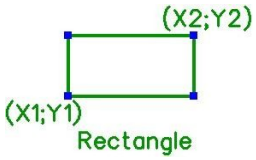
3.1.3.2. List of paste segments in Bottom layer for segmented paste, <BotSegments>

<BotSegments> – start of the list of segments;
{...} – list of segments (Item);

</BotSegments> – end of the list of segments.

3.1.3.2.1. Diagonal coordinates of the paste segments in the Bottom layer for segmented paste, <Item>

X1	Real	X coordinate of the first diagonal point.
Y1	Real	Y coordinate of the first diagonal point.
X2	Real	X coordinate of the second diagonal point.
Y2	Real	Y coordinate of the second diagonal point.



4. Description of Pattern Categories used, <Categories>

<Categories> – start of the list of categories;
{...} – list of categories (Category);
</Categories> – end of the list of categories.

4.1. Category description, <Category>

4.1.1. Category number

<Category Number="0">

Number	Int	Number of the category in the list.

4.1.2. Category name, <Name>

<Name>'SOP, SOIC</Name>

Name	Text	Category name.

4.1.3. List of category types, <Types>

<Types> – start of the list of types;
{...} – list of types (Type);
</Types> – end of the list of types.

4.1.3.1. Type description, <Type>

4.1.3.1.1. Type number

<Type Number="2">

Number	Int	Type number in the list of the current category.

4.1.3.1.2. Type name

<Name>'SOP, SOIC</Name>

Name	Text	Type name.

4.1.3.1.3. List of SubTypes, <SubTypes>

<SubTypes> – start of the list of subtypes;
{...} – list of subtypes (SubType);
</SubTypes> – end of the list of subtypes.

4.1.3.1.3.1. Subtype description, <SubType>

4.1.3.1.3.1.1. Subtype number

<SubType Number="2">

Number	Int	Subtype number in the list of the current type.

4.1.3.1.3.1.2 Subtype name

<Name>'SOP, SOIC</Name>

Name	Text	Subtype name.

5. Pattern description, <Patterns>

<Patterns> – start of the pattern description section;
{...} – pattern description (Pattern);
</Patterns> – end of the pattern description section.

5.1.1. Start of the Pattern description, <Pattern>

<Pattern RefDes="RD" Mounting="Chassis" Width="250" Height="400" Orientation="0" LockTypeChange="N" Type="Free" Float1="0" Float2="0" Float3="0" Int1="0" Int2="0">

RefDes	Text	Pattern RefDes
Mounting	Text	Pattern mounting type: "None"; "Through"; "SMD"; "Chassis"; "Mixed".

Width	Real	Pattern width. X distance between the extreme points of objects.
Height	Real	Pattern height. Y distance between the extreme points of objects.
Orientation	Text	Pattern rotation: "0"; "90"; "180"; "270". Rotation does not imply recounting coordinates of objects by angle, rotation value is used just to edit pattern values if Type ≠ "Free".
LockTypeChange	Bool	Lock of pattern template change: "Y" – ON; "N" – OFF.
Type	Text	Style of the pattern creation template: "Free"; "Circle"; "Lines"; "Square"; "Matrix"; "Rectangle"; "Zig-Zag"; "IPC-7351".
Float1	Real	Style parameter in the pattern creation template: = 0 for Type = Free; = Radius for Type = Circle; = Pad Spacing for Type = Lines; = Pad Spacing for Type = Square; = X Pad Spacing for Type = Matrix; = Pad Spacing for Type = Rectangle; = Pad Spacing for Type = Zig-Zag; = 0 for Type = IPC-7351.
Float2	Real	Style parameter in the pattern creation template: = 0 for Type = Free; = 0 for Type = Circle; = Line Spacing for Type = Lines; = Line Spacing for Type = Square; = Y Pad Spacing for Type = Matrix; = Width for Type = Rectangle; = Line Spacing for Type = Zig-Zag; = 0 for Type = IPC-7351.
Float3	Real	Style parameter in the pattern creation template: = 0 for Type = Free; = 0 for Type = Circle; = 0 for Type = Lines; = 0 for Type = Square;

