CSK - CAD Systeme Kluwetasch

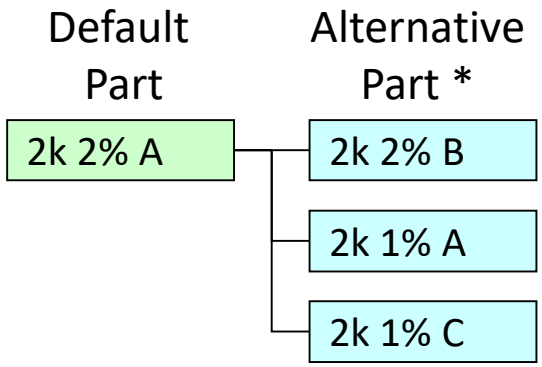
MRP-Link Alternates vs. Collective Numbers

Agenda

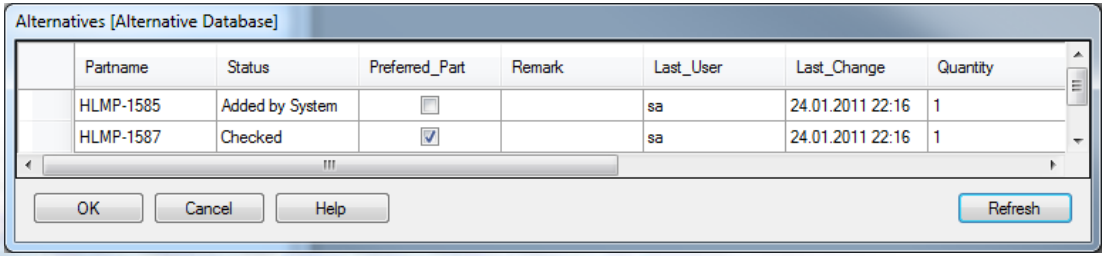
- Alternate Part definition
- Collective Numbers definition
- Alternate Parts vs. Collective Parts
- Find the Parent Part
- Set the Parent Part
- The result of Parent Part
- Find the Child Part
- The result for the relation
- The Parent Part for the next Child
- The result for the second relation
- Find parts with Alternates
- Show the parts with Alternates
- The result for our relation setting
- How to use Alternates in a BOM
- How to add All Alternates into the BOM
- The result of Add Alternates into the BOM
- Required synchronize after Add Alternates
- Check the added Alternates
- Check the Preferred Parts
- Select only Fitted Parts
- As result the Preferred Parts
- Set Preferred Parts to fitted
- Alternate Database privileges
- Delete an Alternate Part

- The different Collective Numbers
- Add all Collective Numbers
- To create a BOM for only one supplier
- Delete all Collective Numbers in the BOM

Alternate Part Definition

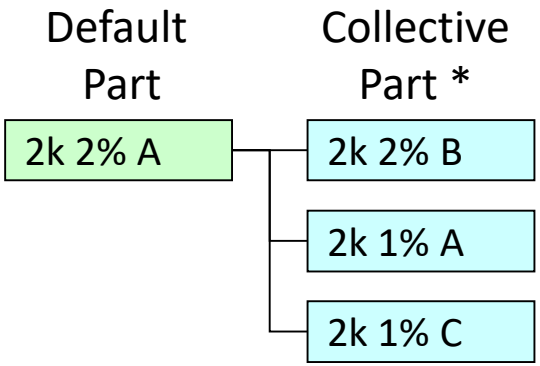


- Define any number of Alternative Parts /second sources
- Approve relations between Alternative Parts
- Optional bidirectional declarations
- Supports recursive alternative declarations
- Define Preferred Parts
- Using defined Alternatives in BOM-Management, Parts Stock and Library Searcher



Collective Numbers Definition

- Define any number of Collective Parts
- Approve relations between Collective Parts
- With Multi Cluster Index

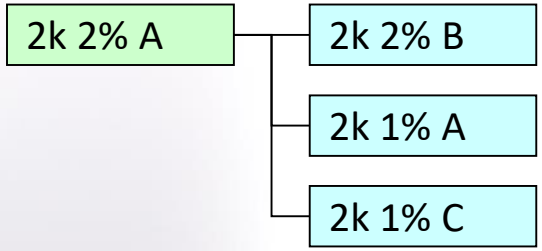


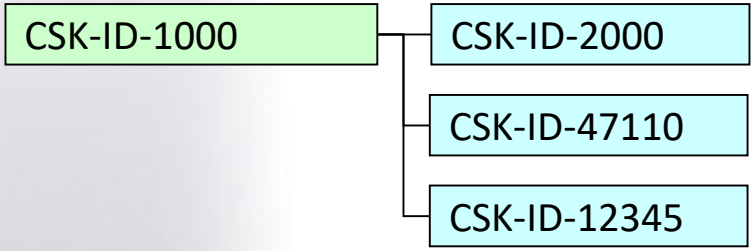
A	B	C	D	E	F	G	H
Partnumber	EMS-Name	EMS-Partnumber	Class	Value	Supplier	Supplier-MPN	Description
10000000			Capacitor	2.2nF	TDK	C1608X7R2A222K	2.2nF, TDK, C1608X7R2A222K
10000000	Bosch	8902211808	Capacitor	2.2nF	TDK	C1608X7R2A222K	
10000000	Hella	n/a	Capacitor	2.2nF	TDK	C1608X7R2A222K	
10000000	Flextronics	4816-00775	Capacitor	2.2nF	TDK	C1608X7R2A222K	
10000001			Resistor	10k	ROHM	MCR03..PFX1002	10k, ROHM, MCR03..PFX1002
10000001	Bosch	1267360318	Resistor	10k	SN	MCR03..PFX1002	10k, KOA EUROPE GMBH, RK73H
10000001	Hella	n/a	Resistor	10k	VIS	RVCS45242-shjh	
10000001	Flextronics	4816-00663	Resistor	10k	ROHM	MCR03..PFX1002	
10000002			Integrated Circuit		INF	TLE6251-2G	, INF, TLE6251-2G
10000002	Bosch	8905505876	Integrated Circuit		INF	TLE6251-2G	TLE6251-2G
10000002	Hella		Integrated Circuit				
10000002	Flextronics	4816-03577	Integrated Circuit		Infineon	TLE6251-2G/SP0004	CAN TRANSCEIVER TLE6251G SC
018863			Connector		SFS		
018863	Flextronics		Connector		SFS	?????	
2268310123			Connector		SFS	2268310123	
2268310123	Bosch	2268310123	Connector		SFS		

Alternate Parts vs. Collective Parts

Alternate Parts:

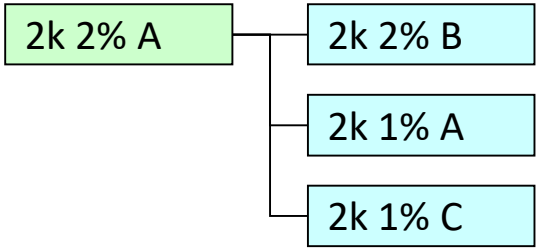
At first glance they look the same.

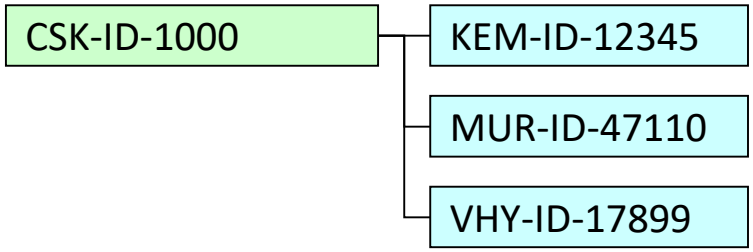




An Alternate Part is a replacement from an **own** part number against another **own** part number.

Collective Parts:

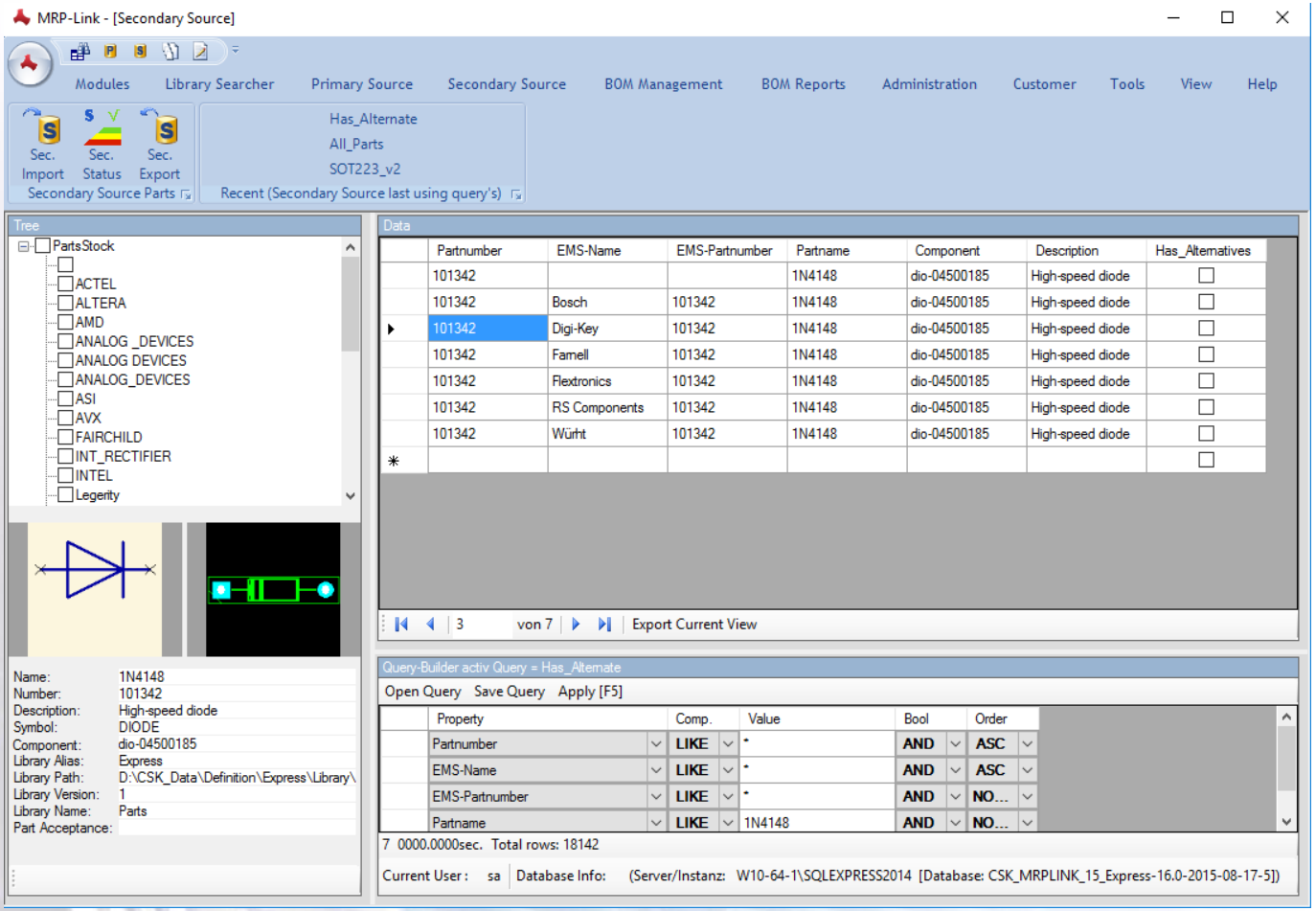




A Collective Part is a replacement from an **own** part number against another **external supplier** part number.