		= 0 for Type = Matrix; = Height for Type = Rectangle; = 0 for Type = Zig-Zag; = 0 for Type = IPC-7351.
Int1	Int	Style parameter in the pattern creation template: = 0 for Type = Free; = Number of Pads for Type = Circle; = Number of Lines for Type = Lines; = Number of Pads for Type = Square; = Columns for Type = Matrix; = Horizontal Pads for Type = Rectangle; = Number of Pads for Type = Zig-Zag; = 1 for Type = IPC-7351.
Int2	Int	Style parameter in the pattern creation template: = 0 for Type = Free; = 0 for Type = Circle; = Number of Pads for Type = Lines; = 0 for Type = Square; = Rows for Type = Matrix; = Vertical Pads for Type = Rectangle; = 0 for Type = Zig-Zag; = 0 for Type = IPC-7351.

5.1.2. Pattern name, <Name>

<Name>BGA16CP80_4X4_300X300X90B32M</Name>

Name	Text	Pattern name.

5.1.3. Pattern name description, <Name_Description>

<Name_Description>BGA (Ball Grid Array), 16 pin, collapsing ball, 0.8mm column pitch x 0.8mm row pitch, 4 columns x 4 rows, 3mm body length x 3mm body width x 0.9mm height, 0.325mm ball diameter, most density</Name_Description>

Name_Description	Text	Pattern name description.

5.1.4. Pattern unique name, <Name_Unique>

<Name_Unique>ROHM_BGA016W030</Name_Unique>

Name_Unique	Text	Pattern unique name.

5.1.5. Pattern value, <Value>

<Value></Value>

Value	Text	Pattern value.

5.1.6. Pattern Manufacturer <Manufacturer>

<Manufacturer>ROHM Semiconductor</Manufacturer>

Manufacturer	Text	‘Manufacturer’ field of the pattern.

5.1.7. Pattern Datasheet link ,<Datasheet>

<Datasheet>http://datasheets.diptrace.com/rohm/bd6874gsw.pdf</Datasheet>

Datasheet	Text	Pattern Datasheet .

5.1.8. List of Possible Names of pattern, <PossibleNames>

<PossibleNames> – start of the list of possible names;
{...} – list of possible names (PossibleName);
</PossibleNames> – end of the list of possible names.

5.1.8.1. Pattern Possible Name, <PossibleName>

<PossibleName>CSBGA25</PossibleName>

PossibleName	Text	Possible Name of pattern.

5.1.9. Category assigned to pattern, <Category>

5.1.9.1. Category number in the list, <Index>

<Category Index="0">

Index	Int	The number of the category assigned to pattern in the list (4.1).

5.1.9.2. Name of the category assigned to pattern, <Name>

<Name>BGA</Name>

Name	Text	Name of the category assigned to pattern.

5.1.9.3. List of types and subtypes assigned to pattern, <CategoryTypes>

<CategoryTypes> – start of the list of types and subtypes;
{...} – list of types and subtypes (CategoryType);
</CategoryTypes> – end of the list of list of types and subtypes.

5.1.9.3.1. Type and Subtype description, <CategoryType>

5.1.9.3.1.1. Type name and number, <Type>

<Type Index="4">'Pitch 1.27mm</Type>

Index	Int	Type number in the current category list.
	Text	Type name.

5.1.9.3.1.2. SubType name and number, <SubType>

<SubType Index="1">CTT332</SubType>

Index	Int	Subtype number in the current type list.
	Text	SubType name.

5.1.10. Pattern Origin parameters, <Origin>

<Origin X="-1.95" Y="0.35" Cross="Y" Circle="Y" Common="Hide" Courtyard="Show"/>

X	Real	X coordinate of Origin. X distance from pattern center coordinate (0;0) to the Origin coordinate.
Y	Real	Y coordinate of Origin. Y distance from pattern center coordinate (0;0) to the Origin coordinate.
Cross	Bool	"Y" – show cross in the origin.
Circle	Bool	"Y" – show circle in the origin (cross+circle make target).
Common	Text	Show origin in all layers: "Show"; "Hide"; "Show if not center" (not used at the moment).
Courtyard	Text	Show origin in courtyard layer: "Show"; "Hide".

5.1.11. Pattern Recovery Code, <RecoveryCode>

<RecoveryCode Generator="Y" Model="Y">[Y;BGA;1;N;Y;0;0;0;Y;Y;N;N;101;Default;|
0;0;4;0.8;;4;4;;;;;0.9;0.325;;;;;3;-0.1;0.1;2.9;3.1;3;-0.1;0.1;2.9;3.1;0.26|
0;|;;;;;;;;0.325;0.325;0.325||||||||||||||4934475;15461355;16119285;Y]</RecoveryCode>

Generator	Bool	"Y" – use code to generate pattern.
Model	Bool	"Y" – use code to generate 3D model.
[...]	Text	Code set by DT IPC-7351 pattern generator; empty for others.

5.1.12. Pattern groups list, <Groups>

<Groups> – start of the list of groups;
{...} – group descriptions (Group);
</Groups> – end of the list of groups.

5.1.12.1. Pattern group description <Group>

<Group Id="0" X="0.26" Y="1.905"/>

Id	Int	Id (unique number) of the group in pattern.
X	Real	X coordinate of the center of the rectangle enclosing all elements of the group.
Y	Real	Y coordinate of the center of the rectangle enclosing all elements of the group.

5.1.13. List of Additional Fields, <AddFields>

<AddFields> – start of the list of Additional Fields;
{...} – list of Additional Fields (AddField);
</AddFields> – end of the list of Additional Fields.

5.1.13.1. Additional Field Description, <AddField>

5.1.13.1.1. Additional Field Type

<AddField Type="Text">

Type	Text	Additional field value type: "Text"; "Link".

5.1.13.1.2. Additional Field Name (Name), <Name>

<Name></Name>

Name	Text	Additional Field Name.

5.1.13.1.3. Additional Field Value (Value), <Text>

<Text></Text>

Text	Text	Additional Field Value.

5.1.14. Supplier Details, <Suppliers>

<Suppliers>

5.1.14.1. Supplier search string, <PartNumber>

<PartNumber>KPT-2012SYCK</PartNumber>

PartNumber	Text	Exact supplier search string.

5.1.14.2. Manufacturer, <Manufacturer>

<Manufacturer>Kingbright</Manufacturer>

Manufacturer	Text	Manufacturer.

5.1.14.3. Pattern name for search, <Pattern>

<Pattern>0805</Pattern>

Pattern	Text	Pattern name for search.

5.1.14.4. Supplier, <Supplier>

<Supplier>Distrelec</Supplier>

Supplier	Text	Supplier name.

5.1.14.5. Currency, <Currency>

<Currency>eur</Currency>

Currency	Text	Preferred currency.

5.1.15. Default Pad Style, <DefPad>

<DefPad Style="PadT7"/>

Style	Text	Default Pad Style = PadStyle Name in the Pad Style description section, <PadStyles> (Section 3).

5.1.16. Start of the list of pads, <Pads>

<Pads> – start of the list of pads;
{...} – list of pads (Pad);
</Pads> – end of the list of pads.