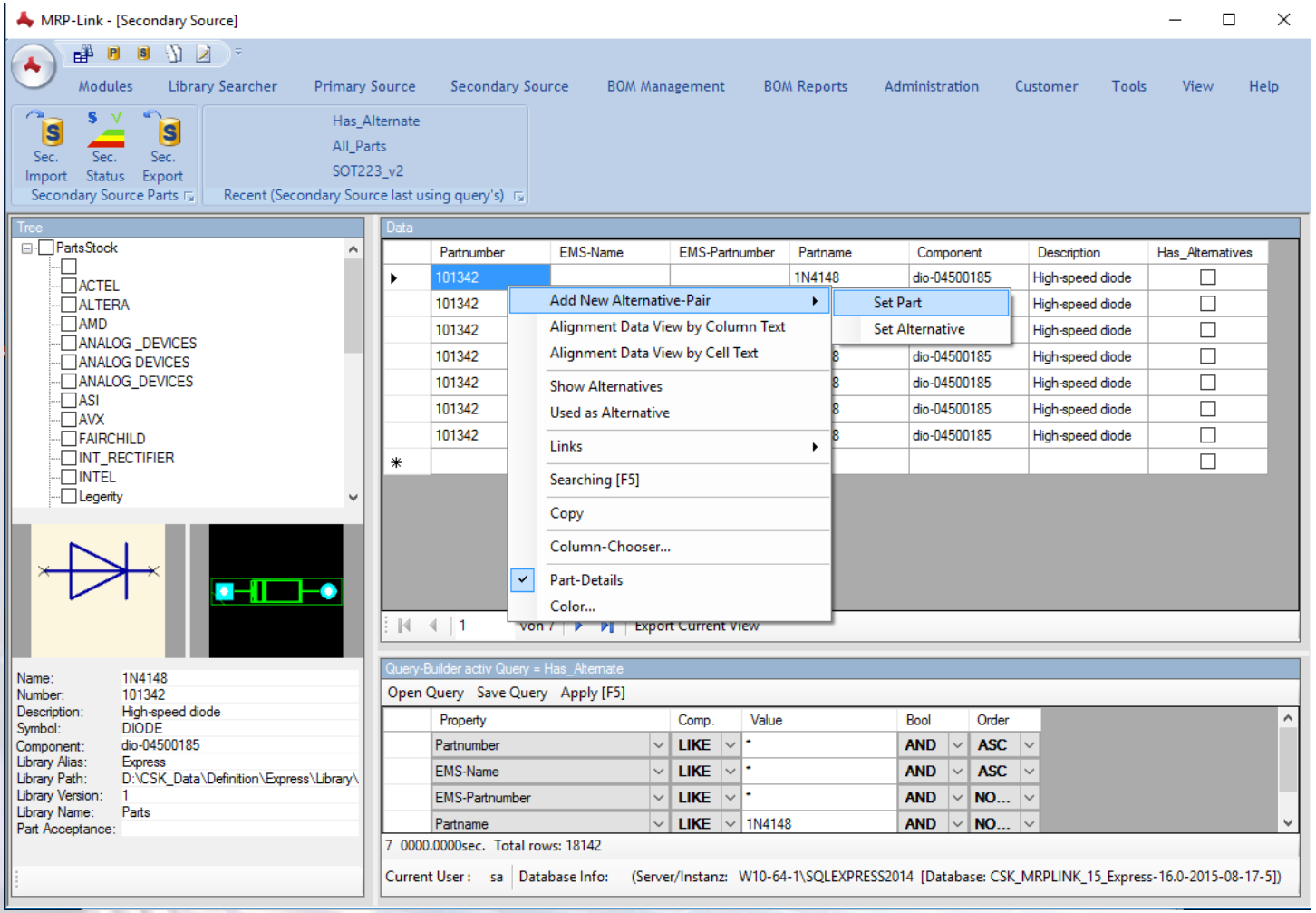
Find The Parent Part

The parent part is the 1N4184.



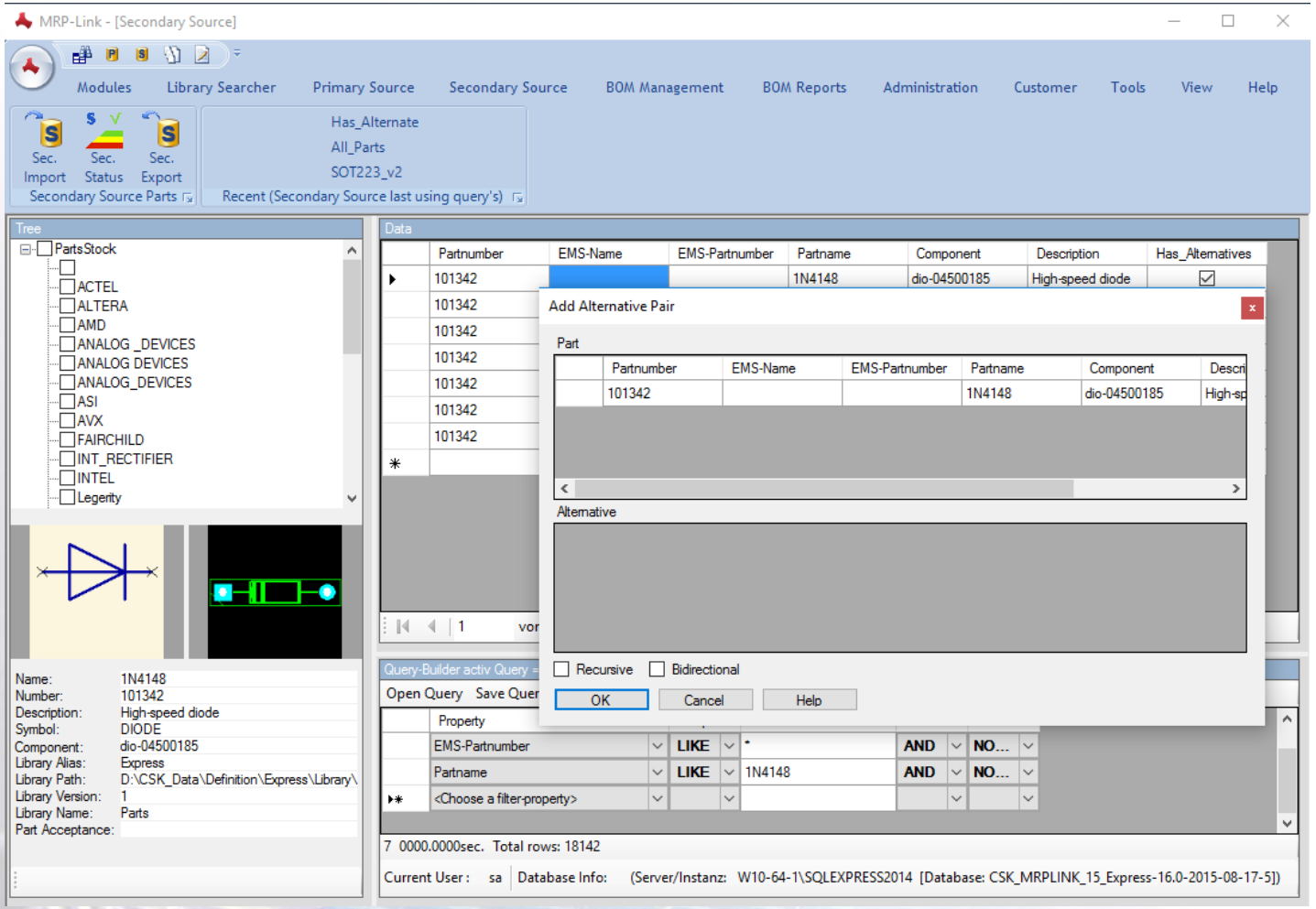
Set The Parent Part

How to set the parent part.



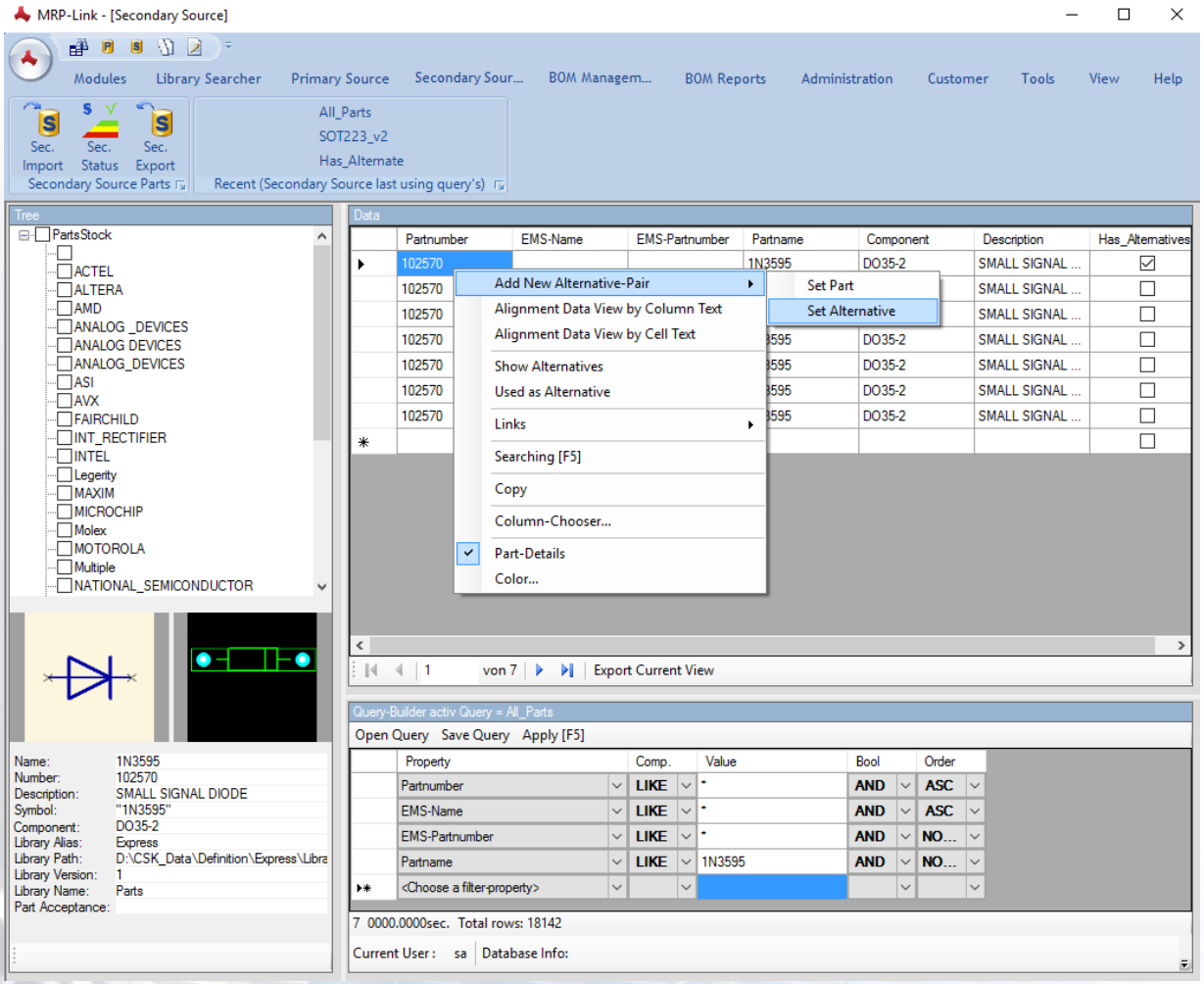
The Result Of Parent Part

The parent part is now selected.