5.1.16.1.1. Pad description, <Pad>

<Pad Id="1" Style="PadT7" X="-0.7849" Y="5.2299" Angle="0" Locked="N" Side="Top" Group="0">

Id	Int	Pad Id (unique number) in the pattern.
Style	Text	Pad Style (PadStyle Name) from the list <PadStyles> (Section 3).
X	Real	X coordinate. The X distance from the pattern center coordinate (0;0) to the pad center coordinate.
Y	Real	Y coordinate. The Y distance from the pattern center coordinate (0;0) to the pad center coordinate.
Angle	Real	Pad rotation in radians, counterclockwise.
Locked	Bool	Pad change lock: "N" – OFF: pad change allowed; "Y" – ON: pad change locked.
Side	Text	Pad location side: "Top" – on the top side (in the Top layer); "Bottom" – on the bottom side (in the Bottom layer).
Group	Int	Group number inside pattern, see <Pattern_Groups>.

5.1.16.1.2. Pad Number (Number field of pad), <Number>

<Number>A1</Number>

Number	Text	Number field of the pad.

5.1.16.1.3. Pad description (Note field), <Note>

<Note></Note>

Note	Text	Note field of the pad.

5.1.17. Start of the list of pattern shapes and texts <Shapes>

<Shapes> – start of the list of pattern shapes and texts;
{...} – list of pattern shapes and texts (Shape);
</Shapes> – end of the list of pattern shapes and texts.

5.1.17.1. Shape description <Shape>

<Shape Id="1" Type="Text" Locked="N" Layer="Top Silk" FontVector="Y" FontName="Tahoma" FontSize="8" FontScale="1" FontWidth="-2" TextShow="Any Text" HorzAlign="Left" VertAlign="Top" TextAlign="Left" LineSpacing="1.2" Angle="0" AllLayers="N" Group="1">
<Points>
<Item X="-1.3488" Y="-1.5"/>
<Item X="1.6512" Y="1.5"/>
</Points>
<TextLines/>
</Shape>

5.1.17.1.1. Main parameters of Shape

Id	Int	Shape Id (unique number) in the pattern.
Type	Text	Shape type: "Line"; "Rectangle"; "Obround"; "FillRectangle"; "FillObround"; "Arc"; "Text"; "Polyline"; "Polygon".
Locked	Bool	Change lock: "Y" – ON, changes locked; "N" – OFF, changes allowed.
Layer	Text	Shape layer: "Top Silk"; "Top Assy"; "Top Mask"; "Top Paste"; "Bottom Paste"; "Bottom Mask". "Bottom Assy"; "Bottom Silk"; "Top"; "Top Keepout"; "Bottom Keepout"; "Bottom"; "Board Cutout"; "Top Dimension"; "Bottom Dimension"; "Non-Signal"; "Top Courtyard"; "Bottom Courtyard"; "Top Outline"; "Bottom Outline"; "Top Terminals"; "Bottom Terminals".
FontVector	Bool	"Y" – vector font; "N" – True Type font.
FontName	Text	Name of the TrueType font.
FontSize	Int	Font size.
FontScale	Real	Horizontal scale for the vector text.
FontWidth	Real	Line width for vector text: -3 – thin;

		-2 – normal; -1 – bold; >0 – custom, actual value is set here.
TextShow	Text	Displayed text: "Any Text"; "Name"; "RefDes"; "Value"; "Manufacturer"; "Unique Name"; "Datasheet".
HorzAlign	Text	Horizontal text anchor point: "Center"; "Right"; "Left".
VertAlign	Text	Vertical text anchor point: "Center"; "Bottom"; "Top".
TextAlign	Text	Text alignment: "Center"; "Right"; "Left".
LineSpacing	Real	Line spacing for multiline text.
Angle	Real	Angle of the text in radians, counterclockwise.
LineWidth	Real	Custom Line width for shapes where lines exist (not filled shapes, not text). The parameter is absent if the ‘Use common line width for layer’ option is enabled.
AllLayers	Bool	"Y" – shape is located in all signal layers, applied to signal and keepout shapes.
Group	Int	Group number inside pattern, see <Pattern_Groups> section.

5.1.17.1.2. List of lines of "Text" shape, <Lines>

<Lines> – start of the list of lines;
{...} – list of lines (Item);
</Lines> – end of the list of lines.