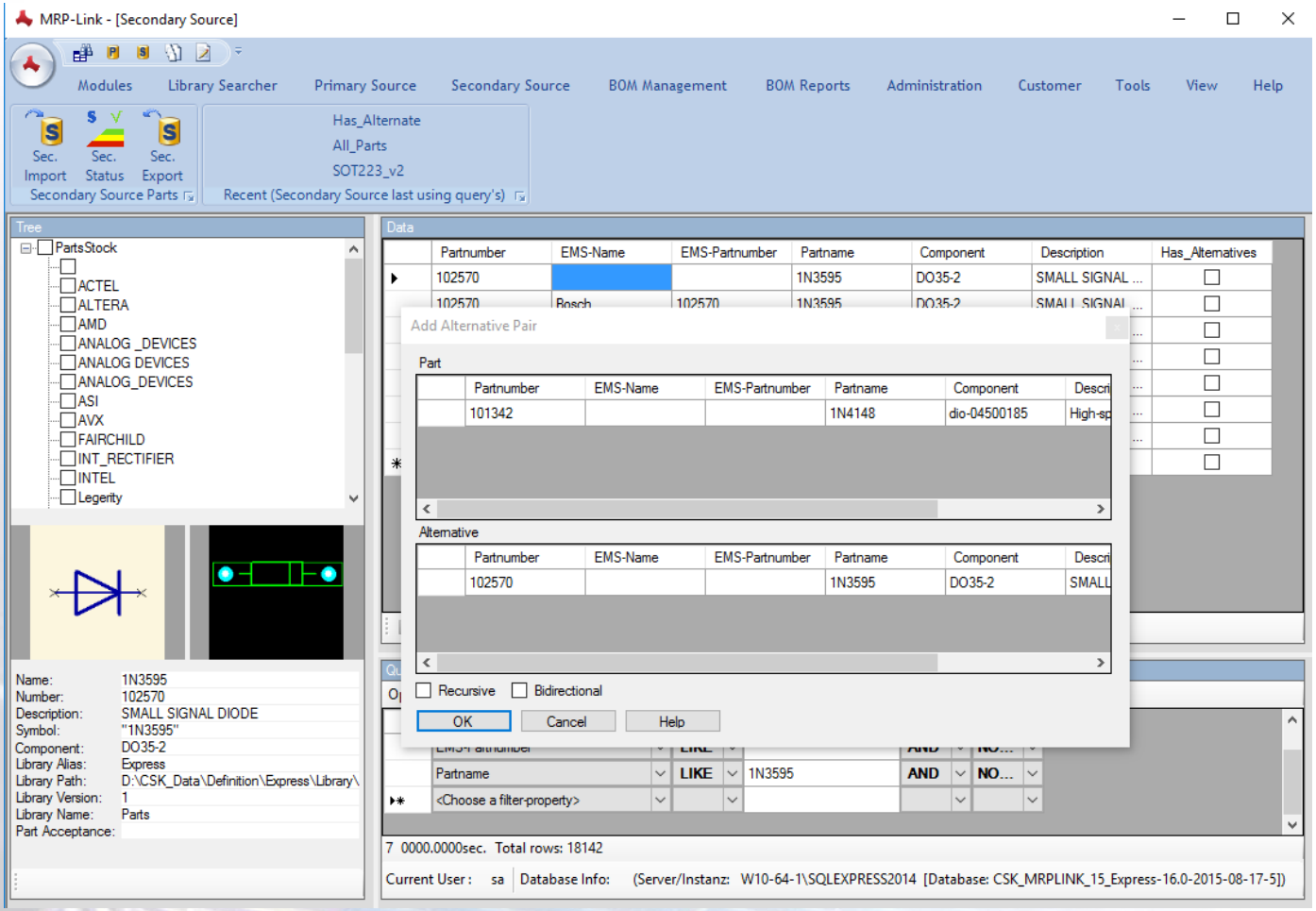
Find The Child Part

The child part is the 1N3595.



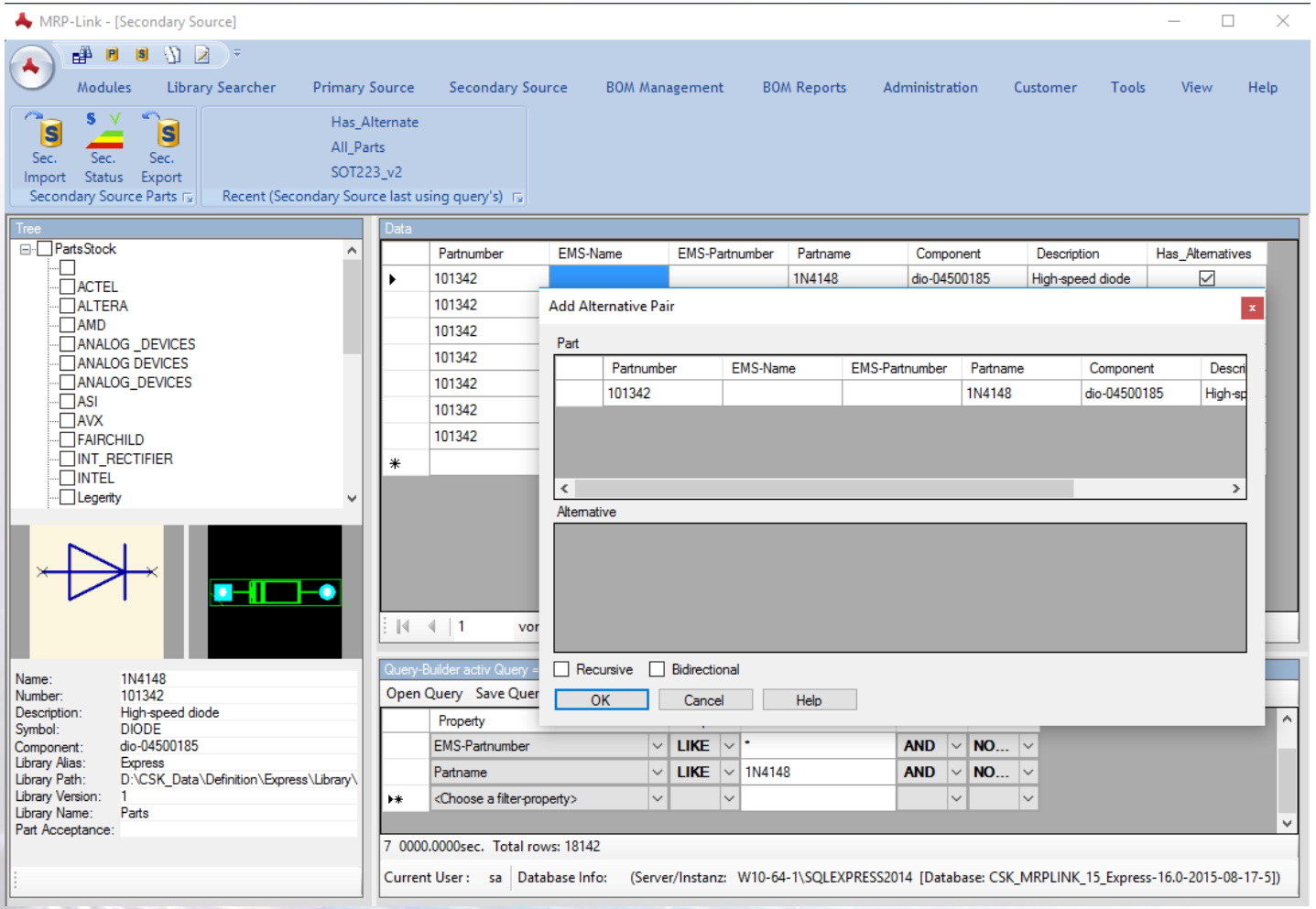
The Result For The Relation

The result is simply an unidirectional relation between the parent part 1N4148 and the child part 1N3595 as Alternate.



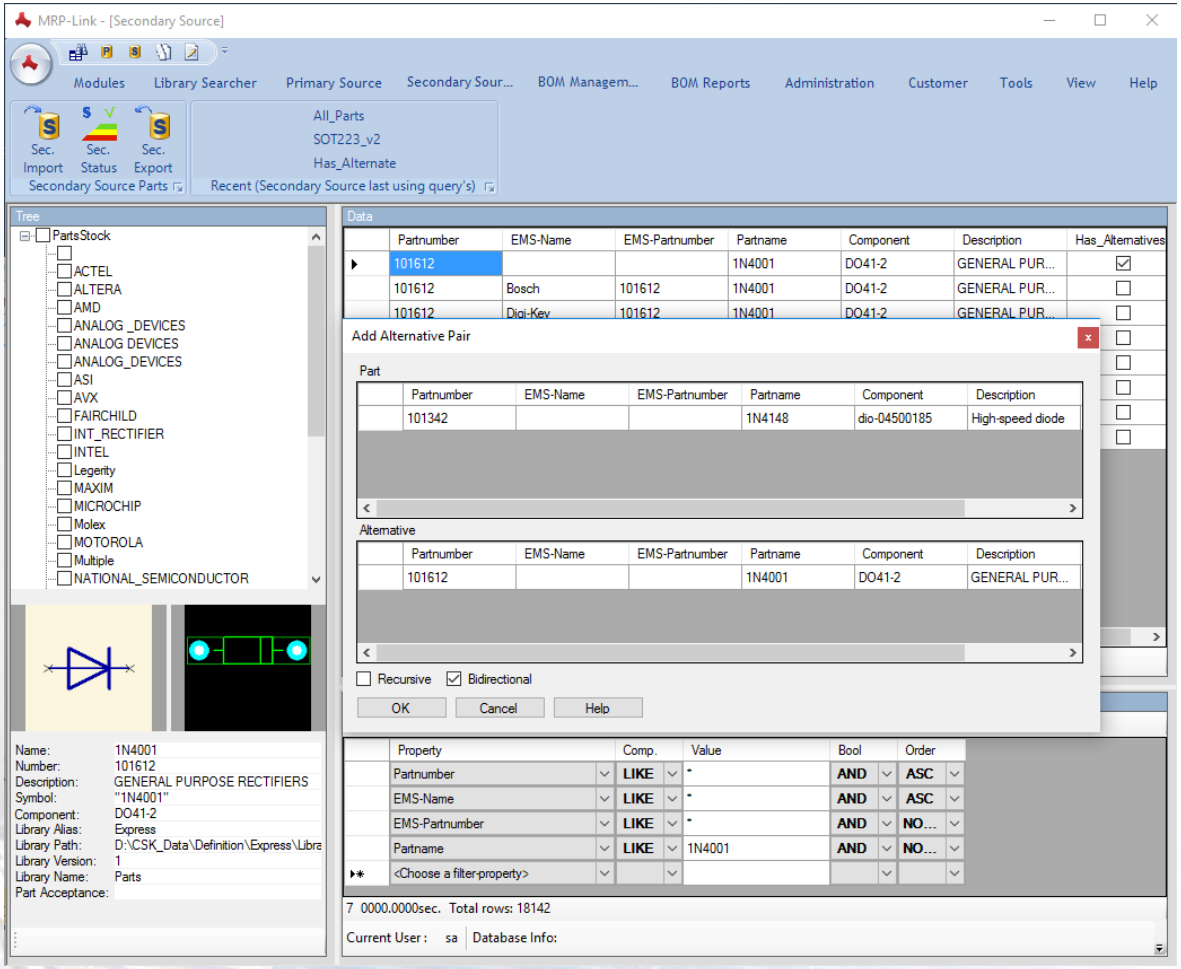
The Parent Part For The Next Child

The parent part is now selected.



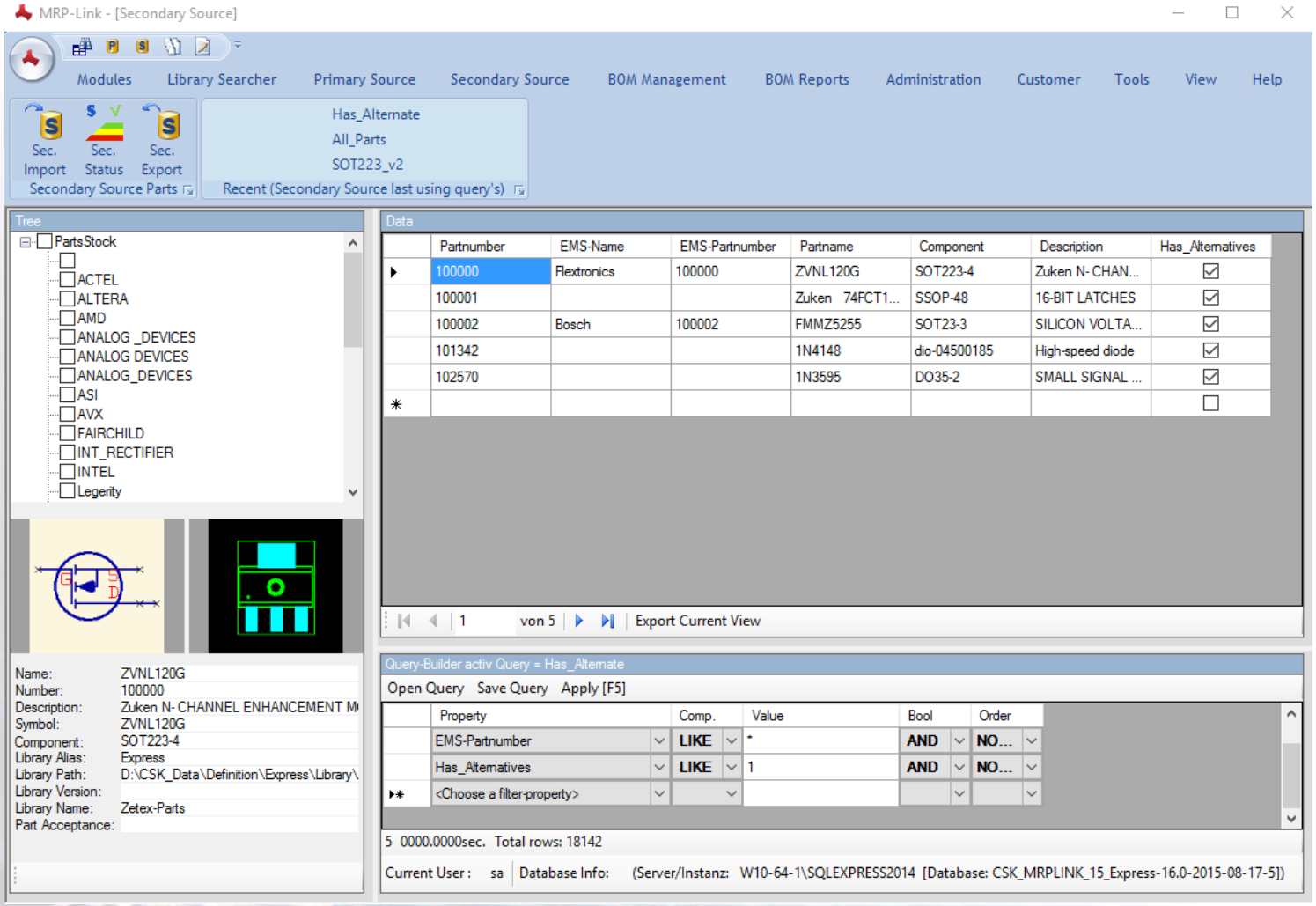
The Result For The Second Relation

The result is simply a bidirectional relation between the parent part 1N4148 and the child part 1N4001 as Alternate.



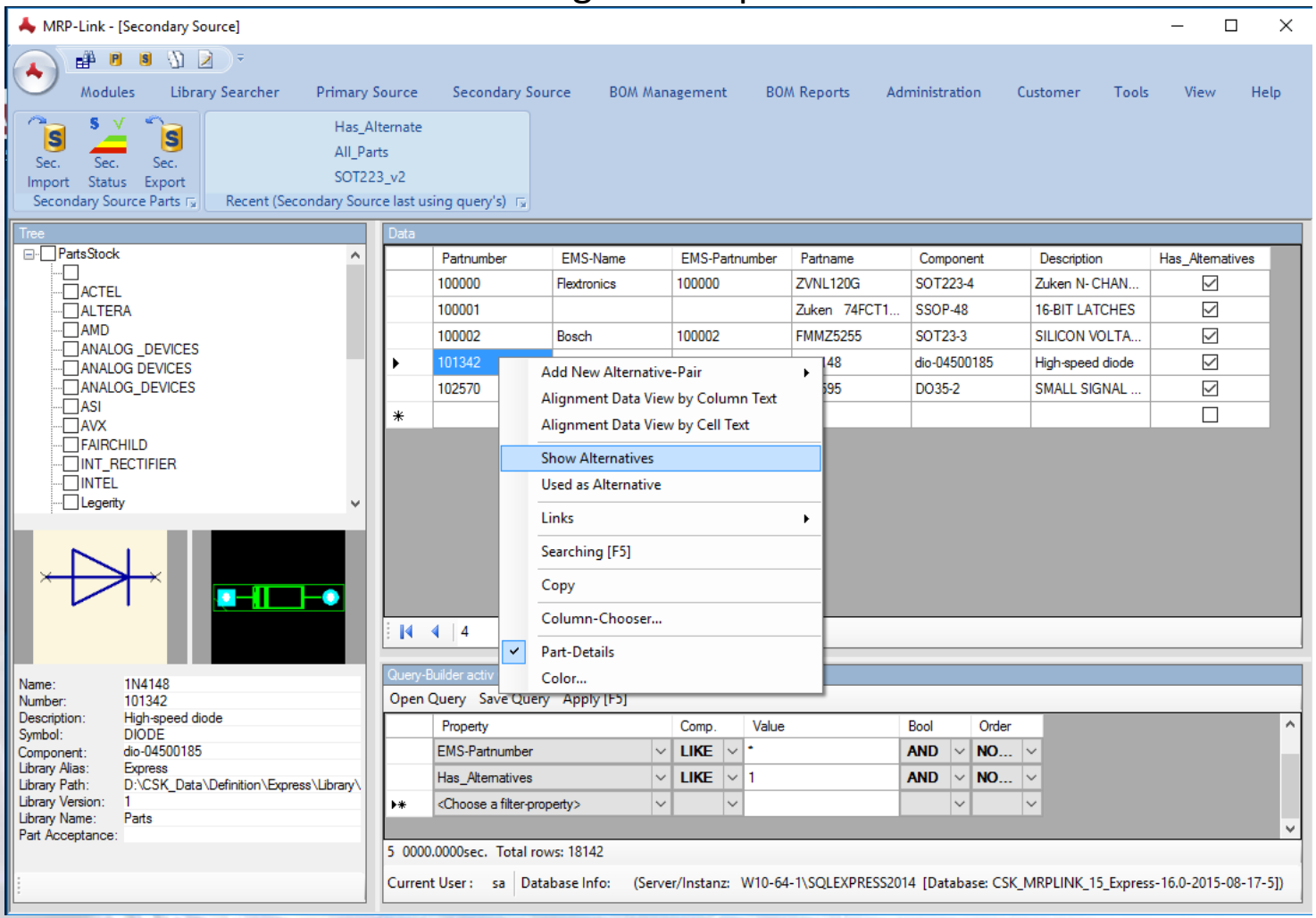
Find Parts With Alternates Parts

The way how to find parts which has alternates defined.



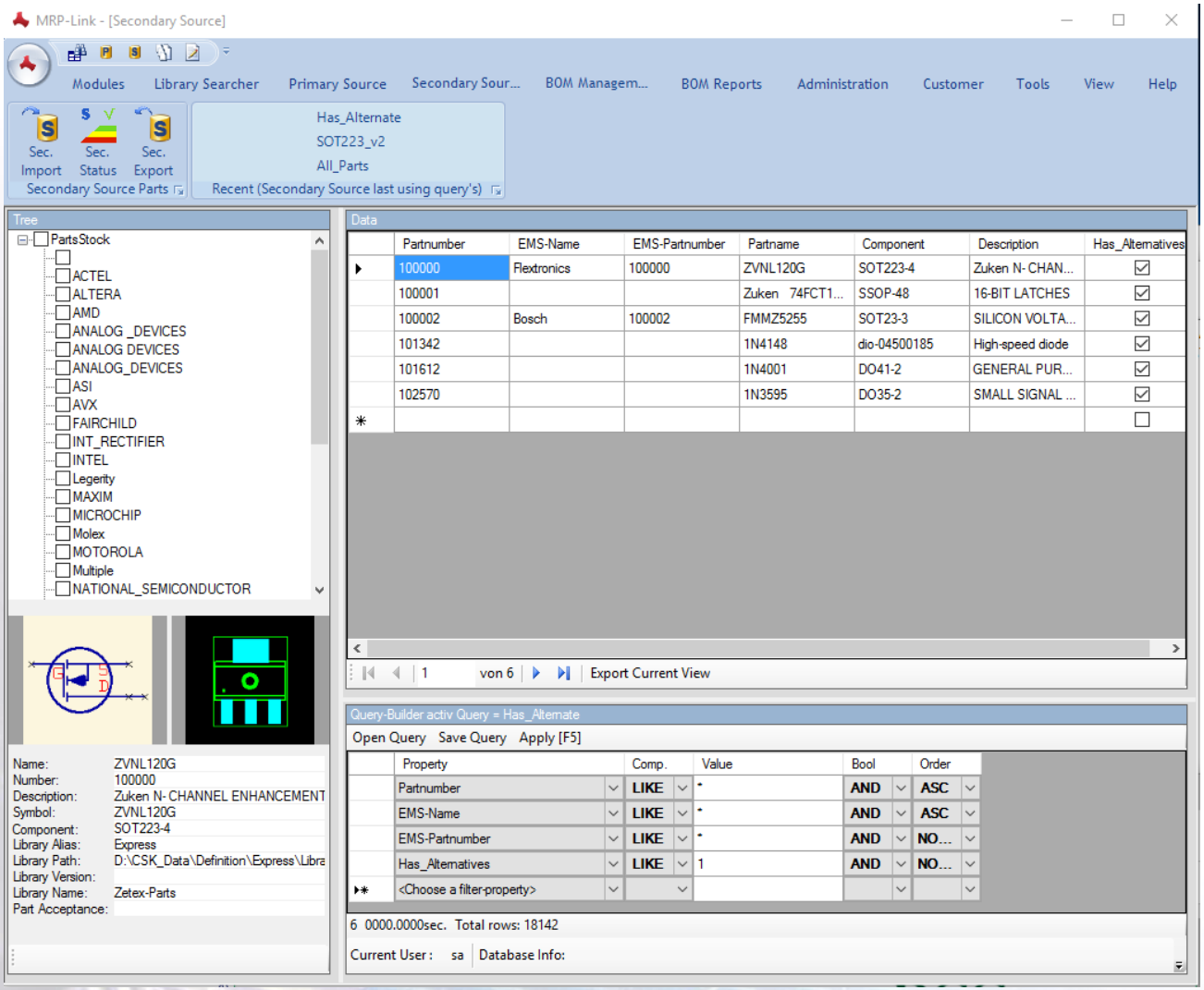
Show The Parts With Alternates

Show the content of the relation settings of this part.