5.1.17.1.2.1. Lines of "Text" shape, <Item>

<Item>Segm</Item>

Item	Text	Text line.

5.1.17.1.3. List of shape points, <Points>

<Points> – start of the list of shape points;
{...} – list of shape points (Item);
</Points> – end of the list of shape points.

5.1.17.1.3.1. Shape point coordinates, <Item>

<Item X="-31.4367" Y="23.9103"/>

X	Real	X coordinate.
Y	Real	Y coordinate.

5.1.18. List of mounting holes <Holes>

<Holes> – start of the list of mounting holes;
{...} – list of mounting holes (Hole);
</Holes> – end of the list of mounting holes.

5.1.18.1. Mounting hole description, <Hole>

<Hole Id="1" Locked="Y" X="-7.1982" Y="1.3482" Diam="2" HoleDiam="1" Group="0"/>

Id	Int	Id (unique number) of the hole in the pattern.
Locked	Bool	Hole change lock: "N" – OFF: hole change allowed; "Y" – ON: hole change locked.
X	Real	X coordinate. X distance from the pattern centre coordinate (0;0) to the hole centre coordinate.
Y	Real	Y coordinate. Y distance from the pattern centre coordinate (0;0) to the hole centre coordinate.
Diam	Real	Keepout area diameter.
HoleDiam	Real	Hole diameter.
Group	Int	Group number inside pattern, see <Pattern_Groups>.

5.1.19. List of dimensions, <Dimensions>

<Dimensions> – start of the list of dimensions;
{...} – list of dimensions (Dimension);
</Dimensions> – end of the list of dimensions.

5.1.19.1. Dimension description, <Dimension>

5.1.19.1.1. Dimension main parameters, <Dimension>

<Dimension Locked="N" Type="Horizontal" Connected1="Pad" Object1="0" SubObject1="1" Point1="0" Connected2="None" Object2="0" SubObject2="0" Point2="0" Layer="Top Dimension"

X1="-5.9282" Y1="5.1582" X2="-2.1182" Y2="5.1582" XD="-5.9282" YD="7.6982" ArrowSize="0.6667" Units="Common" FontVector="Y" FontName="Tahoma" FontSize="2" FontScale="1" FontWidth="-2" ShowUnits="N" Angle="0" ExternalRadius="0" PointerMode="0" Group="0"/>

Locked	Bool	Resize lock: "N" – OFF: resizing allowed; "Y" – ON: resizing locked.
Type	Text	Dimension Type: "Horizontal"; "Vertical"; "Free"; "Radius"; "Pointer".
Connected1	Text	The type of the object to which the first point of the dimension is attached: "None"; "Pad"; "Shape"; "Hole"; "Terminal".
Object1	Int	For Connected1="Terminal" – sequence number of the pad in the list. See <Pads>.
SubObject1	Int	Sequence number of the object in the corresponding array.
Point1	Int	Number of the object anchor point to which the first dimension point is connected.
Connected2	Text	The type of object to which the second dimension point is connected: "None"; "Pad"; "Shape"; "Hole"; "Terminal".
Object2	Int	For Connected2="Terminal" – sequence number of the pad in the list. See <Pads>.
SubObject2	Int	Sequence number of the object in the corresponding array.
Point2	Int	Number of the object anchor point to which the second dimension point is connected.
Layer	Text	Dimension layer: "Top Dimension"; "Bottom Dimension".
X1	Real	The X coordinate of the first dimension point. The X distance from the pattern centre coordinate (0;0) to the first dimension point.