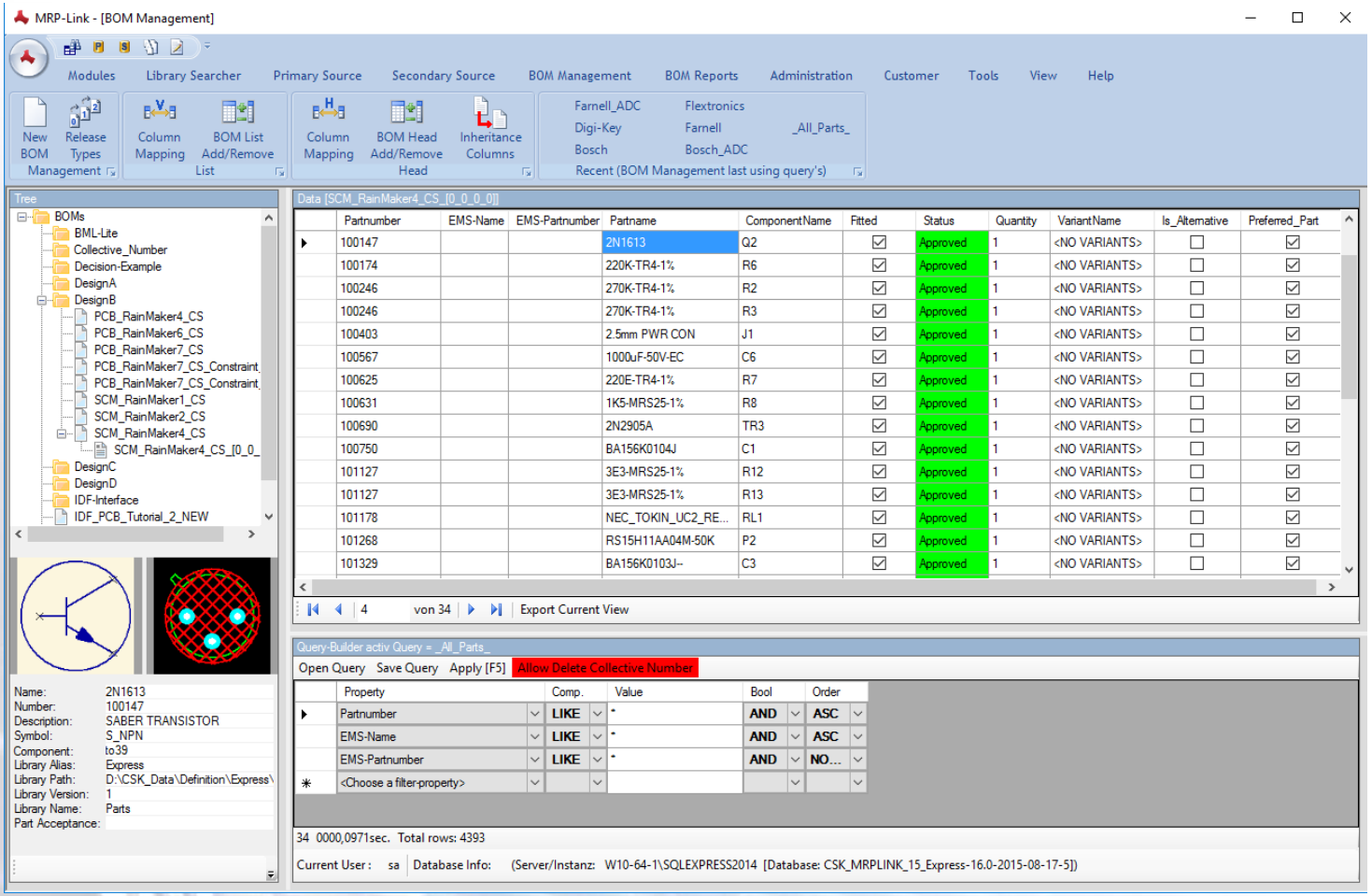
The Result For Our Relation Setting

The Parts 1N4148, 1N4001 and 1N3595 have Alternates.



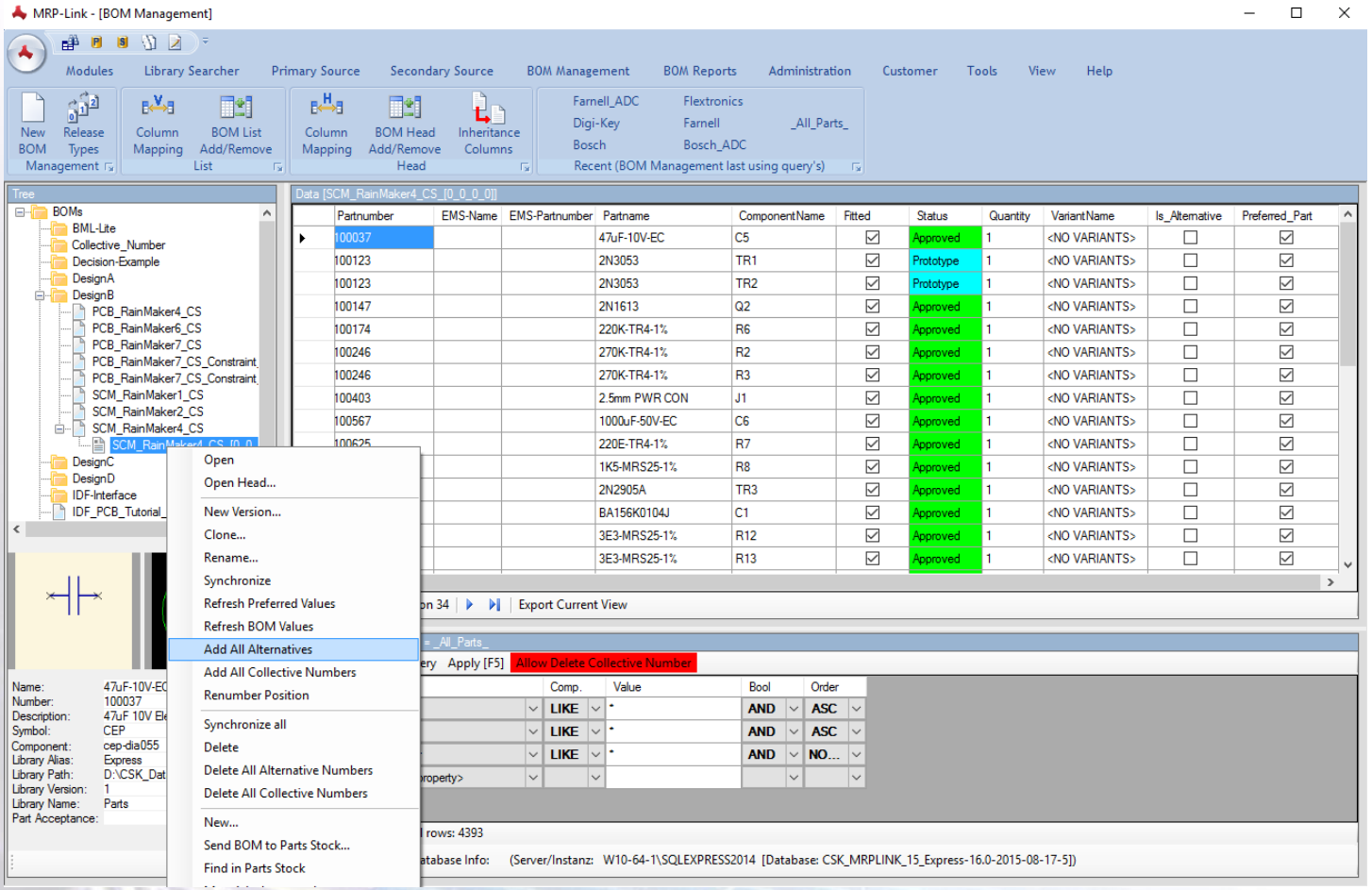
How To Use Alternates In A BOM

We use this Rainmaker SCM from CADSTAR Express as BOM.



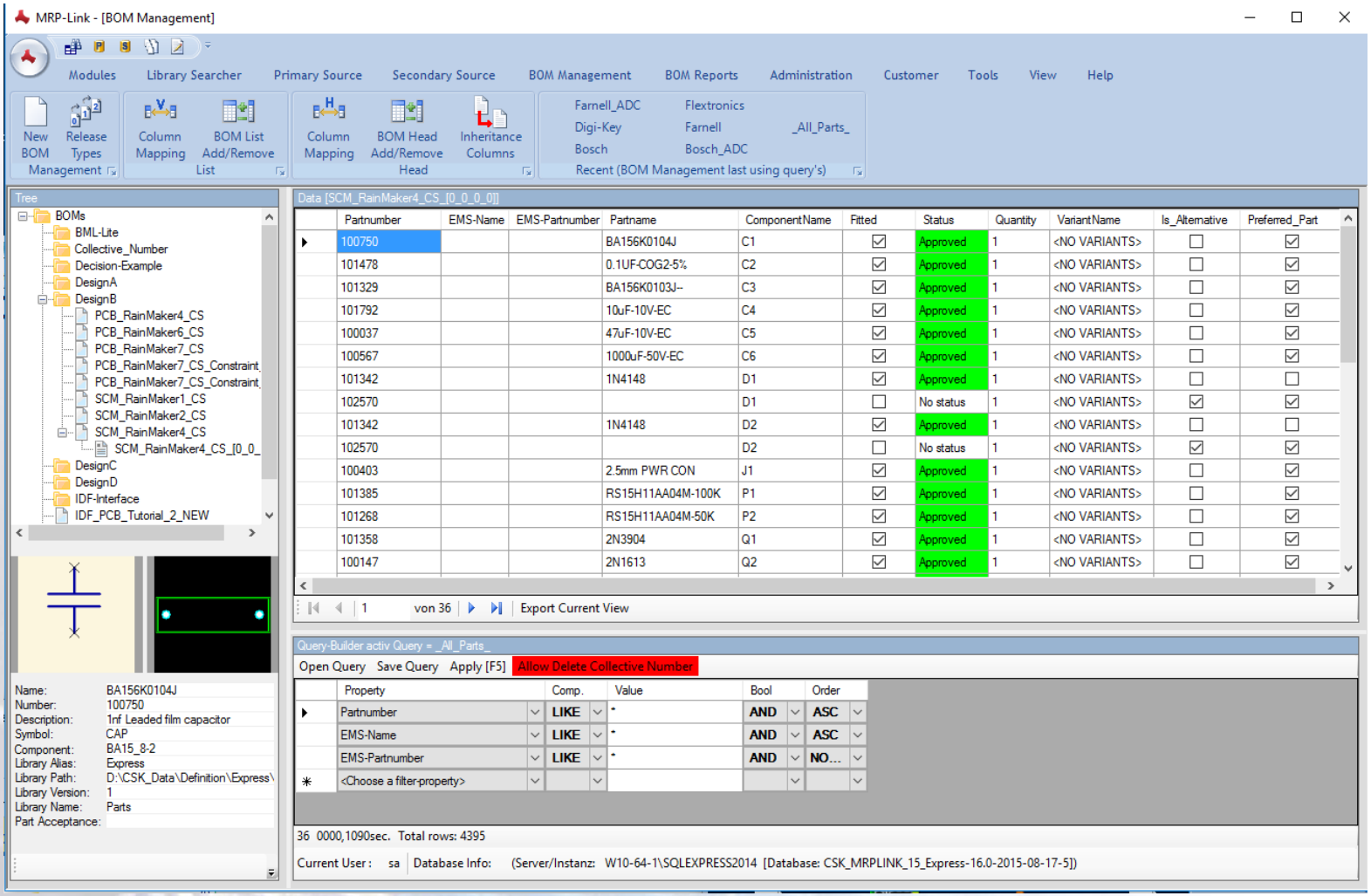
How To Add All Alternates Into The BOM

In this case we use the menu from the RMB of the tree to get all Alternates with only one mouse click.



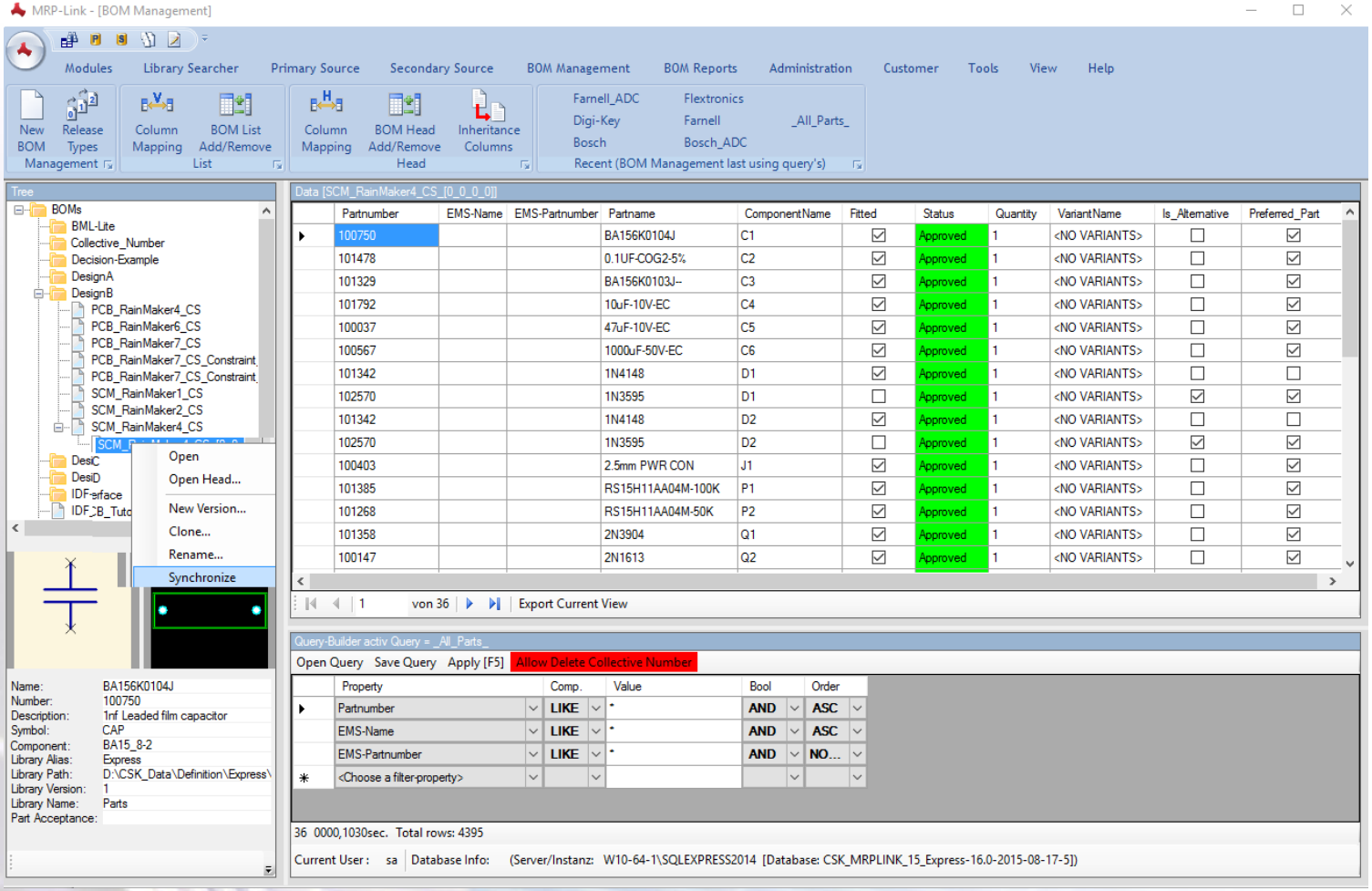
The Result Of Add Alternates Into The BOM

Now we have the D1 and D2 twice as original and as Alternate.



Required Synchronise After Add Alternates

It is necessary to synchronise the parts with the primary source.



Check The Added Alternates

The system added only checked valid Alternates into our BOM.

Data [SCM_RainMaker4_CS_[0_0_0_0]]

Partnumber	EMS-Name	EMS-Partnumber	Partname	ComponentName	Fitted	Status	Quantity	VariantName	Is_Alternative	Preferred_Part
100750			BA156K0104J	C1	☑	Approved	1	<NO VARIANTS>	☐	☑
101478			0.1UF-COG2-5%	C2	☑	Approved	1	<NO VARIANTS>	☐	☑
101329			BA156K0103J--	C3	☑	Approved	1	<NO VARIANTS>	☐	☑
101792			10uF-10V-EC	C4	☑	Approved	1	<NO VARIANTS>	☐	☑
100037			47uF-10V-EC	C5	☑	Approved	1	<NO VARIANTS>	☐	☑
100567			1000uF-50V-EC	C6	☑	Approved	1	<NO VARIANTS>	☐	☑
101342			1N4148	D1	☑	Approved	1	<NO VARIANTS>	☐	☐
102570			1N3595	D1	☐	Approved	1	<NO VARIANTS>	☑	☑
101342			1N4148	D2	☑	Approved	1	<NO VARIANTS>	☐	☐
102570			1N3595	D2	☐	Approved	1	<NO VARIANTS>	☑	☑
100403			2.5mm PWR CON	J1	☑	Approved	1	<NO VARIANTS>	☐	☑
101385			RS15H11AA04M-100K	P1	☑	Approved	1	<NO VARIANTS>	☐	☑

This is the setting for the relation between all parts.
The part 1N4001 is unchecked and therefore not valid as Alternate.

Alternatives [Secondary Source]

Partnumber	EMS-Name	EMS-Partnumber	Status	Preferred_Part	Remark	Partname
102570			Checked	☑		1N3595
101342			Checked	☐		1N4148
101612			Unchecked	☐	Prototype	1N4001
*				☐		

OK | Cancel | Delete Relation | Help | Refresh

Check The Preferred Parts

The system set directly the current Preferred Part.

Data [SCM_RainMaker4_CS_[0_0_0_0]]

	Partnumber	EMS-Name	EMS-Partnumber	Partname	ComponentName	Fitted	Status	Quantity	VariantName	Is_Alternative	Preferred_Part
▸	100750			BA156K0104J	C1	☑	Approved	1	<NO VARIANTS>	☐	☑
	101478			0.1UF-COG2-5%	C2	☑	Approved	1	<NO VARIANTS>	☐	☑
	101329			BA156K0103J--	C3	☑	Approved	1	<NO VARIANTS>	☐	☑
	101792			10uF-10V-EC	C4	☑	Approved	1	<NO VARIANTS>	☐	☑
	100037			47uF-10V-EC	C5	☑	Approved	1	<NO VARIANTS>	☐	☑
	100567			1000uF-50V-EC	C6	☑	Approved	1	<NO VARIANTS>	☐	☑
	101342			1N4148	D1	☑	Approved	1	<NO VARIANTS>	☐	☐
	102570			1N3595	D1	☐	Approved	1	<NO VARIANTS>	☑	☑
	101342			1N4148	D2	☑	Approved	1	<NO VARIANTS>	☐	☐
	102570			1N3595	D2	☐	Approved	1	<NO VARIANTS>	☑	☑
	100403			2.5mm PWR CON	J1	☑	Approved	1	<NO VARIANTS>	☐	☑
	101385			RS15H11AA04M-100K	P1	☑	Approved	1	<NO VARIANTS>	☐	☑

This is the setting for the relation between all parts.
This 1N3595 is the Preferred Part for this alternate group.

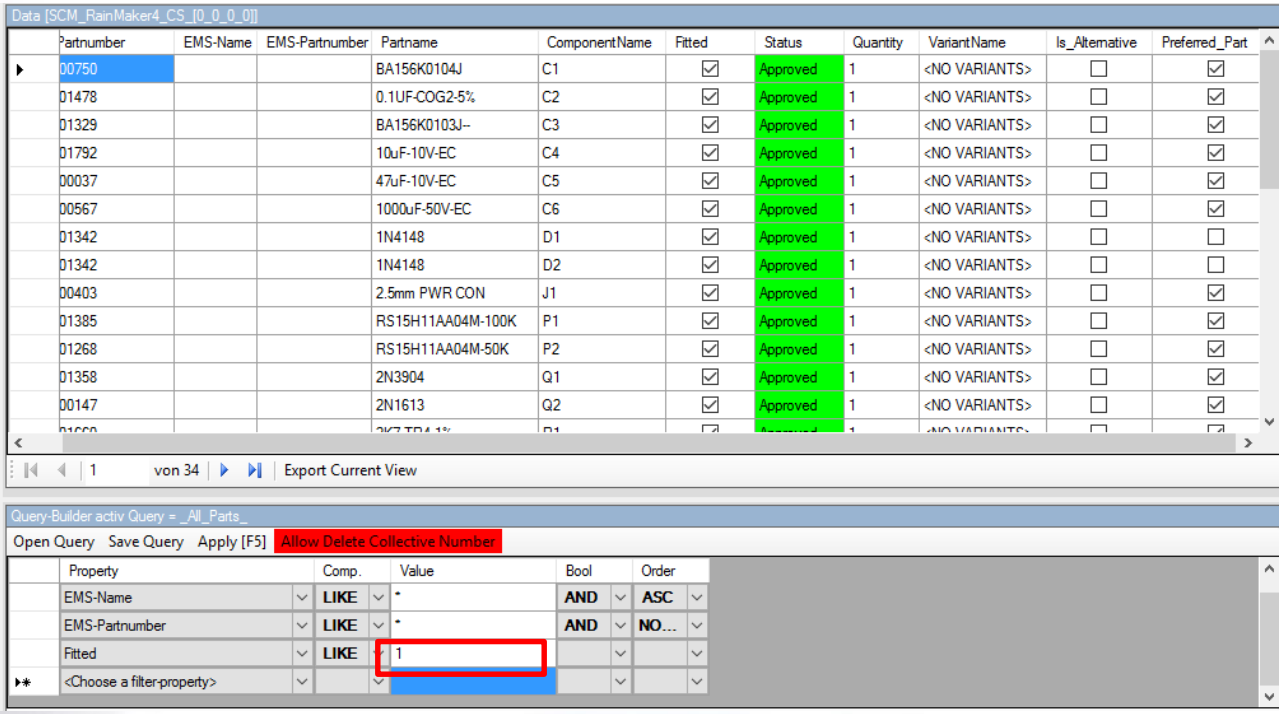
Alternatives [Secondary Source]

	Partnumber	EMS-Name	EMS-Partnumber	Status	Preferred_Part	Remark	Partname
	102570			Checked	☑		1N3595
	101342			Checked	☐		1N4148
	101612			Unchecked	☐	Prototype	1N4001
*					☐		

OK | Cancel | Delete Relation | Help | Refresh

Select Only Fitted Parts

In case you wish that the result BOM has to contain only the fitted parts from the SCM you have to set Fitted Value to 1 in the Query Builder.



As result we get only the original parts from the SCM

- No Alternates
- No Preferred Parts

As Result The Preferred Parts

In case you wish that the result BOM has to contain only the Preferred Parts for the SCM you have to set Preferred_Part Value to 1.

Data [SCM_RainMaker4_CS_[0_0_0_0]]

Partnumber	EMS-Name	EMS-Partnumber	Partname	ComponentName	Fitted	Status	Quantity	VariantName	Is_Alternative	Preferred_Part
00750			BA156K0104J	C1	☑	Approved	1	<NO VARIANTS>	☐	☑
01478			0.1UF-COG2-5%	C2	☑	Approved	1	<NO VARIANTS>	☐	☑
01329			BA156K0103J--	C3	☑	Approved	1	<NO VARIANTS>	☐	☑
01792			10uF-10V-EC	C4	☑	Approved	1	<NO VARIANTS>	☐	☑
00037			47uF-10V-EC	C5	☑	Approved	1	<NO VARIANTS>	☐	☑
00567			1000uF-50V-EC	C6	☑	Approved	1	<NO VARIANTS>	☐	☑
02570			1N3595	D1	☐	Approved	1	<NO VARIANTS>	☑	☑
02570			1N3595	D2	☐	Approved	1	<NO VARIANTS>	☑	☑
00403			2.5mm PWR CON	J1	☑	Approved	1	<NO VARIANTS>	☐	☑
01385			RS15H11AA04M-100K	P1	☑	Approved	1	<NO VARIANTS>	☐	☑
01268			RS15H11AA04M-50K	P2	☑	Approved	1	<NO VARIANTS>	☐	☑
01358			2N3904	Q1	☑	Approved	1	<NO VARIANTS>	☐	☑
00147			2N1613	Q2	☑	Approved	1	<NO VARIANTS>	☐	☑