Y1	Real	The Y coordinate of the first dimension point. The Y distance from the pattern centre coordinate (0;0) to the first dimension point.
X2	Real	The X coordinate of the second dimension point. The X distance from the pattern centre coordinate (0;0) to the second dimension point.
Y2	Real	The Y coordinate of the second dimension point. The Y distance from the pattern centre coordinate (0;0) to the second dimension point.
XD	Real	The X coordinate of the first point of the dimension line. The X distance from the pattern centre coordinate (0;0) to the first dimension point.
YD	Real	The Y coordinate of the first point of the dimension line. The Y distance from the pattern centre coordinate (0;0) to the first dimension point.
ArrowSize	Real	Dimension line arrow length.
Units	Taxt	Dimension measuring units: "Common"; "inch"; "mil"; "mm".
FontVector	Bool	"Y" – vector font; "N" – True Type font.
FontName	Text	Name of TrueType font.
FontSize	Int	Font size.
FontScale	Real	Horizontal scale for vector text.
FontWidth	Real	Line width for vector text: -3 – thin; -2 – normal; -1 – bold; >0 – custom, actual value is set here.
ShowUnits	Bool	"Y" – show measurement units; "N" – do not show measurement units.
Angle	Real	Angle of the dimension line.
ExternalRadius	Int	Arc direction, actual for Type="Radius": 1 – inside circumference; -1 – outside circumference; 0 – for other Type.
PointerMode	Int	Actual for Type="Pointer". Show: 0 – Coordinates; 1 – Text.
Group	Int	Group number inside pattern, see <Pattern_Groups>.

5.1.19.1.2. Text for Pointer

<PointerText>DimComment</PointerText>

PointerText	Text	Pointer text, if Type="Pointer".

5.1.20. Pattern 3D model, <Model3D>

<Model3D Mirror="N" NoSearch="N" Units="Wings" IPC_XOff="-0.483393" IPC_YOff="0.103078" AutoHeight="0" AutoColor="4934475" Type="File" KeepPins="N">

Mirror	Bool	"Flip by Z Axis" check box status: "Y" – enabled; "N" – disabled.
NoSearch	Bool	"Turn Off Automatic Search" check box status: "Y" – enabled; "N" – disabled.
Units	Text	Units used for loading model file: "mm" – meters; "mil" – mils; "inch" – inch; "Wings" – Wings system.
IPC_XOff	Real	Shift of IPC-7351 model in X-direction, changed automatically when pattern is centered/edited.
IPC_YOff	Real	Shift of IPC-7351 model in Y-direction, changed automatically when pattern is centered/edited.
AutoHeight	Real	Height of the model if it is built by component outline.
AutoColor	Int	Color of the model built by component outline.
Type	Int	Model type: "File" – loading model from file; "IPC-7351" – IPC-7351 model (generated automatically by IPC recovery code); "Outline" – generated by component outline with specified autoheight.
KeepPins	Bool	"Keep All Model Pins" checkbox status: "Y" – enabled (keep all pins of IPC7351 model); "N" – disabled (remove pins outside pads).

5.1.20.1. Model filename, <Filename>

<Filename>
<Path>C:\Program Files (x86)\DipTrace\models3d\DIP Peg Leads\dip-10(16)s.step</Path>
<Var>C:\Program Files (x86)\DipTrace\models3d\DIP Peg Leads\dip-10(16)s.step</Var>
</Filename>

Path	Text	Name of the model file.
Var	Text	The name of the model file, expressed as an environment variable, if any.

5.1.20.2. Model rotation, <Rotate>

<Rotate X="0" Y="0" Z="0"/>

X	Real	The angle of rotation of the model in X-direction (in degrees).
Y	Real	The angle of rotation of the model in Y-direction (in degrees).
Z	Real	The angle of rotation of the model in Z-direction (in degrees, negative value of the set one).

5.1.20.3. Model shift, <Offset>

<Offset X="0" Y="0" Z="0"/>

X	Real	Model offset in X-direction.
Y	Real	Model offset in Y-direction.
Z	Real	Model offset in Z-direction (negative value of the set one).

5.1.20.4. Model scale, <Zoom>

<Zoom X="1" Y="1" Z="1"/>

X	Real	X-axis model scaling factor.
Y	Real	Y-axis model scaling factor.
Z	Real	Z-axis model scaling factor.