1 von 34 | Export Current View

Query-Builder activ Query = _All_Parts_

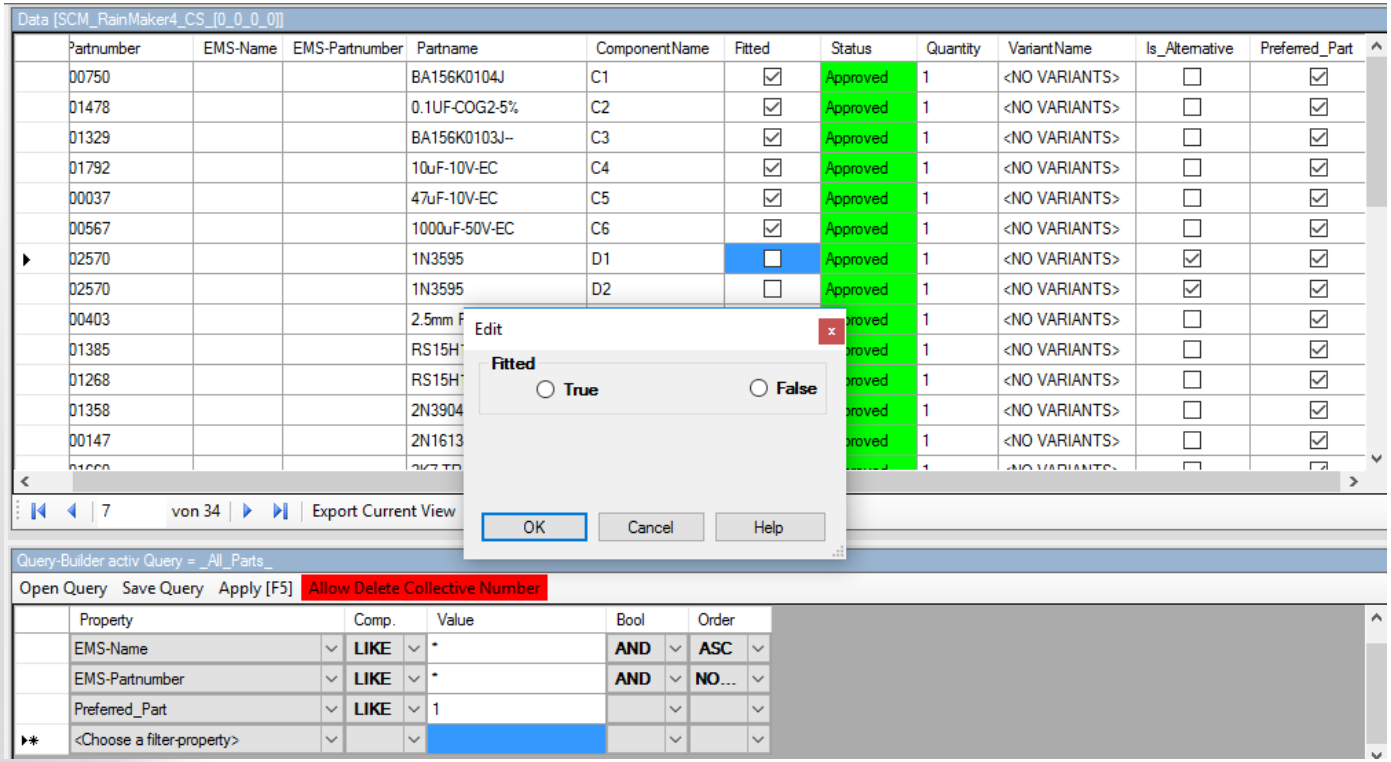
Open Query | Save Query | Apply [F5] | Allow Delete Collective Number

Property	Comp.	Value	Bool	Order
EMS-Name	LIKE	*	AND	ASC
EMS-Partnumber	LIKE	*	AND	NO...
Preferred_Part	LIKE	1		
<Choose a filter-property>				

As result we get only the original parts which are preferred for this SCM.
Not all of these parts are fitted in the SCM because they are Alternate Parts which are defined as Preferred Part.

Set Preferred Part To Fitted

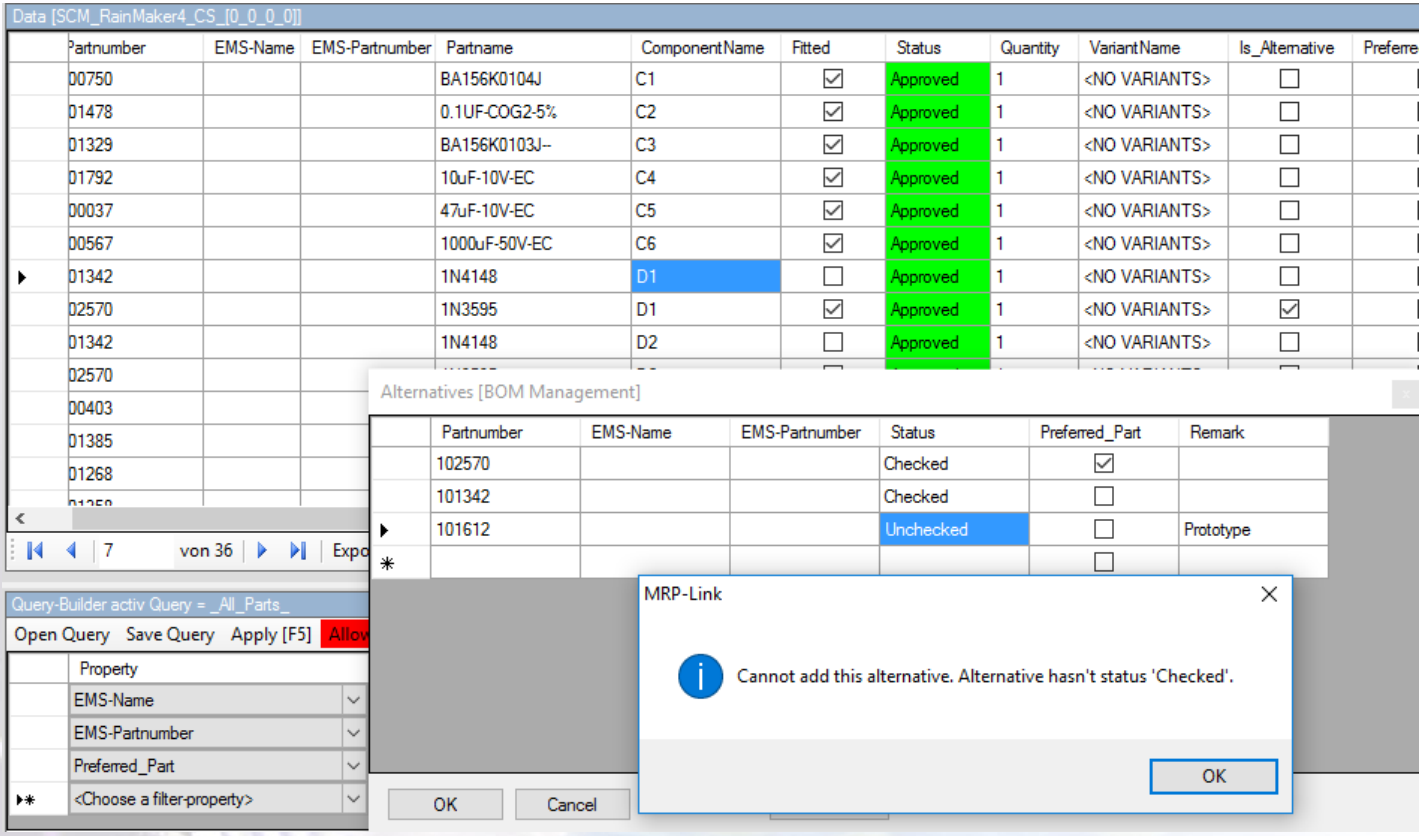
Depending to the workflow it is possible to flag the fitted value.



	00567			1000uF-50V-EC	C6	☑	Approved	1	<NO VARIANTS>	☐	☑
	02570			1N3595	D1	☑	Approved	1	<NO VARIANTS>	☑	☑
▶	02570			1N3595	D2	☑	Approved	1	<NO VARIANTS>	☑	☑
	00403			2.5mm PWR CON	J1	☑	Approved	1	<NO VARIANTS>	☐	☑

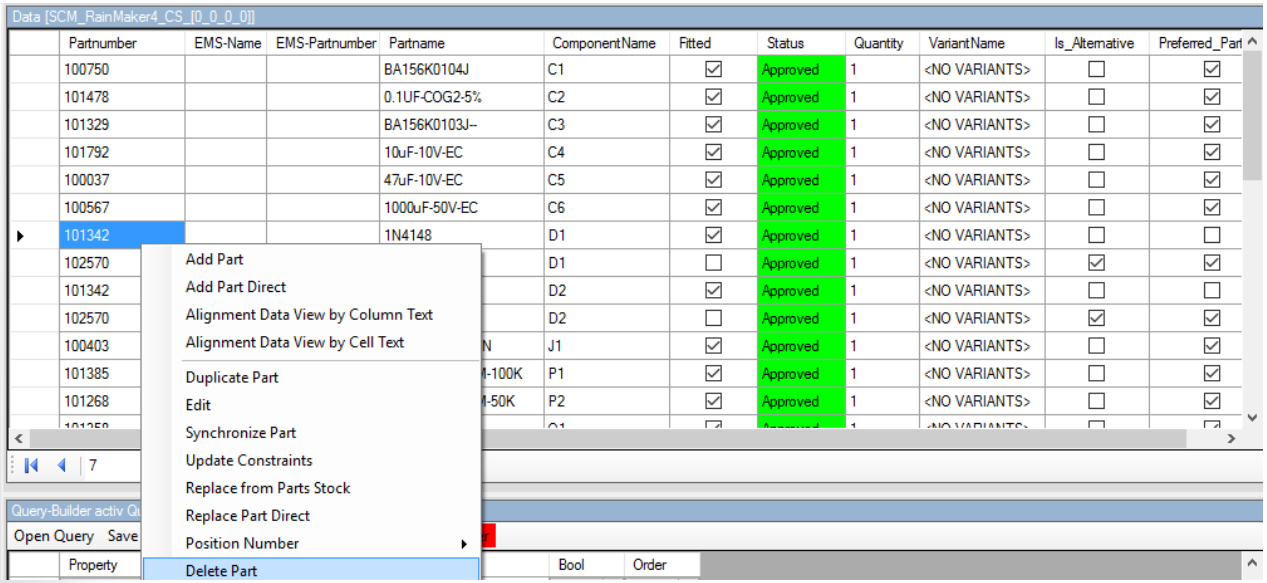
Alternate Database Privileges

Depending on the privileges it is possible to change the status of any part relation in the secondary source.



Delete An Alternate Part

To delete only Alternate Parts just use “Delete Part”.



	100567			1000uF-50V-EC	C6	☑	Approved	1	<NO VARIANTS>	☐	☑
▶	101342			1N4148	D1	☑	Approved	1	<NO VARIANTS>	☐	☐
	101342			1N4148	D2	☑	Approved	1	<NO VARIANTS>	☐	☐
	102570			1N3595	D2	☐	Approved	1	<NO VARIANTS>	☑	☑
	100403			2.5mm PWR CON	J1	☑	Approved	1	<NO VARIANTS>	☐	☑

In RMB menu it is possible to delete all Alternate Parts at once.

The Different Collective Numbers

Here we can see the different supplier names and numbers in the primary source.

Data

Partnumber	EMS-Name	EMS-Partnumber	Description	Status
101342			High-speed diode	Approved
101342	Bosch	101342	High-speed diode	Approved
101342	Digi-Key	101342	High-speed diode	Approved
101342	Farnell	101342	High-speed diode	Approved
101342	Flextronics	101342	High-speed diode	Approved
101342	RS Components	101342	High-speed diode	Approved
101342	Würht	101342	High-speed diode	Approved

Part 1

Data

Partnumber	EMS-Name	EMS-Partnumber	Description	Status
101612			GENERAL PURPOSE RECTIFIERS	Approved
101612	Bosch	101612	GENERAL PURPOSE RECTIFIERS	Approved
101612	Digi-Key	101612	GENERAL PURPOSE RECTIFIERS	Approved
101612	Farnell	101612	GENERAL PURPOSE RECTIFIERS	Approved
101612	Flextronics	101612	GENERAL PURPOSE RECTIFIERS	Approved
101612	RS Components	101612	GENERAL PURPOSE RECTIFIERS	Approved
101612	Würht	101612	GENERAL PURPOSE RECTIFIERS	Approved

Part 2

Data

Partnumber	EMS-Name	EMS-Partnumber	Description	Status
102570			SMALL SIGNAL DIODE	Approved
102570	Bosch	102570	SMALL SIGNAL DIODE	Approved
102570	Digi-Key	102570	SMALL SIGNAL DIODE	Approved
102570	Farnell	102570	SMALL SIGNAL DIODE	Approved
102570	Flextronics	102570	SMALL SIGNAL DIODE	Approved
102570	RS Components	102570	SMALL SIGNAL DIODE	Approved
102570	Würht	102570	SMALL SIGNAL DIODE	Approved

Part 3

Add All Collective Numbers

With only one mouse click it is possible to add all collective numbers to the BOM.

Data [SCM_RainMaker4_CS_[0_0_0_0]]

Partnumber	EMS-Name	EMS-Partnumber	Partname	ComponentName	Fitted	Status	Quantity	VariantName	Is_Alternative	Preferred_Part
100750			BA156K0104J	C1	☑	Approved	1	<NO VARIANTS>	☐	☑
101478			0.1UF-COG2-5%	C2	☑	Approved	1	<NO VARIANTS>	☐	☑
101329			BA156K0103J--	C3	☑	Approved	1	<NO VARIANTS>	☐	☑
101792			10uF-10V-EC	C4	☑	Approved	1	<NO VARIANTS>	☐	☑
100037			47uF-10V-EC	C5	☑	Approved	1	<NO VARIANTS>	☐	☑
100567			1000uF-50V-EC	C6	☑	Approved	1	<NO VARIANTS>	☐	☑
101342			1N4148	D1	☑	Approved	1	<NO VARIANTS>	☐	☐
102570				D1	☐	No status	1	<NO VARIANTS>	☑	☑
101342			1N4148	D2	☑	Approved	1	<NO VARIANTS>	☐	☐
102570				D2	☐	No status	1	<NO VARIANTS>	☑	☑
100403			2.5mm PWR CON	J1	☑	Approved	1	<NO VARIANTS>	☐	☑
101385			RS15H11AA04M-100K	P1	☑	Approved	1	<NO VARIANTS>	☐	☑
101268			RS15H11AA04M-50K	P2	☑	Approved	1	<NO VARIANTS>	☐	☑
101358			2N3904	Q1	☑	Approved	1	<NO VARIANTS>	☐	☑
100147			2N1613	Q2	☑	Approved	1	<NO VARIANTS>	☐	☑
101660			2K7-TR4-1%	R1	☑	Approved	1	<NO VARIANTS>	☐	☑
102206			22E-MRS25-1%	R10	☑	Approved	1	<NO VARIANTS>	☐	☑
101710			470E-MRS25-1%	R11	☑	Approved	1	<NO VARIANTS>	☐	☑
101127			3E3-MRS25-1%	R12	☑	Approved	1	<NO VARIANTS>	☐	☑
101127			3E3-MRS25-1%	R13	☑	Approved	1	<NO VARIANTS>	☐	☑
100246			270K-TR4-1%	R2	☑	Approved	1	<NO VARIANTS>	☐	☑

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This BOM shows 36 parts including all Alternates.

After adding the Collective Numbers and synchronising we have 252 parts in our BOM.

Data [SCM_RainMaker4_CS_[0_0_0_0]]

Partnumber	EMS-Name	EMS-Partnumber	Partname	ComponentName	Fitted	Status	Quantity	VariantName	Is_Alternative	Preferred_Part	Is_CollectiveNumbe
100037	Bosch	100037	47uF-10V-EC	C5	☑	Approved	1	<NO VARIANTS>	☐	☐	☑
100037	Digi-Key	100037	47uF-10V-EC	C5	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100037	Farnell	100037	47uF-10V-EC	C5	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100037	Flextronics	100037	47uF-10V-EC	C5	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100037	RS Comp...	100037	47uF-10V-EC	C5	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100037	Würht	100037	47uF-10V-EC	C5	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Bosch	100123	2N3053	TR2	☑	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Bosch	100123	2N3053	TR1	☑	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Digi-Key	100123	2N3053	TR2	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Digi-Key	100123	2N3053	TR1	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Farnell	100123	2N3053	TR1	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Farnell	100123	2N3053	TR2	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Flextronics	100123	2N3053	TR2	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Flextronics	100123	2N3053	TR1	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	RS Comp...	100123	2N3053	TR2	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	RS Comp...	100123	2N3053	TR1	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Würht	100123	2N3053	TR2	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100123	Würht	100123	2N3053	TR1	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100147	Bosch	100147	2N1613	Q2	☑	Approved	1	<NO VARIANTS>	☐	☐	☑
100147	Digi-Key	100147	2N1613	Q2	☐	Approved	1	<NO VARIANTS>	☐	☐	☑
100147	Farnell	100147	2N1613	Q2	☐	Approved	1	<NO VARIANTS>	☐	☐	☑

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To Create A BOM For Only One Supplier

In this case we create a BOM which includes all parts from BOSCH including the ones which are not available from BOSCH, see the CSK1 Component

Data [SCM_RainMaker4_CS_[0_0_0_0]]

Partnumber	EMS-Name	EMS-Partnumber	Partname	ComponentName	Fitted	Status	Quantity	VariantName	Is_CollectiveNumbe
100750	Bosch	100750	BA156K0104J	C1	☑	Approved	1	<NO VARIANTS>	☑
101478	Bosch	101478	0.1UF-COG2-5%	C2	☑	Approved	1	<NO VARIANTS>	☑
101329	Bosch	101329	BA156K0103J--	C3	☑	Approved	1	<NO VARIANTS>	☑
101792	Bosch	101792	10uF-10V-EC	C4	☑	Approved	1	<NO VARIANTS>	☑
100037	Bosch	100037	47uF-10V-EC	C5	☑	Approved	1	<NO VARIANTS>	☑
100567	Bosch	100567	1000uF-50V-EC	C6	☑	Approved	1	<NO VARIANTS>	☑
101364			3E3-r0805-2%	CSK1	☑	Approved	1		☐
101342	Bosch	101342	1N4148	D1	☑	Approved	1	<NO VARIANTS>	☑
102570	Bosch	102570	1N3595	D1	☐	Approved	1	<NO VARIANTS>	☑
101342	Bosch	101342	1N4148	D2	☑	Approved	1	<NO VARIANTS>	☑
102570	Bosch	102570	1N3595	D2	☐	Approved	1	<NO VARIANTS>	☑
100403	Bosch	100403	2.5mm PWR CON	J1	☑	Approved	1	<NO VARIANTS>	☑
101385	Bosch	101385	RS15H11AA04M-100K	P1	☑	Approved	1	<NO VARIANTS>	☑
101268	Bosch	101268	RS15H11AA04M-50K	P2	☑	Approved	1	<NO VARIANTS>	☑
101358	Bosch	101358	2N3904	Q1	☑	Approved	1	<NO VARIANTS>	☑
100147	Bosch	100147	2N1613	Q2	☑	Approved	1	<NO VARIANTS>	☑
101660	Bosch	101660	2K7-TR4-1%	R1	☑	Approved	1	<NO VARIANTS>	☑
102206	Bosch	102206	22E-MRS25-1%	R10	☑	Approved	1	<NO VARIANTS>	☑
101710	Bosch	101710	470E-MRS25-1%	R11	☑	Approved	1	<NO VARIANTS>	☑
101127	Bosch	101127	3E3-MRS25-1%	R12	☑	Approved	1	<NO VARIANTS>	☑
101127	Bosch	101127	3E3-MRS25-1%	R13	☑	Approved	1	<NO VARIANTS>	☑

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Query-Builder activ Query = Bosch_ADC

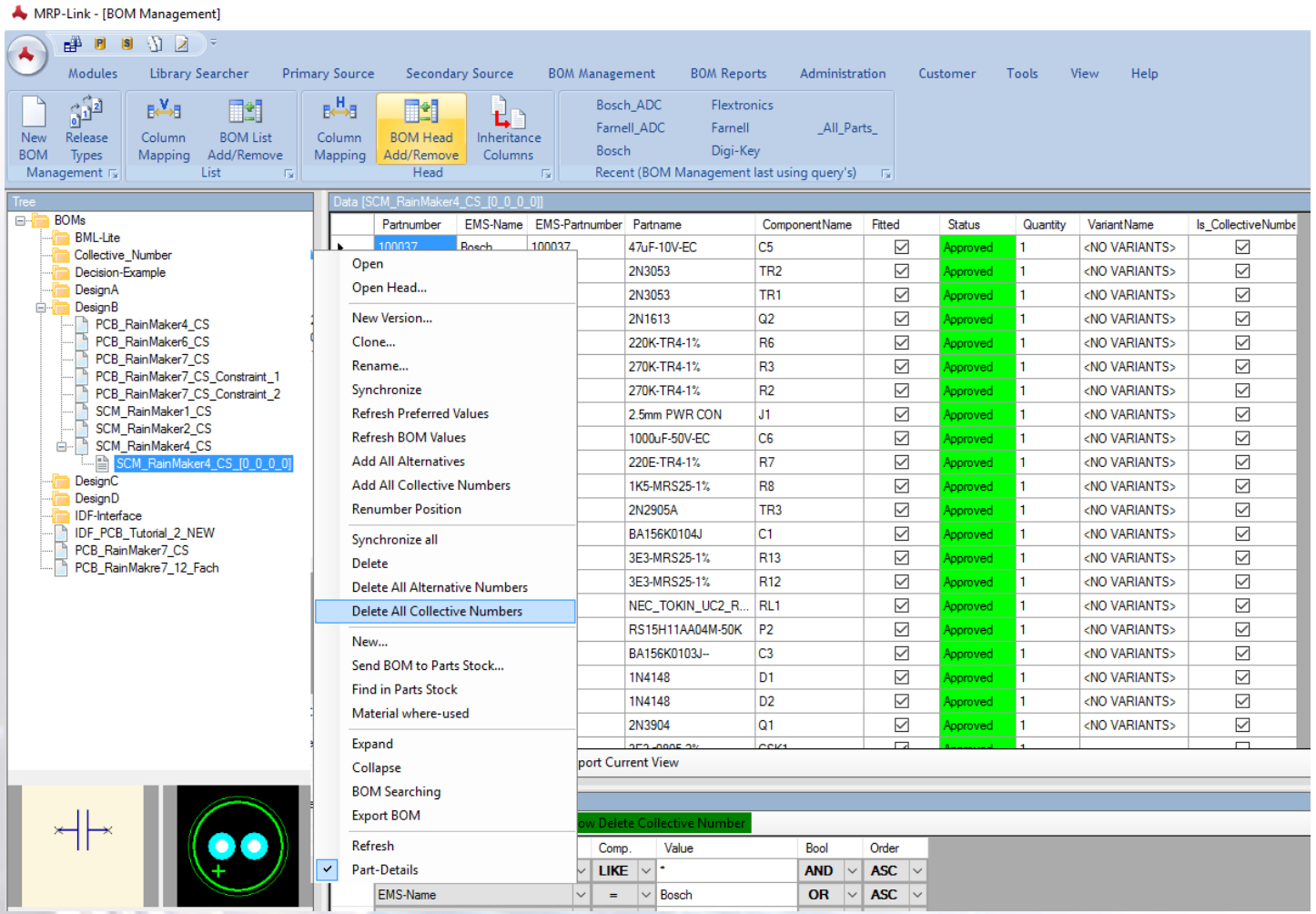
Open Query | Save Query | Apply [F5] | Allow Delete Collective Number

Property	Comp.	Value	Bool	Order
Partnumber	LIKE	*	AND	ASC
EMS-Name	=	Bosch	OR	ASC

The CSK1 Part is added manually into the BOM and is not in the SCM.

Delete All Collective Numbers In The BOM

It is possible to delete all or only one Collective Number in a BOM.



CSK MRP-Link

Official German Distributor

Für Rückfragen und weitere Informationen steht Ihnen das CSK Team gerne zur Verfügung.

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